



CrimpCenter 36 S

Base Machine

Original Operating Manual

Edition 1.0 (08-2020)

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Original Manual

The German version of this document is the original manual.

Translation of the original manual

All non-German language editions of this document are translations of the original manual.

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TABLE OF CONTENTS

1	GENERAL	8
1.1	MANUFACTURER	8
1.2	VALIDITY	8
1.3	MANUFACTURING DATE/PRODUCT TYPE	8
1.4	INFORMATION ABOUT THE OPERATING INSTRUCTIONS	8
1.4.1	Contents of the manual	9
1.4.2	Depository	9
1.4.3	Responsibilities	9
1.5	GENERAL SYMBOLS AND LEGEND	10
1.5.1	References and Hints	10
1.5.2	Legend	10
1.5.3	Figures	11
1.6	EC DECLARATION OF CONFORMITY / DECLARATION OF INCORPORATION	11
1.7	LIMITATION OF LIABILITY	11
1.8	WARRANTY STATEMENTS AND POLICIES	12
1.9	COPYRIGHT PROTECTION	12
1.9.1	Trademarks	12
1.10	SPARE PARTS	12
1.11	MISUSE AND MODIFICATIONS	12
1.12	ENVIRONMENTAL PROTECTION	13
1.13	PRIVACY	13
1.14	TECHNICAL SUPPORT	14
1.15	UPDATING	14
2	SAFETY	15
2.1	PERSONNEL QUALIFICATION	15
2.1.1	Personnel classification	15
2.1.2	Tasks / Authorities	17
2.2	RESPONSIBILITIES	18
2.3	WARNING NOTICES	18
2.4	INTENDED USAGE OF PRODUCT	19
2.5	REASONABLY FORESEEABLE MISUSE	20
2.6	SAFETY MARKING	20
2.7	SAFETY SYMBOLS	21
2.8	PERSONAL PROTECTIVE EQUIPMENT	23
2.8.1	Eye protection	23
2.8.2	Protective clothes	23
2.8.3	Safety Shoes	23
2.8.4	Safety Gloves	23
2.8.5	Snood-type Cap / Safety Cover	23

2.9	SAFETY REGULATIONS	24
2.10	SOURCES OF DANGER / RESIDUAL RISKS	25
2.11	SAFETY INSTALLATIONS	26
2.12	MODIFICATION AND RETROFITTING OF THE PRODUCT	26
3	TRANSPORT / PACKAGING / STORAGE	27
3.1	SAFETY DIRECTIONS FOR THE TRANSPORT	28
3.1.1	Arbitrary transport	28
3.1.2	Improper transportation	28
3.2	PACKAGING SIGNS (STICKERS)	28
3.3	TRANSPORT INSPECTION	29
3.4	UNPACKING / LOADING	29
3.5	LIFTING POINTS	30
3.6	PACKAGING	30
3.6.1	Storage	30
3.6.2	Disposal	30
3.7	INTERNAL TRANSPORTATION	30
3.8	STORAGE	31
4	PRODUCT SPECIFICATIONS	32
4.1	DIMENSIONS AND WEIGHT	32
4.2	TECHNICAL SPECIFICATIONS	33
4.3	PLANNING DATA	34
4.3.1	Installation Location	34
4.3.2	Electric and Pneumatic Connection	35
4.3.3	Position of the supply	36
4.4	MACHINE AREAS	36
4.5	RATING PLATE	37
5	PRODUCT DESCRIPTION	38
5.1	OVERVIEW	38
5.2	BASIC EQUIPMENT	40
5.2.1	Process	40
5.2.2	Check	45
5.3	OPTIONAL EQUIPMENT	46
5.3.1	Process	46
5.3.2	Check	56
5.4	FACT SHEET	58
5.4.1	Available Stations	58
5.4.2	Available Options	69
5.4.3	Available Software	76
5.5	SAMPLE CONFIGURATIONS	78
5.5.1	Sample Configuration 1	78

5.5.2	Sample Configuration 2	79
5.5.3	Sample Configuration 3	80
5.6	SCOPE OF DELIVERY	81
5.6.1	Product	81
5.6.2	Required Basic Equipment	81
6	SAFETY ELEMENTS / DANGER AREAS	82
6.1	MAIN SWITCH	83
6.2	EMERGENCY STOP SWITCH	84
6.3	SAFETY COVER	85
6.3.1	Safety switch	86
6.3.2	Open / close	87
6.4	CONFIRM BUTTONS	88
6.5	DANGER ZONES GENERALLY	89
6.5.1	Danger Zones when Safety Cover is closed	89
6.5.2	Danger zones when Safety Cover is open	91
7	INSTALLATION / MOUNTING	92
7.1	SAFETY INSTRUCTIONS	92
7.2	POSITIONING / (DIS-) MOUNTING	95
7.2.1	(De-) Mounting - Touchscreen	95
7.2.2	(De-) Mounting - Conveyor Belt	97
7.2.3	(De-) Mounting - Conveyor Belt - Bad Crimp	99
7.2.4	(De-) Mounting - Conveyor Belt - Guide Rods	102
7.3	ELECTRIC INSTALLATION	103
7.3.1	Connections / interfaces	104
7.3.2	Control cabinet	106
7.4	STATIONS	110
8	COMMISSIONING	113
8.1	OPEN THE SAFETY COVER	115
8.2	CONFIRM BUTTONS	116
8.3	TOWERLIGHT	117
8.3.1	Overview	117
8.3.2	Maintenance mode	118
8.3.3	EASY - Description of the function	118
8.3.4	EASY - Settings	119
8.4	RECOMMENDED SETTINGS	122
8.4.1	Pneumatic	122
8.5	STARTING CONDITIONS	123
8.6	STEP BY STEP	125
8.6.1	Introduction	125
8.6.2	Safety instructions	126
8.6.3	Prerequisite	127
8.6.4	Align the Basic Machine	128

8.6.5	Insert and align the conveyor belt	130
8.6.6	Use ToolingShuttle	133
8.6.7	Protective Guard Plates	134
8.6.8	Adjust the Working Height of the UniCrimp 221/222	142
8.6.9	Activate the CrimpCenter	143
8.6.10	Mount the guide tubes	144
8.6.11	Insert Wire	147
8.6.12	Adjust the Contact Pressure of the Wire Feed	151
8.6.13	Adjust the Clamping Force of the Gripper	153
8.6.14	Conveyor Belt	155
8.6.15	Referencing	158
9	SERVICING / MAINTENANCE	175
9.1	INTRODUCTION	175
9.2	SAFETY INSTRUCTIONS	176
9.2.1	General Safety Advice	176
9.2.2	Personnel qualification	177
9.2.3	Personal protective equipment	178
9.3	CUSTOMER SERVICE	178
9.3.1	Technical Support	178
9.3.2	Trouble Shooting Procedure	178
9.4	MAINTENANCE TABLE: BASE MACHINE	178
9.5	MAINTENANCE SHEET - CHECK SAFETY DEVICES	181
9.5.1	Main switch	181
9.5.2	Emergency Stop Switch	183
9.5.3	Confirm Buttons	187
9.5.4	Safety Cover - Open / Close - Button	189
9.5.5	Safety Cover - Safety Switch	191
9.5.6	Safety Cover - Closing Force	194
9.5.7	Safety Cover - Safety when Lowering	196
9.5.8	Motors	198
9.5.9	Pneumatic	202
9.5.10	Conveyor Belt	204
9.5.11	Power Sockets	206
9.6	MAINTENANCE SHEET - CHECK MACHINE	208
9.7	MAINTENANCE SHEET - SURFACE CLEANING AND PREVENTION	209
9.8	MAINTENANCE SHEET - LUBRICATE GUIDE RAIL(S)	215
9.9	MAINTENANCE SHEET - CLEANING THE CUTTER BLOCKS	217
9.10	MAINTENANCE SHEET - EXCHANGING BLADE	219
9.11	MAINTENANCE SHEET - EXCHANGE FEEDING BELTS	224
9.12	MAINTENANCE SHEET - PNEUMATICS - DRAIN CONDENSATION	227
9.13	MAINTENANCE SHEET - CONTROL CABINET - CHECK FILTER	229
9.14	MAINTENANCE SHEET - CHECK CONVEYOR BELT	232

10	SPARE PARTS	233
11	DECOMMISSIONING / DISPOSAL	234
11.1	DECOMMISSIONING	234
11.2	DISASSEMBLY / DISPOSAL	235
12	OVERVIEW OF SYMBOLS	236
13	LIST OF FIGURES	241
14	PERSONAL NOTES	243
15	ADDITIONAL DOCUMENTS	245
16	WIRING DIAGRAMS	246
	INDEX	239

GENERAL

Thank you for your trust in Schleuniger technology! You have acquired a high performance product from Schleuniger, carefully designed and manufactured in our factory. Read through this manual with due care and attention. It contains important tips and safety instructions, which allow precise and reliable wire/cable production.

1.1 MANUFACTURER

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Web: www.schleuniger.com

1.2 VALIDITY

This manual is valid for the following machine/s :

- Base machine (article number 497 891)

1.3 MANUFACTURING DATE/PRODUCT TYPE

See „*Rating Plate*“.

1.4 INFORMATION ABOUT THE OPERATING INSTRUCTIONS

We have taken every possible measures to ensure the accuracy and completeness of this documentation. Since errors can be avoided despite the diligence never fully, we are always grateful for any advice and suggestions.

- This manual is stated as "Operating Instructions" according to the machinery directive 2006/42/EU" and is part of the product. It contains all the relevant information necessary to operate the product efficiently and safely as intended.
- The following phases of the product life cycle are described:
 - Transport
 - Commissioning
 - Operating units
 - Maintenance
 - Disposal
- Observe the safety regulations and instructions. The local accident preventions and safety regulations must be observed.
- If the product changes hands, the Operating Instruction must be handed over to the new owner.
- Published modifications and corrections from the manufacturer must be complemented. Inform at your local Schleuniger distributor.

1.4.1 Contents of the manual

General

Each person using the product must be properly trained and have read and understood the Operating Manual. This is also imperative, even when the respective person has operated such a product or similar previously and where they have been trained by the manufacturer.

As operating instructions count all documents according to the index of the register in printed and / or electronic form.

The Operating Manual is no longer valid, if any of its contents (except Quick Start Card, where available) have been removed or on the data medium are not observed.

Construction

We are trying to make the operation of our products as easy as possible. To achieve this we have developed a concept for the Operating Manual.

The Operating Manual consists of three parts:

Operating Manual

A detailed Operating Manual for the product with full explanation of all functions available and the general maintenance. The Operating Manual is meant for the beginner as well as for the experienced user (qualified personnel) as a learning- and reference guide.

See also chapter "[2.1.1 Personnel classification \(Page 15\)](#)".

Operating Manual - EASY User Software

A detailed Operating Manual for the operation of the user software *CrimpCenter 36 S*. The Operating Manual is meant for the beginner as well as for the experienced user (qualified personnel) as a learning- and reference guide.

See also chapter "[2.1.1 Personnel classification \(Page 15\)](#)".

Parts catalog

An overview on the components of the product. This part of the Operating Manual is intended mainly for the technical specialist.

See also chapter "[2.1.1 Personnel classification \(Page 15\)](#)".

1.4.2 Depository

- Keep the operating instructions as close as possible to the product and protected against immissions.
- The operating instructions must be available for the operating personnel at all times.
- The contents must remain clearly legible beyond the expected lifespan of the product.

1.4.3 Responsibilities

- This Operator's Handbook must be kept near the product. It must be available to the operating personnel at all time.
- Always follow the instructions in this Operator's Handbook fully and without restraint.





1.5 GENERAL SYMBOLS AND LEGEND

1.5.1 References and Hints

The listed pictograms in the instructions have the following meaning:

Symbols

The symbols are placed in the marginal notes column and refer to the adjacent text. They have the following meaning:

Symbol	Meaning	Description
	Info	Information which helps to operate the product efficiently and error-free.
	Overview	Detailed description or introductory chapter.
	Recycle	Recycle parts. Do not dispose off to regular waste.
	Dispose.off	Environmental contaminating substances to return to supplier.

1.5.2 Legend

In the text, mark-up is used in the following manner.

Mark-up	Meaning	Description
[SWITCH]	Switch / button	Commands and buttons on screen representations are in the text shown in squared brackets, capital letters and orange colored.
„Configuration“	Screen title / menu	Screen titles and menus are represented in the text in "quotation marks".
<i>Schleuniger</i>	Product names and company	Product- and company names are represented italic.
<i>"1.5.2 Legend (Page 10)"</i>	Cross referencing	Cross referencing are represented in blue and italic.
1.>	Activity direction	Activity directions are a summary of activity steps.
➔	Consequence of an activity direction	Results or released actions in activity directions are represented with a leading arrow.

The following abbreviations are used.

Abbreviation	Meaning	Description
Fig.	Figure	Figures are captioned as "Fig."
mm	Millimeter	All Measures in the manual are given in millimeters.

Abbreviation	Meaning	Description
UZS	Clockwise	Direction of rotation for a component or an operating element viewed from rotation axis.
GUZS	Counter clockwise	Direction of rotation for a component or an operating element viewed from rotation axis.

1.5.3 Figures

Pictures may differ from your product.

Schleuniger always strives for a clear, understandable and consistent visual language. That's why illustrations

- are clearly identified as good as possible.
- with a clear recognition value are used across products.
- are used as examples across products.

By continuously improving its products, these illustrations may differ from the actual state of your product.

- Please note, therefore, that images that are not clearly marked may differ from your product.

1.6 EC DECLARATION OF CONFORMITY / DECLARATION OF INCORPORATION

See document [„EC Declaration of Conformity“](#) or [„Declaration of Incorporation“](#).

1.7 LIMITATION OF LIABILITY

The content of these operating instructions was put together taking into consideration the current standards and guidelines according to the state of the technology and our many years of experience.

The manufacturer disclaims any liability for damages and accidents as a result of:

- Disregard of the instructions.
- Disregard of warning notices.
- Use of the machine or processing stations not according to their intended use.
- Use of parts not included in the approved product range.
- Improper installation, initial operation, operation and/or maintenance.
- Operation with safety equipment or protective covers not duly installed or not functioning well.
- Failure to observe the operating instructions regarding transport, storage, installation, initial operation, operation, maintenance and/or repair.
- Supplement or modification of the machine or processing stations without written permission of the Schleuniger GmbH.
- Modification of the machine or adjoining assemblies or adjoining assemblies allowing misuse.
- Unauthorized structural alteration.

- Inadequate control of parts which are subject to wear.
- Improperly executed repairs.

1.8 WARRANTY STATEMENTS AND POLICIES

See Schleuniger document: "[General Conditions of Sale and Delivery](#)".

1.9 COPYRIGHT PROTECTION

Keep this Operating Manual confidential. It is intended for the exclusive use of persons operating the product. Without written permission of the manufacturer, this manual shall not be made available to third parties.

The content of the Operating Manual in the form of text, illustrations, drawings, circuit diagrams or other presentations, is protected by copyright law of the manufacturer.

The same applies to copying, saving or distribution with electronic media.

1.9.1 Trademarks

Windows®/Windows® (XP, Vista, 7, 8, 10 or CE) are registered brands of Microsoft Corporation in USA and other countries.

All other brands or product names are trademarks or registered trademarks of their owners.

Registered trademarks are not specially marked in these instructions. However, this does not mean that they can be used freely.

1.10 SPARE PARTS

Always obtain original spare parts from your local Schleuniger distributor.

CAUTION



Use of unverified spare parts!

- Unverified or defective spare parts may lead to damage, malfunction or complete failure of the product.
- Unverified or defective spare parts may impair the safety of the operating personnel.

The following instructions are to be followed!

- Only use original spare parts from Schleuniger.

Any modifications in design or function of the spare parts, in terms of ongoing product improvement, are subject to change without prior notification.

1.11 MISUSE AND MODIFICATIONS

Do not make any modifications to the machine or processing station and only utilize it for the intended use.

See also chapter "[2.4 Intended usage of product \(Page 19\)](#)".

In particular please note:

- Modifications lead to the loss of the guarantee by the manufacturer.

- Modifications of adjacent components that enable misuse, also lead to the loss of guarantee.
- Do not use any parts that are not included in the approved product range.
- Do not use any accessories that do not correspond with the specified requirements.
- Only use original spare parts.
- If you want to change the basic operation of the machine or processing stations, contact your authorized Schleuniger service partner.

1.12 ENVIRONMENTAL PROTECTION

Make sure that substances and materials are handled and disposed appropriately, in particular when working with lubricants and cleaning with solvents.

1.13 PRIVACY

Schleuniger processes personal data in accordance with the Schleuniger privacy statement. This statement is available in following languages and addresses.

Schleuniger processes personal data in accordance with the Schleuniger privacy statement. This statement is available in following languages and addresses.

Language	Address
German	schleuniger.com/global/de/rechtsmittel-und-datenschutzerklärung
English	schleuniger.com/global/en/legal-information-and-privacy-statement
Spanish	schleuniger.com/na/es/información-legal-y-aviso-de-privacidad
Japanese	schleuniger.com/jp/jp/法的情報およびプライバシー宣言
Chinese	schleuniger.com/cn/cn/法律和隐私条款

1.14 TECHNICAL SUPPORT

If you have any questions about your product, please do not hesitate to contact us.

For direct support from the manufacturer, choose your product range:

Technical problem		
If you have a technical problem. (e.g.: Machine downtime)	Phone	+49 (0) 2195 929 110

Service		
If you need maintenance / a technician.	Phone	+49 (0) 2195 929 170
	E-Mail	servicecst@schleuniger.de

Training		
If you need training.	Phone	+49 (0) 2195 929 115
	E-Mail	trainingcst@schleuniger.de

Spare parts		
If you need a spare part.	E-Mail	insidesales@schleuniger.de

Complaint		
If you have a complaint.	E-Mail	rmacst@schleuniger.de

We suggest periodic maintenance by our service department.

Please contact your local sales and service partner.

1.15 UPDATING

Your safety is important to us. In order to remain up to date and receive information about safety and security, please contact your local Schleuniger service partner.

SAFETY

2.1 PERSONNEL QUALIFICATION

This operating manual is intended for different groups of people. Individual parts of this manual require specific qualifications and are marked accordingly. Only persons with this qualification are allowed to perform the corresponding activities.



WARNING

Risk of injury if operated by unqualified personnel!

Improper handling of the machine may lead to serious injury to personnel and damage to the property.

The product is intended to be operated by personnel older than 14 years and without physical limitations. It is strictly forbidden to grant access to younger persons.

For further information please contact the Schleuniger service.

2.1.1 Personnel classification

The following qualifications in these instructions are specified for the individual group of persons.

Operating Company

Creates operator's instructions for the CrimpCenter.

Qualification	<ul style="list-style-type: none"> ■ Higher level juristic person ■ Authority to give directives ■ Define competences ■ Accident prevention ■ First-aid measures
---------------	---

Schleuniger GmbH Specialist

Exclusively employees of the Schleuniger GmbH in Radevormwald.

Third Person

External persons attracted by Schleuniger

- Partner
- Personnel of the operating company
- Service technician
- Employees of Schleuniger

Qualification	<ul style="list-style-type: none"> ■ Mechanical and electrical training ■ Product-specific training ■ Application-specific training ■ Specialist in wire processing technique ■ Has good command of English or German language and the language of the operating personnel ■ Accident prevention ■ First aid measures
---------------	--

Technical Specialists

Qualification	<ul style="list-style-type: none"> ■ Mechanical and electrical basic training ■ Product-specific training ■ Application-specific training ■ Know-how in wire processing techniques ■ Has good command of English or German language and the language of the operating personnel ■ Accident prevention ■ First-aid measures
---------------	---

Electrically Qualified Person

Qualification	<ul style="list-style-type: none"> ■ Electrically training ■ Product-specific training ■ Application-specific training ■ Know-how in wire processing techniques ■ Has good command of English or German language and the language of the operating personnel ■ Accident prevention ■ First-aid measures
---------------	--

Qualified Personnel

Qualification	<ul style="list-style-type: none"> ■ Technical skills ■ Product-specific training ■ Know-how in wire processing techniques ■ Accident prevention ■ First-aid measures
---------------	--

Operating personnel

Qualification	<ul style="list-style-type: none"> ■ Product-specific training ■ Accident prevention ■ First-aid measures
---------------	--

2.1.2 Tasks / Authorities

The following tasks must only be executed by the specific groups of persons

Task / Authority	Operating Company	Technical Specialist	Electrically Qualified Person	Qualified Personnel	Operating Personnel	Schleuniger GmbH Qualified Person	Third Party
Train for the product		✓*	✓*			✓	✓
Appoint personnel to the product	✓						
Create operator's instructions for the product	✓						
Creates risk evaluations for the product	✓						
Operate the product according to its intended use	✓						
Unpack the product		✓*	✓*			✓	✓
Place the product		✓*	✓*			✓	✓
Install the product		✓*	✓*			✓	✓
Makes initial operation of the product		✓*	✓*			✓	✓
Reference product		✓*		✓*		✓	✓
Operates the product		✓	✓	✓	✓	✓	✓
Setup the product		✓	✓	✓		✓	✓
Gives instructions for the product		✓	✓			✓	✓
Maintains the product		✓*	✓*			✓	✓
Cleans the product		✓	✓	✓	✓	✓	✓
Repairs the product		✓*	✓*			✓	✓*
Works on the pneumatic		✓*	✓*			✓	✓
Works on the electric		✓*	✓*			✓	✓
Modifies product						✓	✓
Disassemble product		✓*	✓*			✓	✓
Disposes the product properly		✓*	✓*			✓	✓

*depends on the application specific training

2.2 RESPONSIBILITIES

The legal entity has to ensure, that every employee, working with the Schleuniger product has received training in accordance with these operating manual (initial operation, operation, maintenance).

Die Ausbildung des Bedienpersonals muss folgende Punkte enthalten:

- Purpose of the machine
See also chapter "[2.4 Intended usage of product \(Page 19\)](#)".
- Danger areas
See also chapter "[6.5 Danger zones generally \(Page 89\)](#)".
- Safety regulations
See also chapter "[2.9 Safety Regulations \(Page 24\)](#)".
- Ensure that personnel fulfills the required qualifications
See also chapter "[2.1 Personnel qualification \(Page 15\)](#)" ..
- General safety instructions and measures in case of emergency
- Accident prevention regulations
- Personal protective clothing
- Operating the machine in accordance with these operating instructions

2.3 WARNING NOTICES

The warning notices in the entire Operating Manual are marked with the following symbols. They are headed by a safety alert symbol and the warning word which represents the degree of endangerment.

To avoid any injuries or material damage it is essential that you read and fully understand and follow these symbols.



DANGER

Warning notice „Danger“

This panel indicates a hazardous situation, which if not avoided, will result in death or serious injury.



WARNING

Warning notice „Warning“

This panel indicates a hazardous situation, which if not avoided, could result in death or serious injury.



CAUTION

Warning notice „Caution“

This panel indicates a hazardous situation, which if not avoided, may result in minor or moderate injury.



NOTICE

Warning notice „Property damage“

This panel indicates a hazardous situation, which if not avoided, can result in damage to property.

2.4 INTENDED USAGE OF PRODUCT



WARNING

Caution, risk of injury, property damage!

Only use the product according to its intended use. It is designed and manufactured exclusively for the following intended application!

The **CrimpCenter 36 S** is an expandable fully automatic crimping machine with up to six processing stations, depending on the configuration.

According to the respective technical data, the **CrimpCenter 36 S** is suitable for the following purposes of the wire processing:

- Cut to length
- Stripping
- Crimping (one or two sides)
- Doubling crimp
- Wire printing (Inkjet)
- Good / bad part sorting
- Wire stacking
- Sealing
- Twisting
- Tinning

"5 Product description (Page 38)"

For better protection of the operator, the processing can be stopped at any time.

The following instructions are to be followed!

- The **CrimpCenter 36 S** is to be operated according to its intended use and only with the processing stations and options as described in this manual.

Schleuniger accepts no responsibilities for consequences resulting from improper use.

Any modification requires the written consent of the *Schleuniger* GmbH.

2.5 REASONABLY FORESEEABLE MISUSE

- The product must only be operated when in good working order and condition. It must be checked for intactness prior to the start of operation.
- Never operate the product in environments where there is a risk of fire or explosion.
- Operate the product only in dry, dust-free rooms.
- Operate the product in an ambient temperature between 15° - 40°C.
- To avoid any dangerous situations and for an optimal performance, it is not allowed to make any modifications to, or retrofitting of the product, without explicit written permission of the manufacturer.
Thereof excluded are official options and accessories, provided for the product from the Schleuniger GmbH.

The product *CrimpCenter 36 S* is not intended for the processing of materials with the following characteristic:






- Explosive
- Flammable
- Toxic








2.6 SAFETY MARKING

- Safety markings affixed to the product, advert to possible danger situations and must be strictly observed.
- The safety markings must not be removed.
- Damaged or illegible labels must be replaced immediately.

2.7 SAFETY SYMBOLS

In this manual, safety symbols are used which alert the user to potential hazards. They will be described here in detail.

	Electric Voltage	<p>There is a risk of electrical voltage when connecting the product and inside the product. When you touch a current-carrying component, the user can get hurt. Even if the machine is switched off the assemblies are energized!</p> <p>The following instructions are to be followed!</p> <p>Before connecting or opening the product.</p> <ul style="list-style-type: none"> ■ Always switch off the main switch of the product! ■ Always disconnect the product from the power supply!
	Hot surface	<p>Motors and other electric components can get very hot during operation. It can cause high temperatures during the processing process. Hot and liquid processing agents can be used.</p> <p>There is a risk of burns!</p> <p>The following instructions are to be followed!</p> <p>Before working and touching the product.</p> <ul style="list-style-type: none"> ■ Always observe the specified cooling times in the safety instructions of the product!
	Automatic start	<p>Parts of the product can start automatically.</p> <p>The following instructions are to be followed!</p> <ul style="list-style-type: none"> ■ The operator must always ensure that there are no other persons in the area of the product from which the danger emanates!
	Hand injury	<p>Hand injuries can happen. These include e.g. Bruises and scratches.</p> <p>The following instructions are to be followed!</p> <ul style="list-style-type: none"> ■ The operator must always ensure that there are no other persons in the area of the product from which the danger emanates!
	Opposing Rollers	<p>Body parts or parts of clothing, as well as jewelry can be fed into the product. There is a risk of personal injury and / or property damage!</p> <p>The following instructions are to be followed!</p> <ul style="list-style-type: none"> ■ Be especially careful near appropriate openings! ■ Always wear the personal protective equipment! ■ Wear jewelry only according to specifications for the workplace!

  	<p>Connect second earth conductor!</p> <p>To avoid high leakage currents, a second protective conductor should be connected to this machine. Disregarding this procedure may lead to an electric shock. Before connecting to the mains supply the earth connection must be made. Connect the supplied grounding cable to this ground connection in accordance with the electrical installation regulations and have an installer properly connect it to the grounding of the building installation.</p>
  	<p>Unplug the machine from the mains- and the air pressure supply!</p> <p>There is a danger of electric shock by contact with parts inside the machine and on the mains supply. When you touch a current-carrying component, the user can get hurt.</p> <p>Unintentional operation of pressurized components, or unintentionally escaping compressed air can cause injury.</p> <p>Therefore always before opening the machine:</p> <ul style="list-style-type: none"> ■ Turn off the main switch, block against switching on again and disconnect the machine from the mains (for hard wired machines, the main switch serves as a mains disconnecter unit). ■ Unplug the machine from the air pressure supply.
	<p>Emerging clippings</p> <p>Wires can escape out of the machine on the wire exit area with high speed. Escaping wires can injure eyes and face.</p> <p>The following instructions are to be followed!</p> <ul style="list-style-type: none"> ■ Do not look into the cable outlet during production!

2.8 PERSONAL PROTECTIVE EQUIPMENT

When working on the product, the personal protective equipment is required to minimize the health hazards.

- The necessary protective equipment for the respective work must always be worn.
- Observe the safety markings for the protective equipment in the working area.

2.8.1 Eye protection



To protect the eyes from small particles produced during wire/cable stripping and cutting.

2.8.2 Protective clothes



Wear tight-fitting clothes with low tensile strength and no protruding parts. Protects from getting caught up in moving machine parts.

2.8.3 Safety Shoes



To protect from heavy, falling objects or reels.

2.8.4 Safety Gloves



Always wear cut resistant safety gloves when working close to the cutting unit, to protect the hands and fingers against cuts.

Always wear heat resistant safety gloves when working close to hot surfaces or stations, to protect the hands against burning.

2.8.5 Snood-type Cap / Safety Cover



To protect long hair from getting caught up in moving machine parts.

2.9 SAFETY REGULATIONS



DANGER

Risk of injury due to missing test!

The following instructions are to be followed!

- Check the safety devices of the machine yearly.
- Record the test.

Safety devices are

- all emergency stop buttons.
- all safety covers with safety cover switches.
- all confirmation switches.

- The machine has been designed in accordance with the European standard EN ISO 12100:2010 for persons over 14 years of age and without physical restrictions. It is strictly forbidden to grant access to the machine by younger persons.
- Never work on the machine without wearing eye protection.
- Never operate the machine without having read and understood all instructions first.
- Train operators in their mother tongue.
If you would like to translate the operating instruction into another language, please contact the manufacturer.
- Repair work may only be carried out by authorized persons who have been specially trained for this work.
- Ensure that long hair is not worn loose, and do not wear loose clothing or ornaments that could get caught in the moving parts of the machine.
- The product must only be operated when in good working order and condition. It must be checked for intactness prior to the start of operation.
- Never operate the machine without its safety cover.
- Operate the product always with the ground connector connected in the power cord.
- Do not make any modifications to the machine and only utilize it for its intended purpose according to section ["2.4 Intended usage of product \(Page 19\)"](#).
Other applications are only permitted with written approval of the manufacturer.
The manufacturer will accept no liability for damages resulting from disregard of this regulation.
- Never switch on the machine during repair work.
- Never deactivate or bypass the safety circuits, if the machine does not work correctly.
In this case switch off the machine and contact your Schleuniger service partner.
- Processing stations may only be put into operation when tightly mounted on the provided substructure by Schleuniger.
- Only use original Schleuniger equipment, especially interface connection cables (electromagnetic compatibility).
- Compulsory operate the product through the Schleuniger emergency stop circuit, if it is operated together with peripheral devices in a production line. Only then can a safe interruption of the complete production line be guaranteed during an emergency.
- Use lubricants solely according to the specifications in the manual.
- Any modification of the safety equipment is strictly forbidden.

Failure to do so may result in serious injury or death.

- Never operate the product in environments where there is a risk of fire or explosion.
- Operate the product only in dry, dust-free rooms.
- Take care that the work area is sufficiently illuminated.
- Through an increased noise level the communication of personnel can be more complicated.
Through this hazards can occur.
- The CrimpCenter complies with the noise protection regulations.
In combination with other machines a permissible noise level can be reached. In this case the operator has to place a mandatory-sign "Wear ear protection".

2.10 SOURCES OF DANGER / RESIDUAL RISKS

- Danger due to catching body parts and clothing in the wire axis between peripheral devices and the wire processing machine.
 - Always close off these areas
- Danger due to blocked wire/cable on the inlet. Tensile forces can move to overturn machine, peripheral or bobbin and injure the operator personnel.
 - Fixate machines and devices
 - Ensure a continuing wire/cable supply
- Danger of tripping, falling and slipping caused by connecting cables, wire waste, air hoses and objects lying on the floor.
 - Install wires and hoses orderly arranged
 - Catch wire waste
 - Keep work area clear from objects scattered about
- Risk of tripping, falling and slipping on the ground.
 - The floor must be technically proper and maintained.
- Risk due to increased noise level while working in an environment with multiple machines.
 - Take up noise control measures!
- Certain wires contain talcum. It is released during wire processing and pollutes the working environment.
 - Use extraction facility
 - Wear dust mask
- Crushing hazard in the area of the wire intake when engaging in the processing area of the CrimpCenter.
 - Only trained and qualified personnel is allowed to operate the machine
- Danger of pulling in and/or catching of body parts and loose clothing in the area of the wire feed and the wire intake in front of the wire processing machine.
 - The operator has to ensure that the wires are led in a proper and safe way to the machine
 - The personnel has to wear tight-fitting clothes and close hair
 - The area may only be entered by trained and qualified personnel

- In the area of the conveyor belt there is pulling in risk, crushing risk and the risk of shearing the finger.
 - Only trained and qualified personnel is allowed to operate the machine

2.11 SAFETY INSTALLATIONS

- The built in safety devices on the machine (safety, protection, monitoring) must not be removed, by-passed or changed.
- The safety devices must be checked periodically.
- Defective safety equipments must be fixed immediately before operation of the product continues.
- Never operate the machine/system without the safety cover.
- Never operate the machine/system with the safety cover in open position.
- The emergency stop buttons must always be accessible.
- Do not remove any safety barriers.
- Do not disconnect the emergency stop link between the machine and the peripheral devices.

2.12 MODIFICATION AND RETROFITTING OF THE PRODUCT

Product

To avoid any dangerous situations and for an optimal performance, it is not allowed to make any modifications to, or retrofitting of the product, without explicit written permission of the manufacturer.

Software

To avoid any dangerous situations and for an optimal performance, it is not allowed to make any modifications to the software, without explicit written permission of the manufacturer.

Options and accessories

Excluded are official options or accessories offered by Schleuniger.

TRANSPORT / PACKAGING / STORAGE

During unpacking, transportation or storage of the product always observe the following instructions. They contain important information to avoid injury to the operator and property damage.

Take into consideration the weight of the machine during transportation, loading and positioning.

See also chapter "[4.1 Dimensions and weight \(Page 32\)](#)".



WARNING

Risk of injury during transportation!

The following instructions are to be followed!



WARNING

Risk of injury during transportation!

Falling objects may cause serious injuries!

The following instructions are to be followed!

- Make sure that suitable load handling devices are available.
- The maximum load of the load handling devices must not be exceeded.

You will find the total weight of the machine on the rating plate and in this manual.

See also chapter [<Abmessung und Gewicht der Maschine> \(LINK NOT RESOLVED\)](#).



WARNING

Risk of tipping during transport!

The processing station is extremely top-heavy! It may tilt during transport and cause serious danger.

The following instructions are to be followed!

- Transport the CrimpCenter by means of a fork lift truck in horizontal position.
Pay attention to the center of gravity of the machine!
- While transporting the CrimpCenter with a fork lift truck secure it with belts.
You will find on the CrimpCenter designated points to transport the machine with a fork lift truck.



WARNING

Risk of accident during transport!

The following instructions are to be followed!

- During transport with the forklift lift the not too far above the ground.
- Drive slowly and carefully.

3.1 SAFETY DIRECTIONS FOR THE TRANSPORT

3.1.1 Arbitrary transport



NOTICE

Property damage by unauthorized transport!

Transportation by unqualified personnel may lead to extensive property damage.

The following instructions are to be followed!

- Unloading and placing on site location must always be carried out by qualified and trained personnel and under guidance of the manufacturer.
- Prevent any arbitrary transportation.

3.1.2 Improper transportation



NOTICE



Property damage due to improper transport!

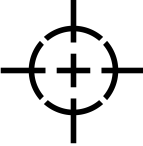

Transportation by unqualified personnel may lead to extensive property damage.

The following instructions are to be followed!

- Handle with care and always observe the symbols and hints on the packaging and the machine when unloading and placing on site location.
- Only use the intended transportation accessories.

3.2 PACKAGING SIGNS (STICKERS)

Symbol	Description	Description
	Fragile packaged goods	Such marked goods are to be treated carefully and not to overthrow or lace.
	This side up	The package must always be transported, folded and stored so that the arrows point upwards at all times. Rollers, flaps, heavy tipping or edges as well as other forms of handling must be avoided. The load does not have to be stowed "on top".
	Avoid moistness	Such labeled goods are to be protected from excessive humidity, they must therefore be stored covered. If particularly heavy or bulky packages can not be stored in warehouses or sheds, they must be carefully planned.

Symbol	Description	Description
	Center of gravity	This symbol is intended to clearly identify the position of the center of gravity.
	Hit here	The sign only gives an indication of where to strike but not about the touch method. If the symbols are positioned equidistant from the center or the center of gravity, the package will hang straight for equally long slings. If this is not the case, the slings must be shortened on one side.

3.3 TRANSPORT INSPECTION

Check the goods immediately after receiving for completeness and damages.

Proceed as follows, when there are visible transport damages:

- Accept the delivery and note possible damages on the forwarding agent's proof of delivery.
- Determine extent of damage.
- Immediately report damages on the machine.

NOTICE



Claim for damages!

The following instructions are to be followed!

- Report any defect immediately after it was identified.

3.4 UNPACKING / LOADING

NOTICE



Packaging notice!

The following instructions are to be followed!

- If provided, observe the packaging notice on the machine.
- Lift the machine carefully from the wooden pallet by the help of a mechanical appliance.
- Remove all transport locks (cable ties, cords, foamed plastics) and check for free movement of all accessible cylinders and drives.
(if available, observe packaging notes)



NOTICE

Remove the transport fixations!

If the transportation locks are not removed before operating the product may be damaged.

The following instructions are to be followed!

- Before initial operation of the machine, remove, if present, any marked Transport fixations .
- For later transportation store the transport fixations.

3.5 LIFTING POINTS

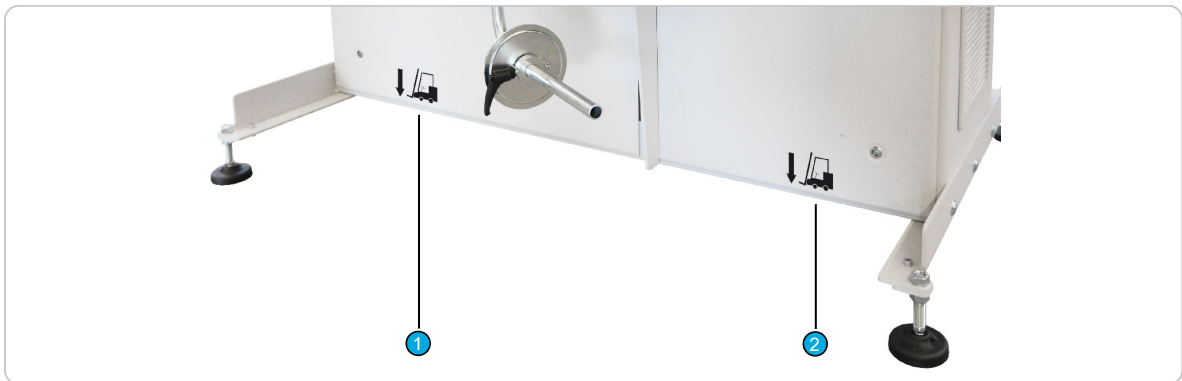


Fig. 1: Lifting Points

Lift the CrimpCenter 36 S only at the marked positions (1) and (2) with the hand lift truck or with the fork lift.



Insert the fork lift teeth in the tilting protections (1) and (2).

3.6 PACKAGING

3.6.1 Storage

Store the packaging for later use on a weatherproof location.

3.6.2 Disposal

The packaging consists of environment friendly materials such as wood, nails, cardboard, paper and synthetics and can be recycled.

See chapter "[11.2 Disassembly / Disposal \(Page 235\)](#)".

3.7 INTERNAL TRANSPORTATION

As applicable, transport the machine in the original packaging.



NOTICE

Center of gravity when transporting!

Danger through uneven weight balance.

The following instructions are to be followed!

- During transportation, the machine can get out of balance or slip if the position of center of gravity is not observed.



WARNING

Danger of load dislocation during transport!

Danger from load dislocation.

The following instructions are to be followed!

- During transportation in a craft, the product may slip off and cause serious material damage.
- Even the craft may start skidding, which could result in an accident with incalculable consequences.
- Always secure the product in the craft to prevent from slipping off.

Always reposition the machine with suitable utilities like a hand lift truck or a fork lift.

During transportation in a sloping terrain, the product must be secured properly so that it cannot go away or slip uncontrolled.

3.8 STORAGE

Store the product under the following conditions:

- Do not store outdoor.
- Make sure that no condensation water accumulates on machine parts due to strong thermal fluctuation. Do not remove wrapping and transportation locks, if any, until the final place of installation is reached.
- Protect the machine against tilting.
- Slightly oil components of the product if it is stored a longer period of time.
- If single component units of the machine are not installed immediately after delivery, store them in a dry, protected and vibration-free place.
- Make sure that the assemblies are not placed directly on the floor. Storage on planks is recommended.

PRODUCT SPECIFICATIONS

This chapter among others gives an overview of the important technical specifications of the product. Any modifications in design or function, in terms of ongoing product improvement, are subject to change without prior notification.

4.1 DIMENSIONS AND WEIGHT

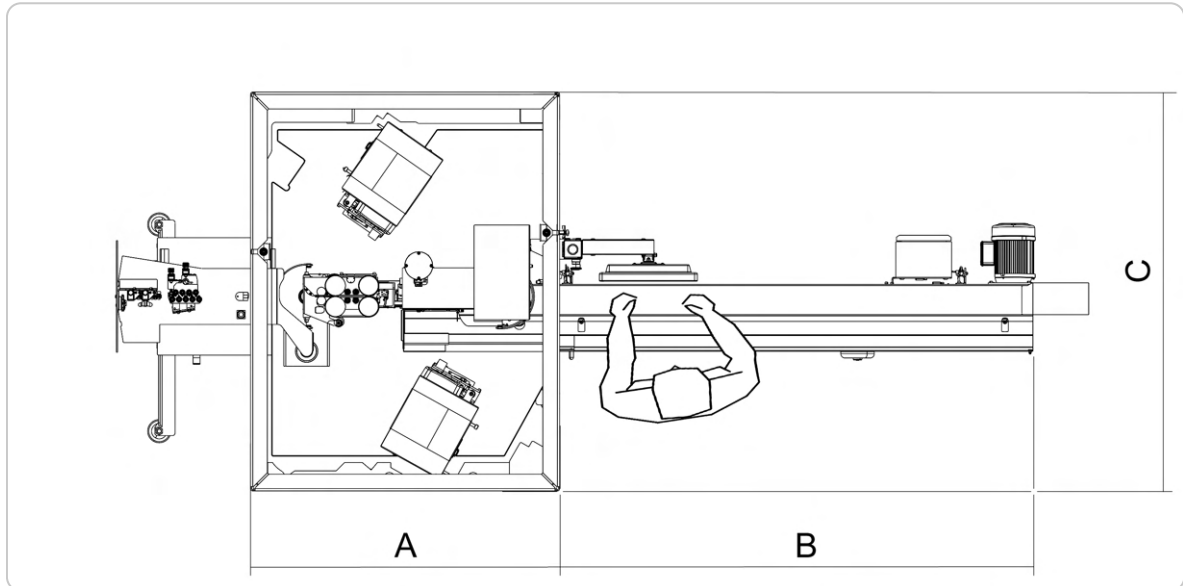


Fig. 2: CrimpCenter 36 S - Dimensions

Description		Value	Unit
Weight	CrimpCenter 36 SP base machine	450	kg
	CrimpCenter 36 SP with 6 processing stations	760	kg
Measures	Width (A)	1573	mm
	Length of conveyor belt (B)	depending on model	
	Depth (C)	1428	mm
	Height with safety cover close	2155	mm
	Height with safety cover open	2834	mm

4.2 TECHNICAL SPECIFICATIONS

Description		
Processing Stations	Maximum	6 Stations
	Maximum	3 Crimping Stations
Wire length	Minimum	55 mm 2.16 " (Crimping on both sides)
	Optional	35 mm 1.38 " (Crimping on both sides)
Conductor cross section		0,13 - 6 mm ² 26 - 10 AWG *
Wire outer diameter	Maximum	4,7 mm 0.18 "
Stripping length	Side 1	0,1 - 18 mm 0.004 - 0.71 " **
	Side 2	0,1 - 18 mm 0.004 - 0.71 " **
Wire feeding speed	Maximum	8 m/s 26.24 ft/s
Noise emission		LpA=76+3db/A
Power source		Electric - pneumatic
Power supply input		3 / N / PE AC 210-500 V; 50/60 Hz; 16 A
Power supply output	Optional	1 / N / PE AC 230 V; 50/60 Hz; 6 A
Compressed air connection		5,5 - 7 bar 80 - 102 psi according ISO 8573-2010 (7:4:4)
Ambient temperature		15 ° - 40 ° Celsius 59 ° - 104 ° Fahrenheit

CE conformity

The *CrimpCenter 36 S* complies with the standards of CE and EMC machine directives mentioned in the „*EC Declaration of Conformity*“ or the „*Declaration of incorporation*“.

Notice



- The pictured machines can show variations which may not be the actual contents of shipment. Variations in pictures, texts as well as technical changes and errors excepted.
- Schleuniger recommends that wire samples be submitted in cases where there is doubt as to the capabilities of particular machines.
- Wires with hard insulation or with a high adhesive fit of the insulation on the strand can not be processed even if they are within the above-mentioned range of application.

* For cross sections smaller than 0.22 mm² | 24 AWG sampling inspection is mandatory.

* For cross sections bigger than 4 mm² | 12 AWG sampling inspection is mandatory.

** For stripping length up to 34 mm | 1.22 " on side 1 are optional cutter blocks available.

** Note that the stripping length on side 2 is reduced up to 5mm | 0.2 ".

4.3 PLANNING DATA

4.3.1 Installation Location



DANGER

Danger of fire due to electrical voltage!

There is a risk of fire caused by electric arc, electric shock and flying sparks!

The following instructions are to be followed!

- The operating company has to ensure that the machine is connected according to the electrical connection data.



NOTICE

Damage to property caused by environmental influences!

Avoid the following environmental influences

- high humidity.
- temperature fluctuations.
- aggressive ambient air (saline, corrosive, ...).

These environmental influences can cause damage to the machine and its components!

- Particularly in countries with high humidity condensation can form on the machine even with slight temperature fluctuations.

The following instructions are to be followed!

- Ensure a uniform ambient temperature with constant humidity, even outside the operating hours.
- Be sure to observe the maintenance leaflet for surface care (in the manual of the base machine).
- Damage to the surface coating must be repaired immediately.



NOTICE

Danger of over heating!

Over heating may occur if the fan exhaust is blocked in any way.

The following instructions are to be followed!

- Do not block or cover the ventilator exhaust for the cooling air.
- The CrimpCenter 36 S is installed and operated as a stand-alone machine.
- The maximum load of the ground must not be exceeded and it must be even.
- Install the CrimpCenter 36 S in a horizontal and stress-free position using the installation devices. Height from floor to the upper side of the aluminum base plate must be 31.6" (790 mm). The height adjustable hinged feet must be secured by tightening the counter nuts.
- All power supply and control cables are to be properly installed and connected.

- The operating company is responsible for the correct power supply. For a safe operation the machine has to be connected according to the electrical connection data. Operator Instructions
- If there are additional applications installed on the machine, the documentation of the specific manufacturer has to be considered.
- Install and operate the CrimpCenter 36 S in a dry and dust-free room at an ambient temperature between 15 - 40° C.
- Prevent any reflections and glares on the touch-screen at the installation location.
- In case of unfavorable conditions at the installation location (for example extreme temperatures, altitude, air humidity) the machine efficiency can be decreased. Try to enhance the conditions, for example by using air conditioning.
- The product is designed for industrial environments with its own medium-voltage transformer.

If you have any technical questions, contact your local Schleuniger service partner for more information.

4.3.2 Electric and Pneumatic Connection

Description		Value	Connection
Mains connection	Power connection	210 - 500	VAC
	Notice: When the machine is equipped with a transformer and is shipped outside the European community there will be no CEE-plug installed.		
	Grid frequency	50 60	Hz
	Air pressure	5.5 - 7	bar
		80 - 102	psi
Notice: An air hose with an outer diameter of 12 mm is installed on the CrimpCenter			

4.3.3 Position of the supply

The supply connections are located below the operating area.

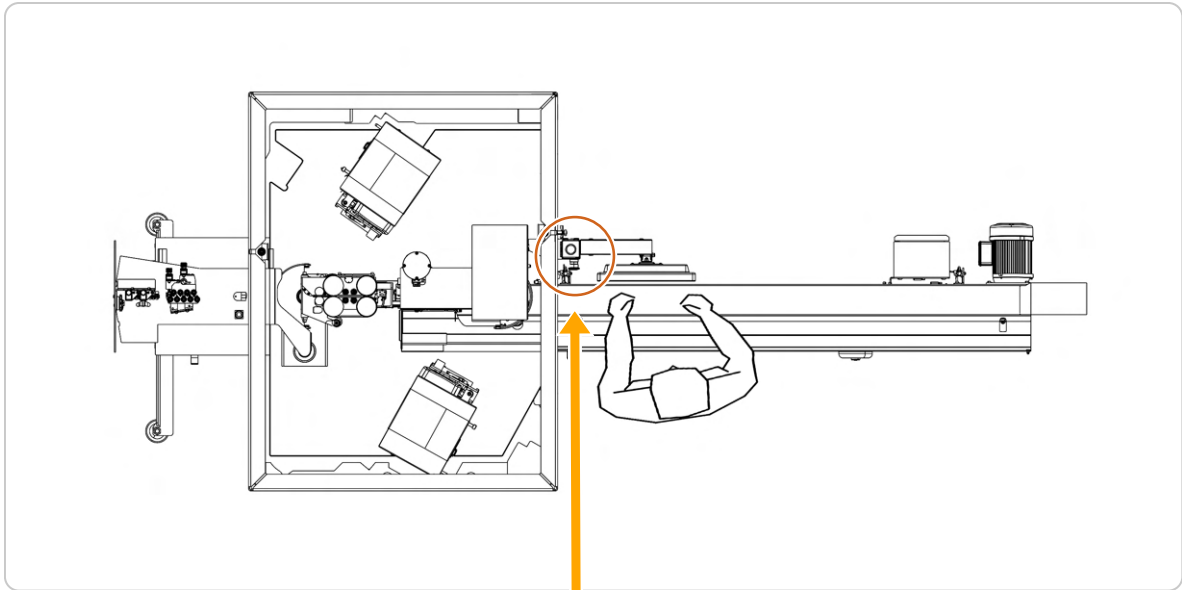


Fig. 3: CrimpCenter 36 S - Location of the supply connections below the platform

4.4 MACHINE AREAS

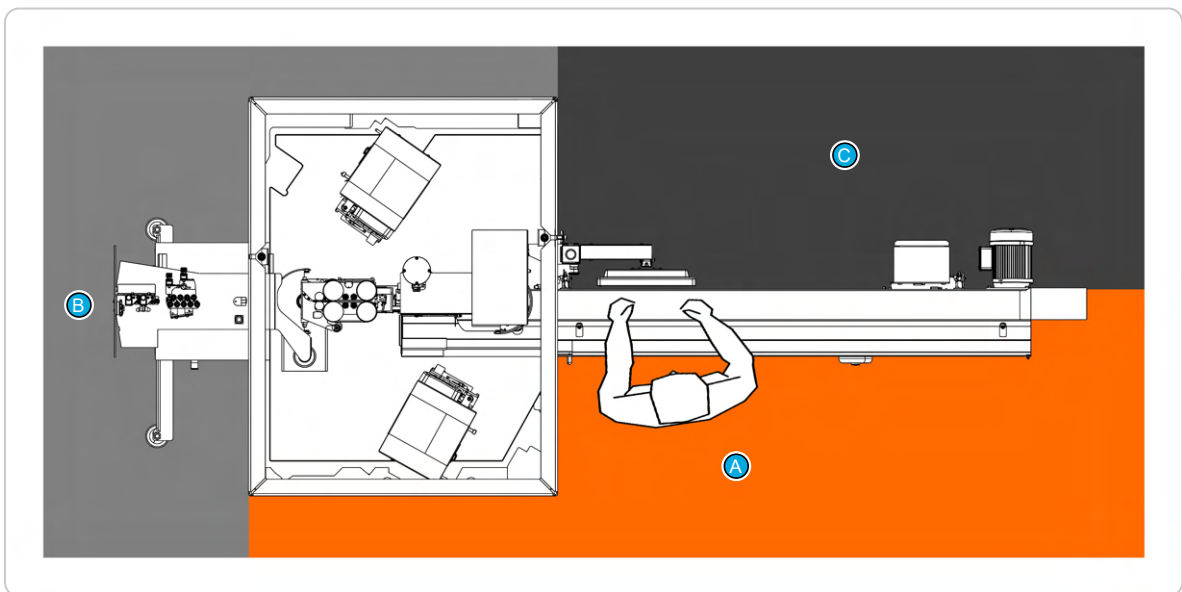


Fig. 4: CrimpCenter 36 S - Machine areas

	Area	Description
A	Operation	Here the machine is operated by trained personnel.
A + B	Setup	Here, the machine is set up by trained specialist personnel.
A + B + C	Maintenance	Here, the machine is maintained by trained specialist personnel.

4.5 RATING PLATE

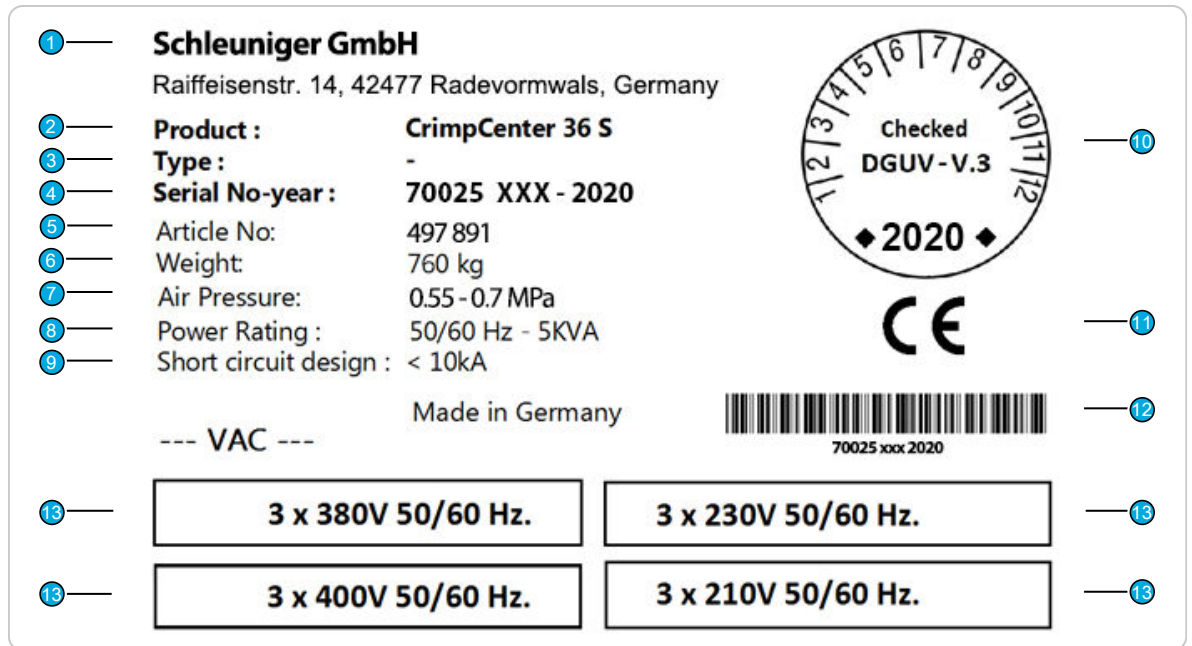


Fig. 5: CrimpCenter 36 S - Rating plate

The rating plate is situated beneath the main switch.
 (the manufacturing date is included in the serial number)

["4.3 Planning data \(Page 34\)"](#)

PRODUCT DESCRIPTION



The is a fully automatic crimping machine. It automatically produces one or both side processed cables with high precision.

5.1 OVERVIEW



Fig. 6: Product Photo

Depending on your machine configuration, a variety of processing stations can be integrated. Typical processes include crimping, sealing, twisting and tinning of cable ends. The machine is easily operated via touch screen. The CrimpCenter 36 S operating software EASY features language-independent icons and unmatched user friendliness. With EASY you can save and maintain your production parameters and retrieve all required data anytime you produce an order anew.



Operating interface is designed ergonomically. In addition, an optional positioning help (keypad) facilitates the setup of the swivel arms. Thanks to the positioning help it is no more necessary running back to the touch screen during setup.

The CrimpCenter 36 S can be used as a stand-alone machine or fully integrated into a network. Using international IT standard technology, integration is done quickly using your existing infrastructure. The optional EASY ProductionServer (EASY PS) software allows you to connect an unlimited number of CrimpCenter machines - whether they are located in the same production hall or in different countries. Production orders can be managed centrally and distributed to individual CrimpCenters. Whether you want to view real-time production data or seek full integration with your production planning / ERP software: EASY Production-Server is the right solution for you.



A variety of optional control and quality management tools are available for the CrimpCenter series.

Integrated check and control devices such as standard crimp force monitoring or seal check ensure production on a consistently high technical level. EASY QualityCenter integrates your quality and setup measurements into your CrimpCenter network.

Your processing options of your *CrimpCenter 36 S* depend on a variety of factors. These individual factors are

- CrimpCenter
- Stations
- Options
- Software



Notice

- All information is subject to change without prior notice.
- Exceptions may depend on application, wire and other variables.
- You may need additional products to produce the illustrated wires.
- It may be necessary to make changes to your *CrimpCenter 36 S* in order to produce the illustrated wires.

5.2 BASIC EQUIPMENT

Your *CrimpCenter 36 S* is already equipped in the basic configuration with some functions, which are described below. You will also get an overview of some elementary areas and assemblies of your product.

Notice



- Please note that your product can be adapted to the individual requirements of your production.
- A variety of optional stations and options allow a wide range of applications.





5.2.1 Process

Processing Capabilities

The following table shows the applications that are possible with your product.

- Only standard applications are shown.
- The functionality can be extended with stations.
- The functionality can be extended with options.

If you would like to implement other applications on your product, please contact your local *Schleuniger representative*. We offer you a customized solution.

	<p>Measure and cut to length</p> <p>The wire is precisely measured and cut to length.</p> <ul style="list-style-type: none"> ■ 55 - 65 000 mm (65 m) 2.16 - 2559.05 " (213 ft)
	<p>Full strip - Both ends</p> <p>The wire is completely stripped on both sides.</p> <ul style="list-style-type: none"> ■ Side 1: 0,1 - 18 mm 0.004 - 0.71 " ■ Side 2: 0,1 - 18 mm 0.004 - 0.71 "
	<p>Partial strip - Both ends</p> <p>A partial strip is carried out on both sides of the wire.</p>
	<p>2-stage strip - Both ends</p> <p>The wire is stripped in two stages on both sides.</p>

Assemblies of the Base Machine

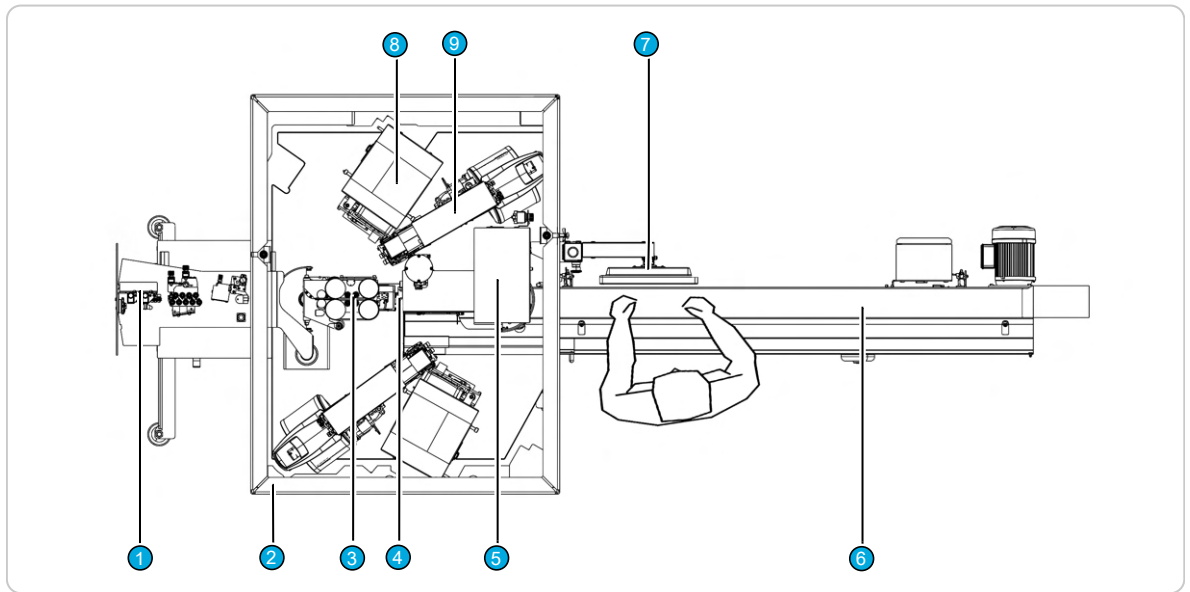


Fig. 7: CrimpCenter 36 S - Assemblies of the basic machine

1	the straightening unit	2	Safety Cover
3	Swivel - Side 1 and wire feed	4	Cutting and stripping unit
5	Swivel - Side 2	6	Conveyor belt
7	Operating area	8	Crimping station (optional)
9	Sealing station (optional)		

Overview of the (required) basic equipment

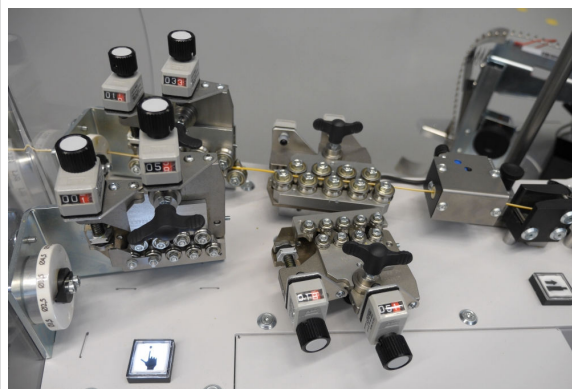


Fig. 8: the straightening unit

1 the straightening unit

With the perforated disc nodes in the wire can be determined.

With the straightening rollers on the straightener, the wire is directed horizontally and vertically.

The quick-release fasteners allow new wires to be inserted quickly.

With the fine adjustment, the distance of the rollers can be set precisely and adapted to the wire.



Fig. 9: Safety Cover

2 Safety Cover

The safety cover is an elementary part of the TÜV-approved safety concept and protects the operator.

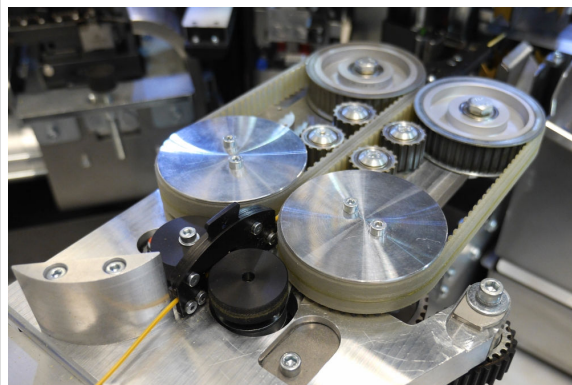


Fig. 10: Wire feed

3 Swivel - Side 1 and Wire Feed

The wire feed is equipped with a synchronous toothed belt drive.

This feeds the wire with up to 10 m/s | 32.8 ft/s into the CrimpCenter.

The quick-release fasteners at the wire intake allow a quick exchange of the feeding belts.

No tools are needed for these activities.

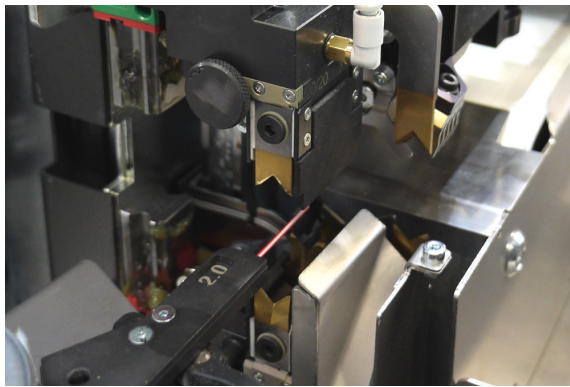


Fig. 11: Cutting and stripping unit

④ Cutting and stripping unit

The stripping blades shown here on both sides are V-stripping blades.

The cutting blades are available in different versions.

The bad part cutting blades (the lower one is not visible here) cut off the end of the line in case of faulty processing.

Over the bad piece slide these wire ends slide in a collection container.

The quick-release fasteners on the cutter blocks make it easy and quick to change blades outside the CrimpCenter.



Notice

Depending on the wire to be processed, better results can be achieved with other blades. When choosing the right blades, the *Schleuniger* Service is happy to help.

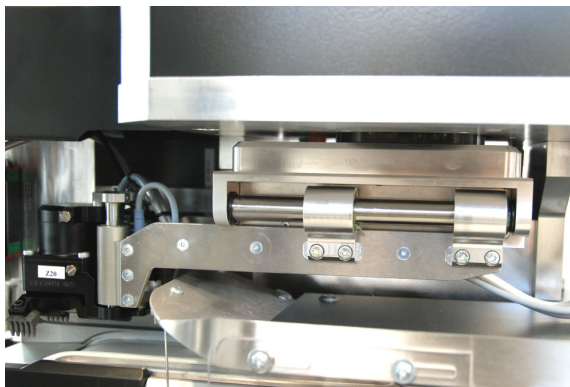


Fig. 12: Swivel - Side 2

⑤ Swivel - Side 2

The swivel feeds the wire to the individual processing stations, depending on the selected order data.

After the processing steps stored in the order have been carried out, the wire is either fed to the tilting tray or transferred to the depositing gripper.



Fig. 13: CrimpCenter 36 S - Conveyor belt

⑥ Conveyor belt

The conveyor belt collects the finished wires. The conveyor belt can be combined with extension modules and thus even long wires can be produced.

The extraction tray takes the last batch produced.



Fig. 14: Operating area

7 Operating area

The touch screen enables intuitive operation of the EASY software without the need for additional input devices.

The optional mouse and keyboard can be connected and used in addition to the touch screen without overriding its function.

All important buttons for the operation of the CrimpCenter are arranged clearly and easily accessible in front of the operator.

8 Crimping station (optional)

With a crimping station a variety of crimps can be processed.

An overview of the different processing options can be found here "[5.3 Optional Equipment \(Page 46\)](#)".

If your request for production is not listed there, please do not hesitate to contact us.

We offer customized solutions.

9 Sealing station (optional)

With a seal loading station a variety of seals can be processed.

An overview of the different processing options can be found here "[5.3 Optional Equipment \(Page 46\)](#)".

If your request for production is not listed there, please do not hesitate to contact us.

We offer customized solutions.

5.2.2 Check

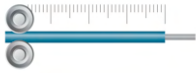


Quality Assurance

Quality assurance is an important factor in modern production facilities.

The following table shows the applications that are possible with your product.

- Only standard applications are shown.
- The functionality of your product can be extended with options.

If you would like to implement other applications on your product, please contact your local *Schleuniger representative*. We offer you a customized solution.

	<p>Encoder - Length measuring wheel The encoder measures the length of the wire continuously.</p>
	<p>Wire straightener - Horizontal and vertical With the wire straightener the wire is directed horizontally and vertically.</p>
	<p>Good / bad part sorting The CrimpCenter is equipped with a good / bad sorting. Wire ends are cut off in case of incorrect processing and disposed of either via the bad part slide or the conveyor belt. Depending on the wire length, faulty wires are collected in the deposit tray. These are clearly recognizable by the cut off wire end.</p>

5.3 OPTIONAL EQUIPMENT

The *CrimpCenter 36 S* has been configured and equipped according your individual needs. Thanks to its modular design, it can be subsequently adapted to a changed individual requirement of your production.

A number of stations and options allow a wide range of applications. You will get an insight into this spectrum if you read on.

Notice



- Constant improvements of our products are possible at any time.
- Constant extensions of our products are possible at any time.
- If any of your requirements are not listed, please contact your local *Schleuniger* representative.

Your local *Schleuniger* representative will be glad to provide you with information about all available products, all the latest news, as well as customized solutions for your individual requirements.

5.3.1 Process

Processing Capabilities

The following table shows the applications that are possible with your *CrimpCenter 36 S*.



- Depending on the application, additional products may be needed.
- Requirements for the application are indicated in each case.
- Recommendations for additional application enhancement products, if any, are provided.





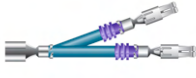
Notice












- Not all applications are compatible with each other and / or can be used simultaneously.



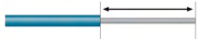

Your local *Schleuniger representative* will gladly assist you with your individual configuration.

	<p>Crimp - Both ends The wire is crimped on both sides.</p> <p>Prerequisite</p> <ul style="list-style-type: none"> ■ Crimping station - Side 1 ■ Crimping station - Side 2
	<p>Crimp - Closed contacts - Both ends (split cycle) The wire is crimped on both sides with closed contacts.</p> <p>Prerequisite</p> <ul style="list-style-type: none"> ■ Crimping station - Side 1 ■ Crimping station - Side 2

	<p>Seal - One end Crimp - Both ends</p> <p>The wire is crimped on both sides and equipped with seal on one side.</p> <p>Prerequisite</p> <ul style="list-style-type: none"> ■ Crimping station - Side 1 ■ Crimping station - Side 2 ■ Sealing station - Side 1 / Side 2
	<p>Seal - Both ends Crimp - Both ends</p> <p>The wire is crimped and equipped with seals on both sides.</p> <p>Prerequisite</p> <ul style="list-style-type: none"> ■ Crimping station - Side 1 ■ Crimping station - Side 2 ■ Sealing station - Side 1 ■ Sealing station - Side 2
	<p>Doubling Crimp Same terminals</p> <p>Two wires are brought together on one side and crimped. The two wire ends of the other side are individually crimped with crimp of the same type.</p> <p>Prerequisite</p> <ul style="list-style-type: none"> ■ Crimping station - Side 1 ■ Crimping station - Side 2 ■ Double gripper module - Side 2
	<p>Doubling Crimp Different terminals</p> <p>Two wires are brought together on one side and crimped. The two wire ends of the other side are individually crimped with crimp of different type.</p> <p>Prerequisite</p> <ul style="list-style-type: none"> ■ 2 Crimping stations - Side 1 ■ Crimping station - Side 2 ■ Double gripper module - Side 2
	<p>Doubling Crimp with Seal Same terminals and seals</p> <p>Two wires are brought together on one side and crimped. The two wire ends of the other side are individually crimped with crimp and seal of the same type.</p> <p>Prerequisite</p> <ul style="list-style-type: none"> ■ Crimping station - Side 1 ■ Sealing station - Side 1 ■ Crimping station - Side 2 ■ Double gripper module - Side 2

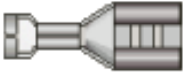
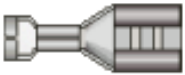




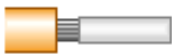

	<p>Doubling Crimp Horizontal / vertical</p> <p>Two wires are brought together on one side and crimped. The wires can be brought together horizontally or vertically.</p> <p>Prerequisite</p> <ul style="list-style-type: none"> ■ Crimping station - Side 2 ■ Double gripper module - Side 2
	<p>Tinning - One end Twisting - One end Crimp - One end</p> <p>The wire is crimped on one side. The wire on the other side is twisted and tinned.</p> <p>Prerequisite</p> <ul style="list-style-type: none"> ■ Crimping station - Side 1 ■ Twisting station - Side 2 ■ Tinning station - Side 2 ■ Crimping station - Side 2 ■ Twisting station - Side 1 ■ Tinning station - Side 1
	<p>Tinning - One end Twisting - One end Seal - One end Crimp - One end</p> <p>The wire is crimped and equipped with seal on one side. The wire on the other side is twisted and tinned.</p> <p>Prerequisite</p> <ul style="list-style-type: none"> ■ Crimping station - Side 1 ■ Sealing station - Side 1 ■ Twisting station - Side 2 ■ Tinning station - Side 2 ■ Crimping station - Side 2 ■ Sealing station - Side 2 ■ Twisting station - Side 1 ■ Tinning station - Side 1
	<p>Tinning - Both ends Twisting - Both ends</p> <p>The wire on both sides is twisted and tinned.</p> <p>Prerequisite</p> <ul style="list-style-type: none"> ■ Twisting station - Side 1 ■ Twisting station - Side 2 ■ Tinning station - Side 1 ■ Tinning station - Side 2

	<p>Double crimp Crimp - both sides Twisting and tinning - one-sided</p> <p>Two wires are brought together on one side and crimped. One end of the wire is crimped. The other end of the wire is twisted and tinned.</p> <p>Prerequisite</p> <ul style="list-style-type: none"> ■ Crimping station - Side 1 ■ Twisting station - Side 1 ■ Tinning station - Side 1 ■ Crimping station - Side 2 ■ Double gripper module - Side 2
	<p>Marking - Inkjet</p> <p>The wire is printed on the run with an inkjet printer via inkjet.</p> <p>Prerequisite</p> <ul style="list-style-type: none"> ■ Inkjet printer
	<p>Marking - Thermo-Transfer</p> <p>The wire is printed up to 360° with a thermal transfer printer.</p> <p>Prerequisite</p> <ul style="list-style-type: none"> ■ Thermo-Transfer printer
	<p>Marking - Hot stamp</p> <p>The wire is marked with a hot stamping device.</p> <p>Prerequisite</p> <ul style="list-style-type: none"> ■ Hot stamping device in front of the CrimpCenter
	<p>Wires - Short</p> <p>Wires from 35 mm 1.38 " can be processed.</p> <p>Prerequisite</p> <ul style="list-style-type: none"> ■ Kit for short wires
	<p>Wires - Long</p> <p>Wires up to a length of 12 m 39.37 ft can be deposited precisely.</p> <p>Prerequisite (depending on demand)</p> <ul style="list-style-type: none"> ■ 2 m 6.56 " conveyor belt basic module ■ 4 m 13.12 " conveyor belt basic module ■ 2 m 6.56 " conveyor belt extension ■ 4 m 13.12 " conveyor belt extension <p>Up to 2 conveyor belt extensions can be combined with one conveyor belt basic module.</p>

	<p>Wires - Thin Wires from 0,05 mm² 30 AWG can be processed.</p> <p>Prerequisite</p> <ul style="list-style-type: none"> Kit for thin wires <p>Recommendation</p> <ul style="list-style-type: none"> Wire feeding machine <p>In order to reduce the stress on the wire, the use of an wire feeding machine is recommended. This is recommended for wires with max. outer diameter of 12 mm 0.47" and with low bending strength.</p>
	<p>Wires - Difficult to process Wires that are particularly delicate or soft (for example Teflon-coated) can be processed without damaging them. Wires that are particularly hard (for example with lead-free insulation) can be processed precisely.</p> <p>Prerequisite (depending on demand)</p> <ul style="list-style-type: none"> special gripper jaws special encoder
	<p>Stripping length up to 26 mm 1.02 " The stripping length for wires on side 1 can be increased up to 26 mm 1.02 ".</p>
	<p>Wire list processing Orders of wires of different lengths with the same wire type can be cleverly distributed to the same material source to reduce the amount of waste.</p> <p>Prerequisite</p> <ul style="list-style-type: none"> EASY Software - Extension - Wire list processing









Available Stations






The following table lists all stations currently available. Please check regularly with your *Schleuniger* sales and service partner for new developments.

	<p>UniCrimp 221 Crimping station with integrated crimp force monitoring and mechanical crimp height adjustment.</p>
	<p>UniCrimp 222 Crimping station with integrated crimp force monitoring and electrical crimp height adjustment.</p>
	<p>SealLoad 3100 Sealing station for equipping wires with seals.</p>
	<p>SLU 3000 Sealing station for equipping wires with seals.</p>
	<p>SLD 4100 Double gripper module for processing doubling crimps.</p>
	<p>STW 1100 Twisting station for twisting wire ends.</p>
	<p>STS 1100 The tinning station tins stripped wire ends.</p>
	<p>Marking - Inkjet Inkjet printer (inkjet) for printing on wires with high-speed.</p> <ul style="list-style-type: none"> ■ Suitable for most wire sheaths.
	<p>Marking - Thermo-Transfer Thermo transfer printer for all-round printing (360 °) of wires.</p> <ul style="list-style-type: none"> ■ Especially suitable for printing barcodes and graphics (for example logos).
	<p>Marking - Hot Stamp Hot stamping device for marking wires.</p> <ul style="list-style-type: none"> ■ Especially suitable for permanent markings.
	<p>PreFeeder Cable feeding machine for the gentle and even supply of lines.</p>

Available Options





The following table lists all currently available options. Please check regularly with your *Schleuniger* sales and service partner for new developments.

	<p>Keyboard and Mouse</p> <p>In addition to the touchscreen, you can use keyboard and mouse on your CrimpCenter.</p>
	<p>Fingerprint Reader</p> <p>With the Fingerprint Reader you can equip your CrimpCenter with an alternative login option.</p>
	<p>Barcode Scanner</p> <p>With the barcode scanner you can scan barcodes of stations, tools and material (for example wires, crimp, seal, ...) for the current order.</p> <p>An error message is displayed in the EASY software if the stored and the scanned barcode do not match and production is not released.</p> <p>Prerequisite</p> <ul style="list-style-type: none"> ■ 1 x USB-port
	<p>Magnifying Glass</p> <p>With the illuminated magnifying glass you can enlarge the produced wires and make a visual inspection.</p>
	<p>Air Conditioner</p> <p>With the air conditioner for the control cabinet, a rise in temperature can be counteracted in warm production environments. This is recommended from a production temperature of over 35° C 95° F.</p>
	<p>Collecting container for rejected parts - Conveyor belt</p> <p>Bad parts that have not been sorted out and disposed of via the cutting and stripping unit can be disposed of in the collecting container at the end of the conveyor belt.</p>
	<p>Terminal Strip Chopper - Crimping Station</p> <p>The terminal strip copper chops the carrier roll of the crimps after they have been processed.</p> <p>Prerequisite</p> <ul style="list-style-type: none"> ■ Crimping station
	<p>Crimp Height Adjustment - Electric - UniCrimp 222</p> <p>The electric crimp height adjustment is integrated into the UniCrimp 222 and can be adjusted via the EASY software.</p> <p>Prerequisite</p> <ul style="list-style-type: none"> ■ UniCrimp 222

	<p>ToolingShuttle</p> <p>The ToolingShuttle is a quick change unit for the material supply of the crimping station. It is equipped outside the machine with the desired material and the appropriate applicator and can be inserted into the machine within a very short time.</p>
	<p>ToolingShuttle - ShuttleRack</p> <p>With the ShuttleRack several ToolingShuttle can be prepared and stored.</p>
	<p>Label Printer</p> <p>The label printer can be used to print various information about the current order and the logged in user as well as customer-specific logos. Likewise, barcodes can be generated and printed from the order data.</p>
	<p>V-Blades</p> <p>Depending on the shape and characteristics of the wire, V-blades can provide better wire processing results.</p> <p>Notice</p> <p>Your local Schleuniger representative will be pleased to assist you in selecting the right blade.</p>
	<p>Shape-Blades</p> <p>Depending on the shape and characteristics of the wire, shape-blades can provide better wire processing results.</p> <p>Notice</p> <p>Your local Schleuniger representative will be pleased to assist you in selecting the right blade.</p>
	<p>Depositing Table</p> <p>The depositing table is designated for additional devices, like PullTester or CHM.</p> <p>Overloading may lead to permanent damage of the depositing table.</p>

Available Software

The following table lists the most important software enhancements currently available. Please check regularly with your *Schleuniger* sales and service partner for new developments.

	<p>EASY ProductionServer</p> <p>The EASY ProductionServer can be used to optimize the wire processing of linked CrimpCenter in a network environment. The management of production orders, production planning and real-time production monitoring are all possible from a central computer workstation.</p> <ul style="list-style-type: none"> ■ Automatic optimization of job order and order assignment ■ Integration into existing company networks through standard TCP / IP protocol ■ Flexible data import of order and item data in XML format ■ Customer-specific acquisition and logging of production data
	<p>EASY NetConverter</p> <p>The EASY NetConverter extends the communication of the CrimpCenter with the WPCS standard. Thus the CrimpCenter can be linked and used in existing networks with the WPCS standard</p>
	<p>Cutting and Assembly Optimization (CAO)</p> <p>The 4Wire CAO software solution is the leading manufacturing execution system (MES) for the cutting area and the production of wire harnesses. It is the only system available worldwide and in all languages. The system has constantly updated machine interfaces to Schleuniger (and other machine manufacturers) and has the widest range of functions that can be considered a quasi-standard.</p>
	<p>Guided Feasibility Study (GFS)</p> <p>The Guided Feasibility Study allows the headroom analysis, with which the feasibility of the crimp monitoring can be determined. In addition, the CFM settings can be optimized according to the required customer requirements and / or a report can be output.</p>
	<p>EASY CustomModule</p> <p>ECM is an interface of the EASY software to special stations. Up to 2 stations can be installed on a CrimpCenter with the ECM software, one per side or two on one side.</p>
	<p>EASY DeveloperKit</p> <p>The EASY Developer Kit opens the door to the EASyNet protocol for experienced programmers and allows programmers to set up communication between their ERP system and the CrimpCenter.</p>

**Notice**

The EASY DeveloperKit is a pure development environment and must not be installed on a CrimpCenter! The EASY version used may differ from your CrimpCenter.

5.3.2 Check

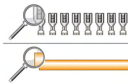



Quality Assurance




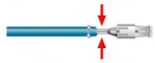

Quality assurance is an important factor in modern production facilities.

The following table shows the applications that are possible with your product.

- The functionality of your product can be extended with options.

If you would like to implement other applications on your product, please contact your local *Schleuniger representative*. We offer you a customized solution.

	<p>Material Change Detection (MCD)</p> <p>The material change detection registers whether wires, crimps or applicators have been changed during production. The production release is inhibited until the required measurements have been made. This ensures that always the correct material and applicators are used.</p> <p>Prerequisite</p> <ul style="list-style-type: none"> ■ Barcode scanner
	<p>Barcode Scanner</p> <p>With the barcode scanner you can scan barcodes of stations, tools and material (for example wires, crimp, seal, ...) for the current order.</p> <p>An error message is displayed in the EASY software if the stored and the scanned barcode do not match and production is not released.</p> <p>Prerequisite</p> <ul style="list-style-type: none"> ■ 1 x USB-port
	<p>SpliceCheck</p> <p>SpliceCheck checks the wire for missing insulation, non-continuous wire and splices when it is feed into the CrimpCenter.</p>
	<p>SmartDetect</p> <p>SmartDetect is a sensor-controlled system that monitors the entire stripping process in real time and detects contacts between the stripping blade and the conductor.</p> <ul style="list-style-type: none"> ■ The operation is completely done with the CrimpCenter software EASY ■ Blade change without cable chaos ■ Easy and fast setup ■ Measurement results are displayed almost in real time

	<p>WireCam</p> <p>The WireCam is a system that monitors the stripping results and certain properties of applied seals. A camera takes a picture of the processed wire end after the stripping process. Based on the two-dimensional photos of the top view, the software routines inspect each wire end and compares it to the reference image in real time.</p> <ul style="list-style-type: none"> ■ The operation is completely done with the CrimpCenter software EASY ■ Easy and fast setup ■ Measurement results are displayed almost in real time
	<p>Crimp Force Monitoring (CFM 20) - Crimping Station</p> <p>The CFM 20 integrated into the crimping station measures the forces during crimping and creates a crimp curve. This curve is compared with the previously learned crimp curve. Contacts that have deviations outside the tolerances set by the operator are disposed.</p> <p>Prerequisite</p> <ul style="list-style-type: none"> ■ Crimping station
	<p>SealCheck - Sealing Station</p> <p>SealCheck checks if a seal has been fitted on the wire. If the test is negative, the line is disposed.</p> <p>Prerequisite</p> <ul style="list-style-type: none"> ■ Sealing station
	<p>CrimpHeightMeasuring Device</p> <p>With the crimp height measuring device, the crimp height can be checked.</p>
	<p>PullForceMeasuring Device</p> <p>With the PullTester, the pull force can be checked. Depending on the type of PullTester, the values can only be displayed and used in the EASY software.</p>

5.4 FACT SHEET

5.4.1 Available Stations



Not the right product for your application?

Talk to us and / or visit our website. *Schleuniger* will be glad to provide you with information about all available products, all the latest news, as well as customized solutions for your individual requirements.

Crimping Station - UniCrimp 221

The UniCrimp 221 is a crimping station that processes high-performance crimp contacts on CrimpCenter series crimping machines. In addition to the integrated crimp force monitor CFM 20, it has a height-adjustable substructure. The UniCrimp 221 processes crimp contacts in strip form for longitudinal and transverse transport with mechanical or electrical feed.



- Suitable for precise high-speed crimping
- Integrated crimp force monitoring
- Manual crimp height adjustment
- All standard crimping applicators can be used

Scope of Application

The UniCrimp 221 is a crimping station for high-speed production on CrimpCenter series crimping machines. The station has the integrated Schleuniger Crimp Force Monitoring CFM 20 and a height-adjustable substructure. It processes crimp contacts in strip form for longitudinal and

transverse transport with mechanical or pneumatic feed. Due to its speed and precision, the UniCrimp 221 is excellently suited for the automatic processing of wires up to a cross-section of 6 mm².

The mechanical changeover of the stroke from 40 mm to 30 mm considerably extends the field of application. The crimping station has a wide range of clamping dimensions, from 135.78 mm for standard tools up to 190 mm. In addition, integrated LED lighting illuminates the work area for improved visibility.

Maximize Productivity

To shorten set-up times when changing applicators, the UniCrimp 221 has a quick-release clamping plate. The ToolingShuttle 30 or ToolingShuttle 61 can be used to prepare the crimping applicator, contact spool and paper winder for production while the CrimpCenter is producing. The crimping applicator and the contact coil are mounted on the ToolingShuttle and replaced at the same time, which significantly reduces machine downtime with frequent tool changes.

Options

- Carrier strip cutter
- Guide plate for longitudinal transport contact strip
- Accessory kit for pneumatic crimping applicators
- SplitCycle processing capability
- Various adapter kits for non-standard crimping applicators (including different closing heights)
- Backlash-free crimping applicator holder

Crimping Station - UniCrimp 222

The UniCrimp 222 is a crimping station that processes high-performance crimp contacts on CrimpCenter series crimping machines. In addition to the integrated crimp force monitor CFM 20, it has a height-adjustable substructure. The UniCrimp 222 processes crimp contacts in strip form for longitudinal and transverse transport with mechanical or electrical feed.



- Suitable for precise high-speed crimping
- Integrated crimp force monitoring
- Automatic crimp height adjustment
- All standard crimping applicators can be used

Scope of Application

The UniCrimp 222 is a crimping station designed for high-speed production on CrimpCenter series crimping machines. It has an electric crimp height adjustment, the integrated Schleuniger crimp force monitoring CFM 20 and a height-adjustable substructure. The UniCrimp 222

processes crimp contacts in strip form for longitudinal and transverse transport with mechanical or pneumatic feed. Due to its speed and precision, the station is excellently suited for the automatic processing of wires up to a cross-section of 6 mm².

The mechanical changeover of the stroke from 40 mm to 30 mm considerably extends the field of application. The crimping station has a wide range of clamping dimensions, from 135.78 mm for standard tools up to 190 mm. In addition, integrated LED lighting illuminates the work area for improved visibility.

Maximize Productivity

To shorten set-up times when changing applicators, the UniCrimp 222 has a quick-release clamping plate. Any variations in crimp height can be quickly adjusted via the CrimpCenter user interface with the electrical crimp height adjustment. This reduces set-up times and increases runtimes. To further reduce machine downtime we recommend the use of the Schleuniger Tooling-Shuttle System (TSS).

Options

- Carrier strip cutter
- Guide plate for longitudinal transport contact strip
- Accessory kit for pneumatic crimping applicators
- SplitCycle processing capability
- Various adapter kits for non-standard crimping applicators (including different closing heights)
- Backlash-free crimping applicator holder

The ToolingShuttle 30 or ToolingShuttle 61 can be used to prepare the crimping applicator, contact coils, and paper winder for production while the CrimpCenter is producing. The crimping applicator and the contact coil are mounted on the Tooling-Shuttle and replaced at the same time, which significantly reduces machine downtime with frequent tool changes.

Sealing Station - SealLoad 3100

Seal equipping stations for CrimpCenter convey and orient loose seals and position them on pre-insulated lines. They are suitable for all types of seals, as well as mini and hard shell seals. Seal monitoring (SealCheck) can optionally be installed. Existing SLU SealKits can be reused.



- Improved cycle time thanks to optimized mechanics
- Tool-less kit change and multi-clutch
- High precision of seal assembly and monitoring
- Low energy consumption
- Appealing design and ergonomics
- Adjustment and operation with EASY software
- Suitable for precise high-speed crimping

Scope of Application

Seal equipping stations for CrimpCenter process all types of seals up to a length of max. 19 mm and a diameter of 17 mm, including mini hardshell and oval seals. Special sizes can be ordered on request.

- New optimized seal assembly unit
- Adapter for integration of other SealKits
- Compact design with very high accessibility
- SealKits (hard shell, oval, mini seals)
- Compatibility of the SLU 3000 conversion kits
- Large transparent seal container

Options

- SealCheck
- SealLevelMonitor with warning light
- Seal refill during production
- SealKits for all types of seals
- Miniseal and Hard Shell SealKits
- SealKits
- AdapterKit for the integration of other seal kits
- Spare parts kits
- Adjustment gauge for AdapterKit
- SealCleaner 20

Sealing Station - SLU 3000

The SLU 3000 is perfectly suited for seal placement of wire ends on CrimpCenter automatic crimping machines. The compact unit with its proven technology has been specially designed for the high-speed processing of all common seals.



- Compact design
- Processing of all common seals
- Tool-free conversion
- Short cycle times
- Processing of hardshell seals
- Optical seal check

Scope of Application

The SLU 3000 populates stripped - or not stripped - wire ends with seals before use, and can be used on all CrimpCenter series crimping machines. The SLU 3000 has been specially developed to meet the stringent requirements of the automotive industry. The focus is on precision, processing speed, short make ready times, minimal installation space and easy operation. Application sets that allow for quick retooling are available for common seal types as well as for irregularly shaped seals and hard shell seals.

- Easy installation
- Conversion kits for all common seals, also hard shell, oval and mini seals
- Integrated in CrimpCenter EASY user software
- Fast conversion set change without tools
- Integrated axial movement for faster changeover
- Process time reduced to less than 200 ms

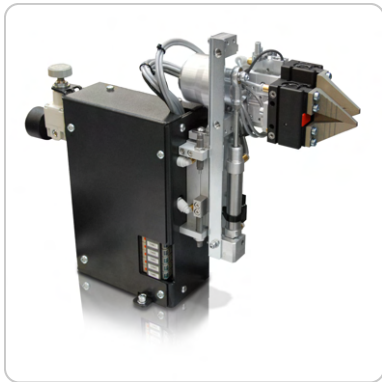
Material

- Hard Shell Seal
- Mini Seal
- Oval seals
- Seal with special requirements
- Silicone seal

Options

- Carrier strip cutter
- Guide plate for longitudinal transport contact strip
- Accessory kit for pneumatic crimping applicators
- SplitCycle processing capability
- Various adapter kits for non-standard crimping applicators (including different closing heights)
- Backlash-free crimping applicator holder

Double Gripper Module - SLD 4100



The SLD 4100 dual gripper module is used for double crimping applications with leads that have an outside diameter of 1 to 4 mm. The unit collects two wires in the correct orientation and allows the gripper's gripper to pick up the two wires for the crimping process.

The horizontal and vertical alignment is fully programmable and no mechanical adjustments need to be made. The lengths of the individual wires can be different. For optimum crimp results, offsets can be programmed during positioning.

Scope of Application

With the SLD 4100 double gripper module, cable diameters of 1 to 4 mm can be processed. Different lengths of the individual wires are absolutely no problem. Alignment of the wires for a vertical or horizontal double crimp is fully programmable in the EASY operator software and is done without the use of tools.

- Compact, completely pneumatic module
- Different lengths of the single wires possible
- Programmable wire alignment and offsets
- All parameters fully programmable (no mechanical settings)
- Simple operation directly via the CrimpCenter operator software EASY

Twisting Station - STW 1100

The STW 1100 is specially designed for twisting strands on CrimpCenter series crimping machines. It processes wires up to 2.5 mm² in cross section and twists insulated wire ends up to a stripping length of 18 mm. The STW 1100 is usually used in conjunction with the STS 1100 tinning station.



- Can be used in a crimping station or operated as a stand-alone station
- Full integration and control via CrimpCenter Software EASY
- Suitable for conductor cross sections up to 2.5 mm² (14 AWG)

Scope of Application

The twisting station STW 1100 twists strands of partial stripped wire ends and is usually used in conjunction with the STS 1100 tinning station. It can process wires with an outside diameter of up to 4.5 mm. Thanks to its compact design, the STW 1100 can be used both as a stand-alone processing station and in every crimping station. The installation in the crimping station is carried out on the standard integrated tool clamping plate, so that in connection with the stored production data a change from crimping to twisting (or vice versa) can be realized in shortest time and without recalibrating the station. The gripping force of the STW 1100 can be adjusted depending on the application. Whether as a stand-alone station or integrated into a crimping station, the STW 1100 presents itself completely with the CrimpCenter software EASY.

- Short cycle times
- The STW1100 can be mounted in a crimping station on the standard quick release plate for crimping tools.
- Can also be mounted outside the crimping station on a separate base for optimum flexibility.
- Programmable twisting speed and take-off speed.
- All production parameters are programmed and saved via the machine interface.

Options

- Substructure (required for use as independent processing station)
- 23 mm twisting length (only for wire end 1, wire-dependent, tests required)
- Adapter for various applicator holders

Tinning Station - STS 1100



The tinning station STS 1100 was designed for the use of lead-free tin solder with particularly corrosive properties. The station has an integrated flux unit and has been designed for tinning cross sections up to 2.5 mm² and lengths up to 5 mm. Cross sections up to 4 mm² and lengths up to 10 mm are possible depending on the wire after sampling.

Scope of Application

The STS 1100 tinning station is used for fluxing and lead-free tinning of stripped cable ends and is ideal for use on fully automatic crimping machines as well as on transfer systems. The wire ends are treated with flux prior to tinning. The STS 1100 is suitable for both lead-free and leaded tin solder and meets all the requirements for uniform tinning. All surfaces of the STS 1100 that come in contact with aggressive lead-free solder (such as tin bath and tin pump) are provided with a special coating to prevent premature corrosion and ensure a long service life. If twisting of the wire ends is required before fluxing / tinning, the twisting station STW 1100 can be integrated into the CrimpCenter.

- Short cycle times
- Full control over the EASY operator software
- Designed for use with lead-free solder
- Evenly tinned wire ends
- Suitable for conductor cross sections up to 2.5 mm² (14 AWG)
- Optional for conductor cross sections up to 4 mm² (12 AWG)

Options

- Support, not adjustable
- Support, horizontal adjustable
- Drip protection (different versions available)
- Special jets to optimize the tin jet

Marking - Inkjet / Thermo-Transfer / Hot Stamp

Notice



The following products are examples of our product portfolio.

Inkjet

Proven, non-contact inkjet printers create durable and easy-to-read dot-matrix characters on most wire sheathing. The programmable inkjet printers label most complex wiring harnesses continuously at high speed. The wire and stripping lengths, speed and marking points are set automatically, allowing cost-effective production of both individual and thousands of pieces without modification.



- Great flexibility: Markers can be placed anywhere on the cable
- The wire is fed continuously (high production speeds)
- Produces both large batch sizes as well as individual wires efficiently
- Versatile and reliable
- Simple programming

Scope of Application

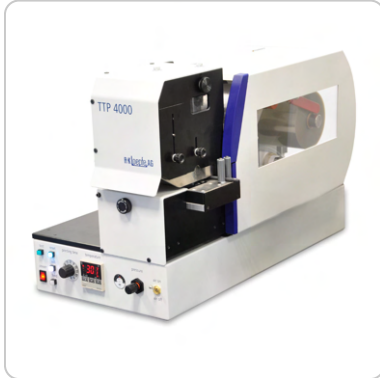
Inkjet printing is an increasing requirement in wire processing. The fast, error-free wiring in the end products as well as the clear traceability require clear markings on laid wires. Inkjet printing is a versatile, reliable and fast solution for wire printing.

Schleuniger offers different inkjet labeling options.

- Non-stop printing - the process is not stopped for printing, which means higher production rates are possible.
- Non-contact printing - no risk of insulation damage.
- Versatile Features - Various information, such as connectors or wire marking, can be placed at the wire ends or anywhere on the wire.
- Traceability of the product - for easy identification, key product information such as part number, serial number or production date can be added to the wire name.
- Programmability - Text information and position can be programmed with the EASY software or on the machine panel. Complex wire lists with all text information can be saved for later retrieval, which minimizes set-up and changeover times. The production of large batch sizes as well as individual pieces are thus efficiently possible.

Thermo-Transfer

The TTP 4000 thermal transfer printer with programmable all-round printing is a wire labeling device for the highest demands. The innovative thermal transfer printing process allows a wide variety of printing options for texts, barcodes and graphics (for example logos). The TTP 4000 is extremely user-friendly and can be used both in automatic processing lines and as a manual workstation.



- Prints texts, barcodes and graphics / logos
- All-round printing possible
- Can be used as a tabletop device or in a fully automatic production line
- Simple programming
- Easy import of graphics (PCX format)
- Input of all parameters, depending on the operating mode via panel, external keyboard or laptop possible

Scope of Application

The TTP 4000 thermal transfer printer with programmable all-round printing is a wire labeling device for the highest demands. The innovative thermal transfer printing process allows a wide variety of printing options for texts, barcodes and graphics (for example logos). The TTP 4000 is extremely user-friendly and can be used both in automatic processing lines and as a manual workstation.

Function

The combination of two basic processes in one device enables abrasion-resistant all-round printing in impressive quality. In the first step, a thermal film is prepared so that only the elements to be printed (text / graphics) remain on it. In a second operation, these elements are transferred to the cable in the hot stamping process. It can be printed by means of a special rolling process, the entire circumference of the wire. Compared to conventional methods, this allows, for example, the choice of a larger font, which leads to a significant improvement in readability. Prints can be applied to multiple positions on the wire as needed.

Printing Options

- date fields
- Continuous numbering
- Logos / graphics
- One-line texts
- Multi-line texts (as graphic)
- Special character
- Barcode

Hot Stamping

The HotStamp 4500 marks wires up to 15 mm outside diameter. The compact unit is designed for use in a production line and handles a wide range of insulation types such as PVC, Teflon®, Tefzel®, cross-linked wires, SXL and GXL.



- Wide machining zone for marking both wire ends
- Adjustable stroke for maximum production rate according to wire size
- Large selection of embossing wheels and foils
- Fast foil change thanks to foil drawer
- Standard universal wire guide allows the printing of cables up to 15 mm outside diameter
- Integrated temperature controller

Scope of Application

The Schleuniger HotStamp 4500 is a hot stamping machine for a variety of insulation materials; e.g. PVC, Teflon®, Tefzel®, crosslinked wires (cross-linked), SXL and GXL up to 15 mm outside diameter. With this compact device it is possible to emboss both wire ends simultaneously and differently with up to 16 characters each. As a result, continuous double embossing can be set and thus a higher production rate can be achieved. The HotStamp 4500 can be combined with any Schleuniger cut-to-size or cut-to-length / stripping machine. An optional foot pedal also allows autonomous use of the HotStamp 4500.

Wire Feeding Station - PreFeeder 60

The dynamic PreFeeder 60 wire feed system feeds strands and wires with a conductor cross-section up to 6 mm² (10 AWG). It is ideally suited for use with fully automatic crimping machines, such as the Schleuniger CrimpCenter models.



- Gentle feed for automatic crimping machines
- Regulated line conveyor drive max. feeding speed up to 9 m / s
- Line accumulator is designed according to swivel arm principle
- Wire guiding and deflection rollers in the feeder

Scope of Application

The PreFeeder 60 is a dynamic feeding system, which was designed for the gentle wire feed for automatic crimping machines. The PreFeeder 60 removes wires from containers and drums as well as Conipacks. With a feed speed of max. 9 m / s (depending on wires and containers), this high-performance feeding machine is ideally suited for the required high feed speeds of a Schleuniger fully automatic crimping machine. A controlled roller drive transports the wire very gently and evenly into a store. While the wire is being pulled in, the fully automatic crimping machine removes the wire from the memory for further processing. With this arrangement, it is possible that the fully automatic crimping machine produces precise and powerful even with problematic wire bundles.

Options

- Connection cable to CrimpCenter or other fully automatic crimping machines
- Sensor for wire end
- Small pulleys for thin wires

5.4.2 Available Options

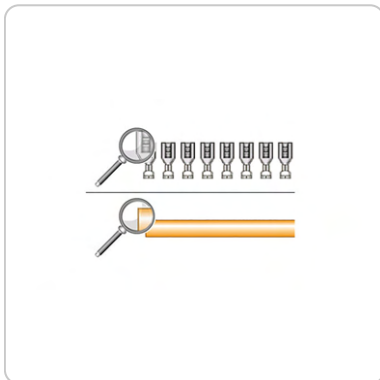


Not the right product for your application?

Talk to us and / or visit our website. *Schleuniger* will be glad to provide you with information about all available products, all the latest news, as well as customized solutions for your individual requirements.

Material Change Detection - MCD

With the material change detection (MCD) the CrimpCenter registers a change of the wire, the contacts or the crimping tools during the production. To ensure that the correct materials are used, leads and contacts must be scanned and verified when they are replaced during the production of an order. The machine recognizes the change and requests the necessary measurements to ensure that it is the correct material. MCD or the preset quality checks also apply when switching between orders.



The material change detection recognizes

- wire change
- contact change
- Tool replacement

Scanning the barcode is a crucial point to make sure the right material is used. Therefore, a barcode scanner must be integrated to use the MCD.

Additional quality checks, such as crimp height measurement, pull-out force measurement, CFM (crimp force monitoring), MGS (MicroGraph system, microsection analysis

system) and others, can be defined in the EASYSoftware according to requirements via Quality Conformance Mode (QCM).

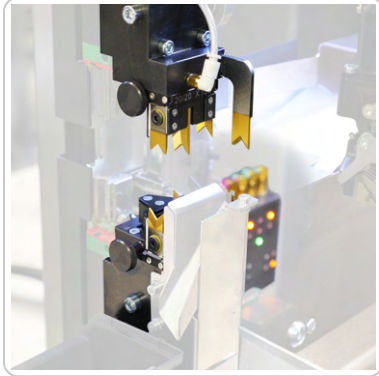
Barcode scanner



With a barcode scanner, you can extend your CrimpCenter with another way of improving performance and quality. By reading barcodes of wires and contacts, you can transfer the data quickly, easily and securely to your CrimpCenter. This reduces the susceptibility to error by the manual input. Likewise, in combination with, for example, the material change detection, you can ensure that the operator uses the correct wires, contacts and applicators and block the production release for the wrong materials.

SmartDetect

SmartDetect is a highly innovative quality control option. The sensor-controlled system is intended for use in CrimpCenter. It monitors the entire stripping process in real time and detects contacts between the stripping blade and the conductor. Thus, the production quality can be further improved while maintaining high performance.



- The operation is completely done with the CrimpCenter software EASY
- Blade change without cable chaos
- Easy and fast setup
- Measurement results are displayed almost in real time

Scope of Application

SmartDetect is fully integrated into the user interface of the CrimpCenter software «EASY». The operation and data management are therefore clear and simple. SmartDetect supports the operator during set-up by showing him

whether the setup used is touching the strands or not.

The tried-and-tested, makeready-optimized principle of quickly exchangeable cutter blocks for retrofitting the stripping blades remains fully intact when using SmartDetect. The electronic components of the system are fully embedded so that they are visible from the outside only to the experienced eye. Thus, for example, the blade change can be made outside the machine in a preferred working attitude. When assembling the sharp blades, attention must not be paid to filigree and sensitive measuring leads.

Function

During the stripping process, touches between the stripping blade and the conductor material are detected, causing possible notches or scratches on the conductor material to be reported. The monitoring takes place in three zones, which correspond to the normal stripping process:

Zone 1: Touches when cutting the insulation are reported

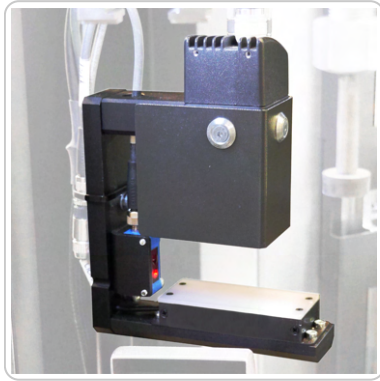
Zone 2: Touches on the withdrawal movement are reported

Zone 3: Touches after the deduction of the insulation residue from the line are reported (re-cut function deactivated)

The system determines in which zone the contact took place. These results are compared with the set parameters. Produced wires that do not meet the set quality requirements are treated and rejected as with other Schleuniger quality monitors.

WireCam

WireCam is another innovative quality control option for the CrimpCenter family of machines. The system monitors the stripping results and certain properties of applied seals. A camera records an image of the edited cable end "on-the-fly". Based on the two-dimensional photos of the top view, the software routines inspect each lead end and compare it to the reference image in real time. In this way, the production quality is improved while maintaining the high machine performance.



- The operation is completely done with the CrimpCenter software EASY
- Easy and fast setup
- Measurement results are displayed almost in real time

Scope of Application

Full integration of the WireCam into the EASY software, the CrimpCenter man-machine interface, ensures easy programming and control. The tolerance reference to physical quantities, such as millimeters or inches, makes the system understandable and simplifies handling. In combination

with SmartDetect and CFM20, all quality-relevant processes of line processing are monitored in real time.

CrimpHeightMeasuring Device - CHM

The CrimpHeightMeasuring Device (CHM) simplifies crimp height measurement, resulting in shorter measurement times and improved consistency.



- Measuring point combination mandrel and support rail
- Simplified contact positioning
- Consistent measuring force
- Improved reliability and repeatability

Scope of Application

The Schleuniger Crimp Height Measuring System differs from conventional hand-held measuring devices in its ease of use. The measurement process is less cumbersome than with handheld instruments, which significantly reduces the time required for the measurements. The operator can

use both hands to hold the contact in the illuminated work area, ensuring correct positioning in microns. The spring-loaded mandrel ensures a consistent force on the contact, which significantly improves the consistency of different operators.

Function

The standard measuring points on the CHM consist of a combination of mandrel and support rail specially developed for crimp height measurement. The handle on the side raises the mandrel and the pattern can be loaded by the operator. Once the handle is lowered, the spring-loaded mandrel makes contact with the pattern. The operator can now adjust the pattern to achieve the most accurate result possible.

PullForceMeasuring Device - PullTester

Notice



The following products are examples of our product portfolio.

PullTester 320

The PullTester 320 is a motor-driven measuring device for Schleuniger fully automatic crimping machines. The PullTester 320 measures the pull-off force values of crimp connections and ultra-white connections in a wider range than single-range encoders. Withdrawal forces are critical parameters in quality control and quality control.



- Three measuring ranges in which reliable high-precision measured values are determined for a wide range of cables
- Four adjustable take-off speeds depending on the test requirements
- Tacted motor drive guarantees the constant speed over the individual measuring ranges
- Complete integration into the CrimpCenter software EASY

Scope of Application

The PullTester 320 has three measurement ranges, each calibrated separately. The standard measuring ranges are 0 to 100, 0 to 200 and 0 to 1000 Newton. Within these ranges, the PullTester 320 reliably delivers high-precision measurement results for cables with a wide range of cross-sections and a variety of applications. This clearly distinguishes the PullTester 320 from hand-operated and pneumatic pull-off gauges, which provide uneven data, depending on the operator and the speed, and are therefore unable to meet standards requiring a consistent pull rate. Therefore, the PullTester 320 is equipped with a timed motor that guarantees uniformity over the entire measuring range. The measurement results can be displayed in N, Kp or lbs.

Application example

The standard 12-position contact allows testing of most applications in these ranges. The device inspects extraction forces up to 1000 Newton and is suitable for quality control in a production environment.

PullTester 20

The economical PullTester 20 is a motorized bench meter for determining the pull-off force values of crimps, welded joints, and many other options. The PullTester 20 is ideal for quality control in the production environment.



- 2 selectable pull-off speeds
- Motor control for constant pull-off speed
- Simple LCD display for easy programming and reading
- Repeat accurate and precise values
- Modular-(Crimp-)Contact holder
- Standard RS 232 interface for curve analysis with the optional WinCrimp PC software, as well as transfer to Microsoft® Excel

Scope of Application

The most common applications of the Pulltester 20 include determining the pull-off force values of crimps and welds, and the design also allows custom solutions for other applications. Hand-operated or pneumatic pull-off force gauges can provide uneven data, depending on operator or speed. Some standards provide a uniform pull rate. Therefore, the Schleuniger PullTester 20 is equipped with a drive motor system, which ensures this uniformity over the entire measuring range and thus guarantees accurate and reliable measurement results. These can be displayed in pounds, newtons or kiloponds. The standard 12-position contact enables the testing of most applications in these measuring ranges.

Model

The machine is available in two versions, depending on the pulling speed.

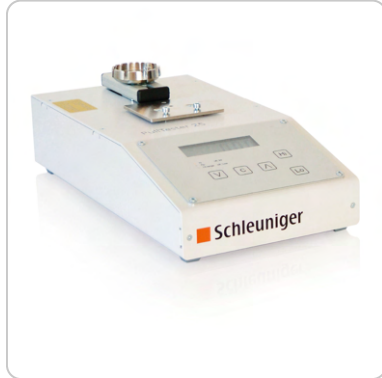
- PullTester 20-25: 500 N (110 lbs.) @ 25 / 50 mm/min (0,98 oder 1,97"/min)
- PullTester 20-50: 500 N (110 lbs.) @ 50 / 100 mm/min (1,97 oder 3,94"/min)

Options

- Contact and conductor holder for many applications
- WinCrimp Basis-Software
- Alternative force ranges
- Network cable
- Accessories

PullTester 25

The PullTester 25 is a motor-driven bench-top measuring device for determining the pull-off force values of crimp connections, welded connections or many other possibilities. Since it is possible to switch between two measuring ranges, a wider range of wires can be measured than with single-range devices. The PullTester 25 is ideal for quality control in the production environment.



- Two measuring ranges 500 N (110 lbf) or 1000 N (220 lbf) for higher accuracy in a wider range
- 2 selectable pull-off speeds
- Motor control for constant pull-off speed
- Simple LCD display for easy programming and reading
- Repeat accurate and precise values
- A variety of possible contact holders and wire receptacles available
- Standard RS 232 interface for curve analysis with the optional WinCrimp PC software, as well as transfer to Microsoft® Excel

Scope of Application

This versatile machine is available in two versions depending on the pull-off speed. Both versions have 2 measuring ranges, which can be calibrated separately: up to 500 N for thin wires and up to 1000 N for thicker wires. This allows high accuracy for the widest possible range of wire cross-sections and applications. Hand-operated or pneumatic pull-off force gauges can provide uneven data, depending on operator or speed. Since some test specifications require a uniform pulling speed, the Schleuniger PullTester 25 is equipped with a drive motor system that ensures this uniformity over the entire measuring range, thus guaranteeing accurate and reliable measurement results. These can be displayed in pounds, newtons or kilo ponds. The standard 12-position contact enables the testing of most applications in these measuring ranges. Other holders are available by sample upon request.

Model

The machine is available in two versions, depending on the pulling speed.

- PullTester 25-25: 500 N (110 lbf.) @ 25 / 50 mm/min (0,98 oder 1,97"/min)
- PullTester 25-50: 500 N (110 lbf.) @ 50 / 100 mm/min (1,97 oder 3,94"/min)

Options

- Contact and conductor holder for many applications
- Customized contact and wire holders
- WinCrimp Basis-Software
- Alternative force ranges
- Network cable
- Accessories
- Flexible construction allows many different applications

PullTester 27

The PullTester 27 is a two-range, motorized bench-top measuring device for determining the pull-off force values of crimps, welded joints, or many other options. Since it is possible to switch between two measuring ranges, a wider range of wires can be measured than with single-range devices. The PullTester 27 is ideal for quality control in the production environment.



- Two measuring ranges for greater accuracy in a wider range
- 2 selectable pull-off speeds
- Motor control for constant pull-off speed
- Simple LCD display for easy programming and reading
- Repeat accurate and precise values
- A variety of possible contact holders and wire receptacles available
- Standard RS 232 interface for curve analysis with the optional WinCrimp PC software, as well as transfer to Microsoft® Excel

Scope of Application

This versatile machine is available in four versions, depending on the pull-off speed and force range. All versions are equipped with two measuring ranges, which can be calibrated separately for thinner wires and for larger wire cross-sections (other ranges may be possible). Thanks to the two blade areas, high accuracy can be achieved for the widest possible range of wire cross-sections and applications. Hand-operated or pneumatic pull-off force gauges can provide uneven data, depending on operator or speed. Since some test specifications require a uniform pulling speed, the Schleuniger PullTester 27 is equipped with a drive motor system that ensures this uniformity over the entire measuring range, thus guaranteeing accurate and reliable measurement results. The pull-off forces can be measured either in Newton, Kilo pond or Pound force. The contacts and quick-change options can be specially designed and manufactured for your applications. In addition, many fixtures are already available and available upon request.

Model

The machine is available in two versions, depending on the pulling speed.

- PullTester 27-25: 2.000 / 5.000 N (440 / 1100 lbf.) @ 25 / 50 mm/min (0,98 oder 1,97"/min)
- PullTester 27-50: 2.000 / 5.000 N (440 / 1100 lbf.) @ 50 / 100 mm/min (1,97 / 3,94"/min)
- PullTester 27-10-25 (special): 5.000 / 10.000 N (1100 / 2200 lbf.) @ 25 / 50 mm/min (0,98 oder 1,97"/min)
- PullTester 27-10-50 (special): 5.000 / 10.000 N (1100 / 2200 lbf.) @ 50 / 100 mm/min (1,97 / 3,94"/min)

Options

- Contact and conductor holder for many applications
- Customized contact and wire holders
- Quick change holder
- WinCrimp Basis-Software
- Alternative force ranges
- Network cable
- Accessories
- Flexible construction allows many different applications

5.4.3 Available Software

Notice



The following products are examples of our product portfolio.

Not the right product for your application?



Talk to us and / or visit our website. *Schleuniger* will be glad to provide you with information about all available products, all the latest news, as well as customized solutions for your individual requirements.

EASY ProductionServer

The EASY PS software can be used to optimize the wire processing of linked CrimpCenter in a network environment. The management of production orders, production planning and real-time production monitoring are all possible from a central computer workstation.



- Automatic optimization of job order and order assignment
- Integration into existing company networks through standard TCP / IP protocol
- Flexible data import of order and item data in XML format
- Customer-specific acquisition and logging of production data

Scope of Application

With the EASY ProductionServer, production planning, order management and production monitoring of the CrimpCenter of a plant can be controlled centrally.

Production planning is greatly simplified because the existing CrimpCenter and their equipment are retrieved live from the EASY production server over the network. Thus, the CrimpCenter can be easily compared with the requirements of the upcoming production orders and identify and adapt the optimization possibilities of the equipment in advance.

The orders can be clearly arranged as single articles, complete orders and extensive wire lists in Excel and easily transferred to the EASY ProductionServer and managed there.

The clarity remains despite maximum flexibility and individualization on the individual customer care. For the shortest processing of all orders, these can be allocated by the EASY ProductionServer in a time-optimized way to the CrimpCenters on the basis of their currently equipped stations. An individual assignment of the orders is of course also possible.

After successfully distributing the production orders, the operator only has to provide material replenishment according to the loaded order and start production. Several production orders can be directly assigned to a CrimpCenter, so that the operator can make the appropriate arrangements for the procurement of material in advance and reduce the downtimes of the CrimpCenter even further.

Cutting and Assembly Optimization (CAO)

The 4Wire CAO software solution is the leading manufacturing execution system (MES) for the cutting area and the production of wire harnesses. It is the only system available worldwide and in all languages. The system has constantly updated machine interfaces to Schleuniger (and other machine manufacturers) and has the widest range of functions that can be considered a quasi-standard.



- The 4Wire CAO is flexible, scalable and easy to install.
- Due to its modular design, the system is also advantageous for small and medium-sized companies.
- The extension function flexibly adapts to the requirements of the company, so that every cutting range from 2 to 200 machines can be controlled efficiently and flexibly, while meeting the highest requirements.

EASY NetConverter



The NetConverter serves as a link between a WPCS-based ERP system and the EASY operating software on the CrimpCenters. It converts the WPCS communication files to the EASY-Net format and, conversely, stores the information from EASY-Net as WPCS-compliant response files.

Guided Feasibility Study (GFS)



The Guided Feasibility Study consists of the eponymous extension of the EASY software and the program "CFM - Analysis Tool" for an office PC. This program combination allows the headroom analysis with which the feasibility of the crimp monitoring can be determined. In addition, the CFM settings can be optimized according to the required customer requirements and / or a report can be output.

Scope of Application

The headroom analysis is accessible to technicians with the necessary access rights. If the technician is logged in, the "Guided Feasibility Study" button will appear in the crimp station learn menu when a contact is selected for referencing. In a first step, the "Guided Feasibility Study" in the EASY software performs a series of tests. The determined data are stored in a file and transferred to an office PC. There, the data can be analyzed with the "CFM - Analysis Tool". In simulations, the parameters of the data set can be changed to find alternative settings. In addition, reports can be generated.

5.5 SAMPLE CONFIGURATIONS

The following illustrations show different configuration possibilities of the *CrimpCenter 36 S*.

5.5.1 Sample Configuration 1

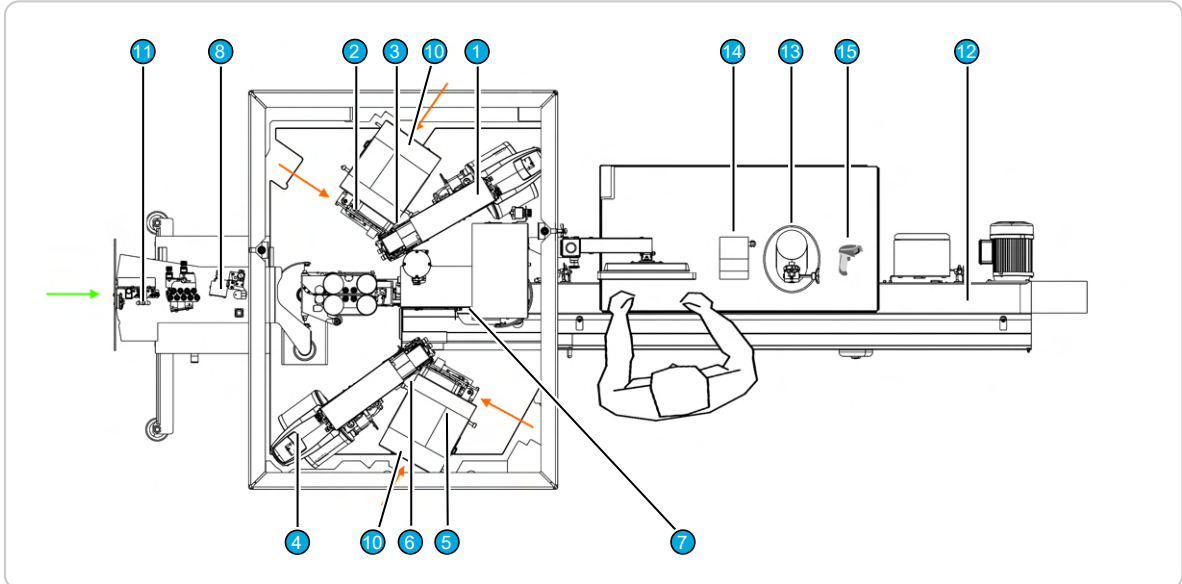


Fig. 15: CrimpCenter 36 S - Sample Configuration - Crimp and Seal - Quality Assurance

The CrimpCenter is equipped with the following stations and options in this configuration.

① Platform - Side 1	Sealing station
② Platform - Side 1	Crimping station
③ Platform - Side 1	WireCam
④ Platform - Side 2	Sealing station
⑤ Platform - Side 2	Crimping station
⑥ Platform - Side 2	WireCam
⑦ Cutting unit	SmartDetect
⑧ Wire feed	Material Change Detection (MCD) - Wire Change
⑨ Platform - beneath	Material Change Detection (MCD) - Contact Change
⑩ Crimping station	Material Change Detection (MCD) - Applicator Change
⑪ Wire feed	Straightener - Single
⑫ Wire deposit	Conveyor belt - 2m
⑬ Depositing Table	PullForceMeasuring Device
⑭ Depositing Table	CrimpHeightMeasuring Device
⑮ Depositing Table	Barcode scanner
	➡ Wire feeding
	➡ Possible terminal feed

5.5.2 Sample Configuration 2

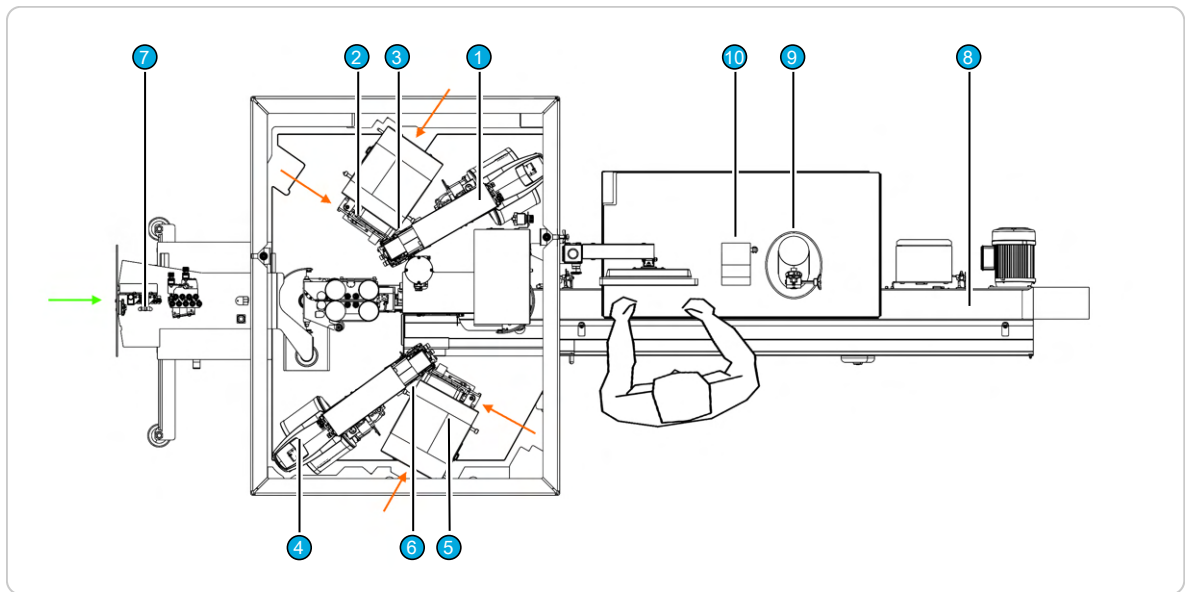




Fig. 16: CrimpCenter 36 S - Sample Configuration - Crimp and Seal

The CrimpCenter is equipped with the following stations and options in this configuration.

① Platform - Side 1	Sealing station
② Platform - Side 1	Crimping station
③ Platform - Side 1	--- free ---
④ Platform - Side 2	Sealing station
⑤ Platform - Side 2	Crimping station
⑥ Platform - Side 2	--- free ---
⑦ Wire feed	Straightener - Single
⑧ Wire deposit	Conveyor belt - 2m
⑨ Depositing Table	PullForceMeasuring Device
⑩ Depositing Table	CrimpHeightMeasuring Device
	 Wire feeding
	 Possible terminal feed

5.5.3 Sample Configuration 3

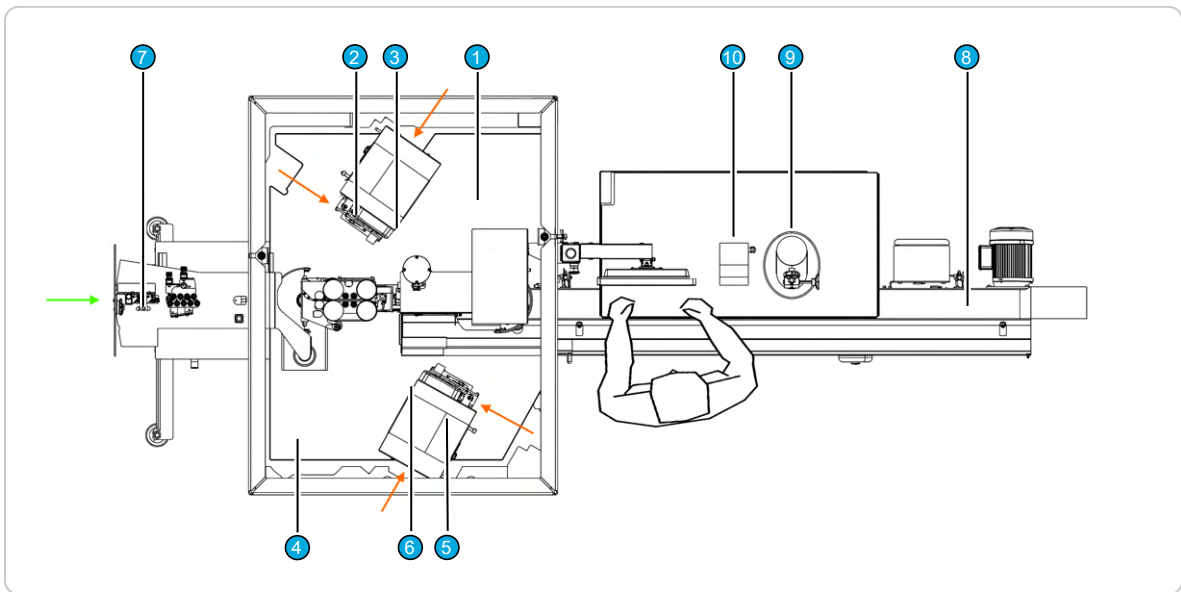


Fig. 17: CrimpCenter 36 S - Sample Configuration - Crimp and Crimp

The CrimpCenter is equipped with the following stations and options in this configuration.

① Platform - Side 1	--- free ---
② Platform - Side 1	Crimping station
③ Platform - Side 1	--- free ---
④ Platform - Side 2	--- free ---
⑤ Platform - Side 2	Crimping station
⑥ Platform - Side 2	--- free ---
⑦ Wire feed	Straightener - Single
⑧ Wire deposit	Conveyor belt - 2m
⑨ Depositing Table	PullForceMeasuring Device
⑩ Depositing Table	CrimpHeightMeasuring Device
	➔ Wire feeding
	➔ Possible terminal feed

5.6 SCOPE OF DELIVERY

5.6.1 Product

The scope of delivery of the product includes:

- Additional safety cover switch
- Frequency converter for adjusting the speed of the conveyor belt
- Automatic deposit tray
- Manual closing force adjustment of the grippers and the feed belt
- Remote control
- Standard transport belts for the feeding unit
- Measuring wheel with encoder
- Wire guides 1 - 5 mm
- Standard clamping jaws
- Slug container for rejected pieces
- EASY Software
- Pivoting touch screen monitor
- Towerlight
- Standard PC with Windows[®] operating system
- Uninterruptable supply (UPS)
- Operating manual

5.6.2 Required Basic Equipment

The following is not included in the product:

- Wire straightener (horizontal and vertical)
- Adjustable knot detection
- Safety Cover, CE compliant
- Cutter block top
- Cutter block bottom
- Cutting blades top
- Cutting blades bottom
- Reject contact blade top
- Reject contact blade bottom
- V-stripping blade 0.5 (set, 4 pieces)
- V-stripping blade 0.1 (set, 4 pieces)
- V-stripping blade 1.5 (set, 4 pieces)

SAFETY ELEMENTS / DANGER AREAS



DANGER

Observe the following danger zones!

You find an overview of the machine areas and the permitted person groups in chapter ["2.1 Personnel qualification \(Page 15\)"](#).

The complete area of the processing space underneath the safety cover and in the area of the belt feed:

- Danger from mechanical moving parts
- Danger from electrical current
- Danger from sharp-edged components

Outside the machine:

- Danger from moving wires in the feeding area outside the machine
- Danger from mechanical moving parts
- Risk of stumbling

The entire area of the machine and the base frame:

- Danger from electrical current
- Danger from mechanical moving parts
- Danger from sharp-edged components

The whole area of the conveyor belt:

- Danger from moving parts
- Danger from crushing at the pneumatic controlled tilting tray

Please observe the safety instructions of the processing stations installed on your CrimpCenter!



DANGER

Danger of injury due to manipulation!

There is a risk of getting burned!

The following instructions are to be followed!

- The safety features of the product may never be manipulated under any circumstances!

These manipulations include among others the following

- the override of the of two-hand operation.
- the bridging of switches.
- the change of the machine software.

Modifications not approved by Schleuniger GmbH voids the operating license of the product.

6.1 MAIN SWITCH

The main switch turns the CrimpCenter on and off.

- In the switch position "0 OFF" the power supply is disconnected.
- In the switch position "1 ON" the power supply is connected.

Caution



The CrimpCenter is equipped with a UPS (Independent Power Supply).

Switch off CrimpCenter



Fig. 18: Main switch - off

1. ▶ Shut down the CrimpCenter with the EASY software.
2. ▶ If the EASY software has already been shut down, shut down the CrimpCenter.
3. ▶ When the message appears "You can now turn off the CrimpCenter". Switch off the CrimpCenter with the main switch.

Switch on CrimpCenter.

1. ▶ Wait at least 5 minutes after the CrimpCenter was last turned off until the UPS has completely shut down.
2. ▶ Only now may the CrimpCenter be switched on again.

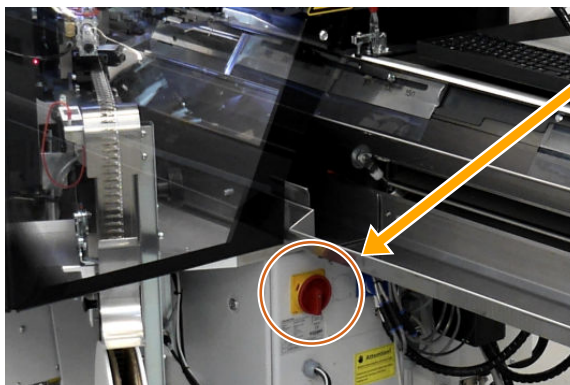


Fig. 19: CrimpCenter 36 S - Main Switch

Position of the main switch

- The main switch is located under the conveyor belt.

6.2 EMERGENCY STOP SWITCH

The emergency stop button interrupts any power to the drives (axis) immediately. For this, push the red button fully down until it snaps in. To disengage, turn it counterclockwise until it snaps out.

All values entered while programming, are held in memory as the power to the software system is not interrupted thereby.

NOTICE



Emergency stop switch abuse!

The following instructions are to be followed!

- Use the emergency stop button only in an emergency case!
- It should not be used for the normal production stop.

	<p>Position of the emergency stop switches</p> <ul style="list-style-type: none"> ■ Emergency Switch (1) ■ Main circuit breaker (2)
	<p>Position of the emergency stop switches</p> <ul style="list-style-type: none"> ■ Emergency Switch (1)

6.3 SAFETY COVER

During production the area of the production space is protected by a safety cover. Opening the safety cover is done with a pushbutton and is only necessary when rigging, setting up or changing wires. It is not possible to produce while the safety cover is open. For setting up the wire feed and the processing station it is necessary to press a confirm button simultaneously.

If the safety cover cannot close completely or gets blocked, the operator must open the safety cover again and clear the blockage.



DANGER

Risk of injury when the confirmation button is pressed!

Pressing the confirm button when the safety cover is open deactivates some safety functions.

There are the following risks

- Crushing of fingers and hands by moving parts.
- Crushing of fingers and hands by the gripper.
- Pulling-in and catching of long open hair and / or loose clothing by the feeding belts.
- Hitting of the upper extremities by moving parts.
- Shearing-off fingers by the cutting unit and the blades.
- Parts of the machine can move unexpected.

The following instructions are to be followed!

- The person, which is actuating the confirm button, is responsible that no other person is in the danger zones!
- Only trained personnel are allowed to use the confirm button.



DANGER

Risk of injury when lowering!

The following instructions are to be followed!

- Prior to close the safety cover, the operator has to ensure, that no other person is in the area of the machine.



NOTICE

Damage to property if not observed!

The following instructions are to be followed!

- Before lowering the safety cover, the operator must ensure that all stations are positioned so that no collisions occur when the safety cover is lowered.
- There must also be no contact between the safety cover and the connections of the stations.

6.3.1 Safety switch



DANGER

Danger of injury due to manipulation!

The safety cover switch is an elementary part of the safety concept!

There is a risk of getting burned!

The following instructions are to be followed!

- The safety cover switch must under no circumstances be manipulated and / or bridged!



NOTICE

Safety switch!

The safety switch ensures a safe and secure operation of the machine.

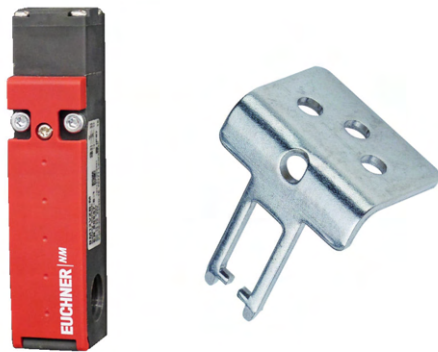


Fig. 20: Safety switch with latch

Safety switch

There is a safety switch with latch on the machine.

- It is not possible to produce, when the safety cove is open.

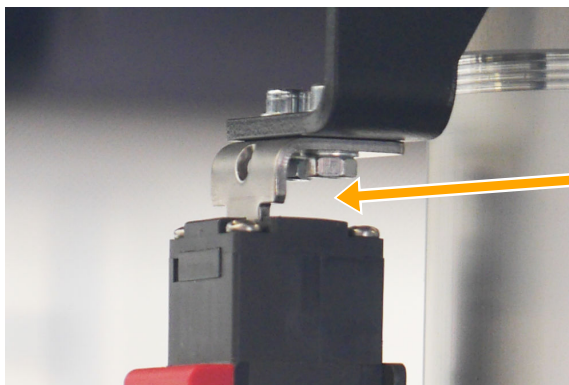


Fig. 21: CrimpCenter 36 S - Safety switch

Safety switch - closed

If the operator opens the safety cover during production, a safe stop is initiated.

- The machine stops the production immediately.
- The motors are switched powerless.

Position of the safety switch

- The safety switch is located inside the safety cover between the swivel arm and the control cabinet.

6.3.2 Open / close

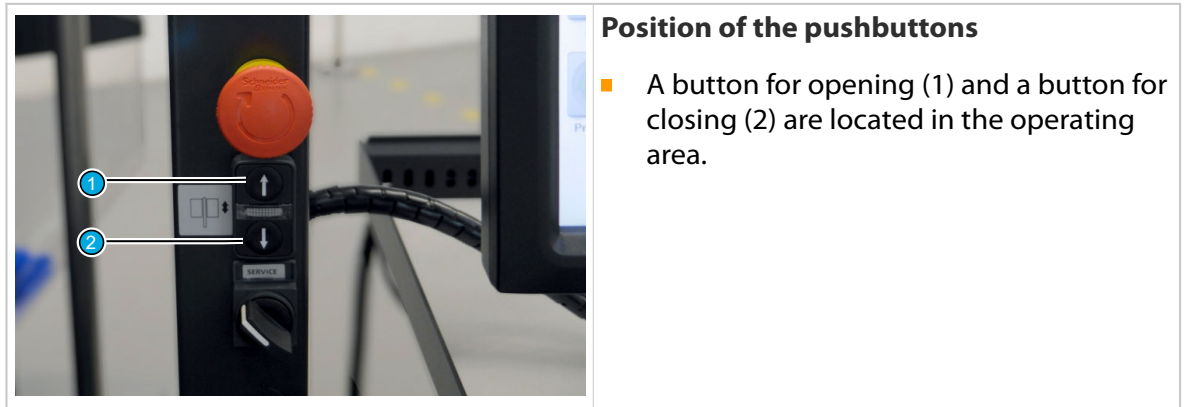


WARNING

Danger of injury during commissioning, adjustment and set-up work!

The following instructions are to be followed!

There are pushbuttons for opening and pushbuttons for closing the safety cover.



- Pushbutton for **Opening of the safety cover (1)**
Press the pushbutton once to open the safety cover halfway, press it twice and the cover opens completely.
- Pushbutton for **Closing of the safety cover (2)**
To close the safety cover, press and hold the push-button. As soon as you release the pushbutton, the safety hood stops the downward movement. Press the button again and the downward movement continues, until the cover has reached its lowest position and the cover is closed completely.

6.4 CONFIRM BUTTONS

**WARNING**


Danger of injury during commissioning, adjustment and set-up work!

The following instructions are to be followed!

It is not possible to produce, when the safety cover is open. There are several confirm buttons on the machine to allow some rigging and setting-up operations.

	<p>Position of the confirm buttons</p> <ul style="list-style-type: none"> One button is placed on the operator panel
	<p>Position of the confirm buttons</p> <ul style="list-style-type: none"> One button is placed on the straightening unit
	<p>Position of the confirm buttons</p> <ul style="list-style-type: none"> One confirm button is placed at the pneumatic unit beneath the straightening unit

6.5 DANGER ZONES GENERALLY

 The dangerous zones on the product are marked in the following figure. The operator must also consult the chapter "2 Safety (Page 15)" to become familiar with the residual risks.



DANGER

Risk of injury / danger of life!

The following instructions are to be followed!

- The product must only be operated by qualified operator personal.
- There are danger zones where special caution is advised.
- Improper handling can lead to injury or death.



DANGER

Risk of injury without personal protective equipment!

The following instructions are to be followed!

- Observe the use of the personal protective equipment.

6.5.1 Danger Zones when Safety Cover is closed

Topview when safety cover is closed

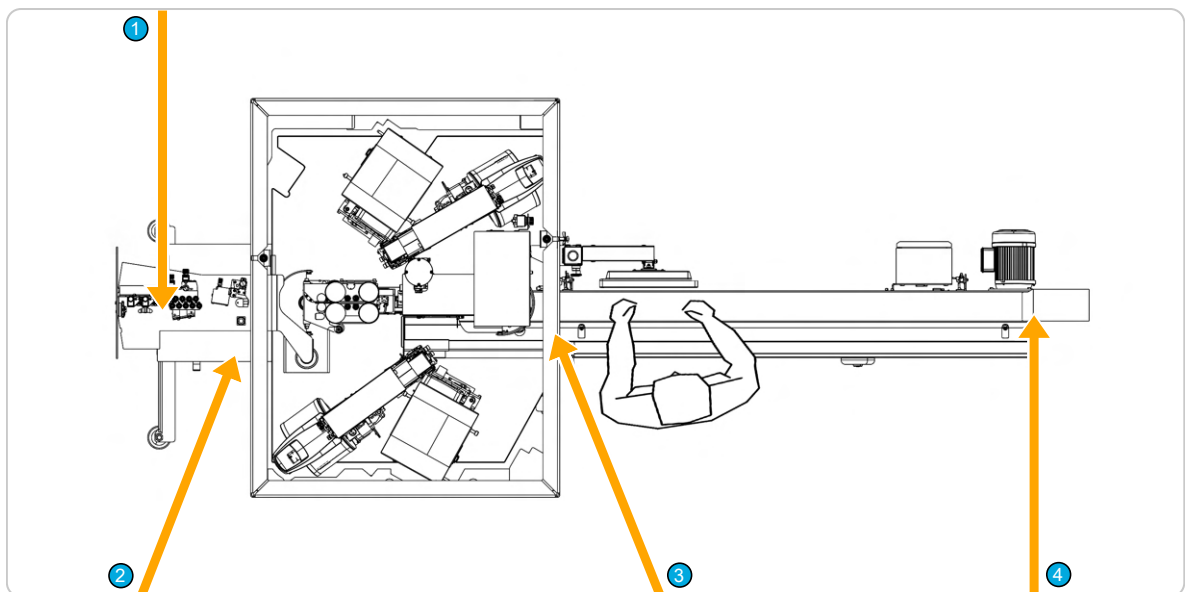






Fig. 22: Topview - Safety cover closed

1	In the area of the wire feed
	Danger of hand injury!
	Danger of in-running nip!

1	In the area of the wire feed
	Machine starts automatically!
2	Area in the machine base frame
	The machine is equipped with a independent power supply. Even if the machine is switched off the assemblies are energized! Danger of electric shock!
3	In the area of the cable tray
	Machine starts automatically!
	Danger of hand injury!
	There is a risk of crushing!
	There is a risk of injury by moving parts!
4	The area of the conveyor belt
	Machine starts automatically!
	Danger due to escaping wires!
	Danger of hand injury!
	There is a risk of crushing!

4	The area of the conveyor belt
	There is a risk of shearing!
	There is a risk of injury by moving parts!

6.5.2 Danger zones when Safety Cover is open

Topview when safety cover is open

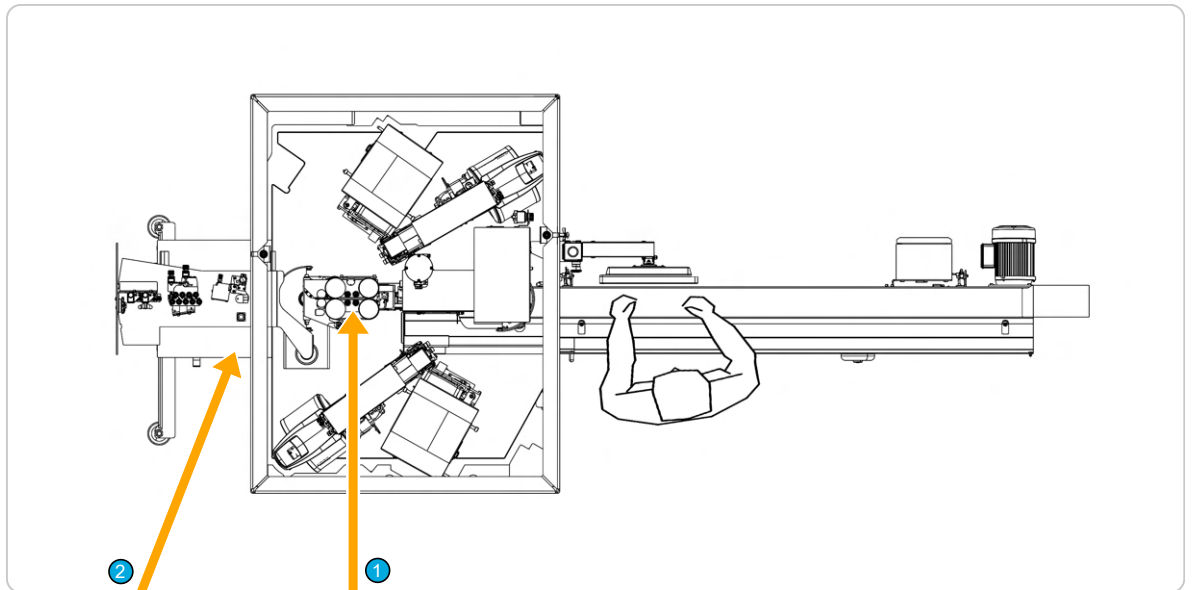




Fig. 23: Top view - Safety cover opened

1	In the area of the stations and the entire platform
	Danger of hand injury!
2	Area in the machine base frame
	The machine is equipped with an independent power supply. Even if the machine is switched off the assemblies are energized! Danger of electric shock!

INSTALLATION / MOUNTING

7.1 SAFETY INSTRUCTIONS

The installation and commissioning instructions for the product have to be followed. The following instructions must be followed step by step to avoid property damage on the product and to reduce the risk of injury to the personnel to an absolute minimum.



WARNING

Danger of injury during commissioning, adjustment and set-up work!

The following instructions are to be followed!



WARNING

Risk of injury due to wrong order!

Improper handling may result in injury!

The following instructions are to be followed!

- The following instructions must be carried out in the listed sequence.



DANGER

Risk of injury if not observed!

The following points protect man and machine and must be observed!
Non-compliance can lead to serious damage!

The following instructions are to be followed!

- Processing stations must be tightly mounted on the support designated by Schleuniger when starting production.
- When handling inappropriate tools, you may suffer injuries. Always use suitable tools.
- Falling parts may cause injuries. Make sure that suitable load handling devices are available. The maximum load of the load handling devices must not be exceeded.
- If the CrimpCenter is installed incorrectly, you may suffer injuries.
- The CrimpCenter is installed and operated as a stand-alone machine.
- The maximum load of the ground must not be exceeded and it must be even.
- Install and operate the CrimpCenter in a dry and dust-free room at an ambient temperature between 15° - 40° C.
- Make sure that no condensation water accumulates on machine parts due to strong thermal fluctuation.
- Remove wrapping and transportation locks, if any, not before the final place of installation is reached.
- Install the CrimpCenter 36 S in a horizontal and stress-free position using the installation devices. Height from floor to the upper side of the aluminum base plate must be 31.6" (790 mm). The height adjustable hinged feet must be secured by tightening the counter nuts.
- If there are additional applications installed on the machine, the documentation of the specific manufacturer has to be considered.
- The electric connection must be carried out by a technical specialist and according to the local installation regulations.



NOTICE

Damage to property caused by environmental influences!

Avoid the following environmental influences

- high humidity.
- temperature fluctuations.
- aggressive ambient air (saline, corrosive, ...).

These environmental influences can cause damage to the machine and its components!

- Particularly in countries with high humidity condensation can form on the machine even with slight temperature fluctuations.

The following instructions are to be followed!

- Ensure a uniform ambient temperature with constant humidity, even outside the operating hours.
- Be sure to observe the maintenance leaflet for surface care (in the manual of the base machine).
- Damage to the surface coating must be repaired immediately.



NOTICE

Conditions at the installation site!

In case of unfavorable conditions at the installation location (for example extreme temperatures, altitude, air humidity) the machine efficiency can be decreased.

The following instructions are to be followed!

- Try to enhance the conditions, for example by using air conditioning.

If you have further questions, please contact your authorized Schleuniger service partner.

7.2 POSITIONING / (DIS-) MOUNTING

7.2.1 (De-) Mounting - Touchscreen

Installation

For transport, the CrimpCenter 36 S touch screen is dismantled from the operator panel. It will be shipped in the original packaging. For operating the CrimpCenter 36 S the touch screen must be installed at its final position.



Notice

The monitor is calibrated for each individual CrimpCenter 36 S. The frame number of the CrimpCenter 36 S can be found on the packaging of the monitor.

1. ▶ Remove the monitor from the packaging.
2. ▶ Save the packaging

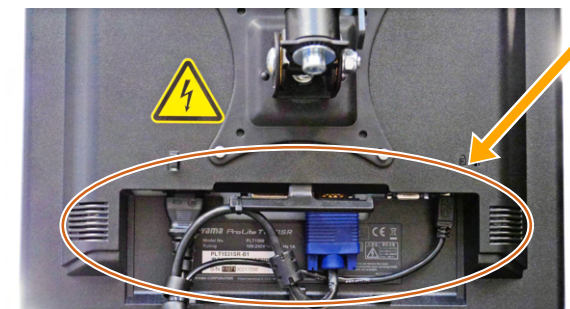


Locate the screws in a bag on the operator column of the CrimpCenter 36 S.

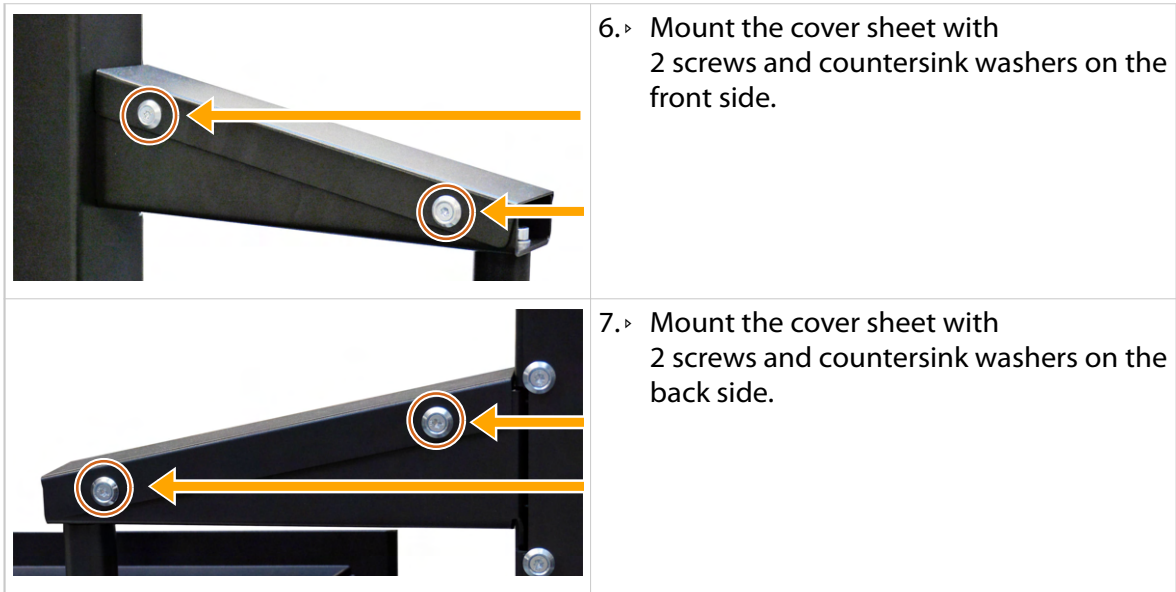
3. ▶ Cut the cable ties and take out the screws.



4. ▶ Mount the monitor holder with 3 screws on the operator column.



5. ▶ Connect the 3 connections (power supply, USB-cable and sub-D monitor cable) to the monitor.



Demounting

The demounting takes place in reverse order.

7.2.2 (De-) Mounting - Conveyor Belt



DANGER

Risk of injury if not observed!

You may suffer serious injuries, if the machine is not depressurized!

The following instructions are to be followed!

- Put the main switch in position "OFF"!
- Close the main valve.



WARNING

Danger of injury during commissioning, adjustment and set-up work!

The following instructions are to be followed!



WARNING

Removing the Conveyor Belt!

Prior to removing the conveyor belt the supplies must be disconnected!

The following instructions are to be followed!

- Never tear off cables and pneumatic hoses.
Always disconnect the cables and tubes appropriately.
- Prior to release them, label the components and their position in relation to one another.
- Observe the instructions for external component units provided in the manual of the manufacturer.
- Observe the separate manuals of the processing stations and options you are going to install, connect or disassemble.

Demounting of the conveyor belt basic module or the conveyor belt extension module may be necessary for various reasons.

- You want to move the CrimpCenter from its location.
- You want to change, extend or shorten the conveyor belt
- You want to carry-out maintenance works (e.g. exchanging belts).

Before you can do this, the conveyor belt module including its connecting cables must be disconnected from the CrimpCenter.



Notice

Note that not all variants of the conveyor belt basic modules and conveyor extension modules are on two feet. If the variant you want to demount should only stand on one foot, please make sure that you can safely place the demounted module. We recommend to use a suitable holder.

Demounting

The module is located in the CrimpCenter on a mounting rail and is fastened there with a screw. The supply lines are connected to the CrimpCenter under the conveyor belt module.

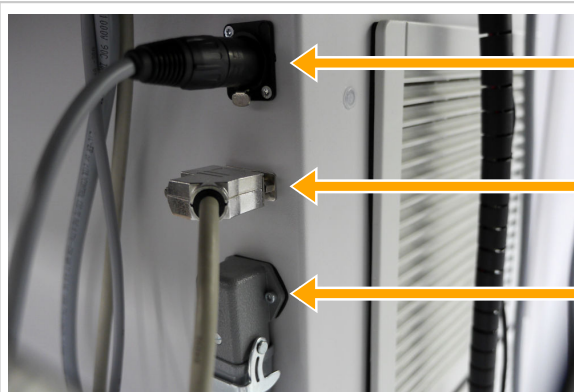


Fig. 24: Conveyor belt - Connections - Control cabinet



Fig. 25: Conveyor belt - Connections - Machine Frame

1. ▶ Make sure that the CrimpCenter is **switched off**, the main switch is **Off** and the main pneumatic valve is **closed**.
2. ▶ Mark all cables of the conveyor belt connected to the CrimpCenter.
3. ▶ Loosen them carefully.
4. ▶ Make sure that the cables are not damaged.

Notice



We recommend to pack the cable ends, to roll them up if necessary and to fix them.



Fig. 26: Conveyor belt - Intake and fastening

5. ▶ Remove the marked screw and washer.
 - ↳ **Keep these.**
6. ▶ If necessary, provide the suitable holder.
7. ▶ Carefully pull the module out of the CrimpCenter.
 - ↳ **Put it on the holder.**

Installation

The mounting takes place in reverse order.

Notice



Note that the conveyor belt must be aligned.

7.2.3 (De-) Mounting - Conveyor Belt - Bad Crimp



DANGER

Risk of injury if not observed!

You may suffer serious injuries, if the machine is not depressurized!

The following instructions are to be followed!

- Put the main switch in position "OFF"!
- Close the main valve.



WARNING

Danger of injury during commissioning, adjustment and set-up work!

The following instructions are to be followed!

Demounting - deflector

Depending on your configuration, different deflectors are mounted on the conveyor belt. Before you start demounting, familiarize yourself with the deflector on your CrimpCenter.

The deflectors can e.g. look like this.

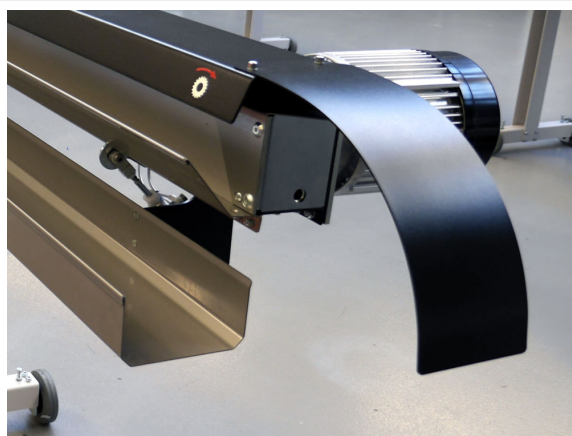


Fig. 27: Conveyor belt - Deflector - 36 S

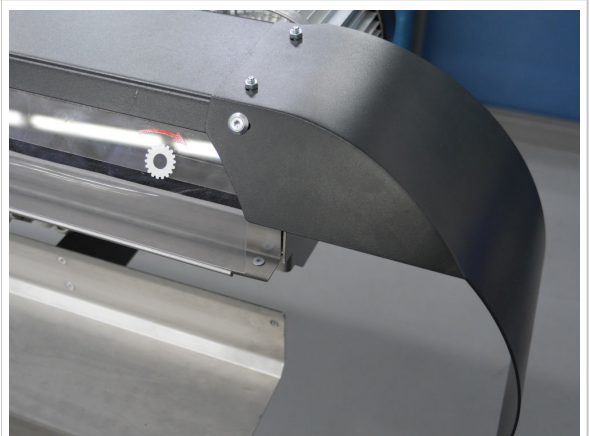


Fig. 28: Conveyor belt - Deflector - 36 SP

1. ▶ Make sure that the CrimpCenter is **switched off**, the main switch is **Off** and the main pneumatic valve is **closed**.

Demounting

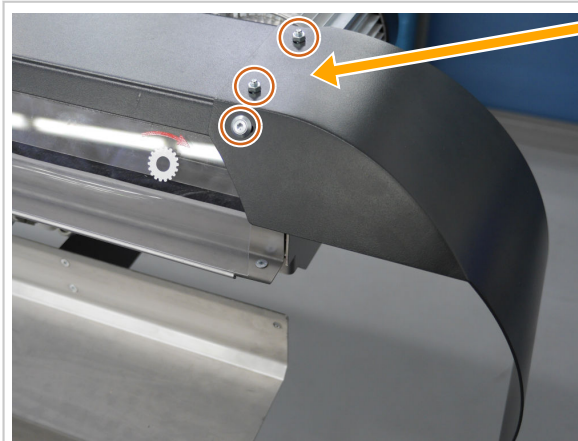
The demounting is shown using an example.

Notice



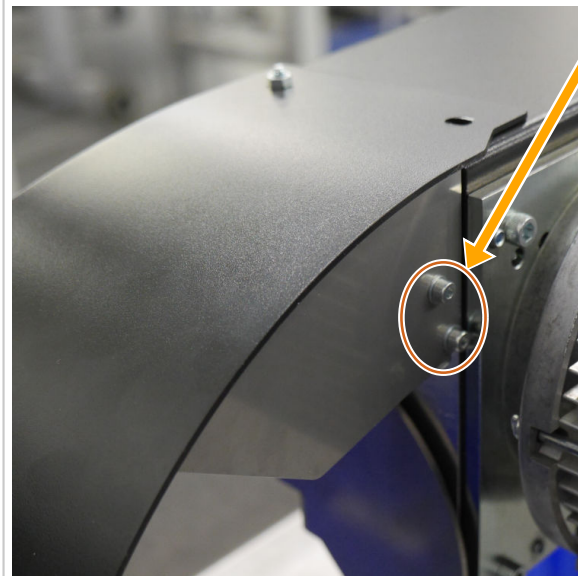
- Depending on the configuration of your CrimpCenter, some steps may not be necessary.
- Depending on the configuration of your CrimpCenter, other attachments must be demounted before you can start. (e.g.: Depositing Table)

Depending on the configuration of your CrimpCenter, some steps may not be necessary.



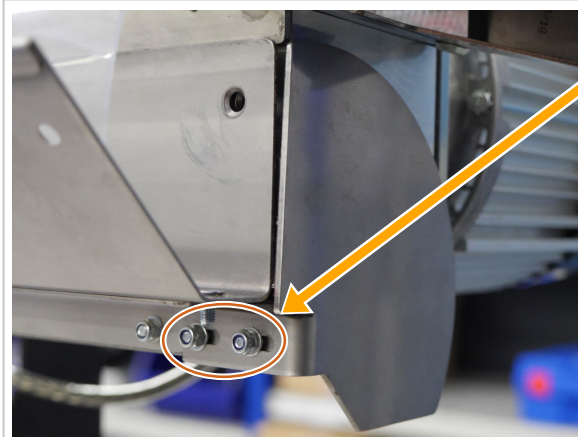
On top of the conveyor belt

2. ▶ Remove the marked screws and washers.
 - ↳ **Keep these.**
3. ▶ Hold the deflector firmly and then remove it.
 - ↳ **Keep this.**



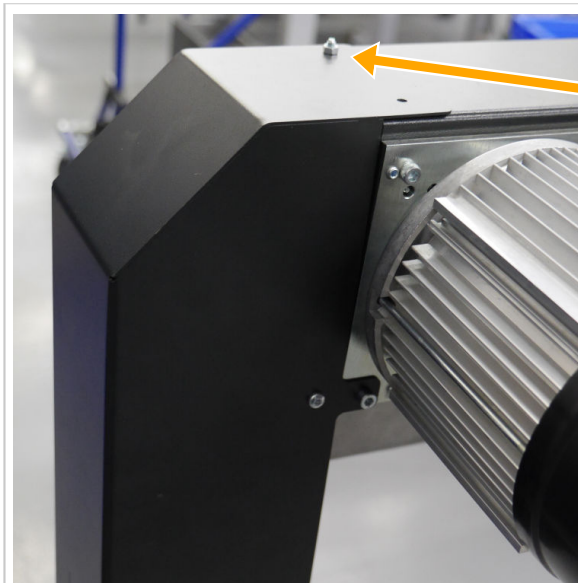
On the back of the conveyor belt

4. ▶ Remove the marked screws and washers.
 - ↳ **Keep these.**
5. ▶ Hold the protective plate firmly and then remove it.
 - ↳ **Keep this.**

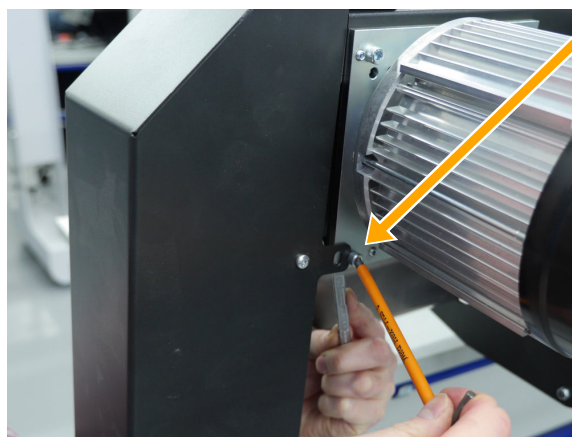


On the front of the conveyor belt

6. ▶ Remove the marked screws and washers.
 - ↳ **Keep these.**
7. ▶ Hold the protective plate firmly and then remove it.
 - ↳ **Keep this.**



8. ▶ Attach the bad crimp collector as shown in the picture.
9. ▶ Insert a screw at the top and tighten it slightly so that the collector can still be moved.



10. ▶ Remove this screw.
11. ▶ Slide the collector with the elongated recess on the hole.
12. ▶ Put the screw back in and tighten it.



13. ▶ Insert the second screws.
14. ▶ Tighten both screws.

Installation

The mounting takes place in reverse order.

Notice



Note that the conveyor belt must be aligned.

7.2.4 (De-) Mounting - Conveyor Belt - Guide Rods

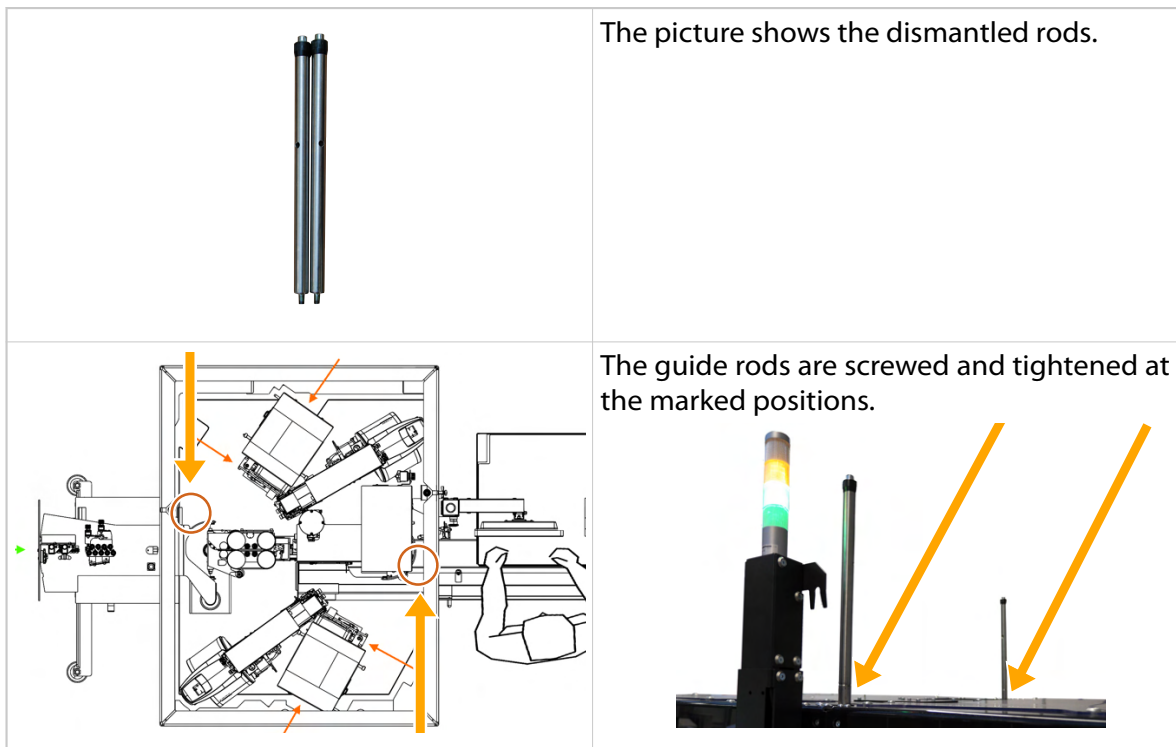
Installation

The guide rods of the safety cover of the CrimpCenter 36 S are unmounted for transportation. The guide rods are part of the accessories of the machine delivery.

Notice



It is essential to install these guide rods before the safety cover is opened for the first time!



Demounting

The demounting takes place in reverse order.

7.3 ELECTRIC INSTALLATION



DANGER

Risk of injury due to electrical voltage!

The following instructions are to be followed!

- Training of staff shall be in compliance with government regulations.

The following instructions are to be followed!

- Make sure to have equipotential bonding.
- Use screened cables, data and control lines in environment exposed to extreme electromagnetic radiation. Do not use cable ducts.
- When installing the machine, only use components which are in compliance with the regulations on electromagnetic compatibility according to the manufacturer.
- Do not use any corroded connections. Clean them prior to connection or replace them.
- The machine is equipped with an independent power supply. Even if the machine is switched off electric components are energized.



DANGER

Risk of injury due to electrical voltage!

Important when connecting the transformer:

- Check the correct connection. Consult the wiring diagram.

7.3.1 Connections / interfaces

The connections / interfaces on the CrimpCenter are factory-set according to the following layout. User-specific configuration may differ from this assignment. Retrofits should, if possible, be wired and connected according to the following layout.

Machine Frame - underneath wire feed

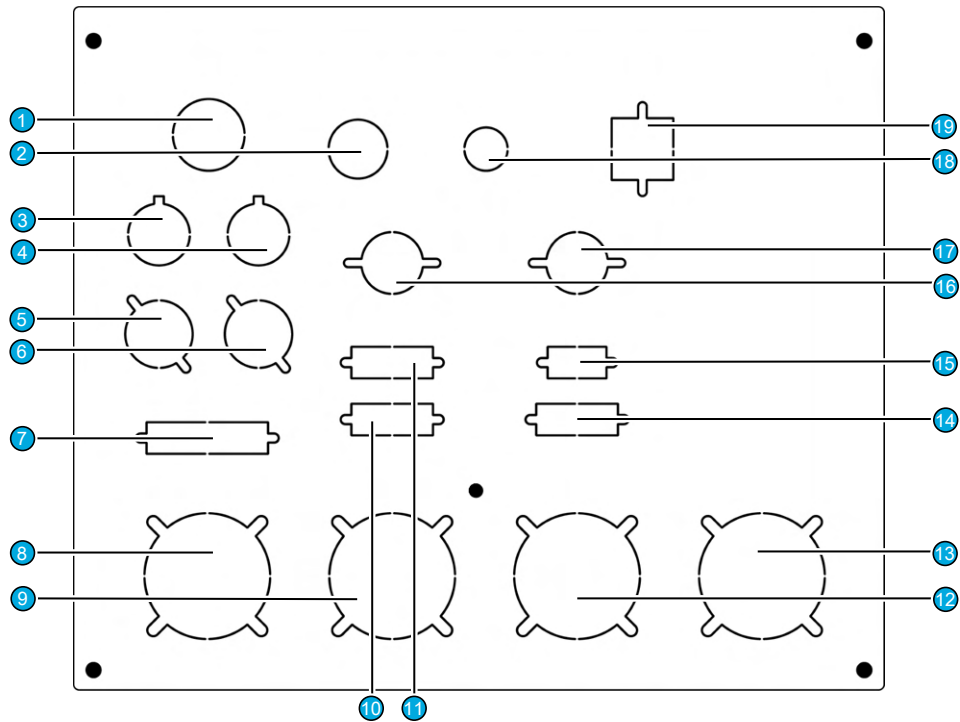


Fig. 29: Connections / Interfaces - Machine Frame - away from CrimpCenter

1	Printer 1 - X26	2	Lan 1 - RJ45
3	Printer 1 - Lan 2 - RJ45	4	Printer 2 - Lan 2 - RJ45
5	PreFeeder 60	6	Robotic interface
7	CS 1000	8	PreFeeder 60
9	Printer 1	10	HotStamp
11	PreFeeder 60	12	Printer 2
13	HotStamp	14	Printer Imaje
15	Printer Imaje	16	PreFeeder 2500
17	PreFeeder 3500	18	Compressed air
19	STS 1100 / Harting		

Machine Frame - under conveyor belt beginning

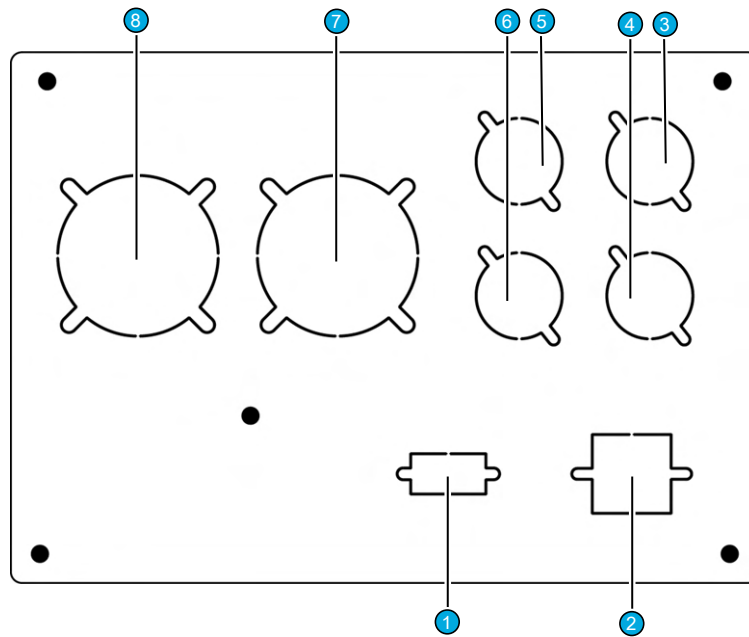


Fig. 30: Connections / Interfaces - Machine Frame - to CrimpCenter

1	Conveyor Belt 1 - 9pol Sub-D	2	Conveyor Belt 1
3	USB	4	XLR Tilting Tray
5	USB	6	USB
7	X13	8	X14

7.3.2 Control cabinet

Open the control cabinet



WARNING

Personnel Qualification and Personal Protective Equipment!

The following instructions are to be followed!

- Maintenance work may only be executed by technical specialist.

See also chapter "Personnel Qualification" and "Personal Protective Equipment".

The side panels of the control cabinet consists of two parts (1, 2), which can be removed.

Only the panels with the handles can be removed!

Depending on the equipment of your CrimpCenter some things need to be prepared, before removing one or both panels.



Notice

If your CrimpCenter is equipped with an electric paper winder, it should be dismantled, in case it is placed in front of the panel you want to remove.

The paper winder is fixed with 2 screws on the underside of the platform.



Caution

There is an earth equipment grounding conductor connected to the side panel.

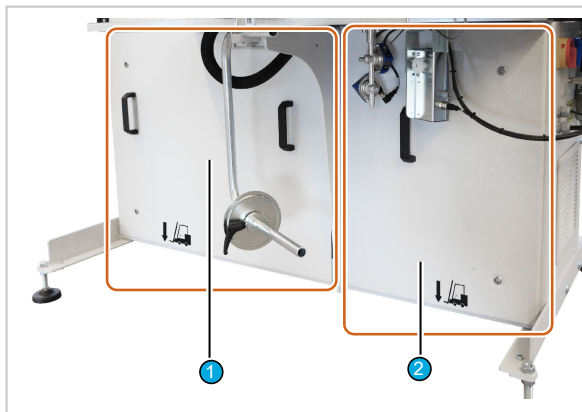
Make sure that you connect the cable again, when mounting the side panel.

- Remove the connection before you move the side panel away from the CrimpCenter.

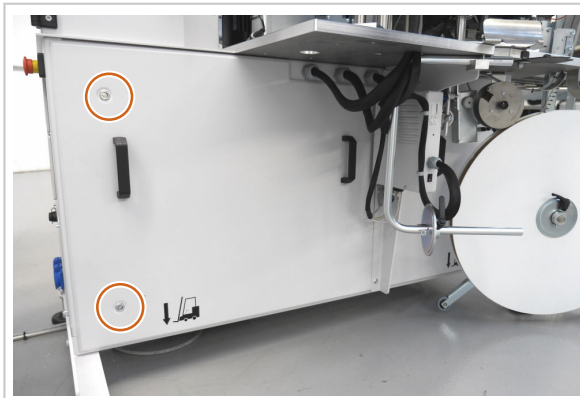


Caution

The side panel is automatically pushed out of the attachment as soon as both levers are in the open position.



1. ▷ Remove the ToolingShuttle 30 on side 2.
2. ▷ Remove the screws and take away the paper winder.



The left side panel is mounted with 2 screws.

3. ▶ Hold the panel handle with one hand. Open both locks with the cabinet control key.
4. ▶ Now remove the side wall.



The right side panel is mounted at 2 spots.

5. ▶ Hold the panel handle with one hand. Open both locks with the cabinet control key.
6. ▶ Now remove the side wall.

7. ▶ The assembly has to be done in reversed order.

Transformer



DANGER

Risk of injury due to electrical voltage!

The following instructions are to be followed!

- Training of staff shall be in compliance with government regulations.



DANGER

Risk of injury due to electrical voltage!

Important when connecting the transformer:

- Check the correct connection. Consult the wiring diagram.



- When the control cabinet is open, you can locate the transformer in the bottom right in the base frame.
- The transformer is mounted in the right area of the base frame behind the right side panel. Only the right panel has to be removed to connect the machine to the power supply.
- The connection must be accomplished according to the included wiring diagram.

Attention:

Prior to initial operation it is absolutely necessary to check the output voltage of the transformer.

1. > Prior to initial operation it is absolutely necessary to check the output voltage of the transformer.

Computer



WARNING

Personnel Qualification and Personal Protective Equipment!

The following instructions are to be followed!

- Maintenance work may only be executed by technical specialist.

See also chapter "Personnel Qualification" and "Personal Protective Equipment".



For reasons of safety the computer of you CrimpCenter has been removed from the control cabinet and is packed separately. The computer has to be installed in the left side of the control cabinet.

Only the left side panel has to be removed to install the computer.

Attention:

Only trained personnel are allowed to open the cover for service access.

Supplies



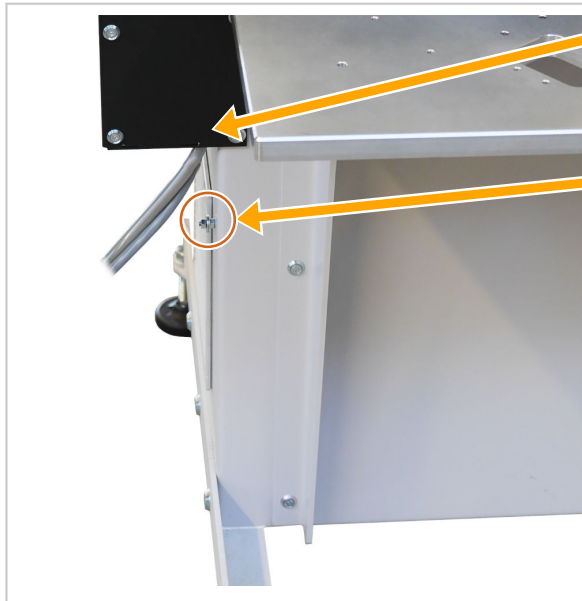
WARNING

Personnel Qualification and Personal Protective Equipment!

The following instructions are to be followed!

- Maintenance work may only be executed by technical specialist.

See also chapter "Personnel Qualification" and "Personal Protective Equipment".



- The electric and pneumatic support will be routed through the operator column.
- A factory ground connection must be connected to the marked screw.

7.4 STATIONS



WARNING

Danger of injury during commissioning, adjustment and set-up work!

The following instructions are to be followed!



DANGER

Risk of injury without personal protective equipment!

The following instructions are to be followed!

- During maintenance personal protective equipment has to be worn.



WARNING

Risk of tilting!

As soon as the screws are removed the station can tilt!



WARNING

Risk of tipping during transport!

The processing station is extremely top-heavy! It may tilt during transport and cause serious danger.

The following instructions are to be followed!

- Transport the processing station by means of load handling device. Pay attention to the center of gravity of the machine!
- While transporting the processing station with a fork lift truck secure it with belts. Lifting points for transport are on the station.

Your CrimpCenter is manufactured and delivered in the configuration of your choice. If you move or remove the station(s), the following points should be noted.

- The stations, their position and connection have been adapted to your CrimpCenter.
- Before moving or removing the station, check if this is necessary.
- Mounting and demounting may only be carried out by trained specialist personnel.
- Changes to the existing configuration can lower the safety of your CrimpCenter.

If you are unsure, please contact the Schleuniger Service, they will be happy to help.



Caution

After changing the position of a station, check if the safety cover is still safe. The complete area inside the safety cover has to be protected.

Therefore ask the Schleuniger GmbH service.

Connections / interfaces

All stations are connected to the CrimpCenter via different cables. Depending on the station, these are the following cables.

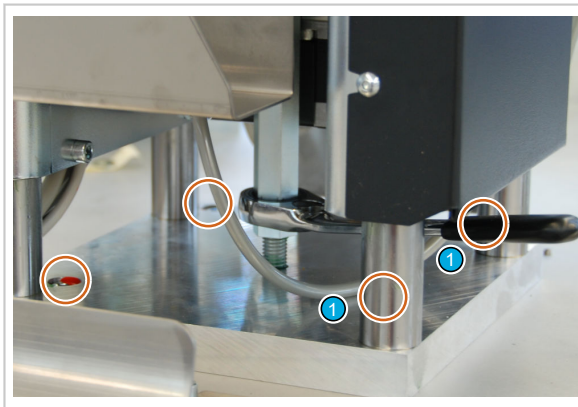
- Power supply cables

- Control cables
- Pneumatic cables

Before demounting the station disconnect all connections. It is essential to observe the safety instructions for the individual stations, systems and sources of danger. These include in particular the following:

- Power Supply Systems
- Compressed Air systems

Fixation



All stations are fixed with screws to the base plate. To move a station you can proceed according to the following procedure.

Get a second person to demount if required. Please observe the safety instructions in the operating manual of the station.

The picture beside shows the fastening screws of the UniCrimp 221/222 support (two screws (1) are not visible in the picture).

1. ▶ Secure the station against falling over.
2. ▶ Remove the screws.
 - **Keep these.**

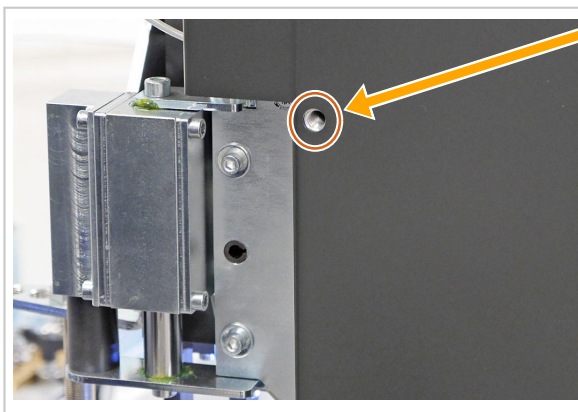
Feed unit

Caution



Stations can be very heavy!

- Observe the weight specifications on the rating plates of the stations.
- Observe the safety instructions in the operating manual of the stations.
- Observe the transport instructions in the operating manual of the stations.



At heavy stations there are lifting points for transport.

- The picture shows one of the lifting points of a UniCrimp 221/222.
- At the other side of the station is the other point.

1. ▶ Insert the supplied screws at these two points.
 - **Tighten them firmly (18 Nm +/- 1.5 Nm).**
2. ▶ Lift the station exclusively at these points with a load handling device by using straps.



Caution

The maximum load of the load handling devices must not be exceeded. Observe the notes for the lifting device in the operating manual.

COMMISSIONING

Prior to initial operation the machine has to be in its final position. All transport locks must have been removed and all work in chapters "[7 Installation / Mounting \(Page 92\)](#)" must have been completed.



WARNING

Danger of injury during commissioning, adjustment and set-up work!

The following instructions are to be followed!



DANGER

Risk of injury if not observed!

The following instructions are to be followed!

Prior to operating the following points have to be observed:

- Make sure that all live components are covered appropriately.
- When switching on the machine, all safety devices have to be installed and functioning.
- Make sure that no individuals are in the danger zones.
- Observe the danger zones.
- Make a visual inspection of all cables and pneumatic hoses. Defective cables and hoses are to be replaced by a specialist.
- The stations of the CrimpCenter have their own operating manual with safety advices, which have to be followed.
- Processing stations must be tightly mounted on the support designated by *Schleuniger* when starting production.
- Superiors must ensure that personnel have understood the operation and safety regulations.



DANGER

Risk of injury when the confirmation button is pressed!

Pressing the confirm button when the safety cover is open deactivates some safety functions.

The following instructions are to be followed!

- The person, which is actuating the confirm button, is responsible that no other person is in the danger zones!
- Only trained personnel are allowed to use the confirm button.



NOTICE

Damage to property caused by environmental influences!

Avoid the following environmental influences

- high humidity.
- temperature fluctuations.
- aggressive ambient air (saline, corrosive, ...).

These environmental influences can cause damage to the machine and its components!

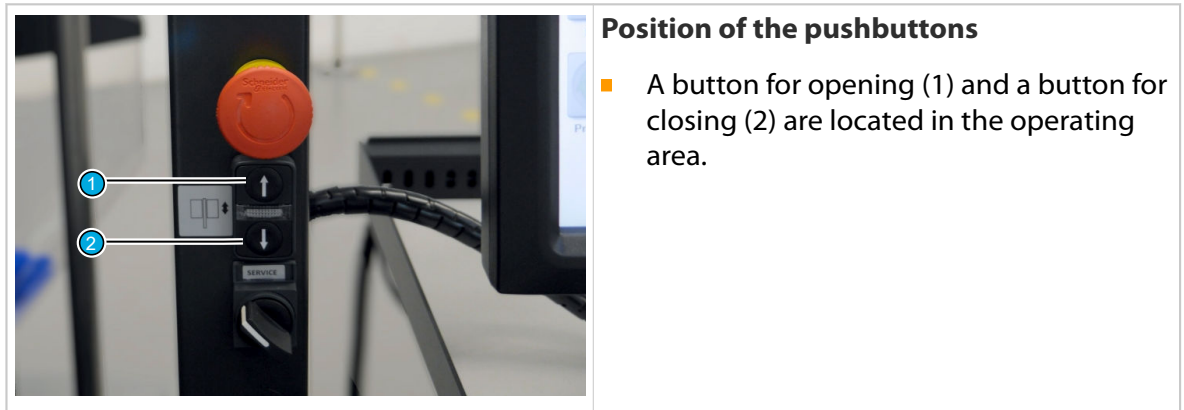
- Particularly in countries with high humidity condensation can form on the machine even with slight temperature fluctuations.

The following instructions are to be followed!

- Ensure a uniform ambient temperature with constant humidity, even outside the operating hours.
- Be sure to observe the maintenance leaflet for surface care (in the manual of the base machine).
- Damage to the surface coating must be repaired immediately.

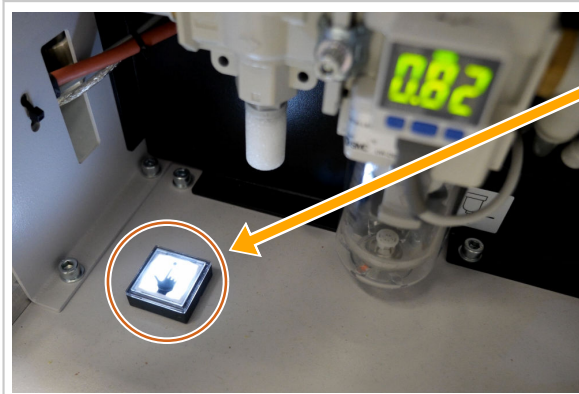
8.1 OPEN THE SAFETY COVER

There are pushbuttons for opening and pushbuttons for closing the safety cover.



- Pushbutton for **Opening of the safety cover (1)**
Press the pushbutton once to open the safety cover halfway, press it twice and the cover opens completely.
- Pushbutton for **Closing of the safety cover (2)**
To close the safety cover, press and hold the push-button. As soon as you release the pushbutton, the safety hood stops the downward movement. Press the button again and the downward movement continues, until the cover has reached its lowest position and the cover is closed completely.

8.2 CONFIRM BUTTONS



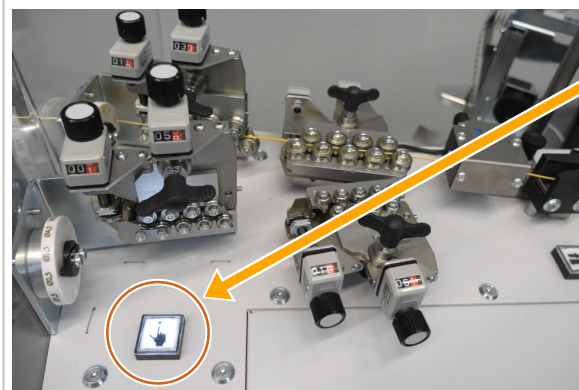
Position of the confirm buttons

- One confirm button is placed at the pneumatic unit beneath the straightening unit



Position of the confirm buttons

- One button is placed on the operator panel



Position of the confirm buttons

- One button is placed on the straightening unit

8.3 TOWERLIGHT

The Towerlight displays the status of the CrimpCenter with light and sound (optional) and is available in different versions.

- Version without siren
- Version with siren

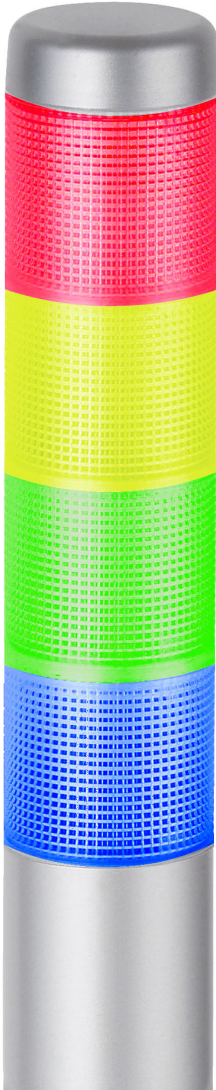
If the CrimpCenter does not have a siren, you can retrofit it.

Please contact your local *Schleuniger* representative who will gladly help you.

The Towerlight can be individually adjusted.

From the factory, it is delivered in the standard configuration.

8.3.1 Overview

	<p>1</p>	<p>Siren Element (1) (Optional)</p> <p>In the event of any machine standstill error, an audible signal will sound in addition to the visual signal.</p> <ul style="list-style-type: none"> ■ Machine downtime ■ Error message in EASY software
	<p>2</p>	<p>LED Element - Red (2)</p> <p>The LED Element - Red lights.</p> <ul style="list-style-type: none"> ■ Machine downtime ■ Error message in EASY software
	<p>3</p>	<p>LED Element - Yellow (3)</p> <p>The LED Element - Yellow lights.</p> <ul style="list-style-type: none"> ■ Standby during set-up
	<p>4</p>	<p>LED Element - Green (4)</p> <p>The LED Element - Green lights.</p> <ul style="list-style-type: none"> ■ Production
	<p>5</p>	<p>LED Element - Yellow (3) and Green (4)</p> <p>The LED Element - Yellow and Green lights.</p> <ul style="list-style-type: none"> ■ EASY "Production" menu is open ■ EASY "Sample" menu is open
		<p>LED Element - Blue (5)</p> <p>The LED Element - Blue lights.</p> <ul style="list-style-type: none"> ■ Service

8.3.2 Maintenance mode

With the Towerlight the CrimpCenter is equipped with a service switch. The switch is marked with the inscription "SERVICE".

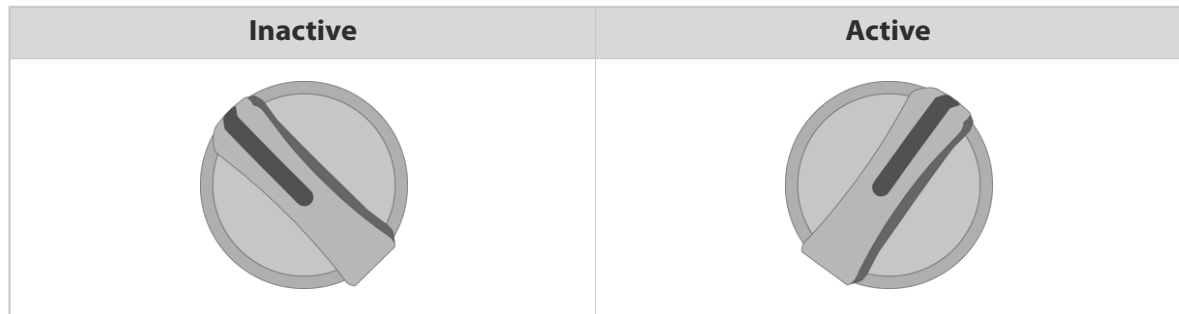
- If this switch is activated, the blue LED Element lights up.



Caution

Activating the switch is an exclusively optical function!

The activation has no effect on the CrimpCenter, the EASY software and the security devices.



8.3.3 EASY - Description of the function

The Towerlight can be individually adjusted.

From the factory, it is delivered in the standard configuration.

Standard EASY-Configuration

In this configuration, the default event settings are preset. It is possible to adjust the assigned colors and signals of events. The options depend on the individual CrimpCenter configuration.

Please note that only the current event is displayed.

Example

	<p>1. ▶ You are in the setup process.</p> <ul style="list-style-type: none"> ➤ The yellow LED signal lights up permanently.
	<p>2. ▶ You start the production.</p> <ul style="list-style-type: none"> ➤ The yellow LED signal goes off. ➤ The green LED signal lights up permanently.
	<p>3. ▶ An error message appears in EASY.</p> <ul style="list-style-type: none"> ➤ The green LED signal goes off. ➤ The red LED signal lights up permanently. ➤ (Optional) An acoustic sounds from the siren.

Custom EASY-Configuration

In this configuration, all available events can be set. It is possible to adjust the assigned colors and signals of events. The options depend on the individual CrimpCenter configuration. There are logical exclusions under individual events.

Please note that the events are combined and the states of the signals have different priorities.

These priorities are descending:

	The signals are flashing.
	The signals are on.
	The signals are off.

Example

Following events have been individually defined before:

- "Production in progress" = LED signal - Green - On
- "Production stopped" = LED signal - Red - Flashing
- "Error mode" = LED signal - Red - On

previously defined events	current status
	1. ▶ You start the production. ↳ The green LED signal lights up permanently.
	2. ▶ You stop the production. ↳ The green LED signal goes off. ↳ The red LED signal flashes.



Notice

Logical exclusion - Production can be either active or inactive

previously defined events	current status
	3. ▶ An error message appears in EASY. ↳ The red LED signal flashes (continues). ↳ (Optional) An acoustic signal sounds from the siren.



Notice

Priority Signals - Although, according to the defined event, the red LED signal should just go on, it continues to flash because flashing is being handled with highest priority.

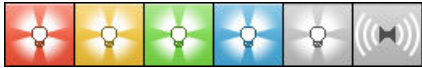


8.3.4 EASY - Settings

Tab - Selection list

Press the following button:

- For each event, any colors and states can be defined.
- The options depend on the individual CrimpCenter configuration.

There are these choices for each signal.

	The signals are flashing.
	The signals are on.
	The signals are off.

These events can be defined.

Picture / Screen text	Translation	Description
Options menu selected	Options menu selected	The "EASY Options" menu is active.
Package menu selected	Package menu selected	The "Packages" menu is active.
Modules menu selected	Modules menu selected	The "Modules" menu is active.
Configuration menu selected	Configuration menu selected	The "Configuration" menu is active.
Order menu selected	Order menu selected	The "Order" menu is active.
Parameter menu selected	Parameter menu selected	The "Parameters" menu is active.
Settings menu selected	Settings menu selected	The "Setup" menu is active.
Samples menu selected	Samples menu selected	The "Samples" menu is active.
Production menu selected	Production menu selected	The "Production" menu is active.
Failure view menu selected	Failure view menu selected	The "Failure status" menu is active.
Control voltage off	Control voltage off	Control voltage is off.
Control voltage on	Control voltage on	Control voltage is on.
Error mode	Error mode	There is an error.
Initial position running	Initial position running	The "Production" menu is active.
Sample running	Sample running	Sample operation is in progress
Manual running	Manual running	Manual mode is running
Production running	Production running	Production running
First batch size reached	First batch size reached	<ul style="list-style-type: none"> ■ The selected percentage of the batch currently in production has been reached. <p>You can choose between 4 different percentages.</p>

Picture / Screen text	Translation	Description
Second batch size reached	Second batch size reached	<ul style="list-style-type: none"> ■ There is already a batch produced in the deposit tray. ■ The removal of this batch was not acknowledged in EASY. ■ The selected percentage of the batch currently in production has been reached. <p>You can choose between 4 different percentages.</p>
Quantity reached	Quantity reached	<ul style="list-style-type: none"> ■ The selected percentage, of the batches to be produced in the current order, has been reached. <p>You can choose between 4 different percentages.</p>
Acknowledgment of the deposit tray	Acknowledgment of the deposit tray	In EASY, the acknowledgment is open for emptying the deposit tray.
Production stopped	Production stopped	The production was stopped.

Tab - Towerlight



In this tab you can make the following settings.

Picture / Screen text	Translation	Description
Blink interval	Blink interval	Here you can set the speed of the flashing of the signals.

8.4 RECOMMENDED SETTINGS



NOTICE

Recommended settings!

The values shown are based on empirically determined data from *Schleuniger GmbH*.

Other values may be suitable for your application, but it is imperative that you observe the following points.

- These values are for guidance only.
- The values may vary depending on the material.
- *Schleuniger* assumes no liability or guarantee for the values shown.
- The responsibility for the adjusted parameters lies exclusively with the operator of the machine.

8.4.1 Pneumatic

The optimum pressure depends on various factors, such as conductivity and insulation type, centering of the conductor in the insulation, process temperature and humidity.

Gripper pressure

The recommended values are already stored in the EASY software.

8.5 STARTING CONDITIONS

Before the CrimpCenter can be started, the following conditions must be met.

Note that for the individual points the

1. ▶ The CrimpCenter must be properly installed and mounted.

"4.3.1 Installation Location (Page 34)"

2. ▶ The CrimpCenter must be properly connected to the power supply and pneumatic supply.

"4.3.2 Electric and Pneumatic Connection (Page 35)" "4.3.3 Position of the supply (Page 36)"



Fig. 31: Emergency stop switch - inactive

3. ▶ All existing emergency stop switches must not be activated.

"6.2 Emergency Stop Switch (Page 84)"

4. ▶ All safety devices must be in perfect order.

"6 Safety elements / danger areas (Page 82)"

5. ▶ All components including cables and hoses must be in perfect order.
6. ▶ All fuses in the control cabinet must be in perfect order.
7. ▶ The power supply must be in perfect order.

Caution



The moment the pneumatic valve is opened, pneumatic controlled assemblies, for example the gripper, can move automatically.

Caution



There is a risk of injury by crushing and by automatic starting. Make certain, that no persons are near the machine.

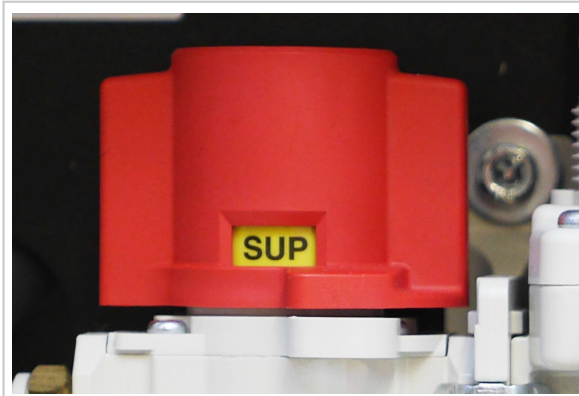


Fig. 32: Pneumatic main valve - opened

8.▸ The main pneumatic valve must be open.

9.▸ The pneumatic pressure must be in perfect order.

8.6 STEP BY STEP

- ▶ [8.6.1 Introduction](#)
- ▶ [8.6.2 Safety instructions](#)
- ▶ [8.6.3 Prerequisite](#)
- ▶ [8.6.4 Align the Basic Machine](#)
- ▶ [8.6.5 Insert and align the conveyor belt](#)
- ▶ [8.6.6 Use ToolingShuttle](#)
- ▶ [8.6.7 Protective Guard Plates](#)
- ▶ [8.6.8 Adjust the Working Height of the UniCrimp 221/222](#)
- ▶ [8.6.9 Activate the CrimpCenter](#)
- ▶ [8.6.10 Mount the guide tubes](#)
- ▶ [8.6.11 Insert Wire](#)
- ▶ [8.6.12 Adjust the Contact Pressure of the Wire Feed](#)
- ▶ [8.6.13 Adjust the Clamping Force of the Gripper](#)
- ▶ [8.6.14 Conveyor Belt](#)
- ▶ [8.6.15 Referencing](#)

8.6.1 Introduction

This section describes the complete commissioning of the station. This may, among other things, affect the following areas

- mechanical settings at the station
- mechanical alignment of the station to the CrimpCenter
- load station in the EASY software (machine menu)
- configure station in the EASY software (machine menu)
- reference station in the EASY software (machine menu)
- set up station in the EASY software (order menu)

Caution



- The safety cover is opened for commissioning!
- For some steps, the confirm button must be pressed!
- Observe and follow the safety instructions!
- The individual steps build on each other!

Notice



- The correct installation and alignment of the station is required!
- The correct connection of all cables is required!
- For individual steps, the CrimpCenter automatically switches off the control voltage!

8.6.2 Safety instructions



WARNING

Danger of injury during commissioning, adjustment and set-up work!

The following instructions are to be followed!

8.6.3 Prerequisite



Caution

Before you start with the step by step instruction, please make sure the following things!

- Familiarize yourself with the safety instructions and safety requirements of the station and CrimpCenter.
- Make sure you have the required personnel qualification.
- Make sure you wear the specified personal protective clothing.
- Make sure you have all the tools and tools you need.

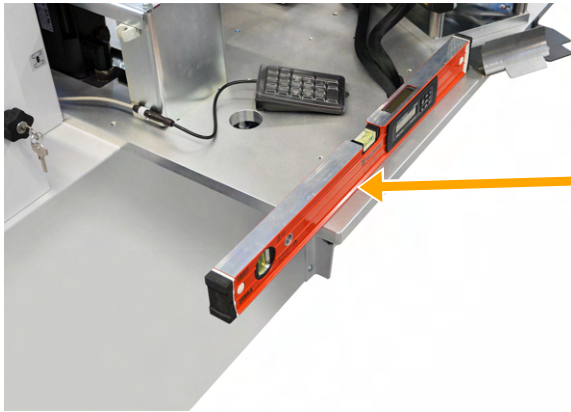
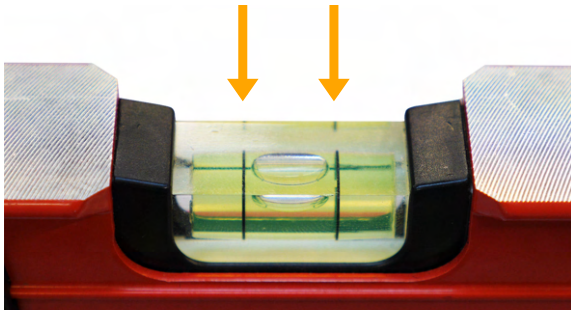
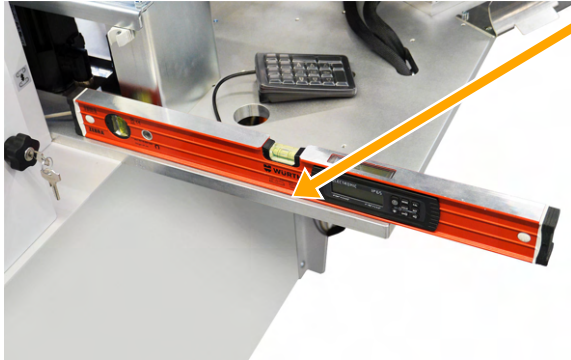
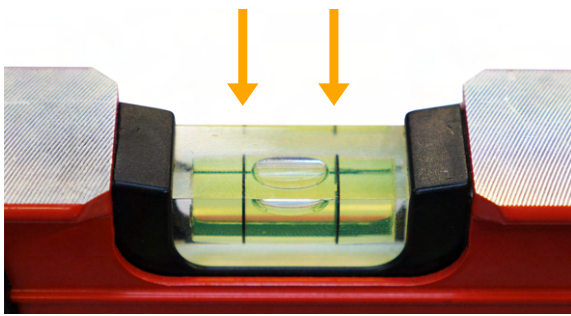


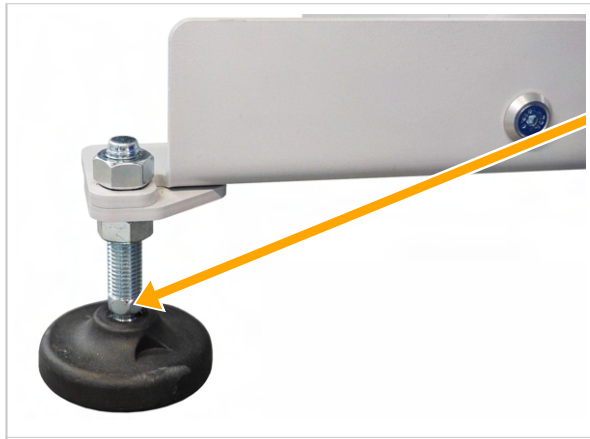
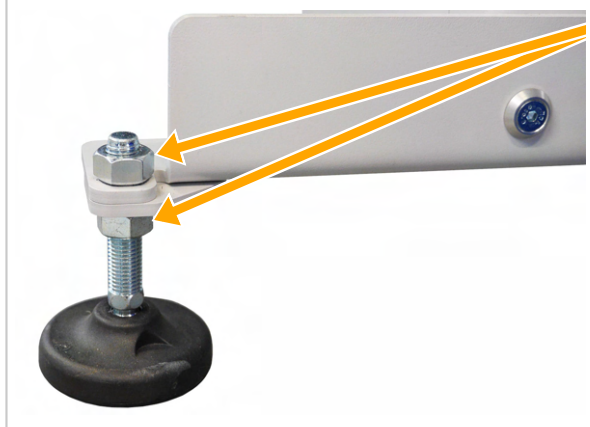
Notice

Please make sure that your CrimpCenter is in the following condition!

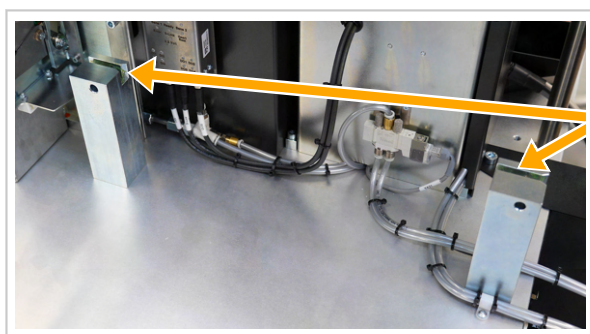
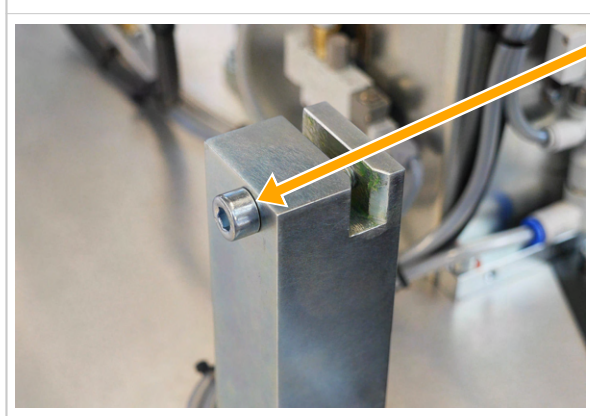
Element	Status / Condition / Position
Main Switch	On
Emergency stop switch (All)	Not pressed
Control voltage	Off
Safety Cover	This side up
EASY Software	Started and logged in

8.6.4 Align the Basic Machine

	<p>Transport the CrimpCenter to its final position.</p> <ol style="list-style-type: none"> 1. ▸ Screw in the feet. 2. ▸ Put the machine down. 3. ▸ Place the spirit level as shown in the picture on the base plate of the CrimpCenter. <p>The basic machine must be aligned with the aid of a spirit level and a measuring tape.</p>
	<p>The balance is checked in the longitudinal direction (parallel to the feeder).</p> <ol style="list-style-type: none"> 4. ▸ Align the base machine with spirit level and tape measure. <p>The air bubble of the spirit level must be exactly in the middle, between the strokes.</p>
	<ol style="list-style-type: none"> 5. ▸ Place the spirit level as shown in the picture on the base plate of the CrimpCenter. <p>The basic machine must be aligned with the aid of a spirit level and a measuring tape.</p>
	<p>The balance is checked in the transverse direction (transverse to the feeder).</p> <ol style="list-style-type: none"> 6. ▸ Align the base machine with spirit level and tape measure. <p>The air bubble of the spirit level must be exactly in the middle, between the strokes.</p>
<p>The basic machine must be horizontal and warp-free.</p>	

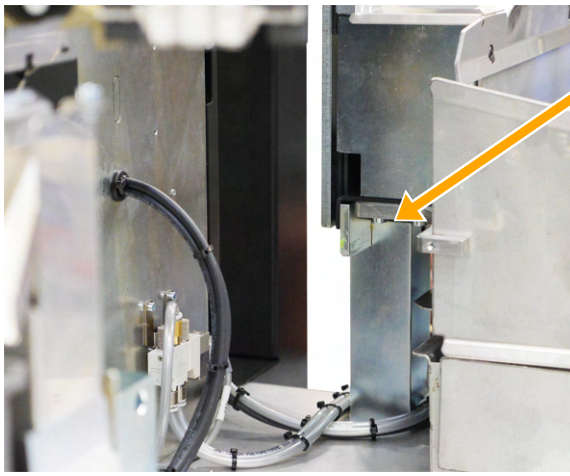
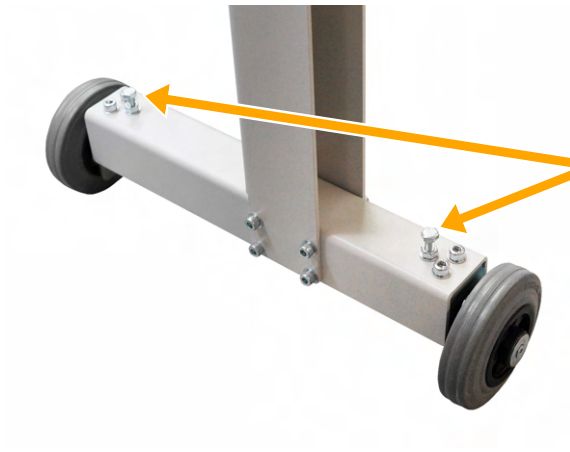
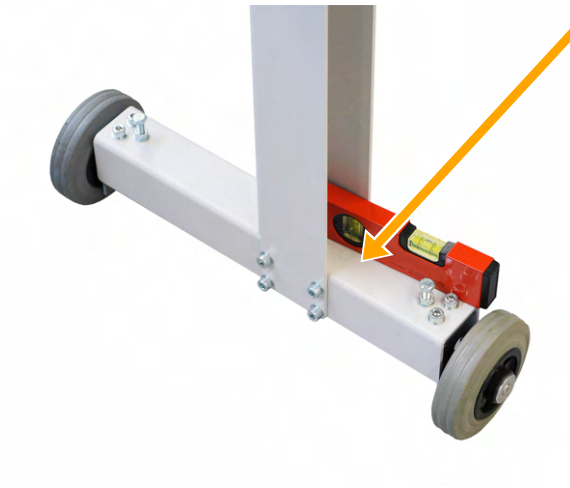
	<p>The upper edge of the platform must have a height of 790 + 5 mm above the hall floor.</p> <p>7. > Align the machine by turning the leveling feet with a 16 mm open-end wrench.</p>
	<p>8. > When the basic machine is in the balance, the locknuts on the adjustable feet are tightened with a 23 mm open-end wrench.</p>

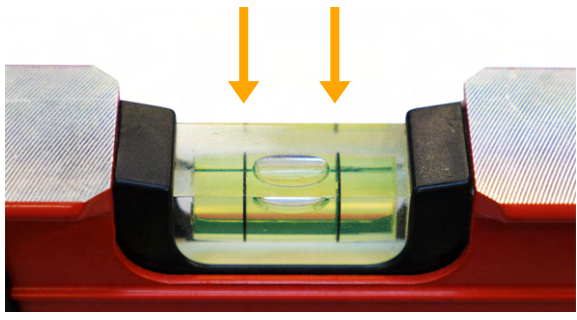

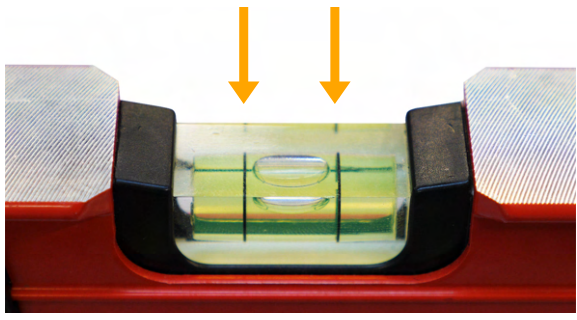
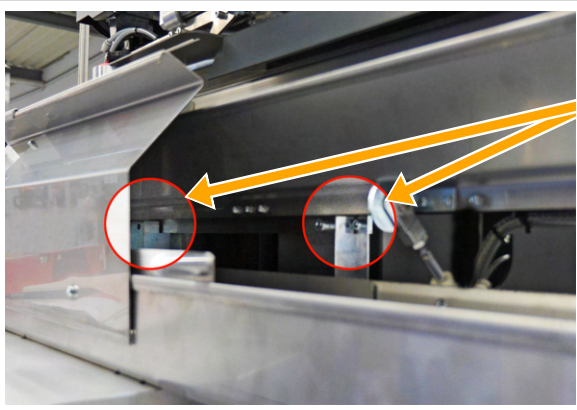
Prepare Basic Machine

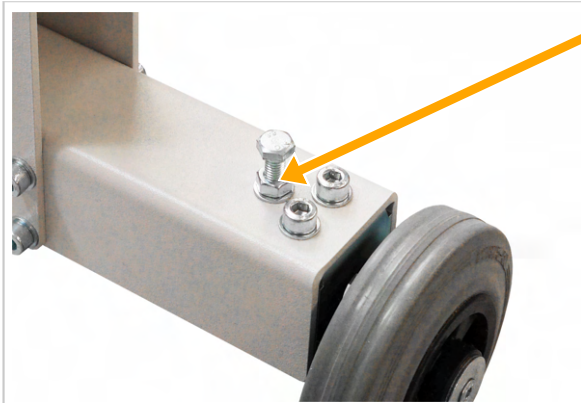
	<p>The intake for the conveyor belt must be prepared.</p> <p>9. > Make sure that the slide rail of the conveyor belt mount is greased.</p>
	<p>10. > If available, open the tension screw of the tape measure shelf.</p>

8.6.5 Insert and align the conveyor belt

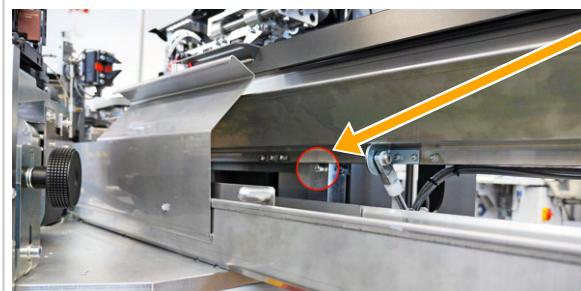
Conveyor belt - GM - Setting up, inserting and aligning

	<ol style="list-style-type: none"> 1. ▸ Carefully bring the conveyor belt to the base machine. 2. ▸ Hang the rail in the first retaining block.
	<p>The height of the conveyor must be adjusted. The slide rail of the conveyor belt must be at the height of the intake on the Crimp-Center.</p> <ol style="list-style-type: none"> 3. ▸ Bring the slide rail to the correct height by turning the adjusting screws on the feet of the conveyor belt.
	<ol style="list-style-type: none"> 4. ▸ Place the spirit level, as in the picture on the foot of the conveyor belt. <p>The conveyor belt must be aligned using the spirit level.</p>

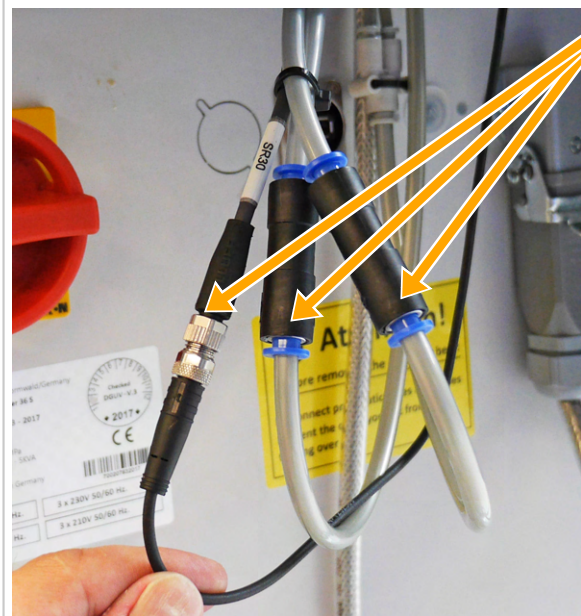
	<p>The balance is checked in the transverse direction (transverse to the feeder).</p> <p>5.› Align the conveyor belt with spirit level.</p> <p>The air bubble of the spirit level must be exactly in the middle, between the strokes.</p>
	<p>6.› Place the spirit level on the conveyor as shown in the picture.</p> <p>The conveyor belt must be aligned using the spirit level.</p>
	<p>The balance is checked in the longitudinal direction (parallel to the cable tray).</p> <p>7.› Align the conveyor belt with spirit level.</p> <p>The air bubble of the spirit level must be exactly in the middle, between the strokes.</p>
	<p>8.› Push the conveyor belt towards the machine</p> <p>Notice</p> <p>Pay attention to the marked position. The rail must rest completely.</p> <p>9.› Check whether the conveyor belt is still in the balance.</p> <p>10.› Correct if necessary.</p>



11. ▶ Tighten the locknuts on the conveyor belt.



12. ▶ Secure the conveyor with the marked toggle screw.



13. ▶ Connect the two hoses and the sensor cable to the base machine.



14. ▶ Connect the plug to the socket on the control cabinet.

8.6.6 Use ToolingShuttle

The ToolingShuttle combines the crimping applicator, the terminal reel and the paper spool in a mobile quick changing unit for CrimpCenter fully automatic crimping machines. Instead of changing the 3 elements separately, the preparation of a crimping station will be executed in one step. After changing the ToolingShuttle, the crimping applicator simply needs to be removed from the ToolingShuttle and mounted on to the crimping applicator clamp.

The ToolingShuttle is only used for crimping applicators with Side Feed.

Caution



Prior to start the machine make sure that all ToolingShuttles are mounted.

- Even if the terminals are led from the back to the applicator (Back Feed) the ToolingShuttle has to be mounted.
- Any remaining openings must be closed with metal sheets.



DANGER

Risk of injury without tooling shuttles!

There is a risk of injury if there are no Tooling Shuttles mounted.

The following instructions are to be followed!

- Never operate the CrimpCenter without the ToolingShuttle and / or the guard plates!

8.6.7 Protective Guard Plates



WARNING

Risk of injury if not observed!

The following instructions are to be followed!

It is mandatory to observe that no larger openings emerge between safety cover and platform, enabling access.

- Such openings have to be closed immediately by the according cover plates.
- After dismantling or changing position of stations, the machine has to be checked for openings. Such openings have to be closed immediately by the according cover plates.
- The cover plates will be needed too, when the terminal feeding has been changed between side feed and back feed. The machine has to be checked for openings. Such openings have to be closed immediately by the according cover plates.

The cover plates may be mounted only with the included mounting parts by qualified personnel!

Because of its modular design the CrimpCenter offers the possibility to configure the machine according to the customer specifications. Even after delivery to the customer the machine can be modified. The design of the safety cover and the platform allows the technical realization of most configurations without greater retrofitting works.

To ensure maximum safety in all configurations, a number of plates has been designed, allowing to protect possible openings between cover and platform against reaching through. The plates are collected in the assembly "Protective guard plates CC36S", article number 461 168.

Each CrimpCenter 36 S will be equipped with this assembly by factory default and all required plates will be mounted. Not used plates will be shipped with the machine to the customer. So it is possible to ensure the safety for subsequent changes in configuration.

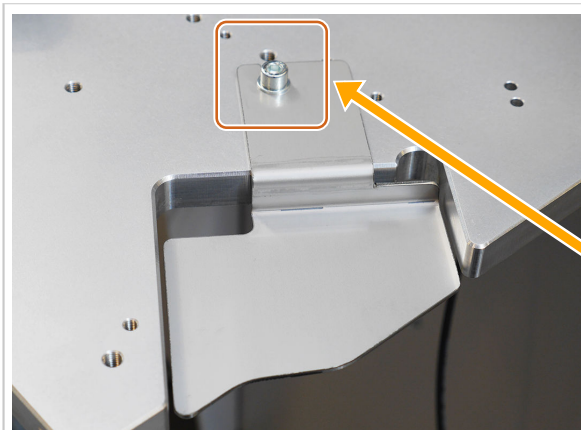
Parts Overview

The following two figures show two machines without stations, to show the positions of the individual plates. The numbers on the sides give the positions of all plates in the detailed descriptions. Plates that are the same in both views are marked with a number only in the left picture. The arrows show the wire feed.

<p>1 456 049 Protective Guard Plate w/ TS30 S1 CC36S</p>	<p>2 457 738 Cover Plate Side Feed Opening</p>
<p>3 458 802 Protective Guard Plate S1 55 degr. CC36S</p>	<p>4 457 741 Protective Guard Plate S2 90 degr. CC36S</p>
<p>5 458 791 Protective Guard Plate S2 55 degr. CC36S</p>	<p>6 457 739 Protective Guard Plate S2 55 degr. w/o BF CC36S</p>
<p>7 457 740 Protective Guard Plate S1 55 degr. w/o BF CC36S</p>	<p>8 491 168 Protective Guard Plate S2 Seal station CC3x</p>

Mounting on side 1

Position 1: Article number 456 049; "Protective guard plate w/ TS30 S1 CC36S"

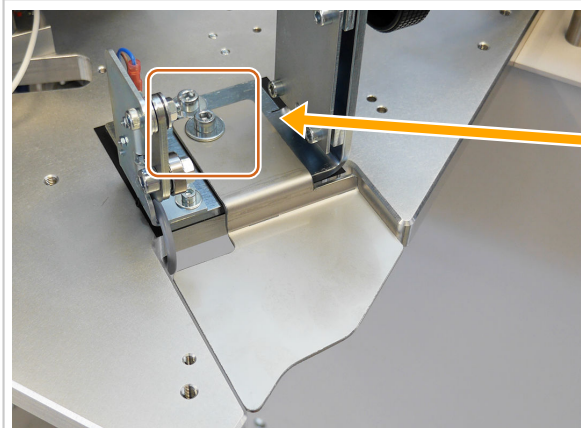


Notice:

The plate will not be needed for stations on 90°.

The picture beside shows the mounted plate if no ToolingShuttle holder is present at the position.

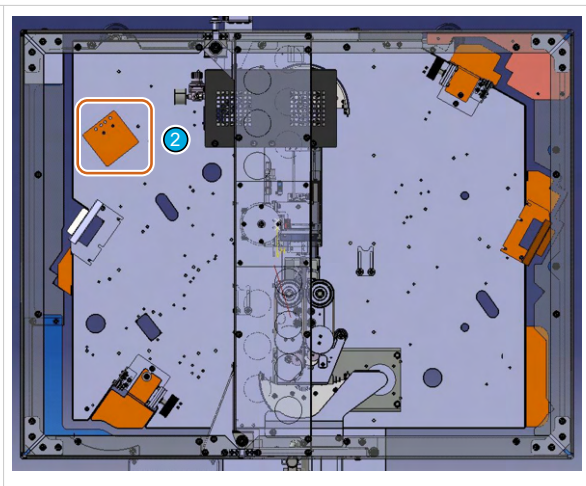
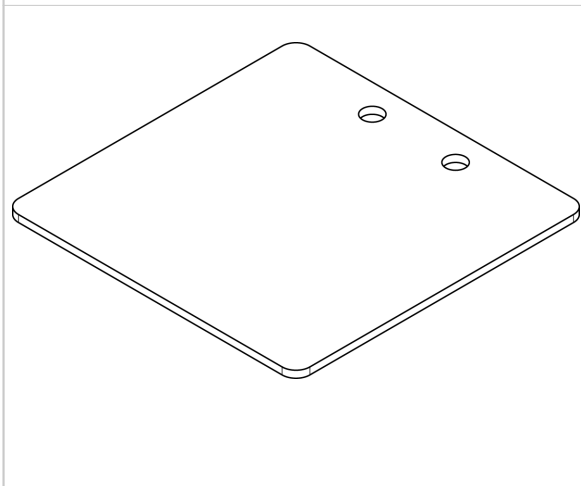
- It will be mounted with the included cylinder head screw M8 x 12 and an 8.4 washer.

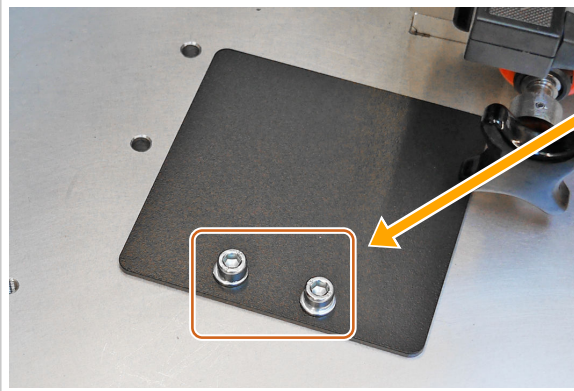


The picture beside shows the mounted plate if no ToolingShuttle holder is present at the position.

- It will be mounted with the existing screw and the washer.

Position 2: Article number 457 738; "Cover plate side feed opening"

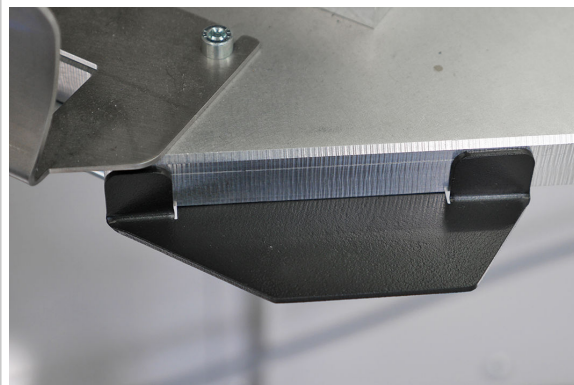
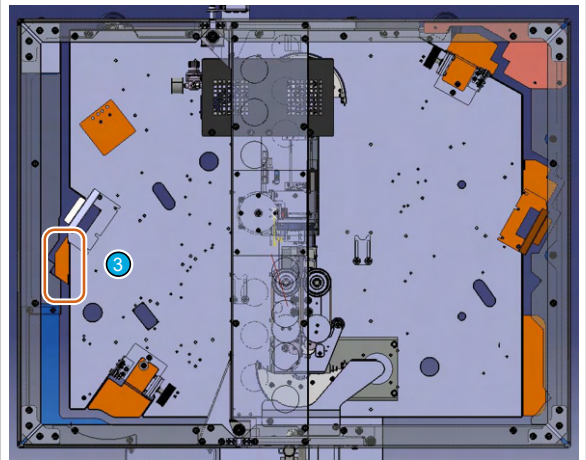
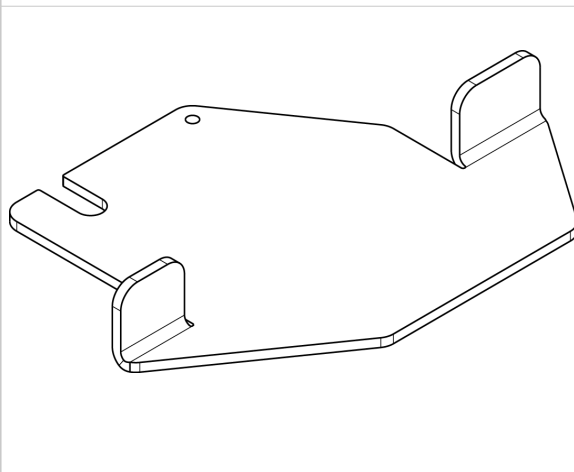




The picture beside shows the mounted plate.

- It will be fixed with two M6 x 10 cylinder head screws and two 6.4 washers.

Position 3: Article number 458 802; "Protective guard plate S1 55 degr. CC36S"

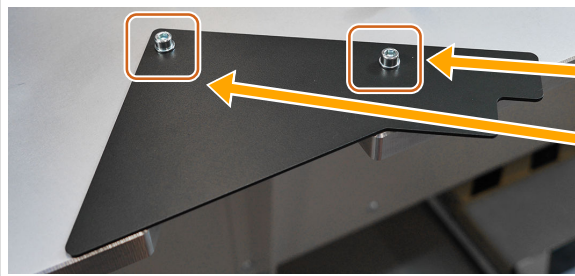
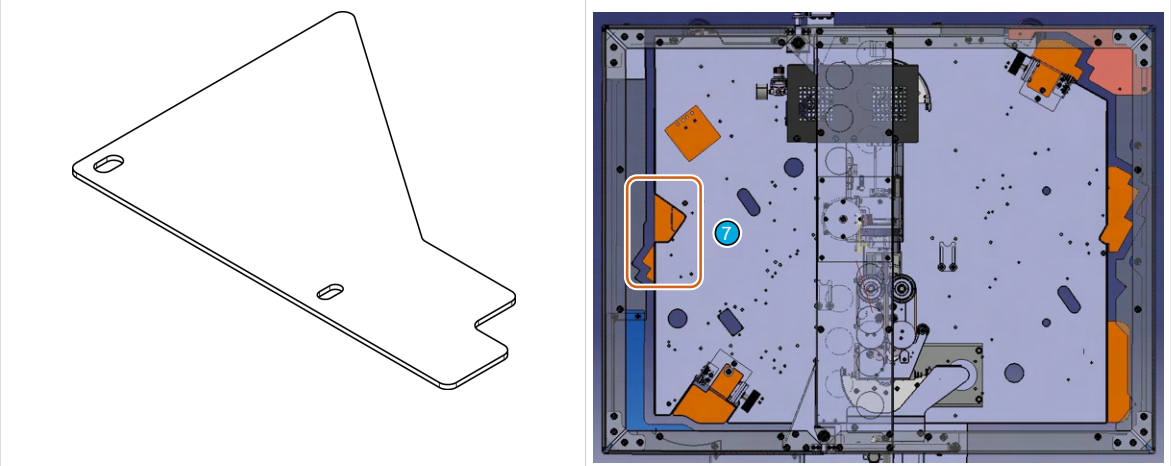


- Place the plate as shown in the picture and fix it at the underside of the platform with the included M6 x 10 cylinder head screw and a 6.4 washer.

Notice:

There might be a small hole in the plate. This has no importance for the installation and has only manufacturing reasons.

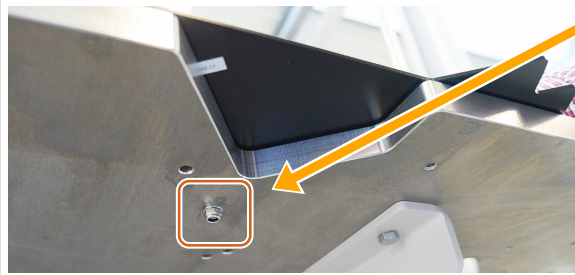
Position 7: Article number 457 740; "Protect.guard pl. S1 55 degr.w/ BF CC36S"



Mount the plate as shown with.

- You need a cylinder head screw M6 x 10 and a 6.4 washer
- And a cylinder head screw M6 x 30 and a 6.4 washer.

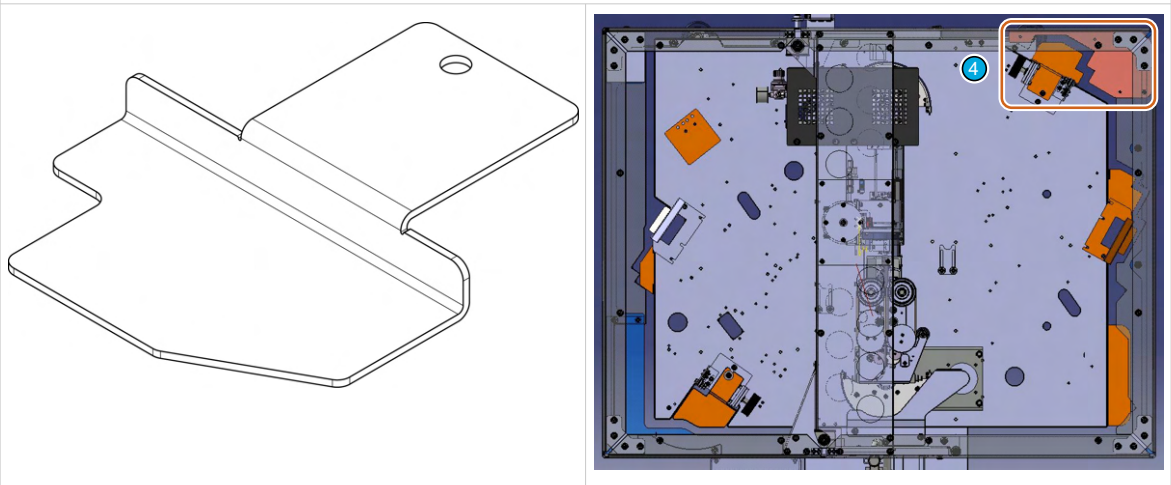
Please see next picture too.

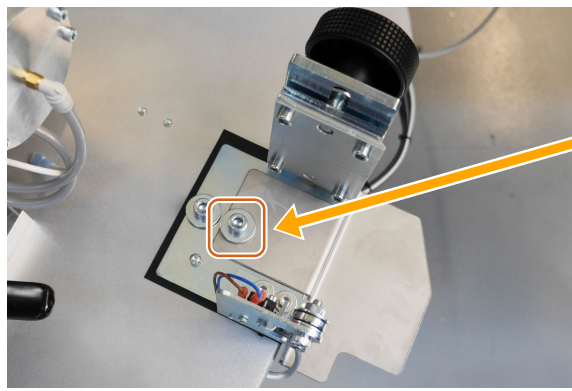


- The M6 x 30 cylinder head screw will be secured with an M6 nut and a 6.4 washer at the underside.

Mounting on side 2

Position 4: Article number 457 741; "Protective guard plate S2 90 degr. CC36S"



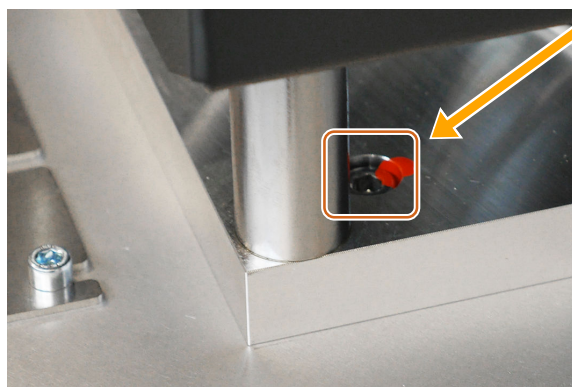
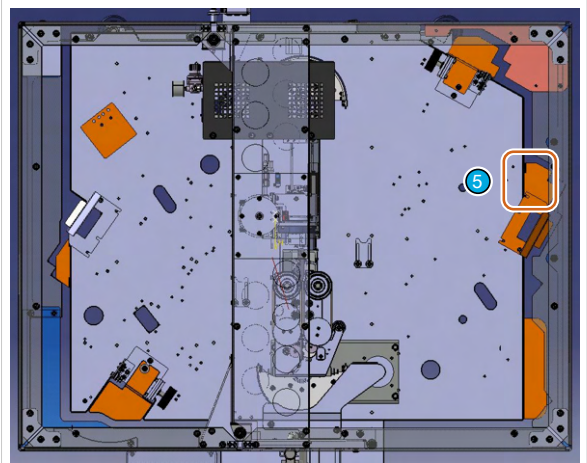
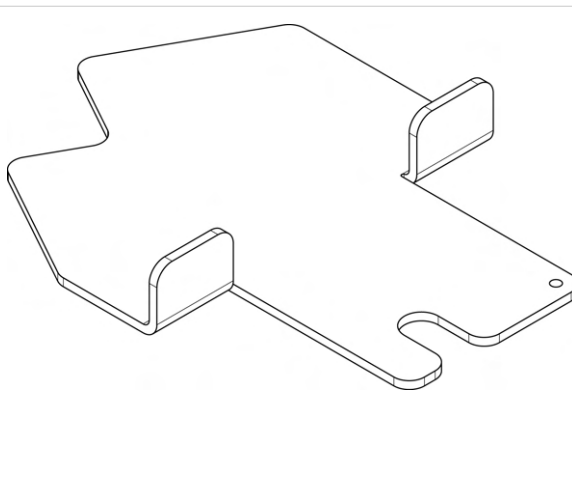


The picture beside shows the mounted plate if a ToolingShuttle holder is present.

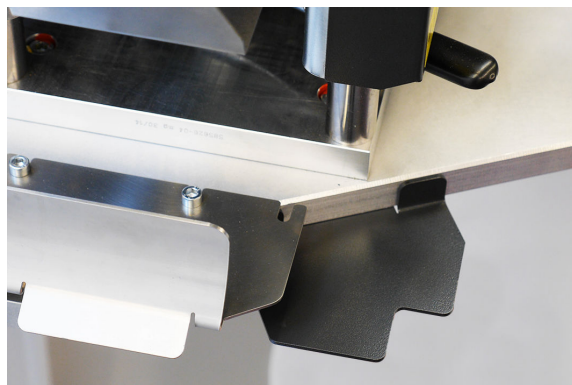
- It will be mounted with the existing screw and the washer.

If no ToolingShuttle holder is present, the plate will be fixed with the included M8 x 12 cylinder head screw and the 8.4 washer.

Position 5: Article number 458 791; "Protective guard plate S2 55 degr. CC36S"



- Remove the highlighted screw on the support of the UniCrimp 22x.
- Then turn the included M8 x 45 cylinder head screw in the hole.
- Tighten the screw.



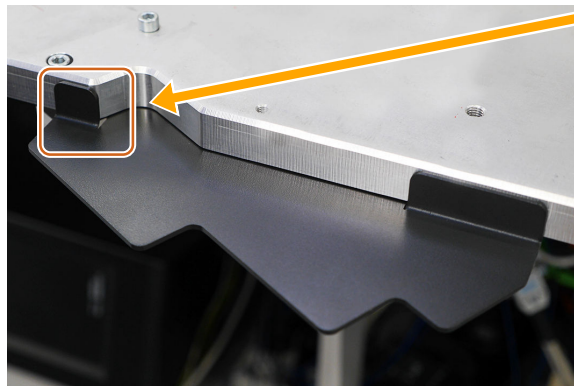
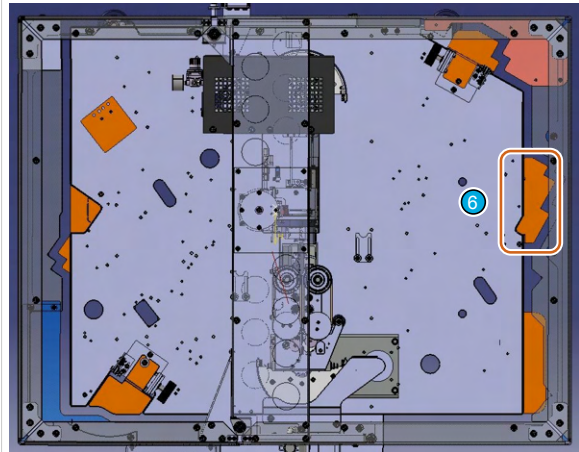
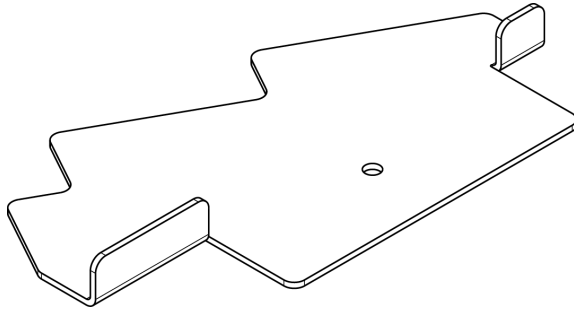
- Mount the plate as shown with.
- Fix the plate at the underside of the platform with the included M8 nut and a 6.4 washer.

Under certain circumstances the spool holder has to be moved slightly.

Notice:

There might be a small hole in the plate. This has no importance for the installation and has only manufacturing reasons.

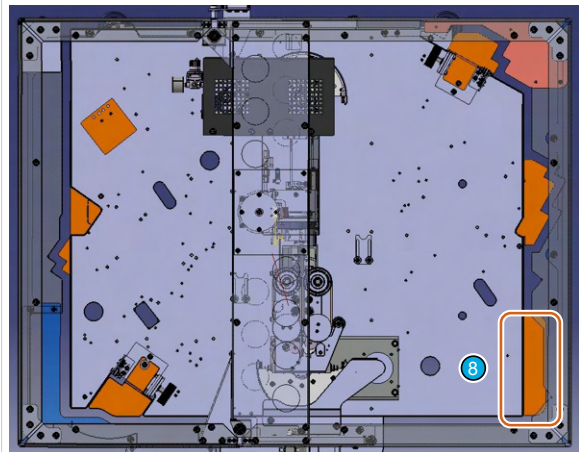
Position 6: Article number 457 739; "Protective guard plate S2 55 degr. W/ BF CC36S"

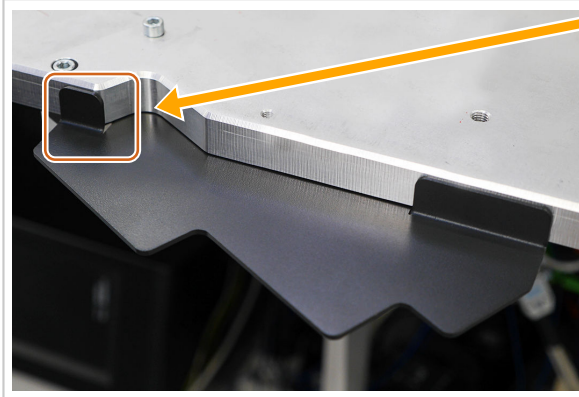


- Mount the plate as shown with. Thereby observe especially the highlighted position.
- Fix the plate at the underside of the platform with the included M6 x 10 cylinder head screw and a 6.4 washer.

Under certain circumstances the spool holder has to be moved slightly.

Position 8: Article number 491 068; "Protective Guard Plate S2 Seal station CC3x"





- Mount the plate as shown with. Thereby observe especially the highlighted position.
- Fix the plate at the underside of the platform with the included M6 x 10 cylinder head screw and a 6.4 washer.

Under certain circumstances the spool holder has to be moved slightly.

8.6.8 Adjust the Working Height of the UniCrimp 221/222

The crimping stations UniCrimp 221 and 222 are adjusted to the lowest position for transport. Before you can put the CrimpCenter into operation, the crimping station must be set to its working height.



Notice

Depending on the set height, there is a risk of collision with the swivel arms.

UniCrimp 221/222



Fig. 33: UniCrimp 221/222 - Working height

1. ▶ Set the working height of the station with the ratchet wrench.

On the ratchet wrench is a small lever.

Lever in the left position

- The station is going down.

Lever in the right position

- The station is going up.

8.6.9 Activate the CrimpCenter



Caution

If you turn off the CrimpCenter at the main power switch or disconnect it from the mains, wait at least 5 minutes before turning it on again. This time the UPS (Uninterruptible Power Supply) needs to shut down completely.

CrimpCenter



Fig. 34: Main switch - On

1. ▶ Switch on the CrimpCenter with the main switch.

Touchscreen

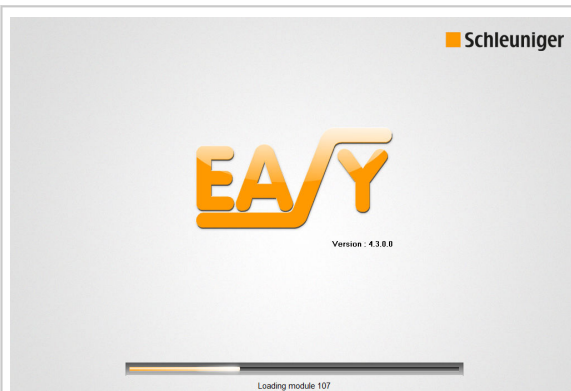


Fig. 35: EASY Software - Home Screen

2. ▶ The automatic startup process begins.
 - » The CrimpCenter starts up.
 - » The EASY software is started.
 - » The login screen appears.

3. ▶ Log in with your personal password.
 - » You can now operate the CrimpCenter.

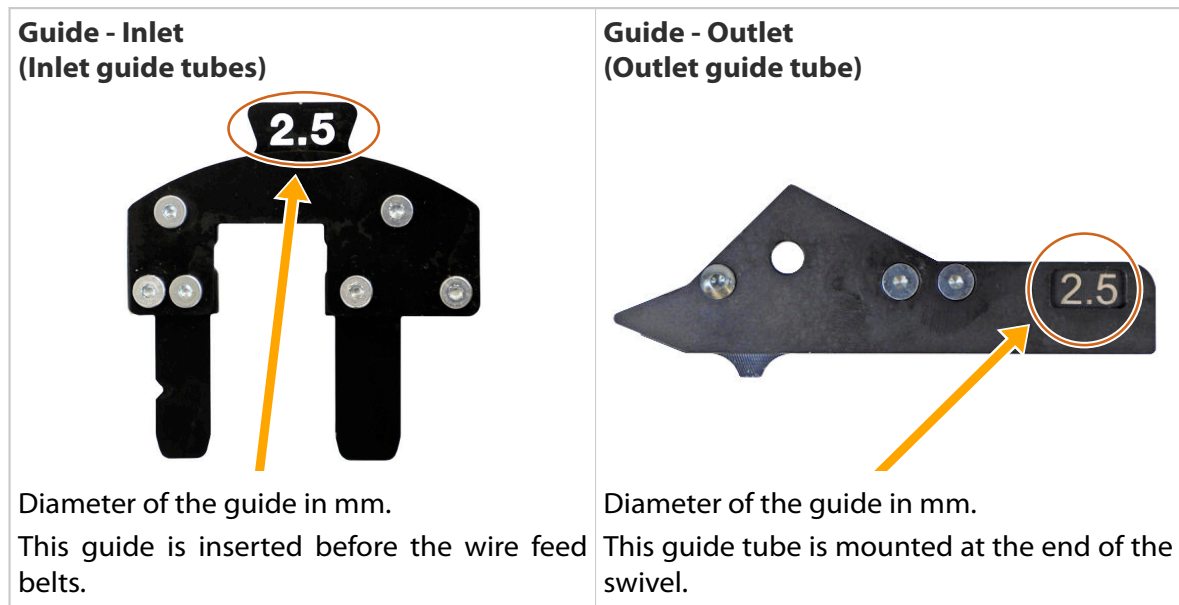
Depending on your user rights, you can set up and configure the CrimpCenter. For further information about the operating with the EASY software please see the EASY operating manual.

8.6.10 Mount the guide tubes

At least one set of guides is required for the production of wires with the CrimpCenter. Choosing the right set depends on the following factors.

- CrimpCenter type
- Wire type
- Wire diameter

When selecting the right set for your application, your local Schleuniger representative will be happy to help.



Replace guides

Subsequently is described how to exchange a complete set of wire guides.

Caution



Never operate the CrimpCenter without having mounted all parts the wire guide.

Caution



Only operate the CrimpCenter with guides that have matching diameters. Incorrect pairings can cause damage.

Your local Schleuniger representative will be pleased to assist you in selecting the right blade.

Notice



The wire should slide easily through all parts of the wire guide, without having too much clearance.

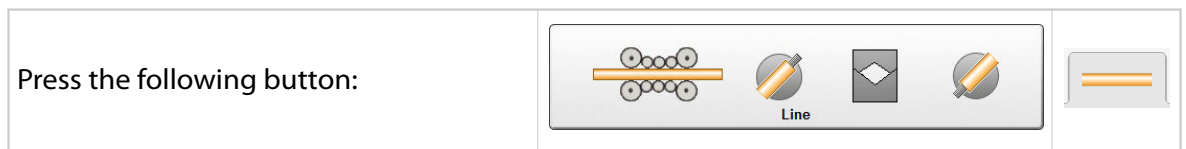
Notice




The guide tubes are located in the tool box.

EASY Software

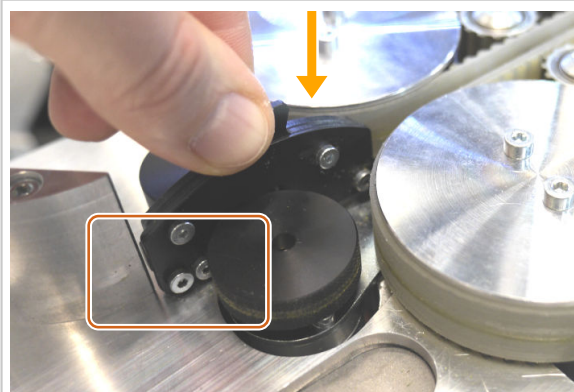
The diameter of the inlet guide tube must be entered in the EASY software. Change to the following menu and enter the corresponding value.



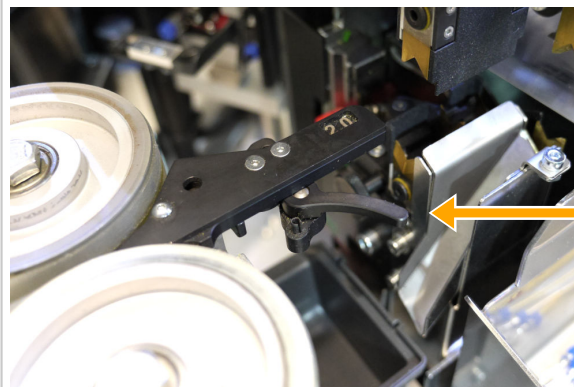
Operating unit

	1. > Switch off the control voltage!
---	--------------------------------------

Guide - Wire Feed

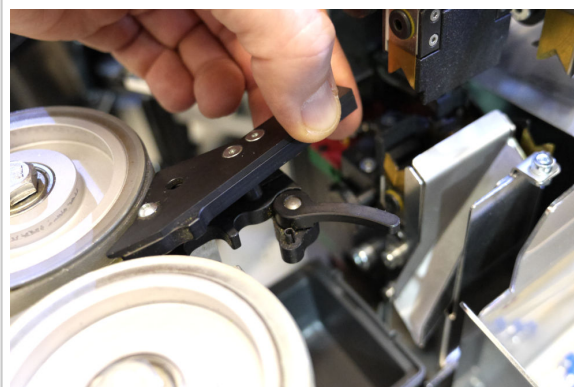
**Replace inlet guide tube**

2. ▶ Remove the old guide.
 - » Keep these.
3. ▶ Insert the new guide.
 - » Press it down until it clicks into place.

**Exchange outlet guide tube**

4. ▶ Open the quick release fastener.

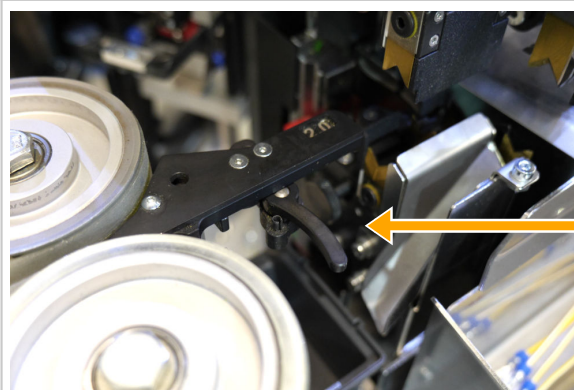
The picture shows the guide tube holder in open position.



5. ▶ Remove the old guide.
 - » Keep these.
6. ▶ Insert the new guide.

Notice

The orientation of the guide is shown in the picture.



7. ▶ Close the quick release fastener.
 - » The guide is fixed.

8.6.11 Insert Wire

Straightener

Different straightener are available for the CrimpCenter.

Your local *Schleuniger* representative will be glad to provide you with information about all available products, all the latest news, as well as customized solutions for your individual requirements.

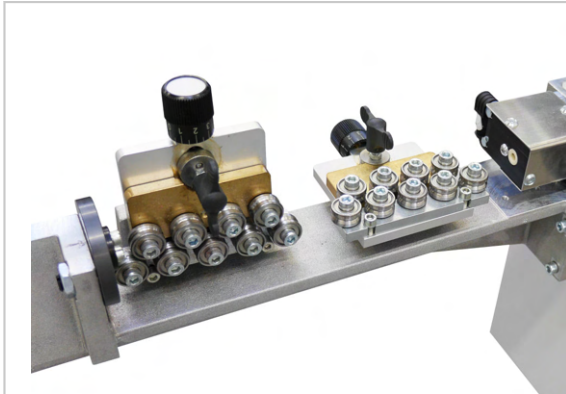


Fig. 36: Straightener - Complete - Simple

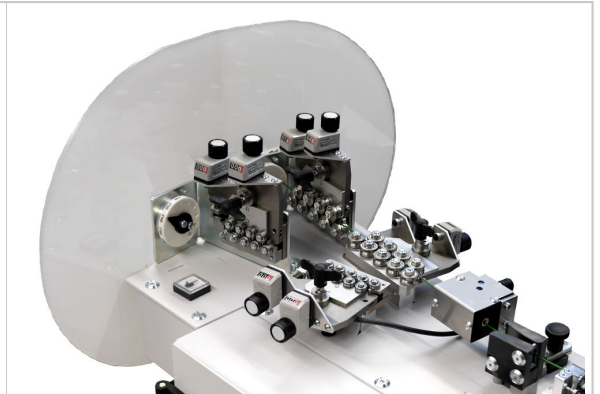


Fig. 37: Straightener - Complete - Double

The double straightener expands your CrimpCenter with the following additional functions and applications.

- During the current production, the operator can already prepare the wire for the next order to be produced. Afterwards, the straightener can be moved within a short time and is ready for the next order.
- Different straightening devices can be equipped, so that wires with different diameters can be used for production.

Straightening unit

Tension will be removed from the wire and the wire will be checked for knots.

If you are using a double straightener, you must set both sides of the wire straightening unit independently.

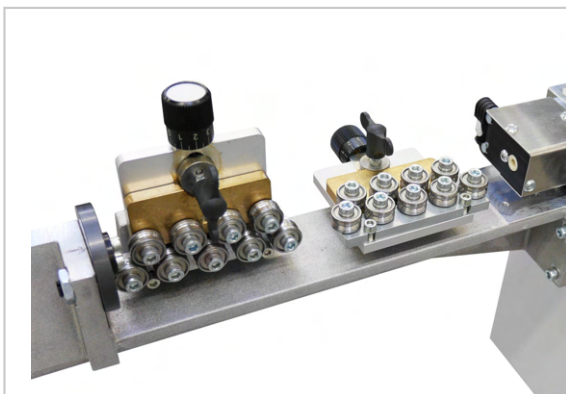


Fig. 38: Wire straightening unit - Simple

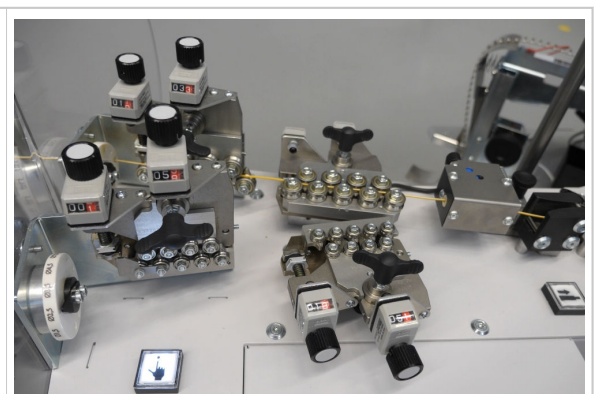
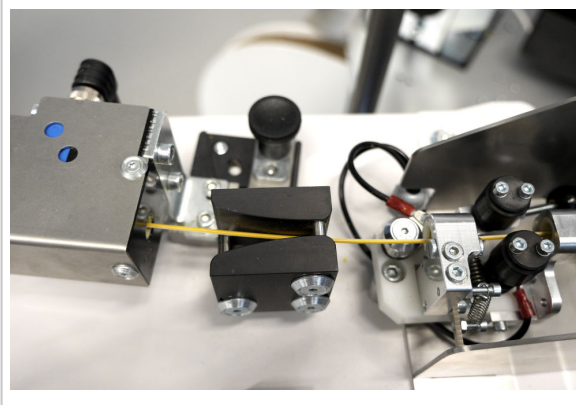


Fig. 39: Wire straightening unit - Double

Pass the wire through options



Depending on the configuration of the CrimpCenter, the wire must be routed through optional options.

Knot detection

The cable is guided through a ceramic bushing and a perforated disc in front of the straightener.

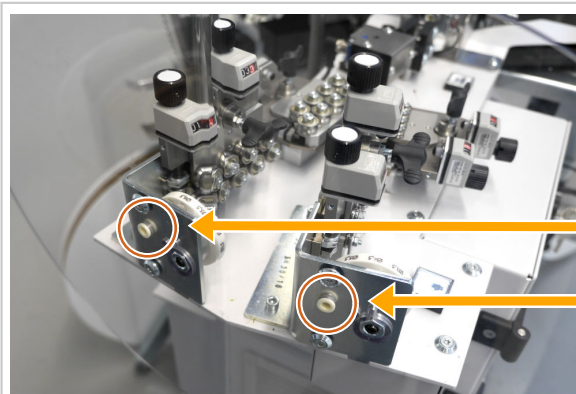


Fig. 40: Straightener - Ceramic bushing

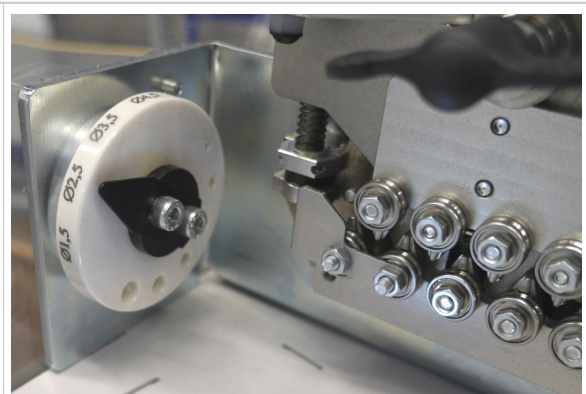


Fig. 41: Straightener - Perforated disc

1. > Turn the perforated disk to the diameter you need.
2. > Guide the wire to be produced through the ceramic bush and the perforated disc.
 - » The wire must be able to move smoothly through the opening.

Straightening Unit - Setup

Here we show you how to set the individual straightening units correctly.

Caution



The following settings must be performed one by one for each straightening unit.

Notice



It is very important that you set up the straightening units carefully. This is the best way to ensure that the wire is optimally prepared for further processing.

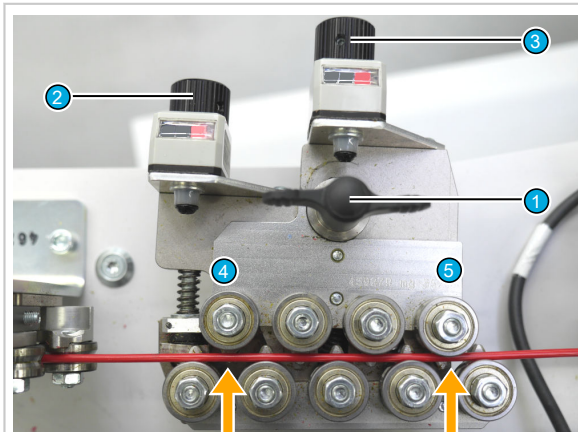


Fig. 42: Straightening Unit - Slightly opened

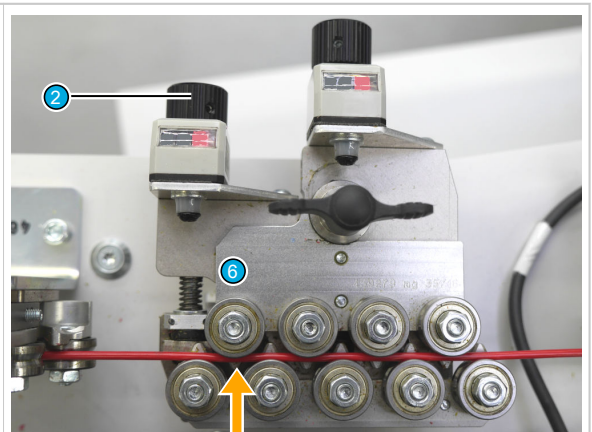


Fig. 43: Straightening Unit - Closed

1. ▶ Open the straightening unit on the quick release (1).
2. ▶ Guide the wire over the straightening rollers through the straightening unit.
3. ▶ Close the straightening unit on the quick release (1).
4. ▶ Increase the distance (angle) on the left side with the knob (2).
 - ↳ **The left-hand straightening rollers (4) must not touch the cable.**
5. ▶ Reduce the distance (angle) on the right side with the knob (3).
 - ↳ **The two right-hand straightening rollers (5) may just touch the cable in this way.**

Notice



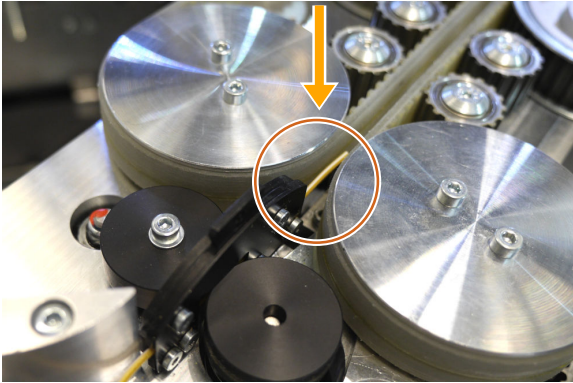


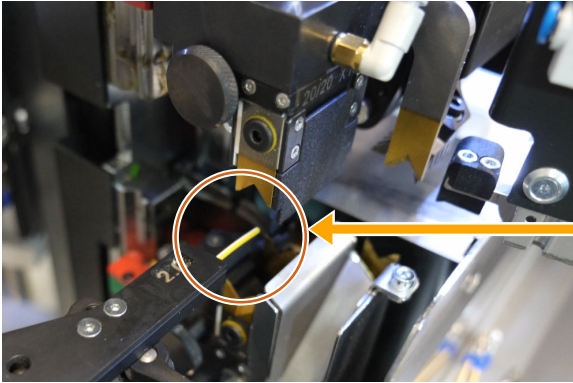


These settings must be carried out for every order.

6. ▶ Reduce the distance (angle) on the left side with the knob (2).
 - ↳ **The left straightening rollers (6) should easily walk the line.**

Pass the wire through wire feed

Before inserting the wire, make sure that the beginning of the wire is as straight as possible and that the wire has no bends. If necessary straighten the wire manually.

	<p>Operating area</p> <ol style="list-style-type: none"> 1. ▶ Switch off the control voltage!
	<p>Wire feeding unit</p> <ol style="list-style-type: none"> 2. ▶ Press the switch / button with the symbol shown. <ul style="list-style-type: none"> » The feeding belts of the wire feeding unit move together.
	<ol style="list-style-type: none"> 3. ▶ Guide the wire through the existing guide. 4. ▶ Continue to run the cable until it touches the belts of the toothed belt pulleys.
	 <ol style="list-style-type: none"> 5. ▶ Press both switches / buttons with the symbols shown. <ul style="list-style-type: none"> » The CrimpCenter will take in the wire.
	<p>Route the wire through the complete guide tube set.</p> <ol style="list-style-type: none"> 6. ▶ Hold down the buttons until the wire comes out at the end of the guide.

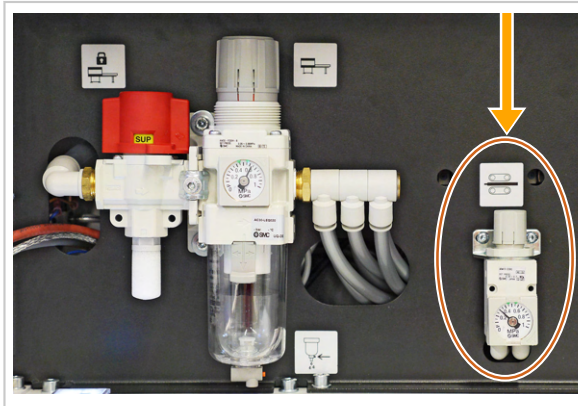
8.6.12 Adjust the Contact Pressure of the Wire Feed

The force of the contact pressure from the wire feed will be adjusted by a pressure regulator beneath the straightening unit.

The pressure has been adjusted by *Schleuniger* at the final check.

The default setting is 5 bars.

Manual version



The pressure regulator is located at the pneumatic unit under wire straightening unit.

1. > Set the desired contact pressure here.

Electronic version



The pressure regulator is located at the pneumatic unit under wire straightening unit.

Here the contact pressure can be read.

1. > Set the desired pressure in the EASY software.

EASY - Settings

Tab - Wire feeding unit

Press the following button:

Press the following button:

In this tab you can make the following settings.

Picture / Screen text	Translation	Description
Speed	Speed	Here you can set the speed of the wire feeding unit.
Acceleration	Acceleration	Here you can set the acceleration when starting up the wire feeding unit.
Deceleration	Deceleration	Here you can set the deceleration when running down the wire feeding unit.
Slippage	Slippage	Here you can set the slip.
Behavior with slip errors		The following selections are available.
Auto correct.	Auto correct.	The slip error is corrected automatically.
Monitoring	Monitoring	The production is interrupted with a critical error.
Switched off	Switched off	The slip error is neither corrected nor displayed.
Clamping pressure	Clamping pressure	Here, the contact pressure of the feeding belts can be adjusted.

8.6.13 Adjust the Clamping Force of the Gripper

The gripper pressure which holds the wire in the swivel arm side 2 is controlled by a pressure valve.

Manual version



On the back of the column of swivel arm side 2 is the pressure regulator for the gripper side 2.

1. > Set the desired gripper pressure here.

Adjust the pressure so that on one hand there are no marks of the gripper on the wire, and on the other hand the gripper will hold the wire during the stripping process without slipping through.

Electronic version



On the back of the column of swivel arm side 2 is the pressure regulator for the gripper side 2.

Here the gripper pressure can be read.

1. > Set the desired pressure in the EASY software.


Adjust the pressure so that on one hand there are no marks of the gripper on the wire, and on the other hand the gripper will hold the wire during the stripping process without slipping through.

EASY - Settings

Tab - Swivel

Press the following button:					
-----------------------------	---	--	---	--	--

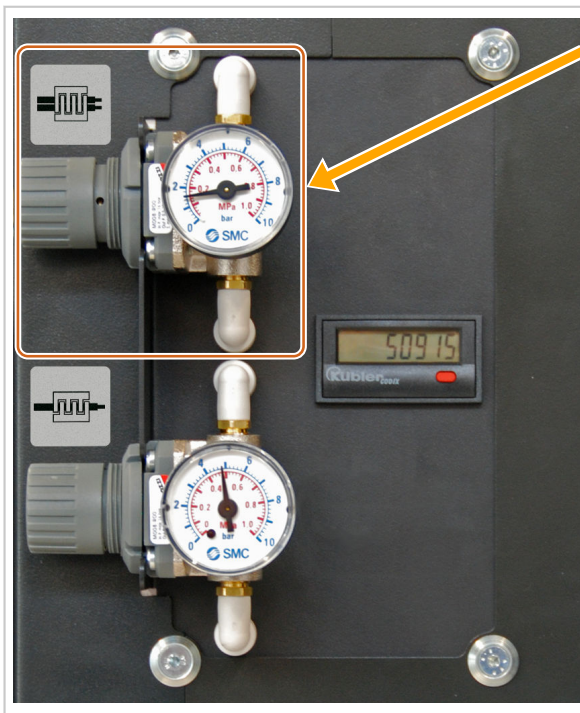
Press the following button:



In this tab you can make the following settings.

Picture / Screen text	Translation	Description
Pull-off speed	Pull-off speed	Here you can set the pull-off speed of the swivel.
Swivel movement speed side 1	Swivel movement speed side 1	Here you can set the speed, at which the swivel moves away on side 1.
Swivel movement speed side 2	Swivel movement speed side 2	Here you can set the speed, at which the swivel moves away on side 2.
Stripping gripper closing pressure	Stripping gripper closing pressure	Here, the pressure of the closing force of the stripping gripper can be adjusted.
Slug release for partial strip	Slug release for partial strip	When this feature is enabled, the wire will be pulled back slightly after the partial deduction cut to ensure that the section is completely disconnected

Double Gripper - Manual version



The upper pressure regulator is only available when a double gripper is installed. If there is a double gripper installed and activated in the EASY software, only the upper pressure regulator sets the pressure of the gripper side 2.

1. > Set the desired gripper pressure here.

Adjust the pressure so that on one hand there are no marks of the gripper on the wire, and on the other hand the gripper will hold the wire during the stripping process without slipping through.

When the double gripper is not activated the upper pressure regulator is without function.

8.6.14 Conveyor Belt



WARNING

Risk of injury on the conveyor belt!

In the area of the conveyor belt following risks are possible!

- Entanglement hazard
- Danger of crushing
- Risk of shearing fingers.
- Danger from moving parts



WARNING

Risk of injury by crushing!

The tilting tray tilts on it's own after the desired lot is reached!

In the area of the tilting tray there is a risk of crushing

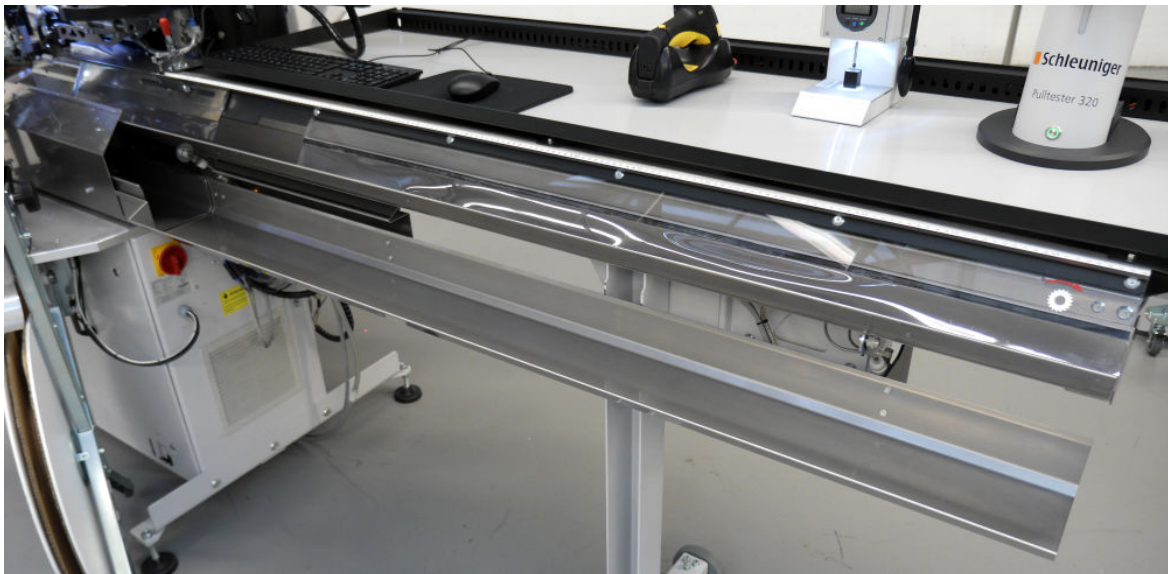


WARNING

Risk of injury due to independent starting!

The cable tray moves out independently!

Conveyor belt



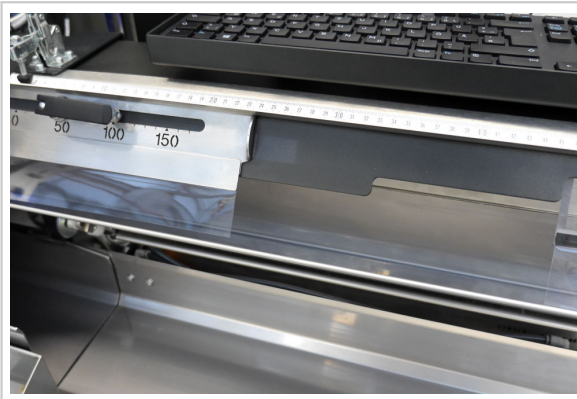
With the conveyor belt the processed wires are transported out of the CrimpCenter.

Wire Tray



The wire tray moves the processed wires into removal position.

Continuous Quality Control



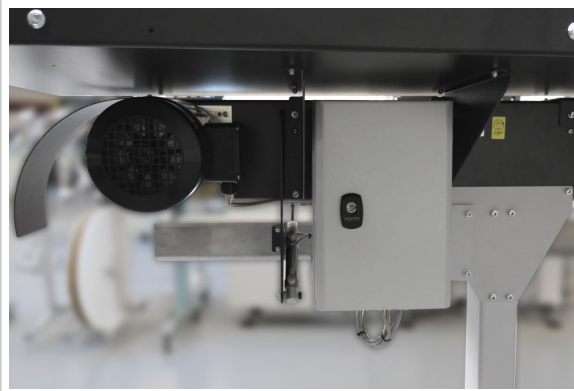
In the sampling area, individual wires can be removed during production to carry out continuous quality control.

Tilting Tray



The tilting tray tilts the collected wires into the cable tray beneath after finishing the production lot.

Control unit



The control of the conveyor belt is located directly on the conveyor belt itself.

The change and extension of the modules for the different lengths offered is thereby facilitated and accelerated.

Conveyor Belt - Extension

For the processing of long wires, the existing base modules can be extended by means of conveyor belt extensions.

8.6.15 Referencing

To guarantee a constant and high process stability, the initial position of the cutting and stripping unit and of the swivel and pull-off units side 1 and 2 have to be referenced. This means that with the aid of a setup tool the zero position will be defined and saved. With these zero positions all further processes will be calculated.

- The referencing is separated in several steps.

Usually only at initial operation a referencing has to be executed. Under circumstances this work step has to be done also after a software update or after some repairs.

Cutting Unit and Swivel

Sometimes the machine switches off the control voltage automatically. This happens for safety reasons.

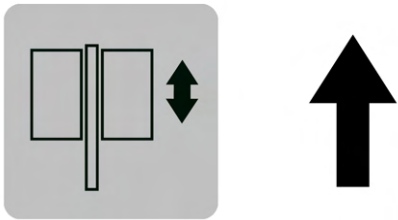
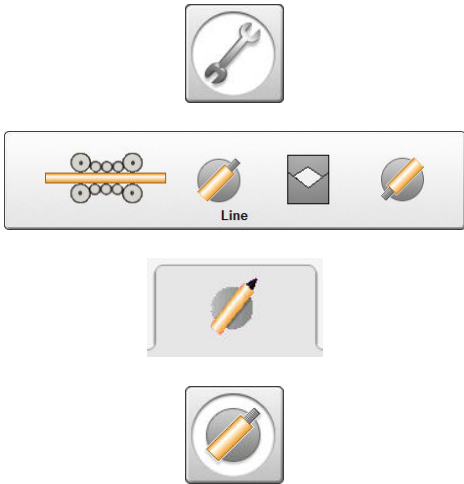
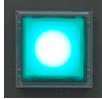

The following dialog will guide you through the referencing. Follow the instructions. They will be explained on the next pages:

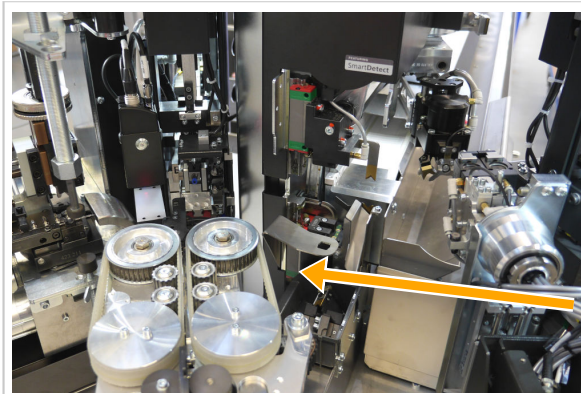
Because the safety cover is open for referencing the confirm button has to be pushed for some actions when the machine executes movements. The confirmation button must also be pressed to confirm some messages in EASY.



The bolt marked headings (e.g. **EASY-Software (4/18)**) show

- where an information is shown
and / or
- where an action has to be carried out.

	<p>CrimpCenter</p> <p>1. > Open the safety cover.</p>
	<p>EASY Software</p> <p>2. > Make sure that the middle of the wire at the guide tube of the swivel strip-in and at the gripper side 2 is exactly 270 mm above the platform.</p> <p>3. > Push the pictured Machine menu buttons in sequence.</p> <p>4. > Select the required setup tool.</p>
	<p>EASY-Software (1 / 26)</p> <p>"Please switch on the control voltage. The gripper side 2 closes."</p> <p>CrimpCenter</p> <p>5. > Switch on the control voltage.</p> <p>The gripper side 2 will automatically close.</p>
<p>EASY-Software (2 / 26)</p> <p>"Please remove the wire."</p> <p>CrimpCenter</p> <p>6. > Remove the wire from the machine.</p>	
	<p>EASY-Software (3 / 26)</p> <p>"Open the cutting unit manually, if needed."</p> <p>CrimpCenter</p> <p>If the cutting unit is not completely opened, move it manually.</p> <p>7. > Therefore turn the belt pulley in the direction of the arrow.</p>

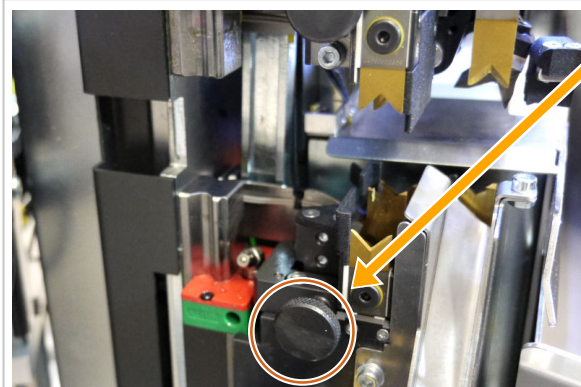


EASY-Software (4 / 26)

"Move the swivel and stripping unit side 1 manually out of operating area."

CrimpCenter

- 8. ▶ Move the swivel arms side 1 and 2 manually out of the operating area around the cutting and stripping unit to reach the cutter blocks easier.

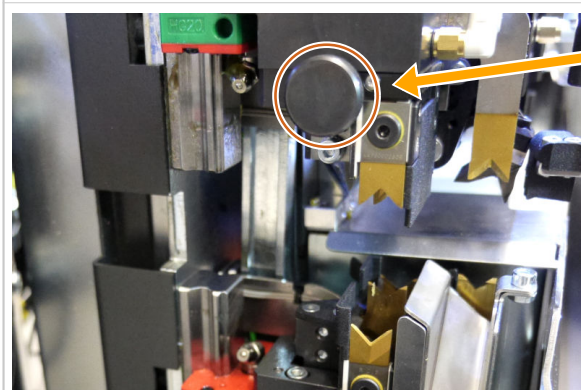


EASY-Software (5 / 26)

"Remove the lower cutter block."

CrimpCenter

- 9. ▶ Remove the highlighted knurled screw at the bottom cutter block.
- 10. ▶ After removing the screw the cutter block can be taken out.



EASY-Software (6 / 26)

"Remove the upper cutter block."

CrimpCenter

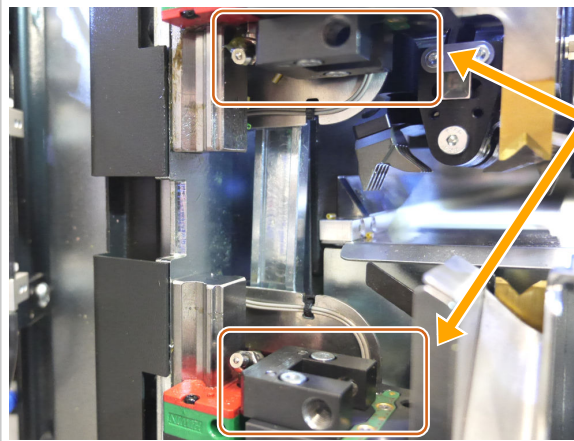
- 11. ▶ Remove the highlighted knurled screw at the upper cutter block.

Caution!

Secure the cutter block from falling down!
Note the next step.



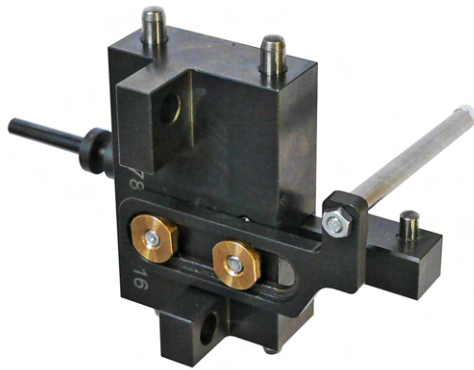
- 12. ▶ After removing the screw the cutter block can be taken out.

**EASY-Software (7 / 26)**

"Clean the contact surfaces of the cutter block support."

CrimpCenter

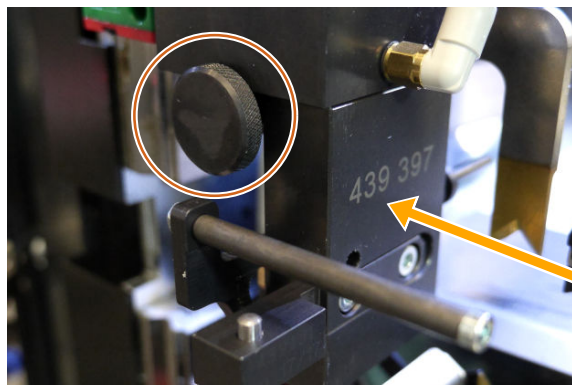
- 13. › Clean the contact surfaces so that the setup gauge bears exactly on them.
- 14. › Clean these surfaces.

**EASY-Software (8 / 26)**

"Get the setup gauge and clean it if needed."

CrimpCenter

- 15. › Get the pictured setup gauge and clean its contact surfaces, too.

**EASY-Software (9 / 26)**

"Place the setup gauge in the upper section and fix it with the screw."

CrimpCenter

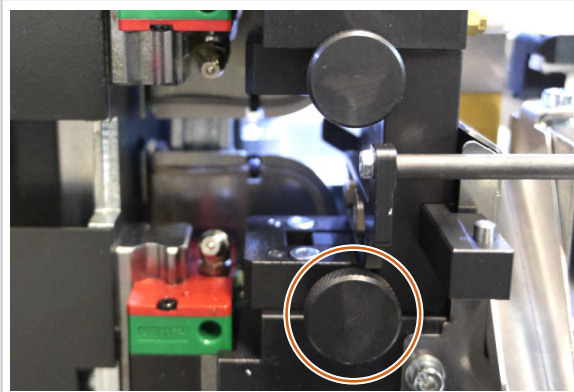
- 16. › Place the setup gauge in the upper cutting unit holder.
- 17. › Fix these with the knurled screw.

**EASY-Software (10 / 26)**

"Close the cutter onto the setup gauge by turning the belt."

CrimpCenter

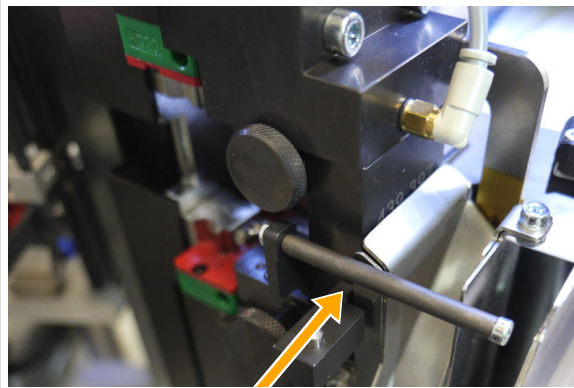
- 18. › Close the cutting unit onto the setup gauge completely by turning the belt manually in the direction of the arrow.

**EASY-Software (11 / 26)**

"Fix the setup gauge to the lower cutter block support with the screw."

CrimpCenter

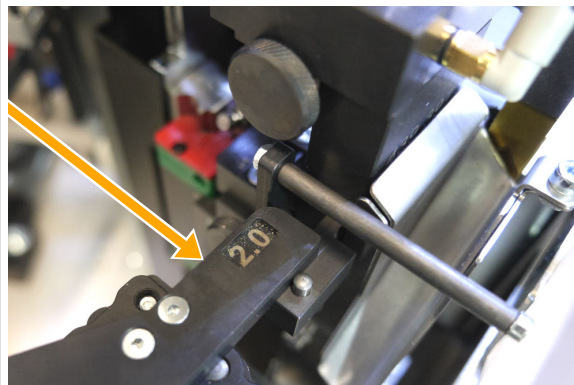
19. › Fix the setup gauge with the knurled screw to the lower cutter block support.

**EASY-Software (12 / 26)**

"Open the calibration lever of the setup gauge."

CrimpCenter

20. › Open the calibration lever of the setup gauge by moving it in the direction of the arrow.

**EASY-Software (13 / 26)**

"Move the swivel arm side 1 against the set-up gauge."

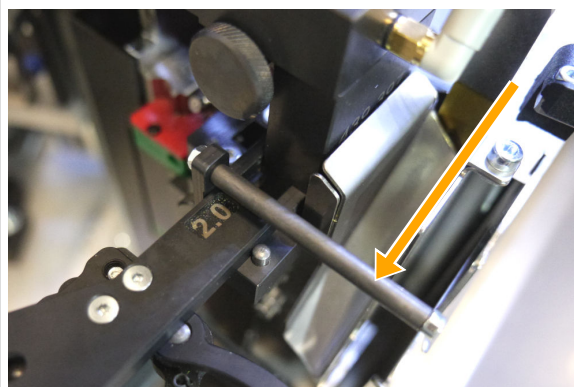
Attention:

Do not use long guide tubes."

CrimpCenter

21. › Move the swivel arm side 1 to the setup gauge as pictured.

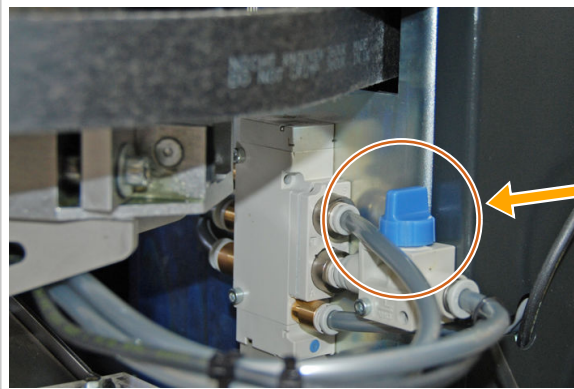
Do not use long guide tubes. There is a risk of collision.

**EASY-Software (14 / 26)**

"Fix the swivel arm side 1 with the calibration lever."

CrimpCenter

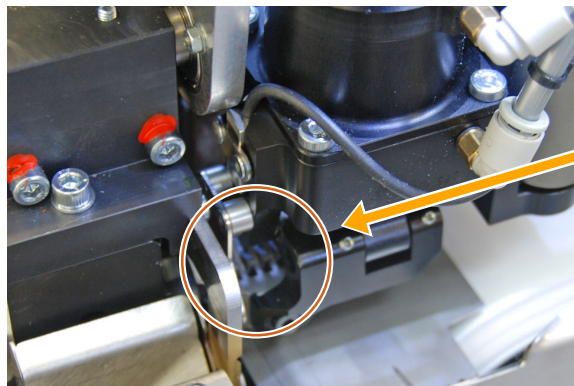
22. › Close the calibration lever of the setup gauge by moving it in the direction of the arrow.
23. › The lever has to be moved until the swivel arm has no more play.

**EASY-Software (15 / 26)**

"Switch-off the compressed air by closing the blocking valve of the gripper side 1."

CrimpCenter

24. › Close the blocking valve of the gripper side 2.

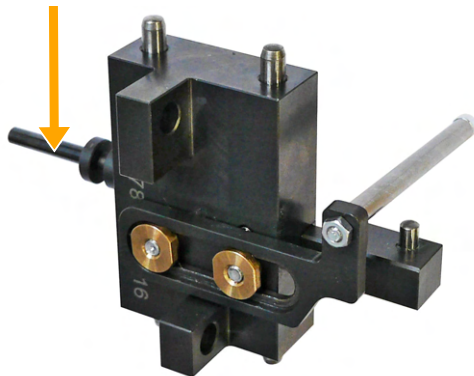
**EASY-Software (16 / 26)**

"Align the gripper side 2 to the pin."

CrimpCenter

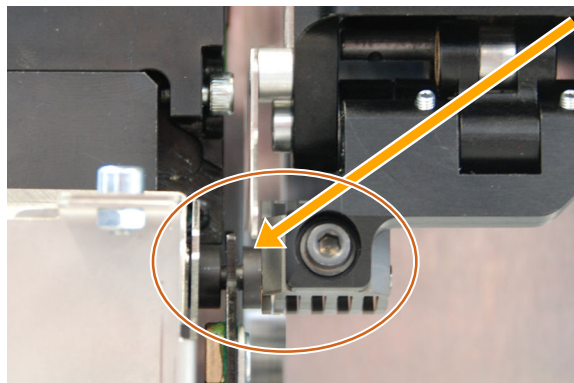
25. › Open the the gripper of the swivel on side 2 by hand.

26. › Position the swivel above the setup pin.

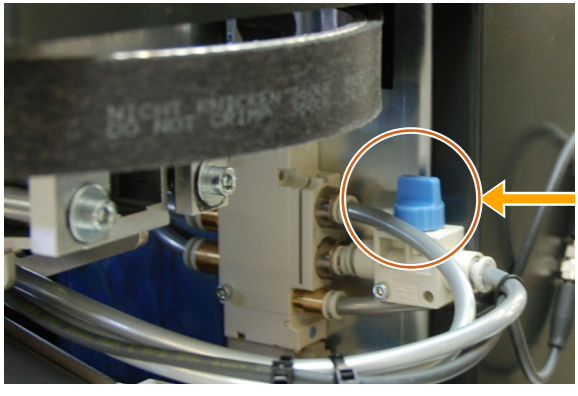
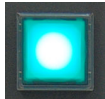
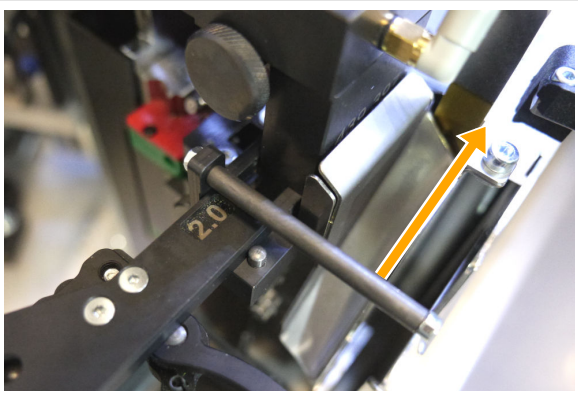
**Notice:**

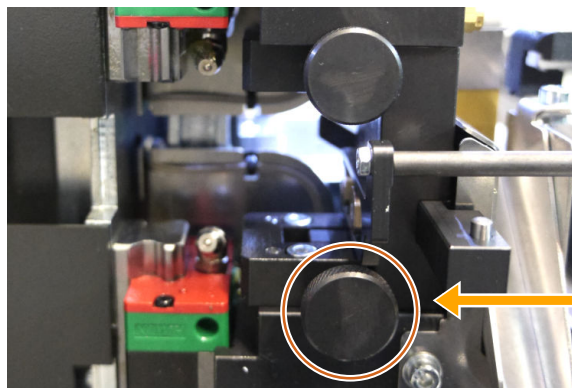
The gripper may only grip the thin part of the setting gauge.

27. › Close the gripper by hand.



28. › Push it towards the setup gauge as far as possible.

	<p>EASY-Software (17 / 26) "Move and hold the gripper side 2 towards the setup gauge as far as it goes and switch on the compressed air of side 2."</p> <p>CrimpCenter</p> <p>29. › Move the gripper side 2 as close as possible to the setup gauge.</p> <p>30. › Open the blocking valve of the gripper side 2.</p>
	<p>EASY-Software (18 / 26) "Please switch on the control voltage. Take current motor position as "0" position for the cutter head!"</p> <p>CrimpCenter</p> <p>31. › Switch on the control voltage on the operator column.</p>
<p>EASY Software "If the safety cover is open press the confirm button as long as all movements are executed."</p> <p>CrimpCenter Because the safety cover is open for referencing the confirm button has to be pushed when the machine executes movements.</p> <p>32. › In any case hold the confirm button as long as the machine moves.</p> <p>If the button will be released too early the referencing will be aborted and has to be restarted.</p>	
	<p>EASY-Software (19 / 26) "Release the calibration lever and move both swivel arms from the operating area."</p> <p>CrimpCenter</p> <p>33. › Open the calibration lever by sliding it in the direction of the arrow.</p> <p>34. › Afterwards move both swivel arms from the operation area to reach the cutter block easier.</p>

**EASY-Software (20 / 26)**

"Remove the lower screw of the setup gauge."

CrimpCenter

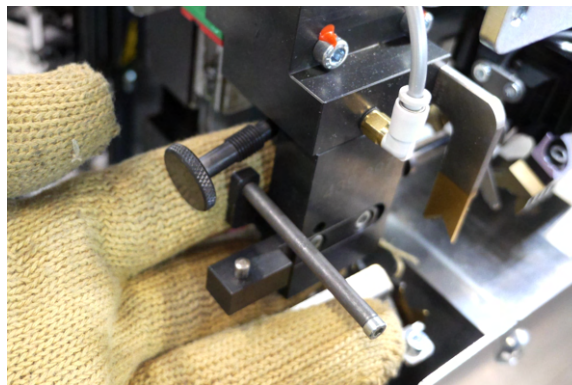
35. › Remove the knurled screw.

**EASY-Software (21 / 26)**

"Open the cutting unit manually."

CrimpCenter

36. › Open the cutting unit by moving the belt in the direction of the arrow.

**EASY-Software (22 / 26)**

"Unscrew the upper screw and remove the setup gauge and put it to the accessories."

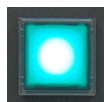
CrimpCenter

37. › Remove the knurled screw.

38. › Remove the setup gauge.

Caution!

Secure the cutter block from falling down!

**EASY-Software (23 / 26)**

"Please switch on the control voltage. The machine will move to the saved positions and will be calibrated."

CrimpCenter

39. › Switch on control voltage.

The machine will move automatically to complete the calibration.

Afterwards the control voltage switches off automatically.

EASY Software

"If the safety cover is open press the confirm button as long as all movements are executed."

CrimpCenter

Because the safety cover is open for referencing the confirm button has to be pushed when the machine executes movements.

40. › In any case hold the confirm button as long as the machine moves.

If the button will be released too early the referencing will be aborted and has to be restarted.

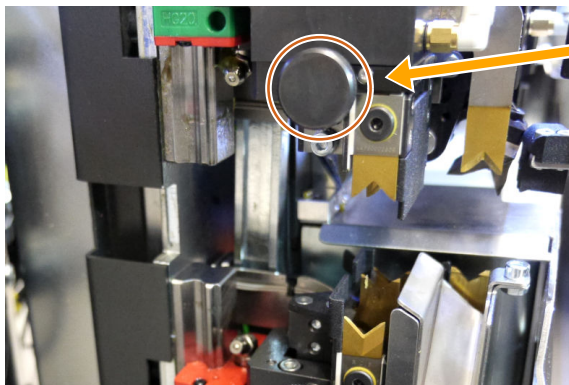


EASY-Software (24 / 26)

"Open the cutter head if needed."

CrimpCenter

41. › Open the cutting unit by moving the belt in the direction of the arrow.

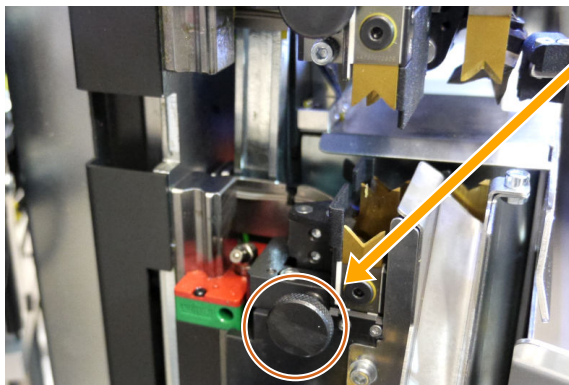


EASY-Software (25 / 26)

"Mount the upper cutter block."

CrimpCenter

42. › Mount the upper cutter block.
43. › Fix it with the marked knurled screw.



EASY-Software (26 / 26)

"Mount the lower cutter block."

CrimpCenter

44. › Mount the lower cutter block.
45. › Fix it with the marked knurled screw.

EASY Software

"Referencing completed."

CrimpCenter

46. ▶ Confirm message.

- ▶ The referencing is completed.

Crimp station

Swivel - Side 1

Sometimes the machine switches off the control voltage automatically. This happens for safety reasons.

The following dialog will guide you through the referencing. Follow the instructions. They will be explained on the next pages:

Because the safety cover is open for referencing the confirm button has to be pushed for some actions when the machine executes movements.

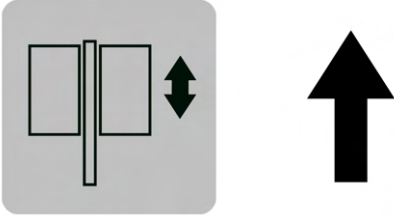
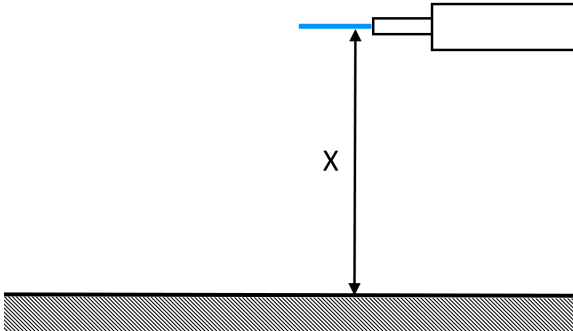
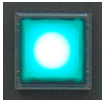

	<p>Tools / Aids</p> <ul style="list-style-type: none"> ■ Centering Pin (Article number 50000 586 799) ■ Setup gauge, UniCrimp 220 (Article number 50000 133 489) ■ Sliding caliper
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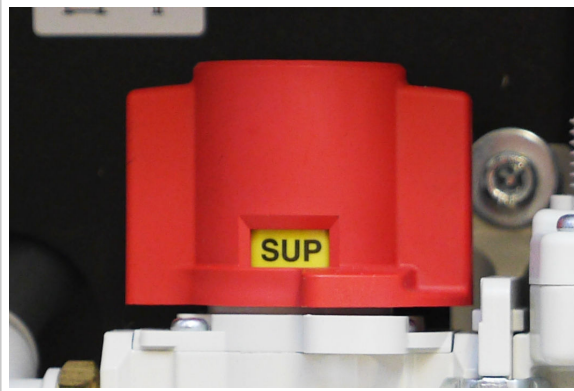
The bolt marked headings (e.g. **EASY-Software (4/18)**) show

- where an information is shown

and / or

- where an action has to be carried out.

<p>1. ▶ The crimping station or twisting station must be loaded. See EASY-Software manual.</p>	
	<p>CrimpCenter</p> <p>1. ▶ Open the safety cover.</p>
	<p>2. ▶ Make sure that the middle of the wire at the guide tube of the swivel strip-in is exactly 270 mm above the platform.</p>
	<p>3. ▶ Switch on the control voltage. The referencing of the machine is controlled by the EASY software.</p>
	<p>EASY Software</p> <p>4. ▶ Push the pictured Machine menu buttons in sequence.</p>
<p>"Please remove the wire." CrimpCenter</p> <p>5. ▶ Make sure that the wire is removed.</p>	


EASY Software

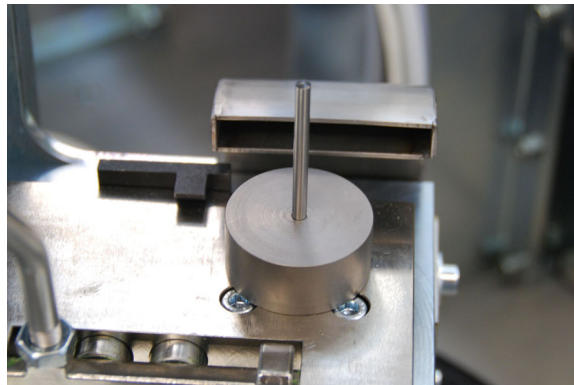
"Switch off compressed air and insert setting pin (long) in the gripper manually."

CrimpCenter

6. ▶ Switch off the air pressure supply on the main valve.



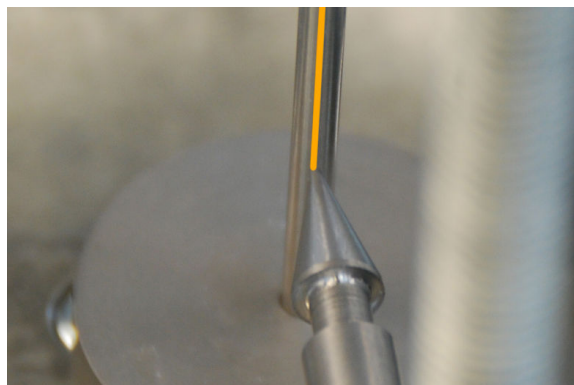
7. ▶ Set the centering pin as far as it goes in the outlet guide.



8. ▶ Place the referencing tool in the hole of the applicator support of the crimping station.

EASY Software

9. ▶ Confirm the message.



"Move the stripping and swivel units in the safe position."

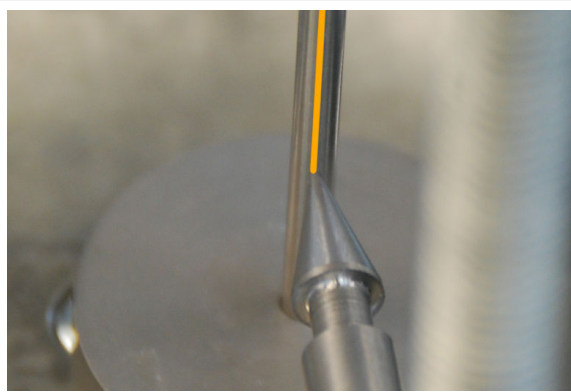
CrimpCenter

10. ▶ Move the swivel strip-in in front of the crimping station.
Be careful not to collide with any processing station.

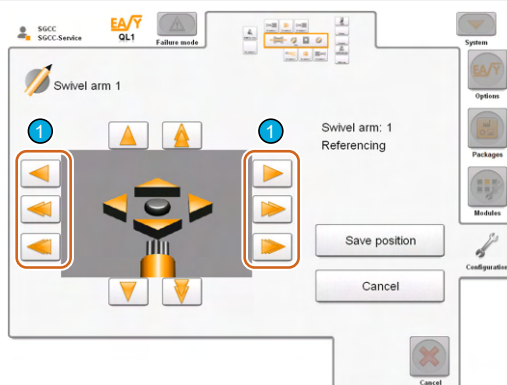
The centering pin should be in the middle of the referencing tool.

EASY Software

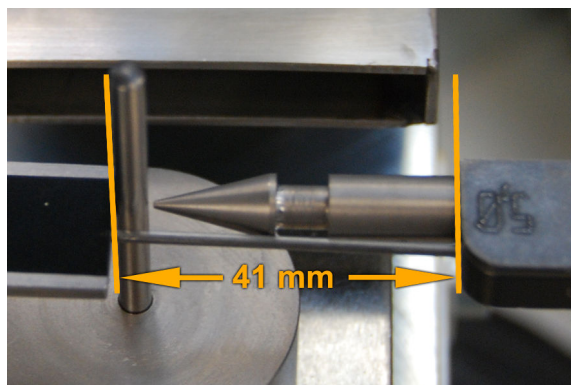
11. ▶ Confirm the message.



"Activate the machine, switch on compressed air and adjust stripping and swivel unit to the target in the following user menu."



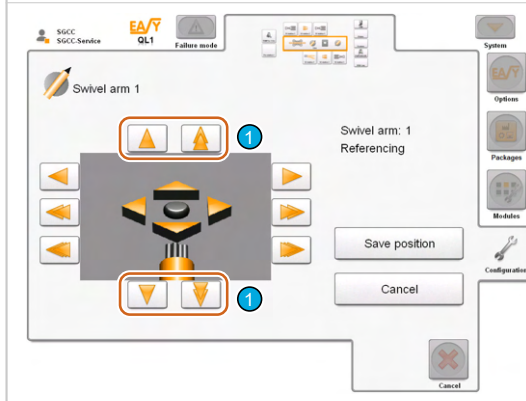
12. ▶ Move the centering pin with the arrow buttons (1) exactly to the middle of the setup gauge.



CrimpCenter

13. ▶ Measure the distance of the rear edge of the referencing tool and the front edge of the outlet guide with a caliper rule.

Set point is 41 mm



EASY Software

14. ▶ Enter the determined value with the arrow buttons (1) top / bottom.

15. ▶ Save position.

→ The referencing is completed.

Swivel - Side 2

Sometimes the machine switches off the control voltage automatically. This happens for safety reasons.

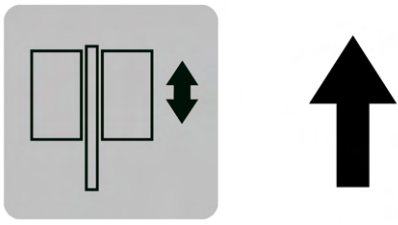
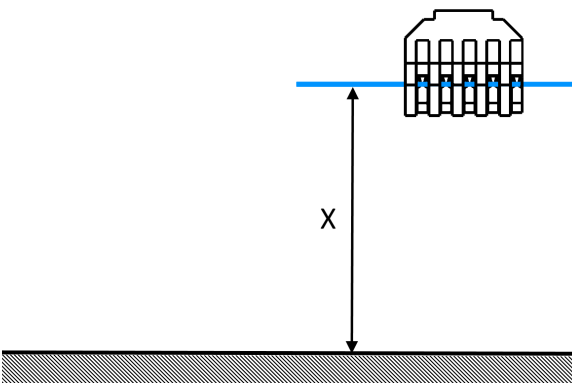
The following dialog will guide you through the referencing. Follow the instructions. They will be explained on the next pages:

Because the safety cover is open for referencing the confirm button has to be pushed for some actions when the machine executes movements.

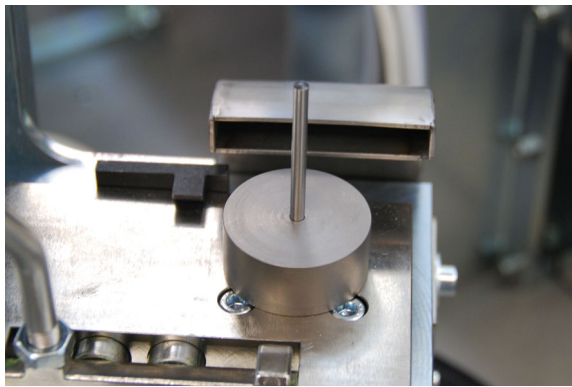
	<p>Tools / Aids</p> <ul style="list-style-type: none"> ■ Centering Pin (Article number 50000 586 799) ■ Setup gauge, UniCrimp 220 (Article number 50000 133 489)
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The bolt marked headings (e.g. **EASY-Software (4/18)**) show

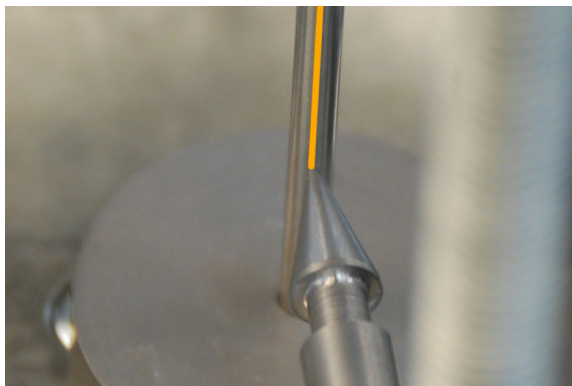
- where an information is shown
- and / or
- where an action has to be carried out.

<p>1.▶ The crimping station or twisting station must be loaded. See EASY-Software manual.</p>	
	<p>CrimpCenter</p> <p>1.▶ Open the safety cover.</p>
	<p>2.▶ Make sure that the middle of the wire at the gripper of the swivel is exactly 270 mm above the platform.</p>

	<p>3. > Switch on the control voltage.</p> <p>The referencing of the machine is controlled by the EASY software.</p>
  	<p>EASY Software</p> <p>4. > Push the pictured Machine menu buttons in sequence.</p>
<p>"Please remove the wire." CrimpCenter</p> <p>5. > Make sure that the wire is removed.</p>	
	<p>EASY Software</p> <p>"Switch off compressed air and insert setting pin (long) in the gripper manually."</p> <p>CrimpCenter</p> <p>6. > Switch off the air pressure supply on the main valve.</p>
	<p>7. > Set the centering pin as far as it goes in the gripper.</p>



8. ▶ Place the referencing tool in the hole of the applicator support of the crimping station.



EASY Software

"Move the stripping and swivel units in the safe position."

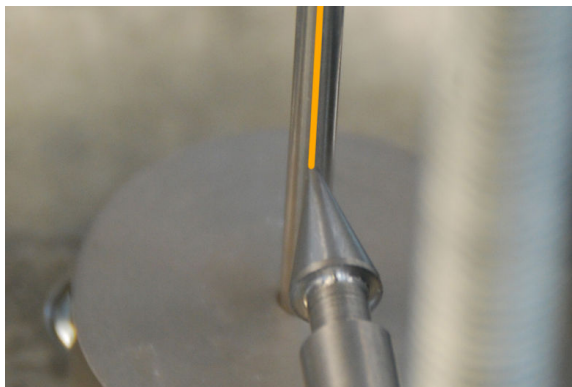
CrimpCenter

9. ▶ Move the swivel in front of the crimping station.
Be careful not to collide with any processing station.

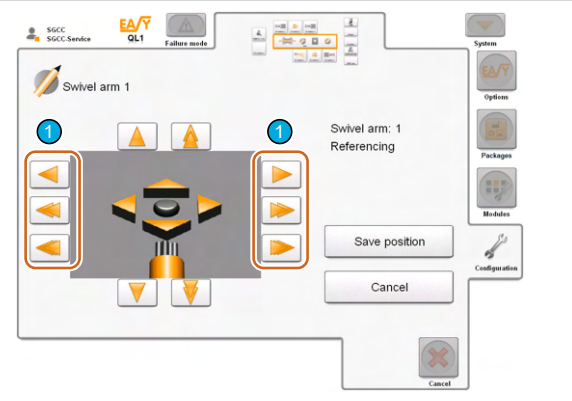
The centering pin should be in the middle of the referencing tool.

EASY Software

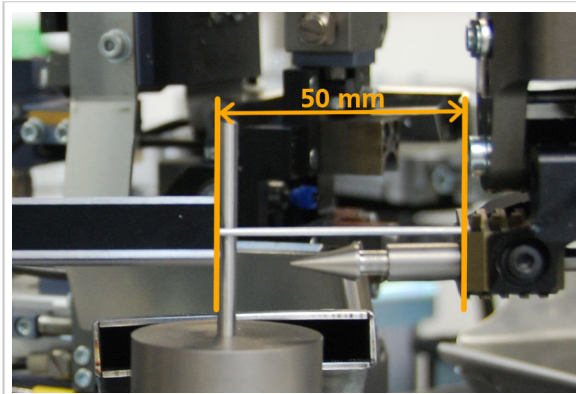
10. ▶ Confirm the message.



"Activate the machine, switch on compressed air and adjust stripping and swivel unit to the target in the following user menu."



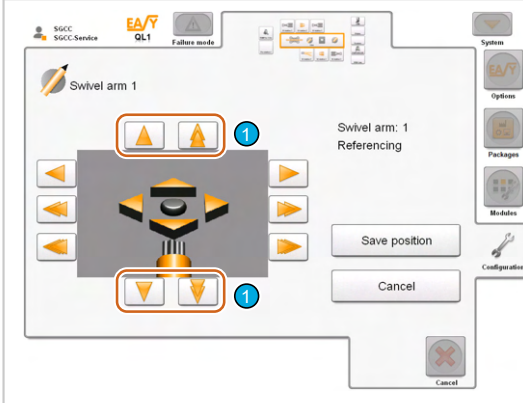
11. ▶ Move the centering pin with the arrow buttons (1) exactly to the middle of the setup gauge.



CrimpCenter

12. ▶ Measure the distance of the rear edge of the setup gauge and the front edge of the gripper with a caliper rule.

Specification approx. 50 mm



EASY Software

13. ▶ Enter the value with the arrow buttons (1) top / bottom.

14. ▶ Save position.

↳ The referencing is completed.

SERVICING / MAINTENANCE

9.1 INTRODUCTION

All exchangeable mechanical elements of the *CrimpCenter 36 S* are fixed by means of screws and bolts. The positions for the fixation of the spare parts are thus defined.

If you replace components such as buttons, sensors or limit switches, they must be fixed in a way to allow required function.

Check the replaced parts for functioning prior to restarting the *CrimpCenter 36 S* machine!

The "Maintenance table: Base machine", includes the following:

- Maintenance of component units
- Activities
- Material needed
- Reference to further information
- Maintenance interval

The maintenance sheets (base machine) comprise information on how to perform maintenance and repair. Keep the *CrimpCenter 36 S* in an operational and safe condition when executing these activities.

Observe the safety instructions given in the maintenance sheets. The maintenance sheets appear in the same order as listed in the maintenance table.

For maintenance of the processing stations and optional accessories see the documentation of the manufacturer and observe the safety instructions as described by the manufacturer.

We suggest a periodic maintenance by our service department.

9.2 SAFETY INSTRUCTIONS

9.2.1 General Safety Advice



DANGER

Risk of injury if not observed!

Disregard may lead to serious injury or death!

The following instructions are to be followed!

Observe the following points prior to and during maintenance work!

- Switch off the CrimpCenter!
- Set the main switch in position "0 OFF", and lock it in this position.
- Attach a sign to the main machine indicating the following:
"Do not switch on the machine".
Take appropriate measures to ensure, that no other person can restart the machine.
- Observe the advices in the chapter "Safety".
- After finishing maintenance and repair work restore the safe operation status.
Reinstall all safety devices.
The safe operation of the CrimpCenter is thereby ensured.
- Monitor the CrimpCenter when activating it after maintenance and repair.
In case of malfunction, immediately switch off the CrimpCenter machine with the emergency stop.
- Use suitable tools only!
Only proper functioning tools are to be used for maintenance and repair.
When improper, unsuitable or damaged tools are used, you may suffer serious injuries or damage to the machine.
- Always follow the maintenance and safety instructions of the manufacturer's documentation when doing maintenance or repair work on processing stations or options.



DANGER

Risk of injury when the confirmation button is pressed!

Pressing the confirm button when the safety cover is open deactivates some safety functions.

There are the following risks

- Crushing of fingers and hands by moving parts.
- Crushing of fingers and hands by the gripper.
- Pulling-in and catching of long open hair and / or loose clothing by the feeding belts.
- Hitting of the upper extremities by moving parts.
- Shearing-off fingers by the cutting unit and the blades.
- Parts of the machine can move unexpected.

The following instructions are to be followed!

- The person, which is actuating the confirm button, is responsible that no other person is in the danger zones!
- Only trained personnel are allowed to use the confirm button.



DANGER

Risk of injury when the safety cover is opened!

If the safety cover is open there are the following risks!

- Risk of burns to fingers and/or hands by activities, e.g. on motors, after they have been in operation for a longer time.
- Risk of burns to fingers and/or hands when a tinning station is installed.
- Risk of shearing of fingers and/or hands by the closing of the cutter blocks.

The following instructions are to be followed!

- Observe the warning signs!
- Wear protective equipment!

9.2.2 Personnel qualification



WARNING

Risk of injury if operated by unqualified personnel!

Duly executed repairs ensure that the original safety standard is restored.

The following instructions are to be followed!

- Only technical specialists trained according to "[2.1 Personnel qualification \(Page 15\)](#)" are allowed to may carry out maintenance and repair work on the machine!

This ensures that the product is repaired properly.

9.2.3 Personal protective equipment



DANGER

Risk of injury without personal protective equipment!

The following instructions are to be followed!

- During maintenance personal protective equipment has to be worn.

9.3 CUSTOMER SERVICE

9.3.1 Technical Support

In case of technical problems with the machine, we recommend our customer first to contact the local representative of Schleuniger, see schleuniger.com.

9.3.2 Trouble Shooting Procedure

If problems occur, which cannot be solved by the help of this manual, the Schleuniger distributor or the technical staff of Schleuniger is ready to assist you.

In such situations it is essential to provide a precise description of the matter:

- Exact type of machine
- Serial number of the machine
- Software version (incl. language packages, PLC-versions, Workflow versions)
- Exact description of error (Error no. shown on the screen, if available)
- Under what circumstances has the error shown up
- What peripheral devices were connected to the machine when the error occurred interconnected
- Wire type to be produced at the time the error occurred

9.4 MAINTENANCE TABLE: BASE MACHINE

Maintenance work must be accomplished according to the instructions and the time intervals listed. Generally proceed according to the following chart:

Maintenance intervals - Conversion

Most maintenance cycles are time based. To associate the processing time with the machine cycles, the following table has been developed.

Notice



No matter which of the two specifications is reached first, then the specified maintenance activity has to be performed!

Intervals - Time	Intervals - Cycle		Quantity
per shift	5 700	Shift / Day	3
Daily	17 100	Days / Week	6
Weekly	102 600	Weeks / Month	4

Intervals - Time	Intervals - Cycle		Quantity
Monthly	410 400	Weeks / Year	49
Yearly	5 000 000	Month / Year	12

Examples

1. Example

- The maintenance activity was defined to be performed **daily** (17 100 cycles).
- You only went through **15 000** cycles that day.

»The maintenance activity must be carried out the next day or for the next day as the specification has been reached **daily**.

2. Example

- The maintenance activity was defined to be performed **weekly** (102 600 cycles).
- They went through **102 600** cycles on Day 4 of the week.

»The maintenance activity must be carried out before you continue to produce, since the specification **102 600** cycles has been reached.

The duration and the interval of the maintenance of the maintenance sheets "[9.5.1 Main switch \(Page 181\)](#)" up to "[9.5.11 Power Sockets \(Page 206\)](#)" are summarized in the maintenance sheet "[9.5 Maintenance Sheet - Check Safety Devices \(Page 181\)](#)".

Maintenance task	Page	Duration	Interval
Check Security Elements	(181)	approx. 30 min.	Yearly
» Main Switch	(181)	-	-
» Emergency stop switch	(183)	-	-
» Confirm Button	(187)	-	-
» Safety Cover - Open/Close - Button	(189)	-	-
» Safety Cover - Safety Switch	(191)	-	-
» Safety Cover - Closing Force	(194)	-	-
» Safety Cover - Safety when Lowering	(196)	-	-
» Standstill Monitoring	(198)	-	-
» Pneumatic - Main Shut-Off Valve	(202)	-	-
» Conveyor belt	(204)	-	-
» Power Sockets	(206)	-	-
Check Machine	(208)	approx. 20 min.	Yearly
Surfaces - Cleaning and Care	(209)	approx. 30 min.	Weekly
Lubricate the guide rails	(215)	approx. 5 min.	Yearly
Clean Cutter Block	(217)	approx. 10 min.	Weekly
Blade change	(219)	approx. 20 min.	Individual
Wire Feeding Unit - Change Belts	(224)	approx. 5 min.	Individual
Pneumatic - Drain Condensate	(227)	approx 1 min.	Monthly
Pneumatics - Clean / Replace Filter	(229)	approx. 5 min.	Yearly
Check conveyor belt	(232)	approx. 5 min.	Weekly

9.5 MAINTENANCE SHEET - CHECK SAFETY DEVICES



Check Security Elements

Task	Check and log all security elements.
Unit	Entire machine
Duration	approx. 30 min.
Interval	Yearly
Personnel qualification	Qualified Personnel

1. ▶ The operating company has to make sure that the safety devices are checked yearly according to the following instruction.

- **The checks must be recorded.**
- **It is recommend taking the checks into the operator instruction.**

Should one of the tests be negative, you must follow the following points!



- Stop the machine immediately!
- Immediately contact the service of Schleuniger!

WARNING



Personnel Qualification and Personal Protective Equipment!

The following instructions are to be followed!

- The test and report may only be executed by technical specialists.

See also chapter “Personnel Qualification” and “Personal Protective Equipment”.

9.5.1 Main switch



» Main Switch

Task	Check main switch for damage, firm seat and function.
Duration	-
Interval	-
Personnel qualification	Qualified Personnel

1. ▶ The operating company has to make sure that the safety devices are checked yearly according to the following instruction.

- **The checks must be recorded.**
- **It is recommend taking the checks into the operator instruction.**

**Should one of the tests be negative, you must follow the following points!**

- Stop the machine immediately!
- Immediately contact the service of Schleuniger!

**WARNING**

Personnel Qualification and Personal Protective Equipment!

The following instructions are to be followed!

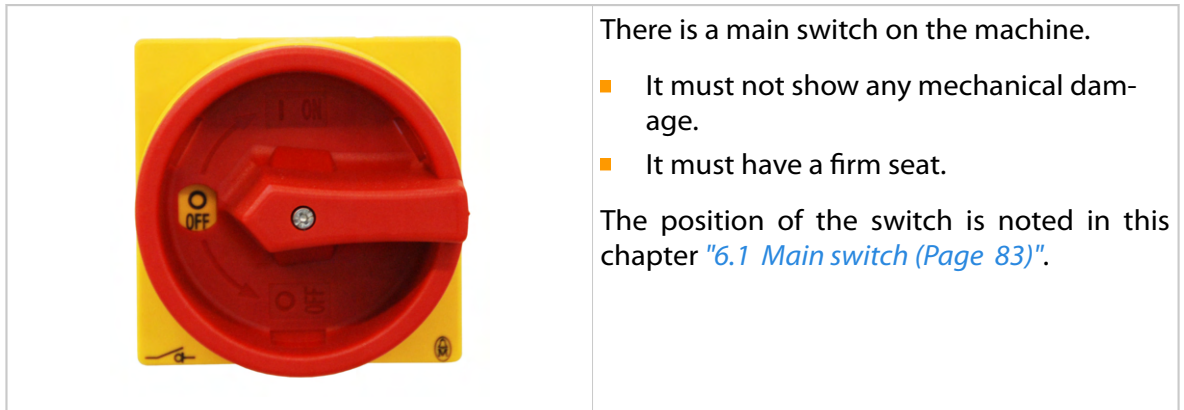
- The test and report may only be executed by technical specialists.

See also chapter "Personnel Qualification" and "Personal Protective Equipment".

Element	Status / Condition / Position
Main Switch	On
Emergency stop switch (All)	Not pressed
Control voltage	On
Safety Cover	Bottom
EASY Software	Started and logged in

**Caution**

The following test must be carried out one after the other for all existing switches and buttons!



EASY Software

1. ▶ Shut down the CrimpCenter with the EASY software.
2. ▶ If the EASY software has already been shut down, shut down the CrimpCenter.

CrimpCenter

3. ▶ When the message appears "You can now turn off the CrimpCenter". Switch off the CrimpCenter with the main switch.
4. ▶ Wait approximately 5 minutes until the interruptible power supply has shut down.
 - ↳ The touch screen is off.
 - ↳ All illuminated buttons are off now. (Confirm button, control voltage, ...)

9.5.2 Emergency Stop Switch



» Emergency stop switch

Task	Check emergency stop switch for damage, firm seat and function.
Duration	-
Interval	-
Personnel qualification	Qualified Personnel

1. ▶ The operating company has to make sure that the safety devices are checked yearly according to the following instruction.
 - ↳ **The checks must be recorded.**
 - ↳ **It is recommend taking the checks into the operator instruction.**



Should one of the tests be negative, you must follow the following points!

- Stop the machine immediately!
- Immediately contact the service of Schleuniger!



WARNING

Personnel Qualification and Personal Protective Equipment!

The following instructions are to be followed!

- The test and report may only be executed by technical specialists.

See also chapter "Personnel Qualification" and "Personal Protective Equipment".

Element	Status / Condition / Position
Main Switch	On
Emergency stop switch (All)	Not pressed
Control voltage	On
Safety Cover	Bottom
EASY Software	Started and logged in

Before the test is carried out, it must be changed into the following EASY menu.



Caution

The following test must be carried out one after the other for all existing switches and buttons!



Notice

The emergency stop button interrupts the power supply of the motors and switches them powerless. To do this, press the switch until it clicks into place. To disengage the button it has to be turned counterclockwise.



There are several emergency stop switches on the machine.

- They must not show any mechanical damage.
- They must have a firm seat.

The position of the switches is noted in this chapter "[6.2 Emergency Stop Switch \(Page 84\)](#)".

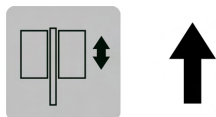
EASY Software



1.▶ Bring the CrimpCenter into the initial position with this button.

CrimpCenter

- 2.▶ Press one of the emergency buttons.
 - » The venting noise of the pneumatic valve must be audible.
- 3.▶ Move the gripper jaws of the swivel.
 - » The gripper jaws must now be easy to move by hand.



4.▶ Move the safety cover into top position.



Should one of the tests be negative, you must follow the following points!

- Stop the machine immediately!
- Contact the Schleuniger *Schleuniger* immediately!



5.▶ Try to close the safety cover.
 » This is not possible.

- 6.▶ Move the swivel and, if available, the pull-off units.
 - » All motors are powerless and can be moved easily.
- 7.▶ Try to turn the conveyor belt.

» This is not possible.

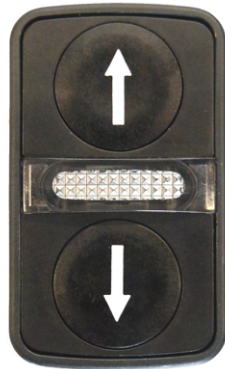


Fig. 44: UniCrimp 22x - Button

8. ▶ Try to move the carriages of the Uni-Crimp with the buttons of the manual operation.
 » This is not possible.

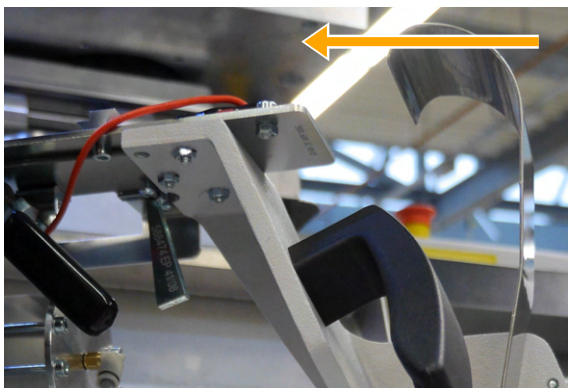


Fig. 45: ToolingShuttle - Deflecting Plate

9. ▶ Press the deflection plate of the Tooling-Shuttle towards the applicator.
 » The motor of the paper winder must not rotate.



Fig. 46: Emergency stop switch - inactive | active

Status / Condition / Position

Picture - left

- The emergency stop switch is not engaged
- Inactive

Picture - right

- The emergency stop switch is engaged
- Active

10. ▶ Release the emergency stop button.
 » The machine must not start automatically.
11. ▶ Repeat the test with all emergency stop buttons.

9.5.3 Confirm Buttons



» Confirm Button

Task	Check confirm button for damage, firm seat and function.
Duration	-
Interval	-
Personnel qualification	Qualified Personnel

1. ▶ The operating company has to make sure that the safety devices are checked yearly according to the following instruction.

- **The checks must be recorded.**
- **It is recommend taking the checks into the operator instruction.**

Should one of the tests be negative, you must follow the following points!



- Stop the machine immediately!
- Immediately contact the service of Schleuniger!

WARNING



Personnel Qualification and Personal Protective Equipment!

The following instructions are to be followed!

- The test and report may only be executed by technical specialists.

See also chapter “Personnel Qualification” and “Personal Protective Equipment”.

Element	Status / Condition / Position
Main Switch	On
Emergency stop switch (All)	Not pressed
Control voltage	On
Safety Cover	This side up
EASY Software	Started and logged in


Before the test is carried out, it must be changed into the following EASY menu.

Press the following button:					
-----------------------------	---	--	---	--	--




Caution

The following test must be carried out one after the other for all existing switches and buttons!

	<p>There are several confirm buttons on the machine.</p> <ul style="list-style-type: none"> ■ They must not show any mechanical damage. ■ They must have a firm seat. <p>The position of the buttons is noted in this chapter "6.4 Confirm Buttons (Page 88)".</p>
---	--

EASY Software

	<p>1.▶ Check if the button in EASY is grayed out.</p>
---	---




CrimpCenter

2.▶ Check whether all confirm buttons are lit constantly.

Notice



In the following test different states of the button are checked. These states are represented by graphics in the upper right corner of the EASY software. These graphics and their associated actions are shown in the following steps.

	<p>Press the button for up to 5 seconds.</p> <p>3.▶ Press and hold the confirm button. » The graphic shown on the left appears.</p>
	<p>Press the button for more than 5 seconds.</p> <p>4.▶ Press the confirm button and keep it pressed for more than 5 seconds. » The graphic shown on the left appears. » The confirm buttons flash.</p>
	<p>Press the button for more than 7 seconds.</p> <p>5.▶ Press the confirm button and keep it pressed for more than 7 seconds. » The graphic shown on the left appears. » The confirm buttons do not light up.</p>

6.▶ Repeat the test with all other confirm buttons.

9.5.4 Safety Cover - Open / Close - Button



» Safety Cover - Open/Close - Button

Task	Check the safety cover - open / close - button for damage, firm seat and function.
Duration	-
Interval	-
Personnel qualification	Qualified Personnel

1. ▶ The operating company has to make sure that the safety devices are checked yearly according to the following instruction.

- ↳ **The checks must be recorded.**
- ↳ **It is recommend taking the checks into the operator instruction.**

Should one of the tests be negative, you must follow the following points!



- Stop the machine immediately!
- Immediately contact the service of Schleuniger!

WARNING



Personnel Qualification and Personal Protective Equipment!

The following instructions are to be followed!

- The test and report may only be executed by technical specialists.

See also chapter "Personnel Qualification" and "Personal Protective Equipment".

Element	Status / Condition / Position
Main Switch	On
Emergency stop switch (All)	Not pressed
Control voltage	On
Safety Cover	Bottom
EASY Software	Started and logged in



Caution

The following test must be carried out one after the other for all existing switches and buttons!



Notice

The following instructions refer to the factory default settings.

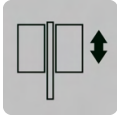
	<p>There are several push buttons on the machine for opening and closing the safety cover.</p> <ul style="list-style-type: none"> ■ They must not show any mechanical damage. ■ They must have a firm seat. <p>The position of the buttons is noted in this chapter "6.3 Safety Cover (Page 85)".</p>
---	---

Fig. 47: Sticker at CrimpCenter

CrimpCenter



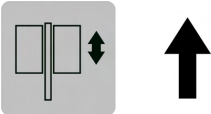
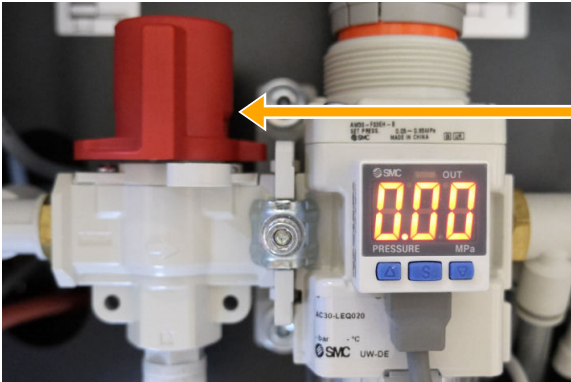

	<p>1.▶ Press the pushbutton once for opening the safety cover. The safety cover opens halfway.</p>
	<p>2.▶ Switch on the control voltage. 3.▶ Close the safety cover.</p>
	<p>4.▶ Press the pushbutton for opening the safety cover twice. » The safety cover opens completely.</p>
	<p>5.▶ Close the pneumatic main valve. » The manometer shows no pressure. 6.▶ Switch on the control voltage.</p> <p>The position of the valve is noted in this chapter "4.3.3 Position of the supply (Page 36)".</p>
	<p>7.▶ Press the pushbutton for closing the safety cover. » The safety cover must not move.</p>
<p>8.▶ Repeat the test with all other pushbuttons for opening and closing the safety hood.</p>	

Fig. 48: Pneumatic Main Valve - Closed

9.5.5 Safety Cover - Safety Switch



» Safety Cover - Safety Switch

Task	Check the safety cover - safety switch for damage, firm seat and function.
Duration	-
Interval	-
Personnel qualification	Qualified Personnel

1. ▶ The operating company has to make sure that the safety devices are checked yearly according to the following instruction.

- ↳ **The checks must be recorded.**
- ↳ **It is recommend taking the checks into the operator instruction.**

Should one of the tests be negative, you must follow the following points!



- Stop the machine immediately!
- Immediately contact the service of Schleuniger!

WARNING



Personnel Qualification and Personal Protective Equipment!

The following instructions are to be followed!

- The test and report may only be executed by technical specialists.

See also chapter "Personnel Qualification" and "Personal Protective Equipment".

Element	Status / Condition / Position
Main Switch	On
Emergency stop switch (All)	Not pressed
Control voltage	On
Safety Cover	Bottom
EASY Software	Started and logged in
Persons	2

Before the test is carried out, it must be changed into the following EASY menu.

Press the following button:					
-----------------------------	---	--	---	--	--



Caution

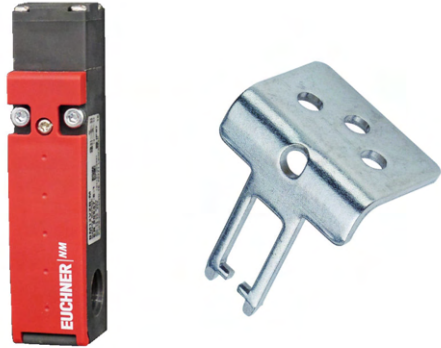
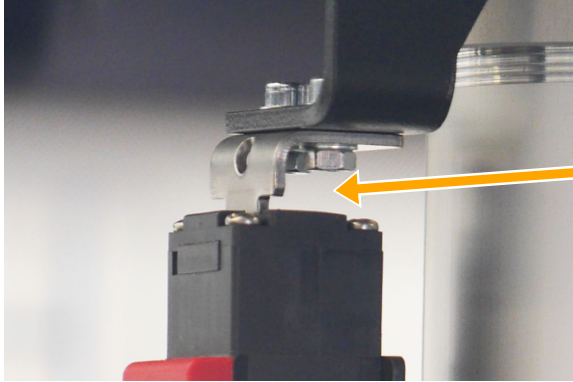
The following test must be carried out one after the other for all existing switches and buttons!




Notice

The safety switch monitors whether the safety cover is open or closed.

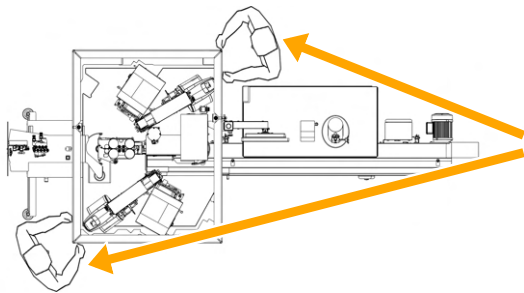

When the safety cover is open the machine works only in manual operation. This means that, for example, in sample mode, the confirm button must be pressed in order to execute actions of the machine.

	<p>There is a safety switch with latch on the machine.</p> <ul style="list-style-type: none"> ■ It must not show any mechanical damage. ■ It must have a firm seat. <p>The position of the switch is noted in this chapter "6.3 Safety Cover (Page 85)".</p>
 <p>Fig. 49: Safety switch - closed</p>	<ul style="list-style-type: none"> ■ When the safety cover is closed the catch has to snap into the switch. ■ The catch or its fixing screws must not rest on the switch. <p>The picture shows that there is space between the catch and the switch.</p>

EASY Software

	<p>1. ▶ Start production.</p>
---	-------------------------------

CrimpCenter

 <p>Fig. 50: Safety Cover - Two Helper</p>	<p>2. ▶ Lift the safety cover during production with two persons carefully and simultaneously up. After approx. 2 cm stroke, the following must happen.</p> <ul style="list-style-type: none"> » The machine stops. » An error message appears in EASY.
	<p>3. ▶ Close the safety cover.</p> <ul style="list-style-type: none"> » The machines must not start again automatically after lowering the safety cover.

9.5.6 Safety Cover - Closing Force



» Safety Cover - Closing Force

Task	Check the closing force of the safety cover.
Duration	-
Interval	-
Personnel qualification	Qualified Personnel
Parts	<ul style="list-style-type: none"> ■ Spring balance (measuring range 150N +- 50N)

1.▶ The operating company has to make sure that the safety devices are checked yearly according to the following instruction.

→ **The checks must be recorded.**

→ **It is recommend taking the checks into the operator instruction.**

Should one of the tests be negative, you must follow the following points!



- Stop the machine immediately!
- Immediately contact the service of Schleuniger!

WARNING



Personnel Qualification and Personal Protective Equipment!

The following instructions are to be followed!

- The test and report may only be executed by technical specialists.

See also chapter "Personnel Qualification" and "Personal Protective Equipment".



Element	Status / Condition / Position
Main Switch	On
Emergency stop switch (All)	Not pressed
Control voltage	On
Safety Cover	This side up
EASY Software	Started and logged in



Notice

For attaching the spring balance, the lower corner of the safety cover (between the two folded edges) is suitable.

CrimpCenter

	<p>1. ▶ Hang up a spring balance on the safety cover.</p>
<p>Fig. 51: Safety Cover - from below</p> 	<p>2. ▶ Close the safety cover. 3. ▶ When the safety cover has moved down half the way, hold fast the upper end of the spring balance. » The safety cover must not move up or down.</p>

4. ▶ Now read the measured value on the spring balance.
» For 6 - 7 seconds the value must not be more than 150 N.

9.5.7 Safety Cover - Safety when Lowering



» Safety Cover - Safety when Lowering

Task	Check the safety when lowering the safety cover.
Duration	-
Interval	-
Personnel qualification	Qualified Personnel

1. ▶ The operating company has to make sure that the safety devices are checked yearly according to the following instruction.
 - ↳ **The checks must be recorded.**
 - ↳ **It is recommend taking the checks into the operator instruction.**

Should one of the tests be negative, you must follow the following points!



- Stop the machine immediately!
- Immediately contact the service of Schleuniger!

WARNING



Personnel Qualification and Personal Protective Equipment!

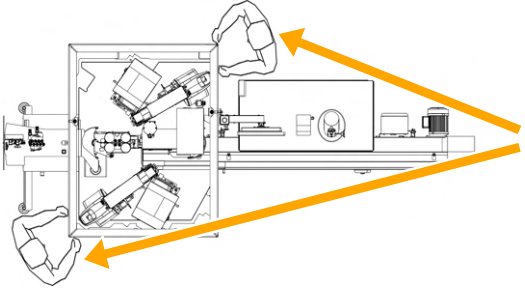
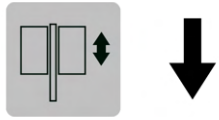
The following instructions are to be followed!

- The test and report may only be executed by technical specialists.

See also chapter "Personnel Qualification" and "Personal Protective Equipment".

Element	Status / Condition / Position
Main Switch	On
Emergency stop switch (All)	Not pressed
Control voltage	On
Safety Cover	This side up
EASY Software	Started and logged in
Persons	2

CrimpCenter

 <p>Fig. 52: Safety Cover - Two Helper</p>	<p>1. ▶ Place a helper on each side of the safety cover</p>
	<p>2. ▶ Close the safety cover.</p> <p>3. ▶ With the help of the helpers at the same time, hold up the safety cover about halfway.</p> <p>» After approx. 7 seconds, the safety cover must reopen automatically</p>

9.5.8 Motors



» Standstill Monitoring

Task	Check the standstill monitoring of the motors.
Duration	-
Interval	-
Personnel qualification	Qualified Personnel

1. ▶ The operating company has to make sure that the safety devices are checked yearly according to the following instruction.

→ **The checks must be recorded.**

→ **It is recommend taking the checks into the operator instruction.**

Should one of the tests be negative, you must follow the following points!



- Stop the machine immediately!
- Immediately contact the service of Schleuniger!

WARNING



Personnel Qualification and Personal Protective Equipment!

The following instructions are to be followed!

- The test and report may only be executed by technical specialists.

See also chapter "Personnel Qualification" and "Personal Protective Equipment".



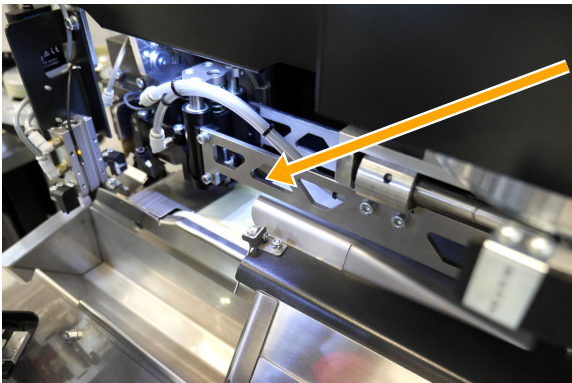
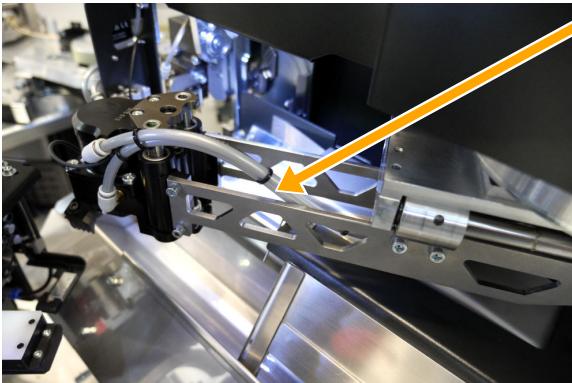



Element	Status / Condition / Position
Main Switch	On
Emergency stop switch (All)	Not pressed
Control voltage	On
Safety Cover	This side up
EASY Software	Started and logged in

Before the test is carried out, it must be changed into the following EASY menu.

Press the following button:					
-----------------------------	--	--	--	--	--

Notice

The standstill monitoring ensures that the servo motors of the CrimpCenter will be switched powerless, when one of the axes has left its position without movement command.

	<p>EASY Software</p> <p>1. > Bring the CrimpCenter into the initial position with this button.</p>
	<p>Notice</p> <p>To do this, one of the confirm buttons must be kept pressed until the CrimpCenter has finished its movements.</p>
 <p>Fig. 53: CrimpCenter 36 SP - Swivel Side 2</p>	<p>CrimpCenter</p> <p>2. > Carefully try to move the swivel arm side 2. → A resistance must be noticeable.</p>
 <p>Fig. 54: CrimpCenter 36 SP - Swivel Side 2</p>	<p>3. > Afterwards move the swivel arm with force out of the current position. → As soon as the resistance has been overpowered an motor error message in the EASY software appears. → Now the swivel arm can be moved easily.</p>
	<p>EASY Software</p> <p>4. > Confirm the error message.</p>
	<p>5. > Switch to the "Sample" menu.</p>
	<p>6. > Bring the CrimpCenter into the initial position with this button.</p>



Notice

To do this, one of the confirm buttons must be kept pressed until the CrimpCenter has finished its movements.

CrimpCenter

7. ▶ Open the control cabinet.

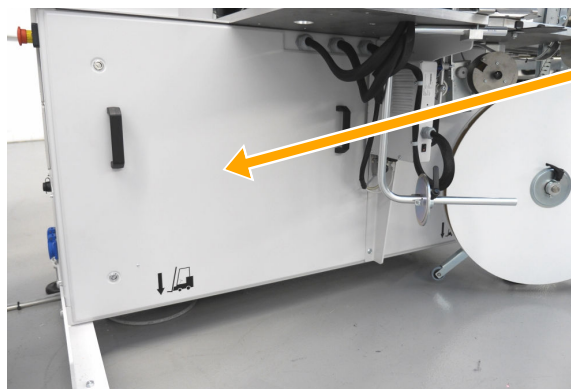
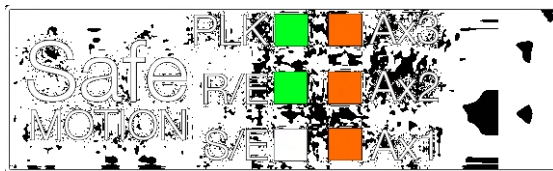


Fig. 55: CrimpCenter 36 SP - Control Cabinet



The following LED's on the one ACOPOS controller light up orange:

- Ax1, Ax2 and Ax3

On the other light up orange:

- Ax1 and Ax2.

Carefully perform the following steps!

- 8. ▶ Move the swivel S1.
- 9. ▶ Move the belt of the wire feed.

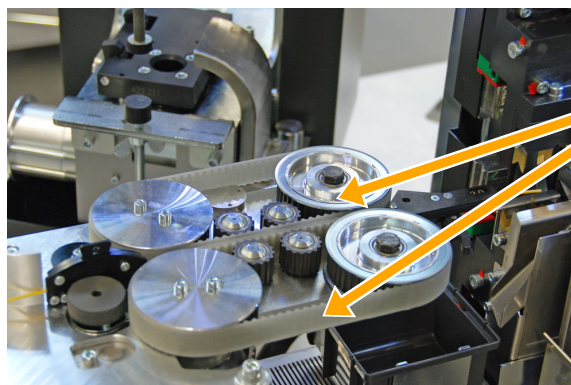


Fig. 56: CrimpCenter 36 SP - Swivel Side 1

- 10. ▶ Move the swivel S2.
- 11. ▶ Move the stripping unit S2.

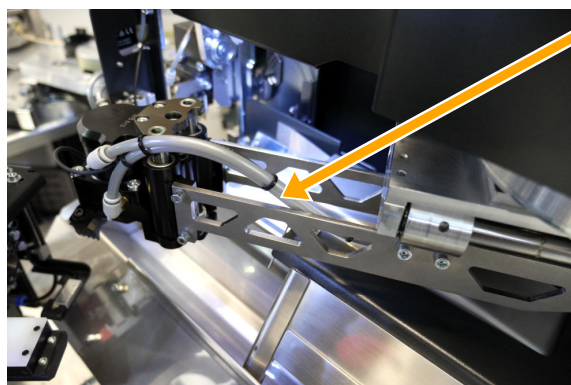


Fig. 57: CrimpCenter 36 SP - Swivel Side 2

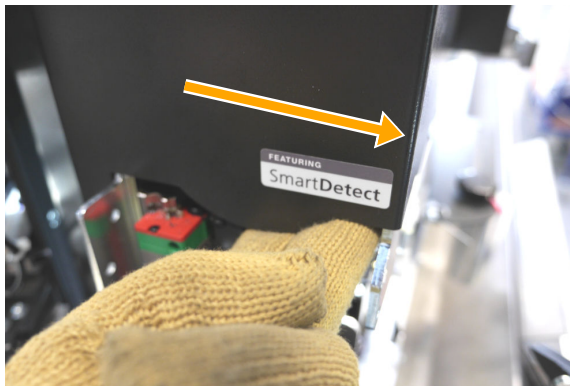
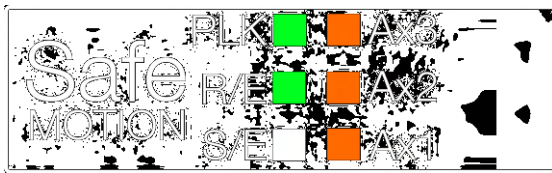


Fig. 58: CrimpCenter 36 SP - Cutting and stripping unit

12. ▶ Move the blade motor belt.



13. ▶ After the previous steps have been done:

- All LEDs Ax1, Ax2 and Ax3 now flash green.
- An engine error message appears in the EASY software.

9.5.9 Pneumatic



» Pneumatic - Main Shut-Off Valve

Task	Check the main shut-off valve of the pneumatics.
Duration	-
Interval	-
Personnel qualification	Qualified Personnel

1. ▶ The operating company has to make sure that the safety devices are checked yearly according to the following instruction.

→ **The checks must be recorded.**

→ **It is recommend taking the checks into the operator instruction.**

Should one of the tests be negative, you must follow the following points!



- Stop the machine immediately!
- Immediately contact the service of Schleuniger!

WARNING

Personnel Qualification and Personal Protective Equipment!

The following instructions are to be followed!

- The test and report may only be executed by technical specialists.

See also chapter "Personnel Qualification" and "Personal Protective Equipment".



Element	Status / Condition / Position
Main Switch	On
Emergency stop switch (All)	Not pressed
Control voltage	On
Safety Cover	Bottom
EASY Software	Started and logged in

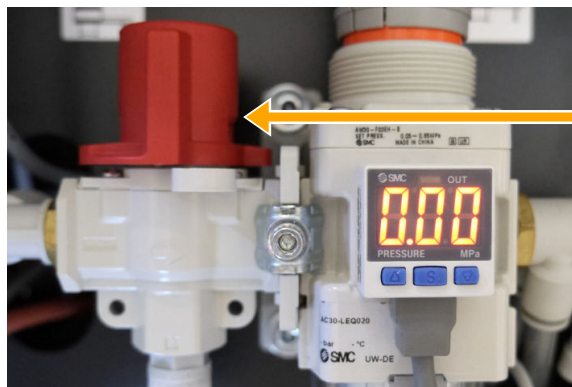


Fig. 59: Pneumatic Main Valve - Closed

1. ▶ Close the pneumatic main valve.
» The manometer shows no pressure.

The position of the valve is noted in this chapter ["4.3.3 Position of the supply \(Page 36\)"](#).

9.5.10 Conveyor Belt



» Conveyor belt

Task	Check conveyor belt end.
Duration	-
Interval	-
Personnel qualification	Qualified Personnel

1. ▶ The operating company has to make sure that the safety devices are checked yearly according to the following instruction.

→ **The checks must be recorded.**

→ **It is recommend taking the checks into the operator instruction.**

Should one of the tests be negative, you must follow the following points!



- Stop the machine immediately!
- Immediately contact the service of Schleuniger!

WARNING

Personnel Qualification and Personal Protective Equipment!

The following instructions are to be followed!

- The test and report may only be executed by technical specialists.

See also chapter "Personnel Qualification" and "Personal Protective Equipment".



Element	Status / Condition / Position
Main Switch	Off
Emergency stop switch (All)	Not pressed
Control voltage	Off
Safety Cover	Bottom

Conveyor belt

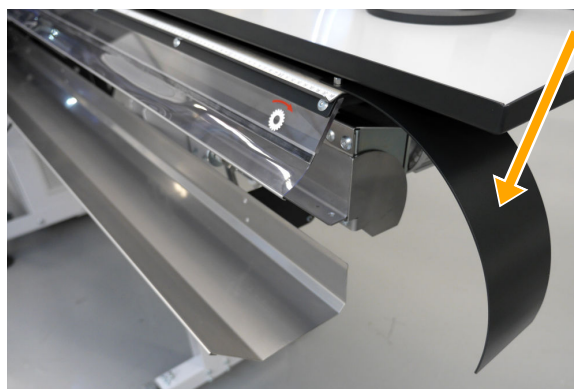


Fig. 60: CrimpCenter 36 SP - Deflector



Fig. 61: CrimpCenter 36 S - Collection Container

1. ▶ Make sure there is a functioning and intact deflector or collector at the end of the conveyor belt.

9.5.11 Power Sockets



» Power Sockets

Task	Check power socket for damage, firm seat and function.
Duration	-
Interval	-
Personnel qualification	Qualified Personnel

1. ▶ The operating company has to make sure that the safety devices are checked yearly according to the following instruction.

→ **The checks must be recorded.**

→ **It is recommend taking the checks into the operator instruction.**

Should one of the tests be negative, you must follow the following points!



- Stop the machine immediately!
- Immediately contact the service of Schleuniger!

WARNING

Personnel Qualification and Personal Protective Equipment!

The following instructions are to be followed!

- The test and report may only be executed by technical specialists.

See also chapter "Personnel Qualification" and "Personal Protective Equipment".



Element	Status / Condition / Position
Main Switch	On
Emergency stop switch (All)	Not pressed
Control voltage	On
Safety Cover	Bottom



The following test must be carried out separately for all existing power sockets! The following test must be carried out one after the other for all existing power sockets!

CrimpCenter



Fig. 62: Power socket

There are (several) power sockets on the machine.

- They must not show any mechanical damage.
- They must have a firm seat.

The position of the power sockets is noted in this chapter "[7.3.1 Connections / interfaces \(Page 104\)](#)".

1. ▶ Check all existing power sockets according to DGUV-V3.

9.6 MAINTENANCE SHEET - CHECK MACHINE



Check Machine

Task	Check and log the entire machine.
Unit	Entire machine
Duration	approx. 20 min.
Interval	Yearly
Personnel qualification	Qualified Personnel

1. ▶ The operating company has to make sure that the safety devices are checked yearly according to the following instruction.

– **The checks must be recorded.**

– **It is recommend taking the checks into the operator instruction.**

Should one of the tests be negative, you must follow the following points!



- Stop the machine immediately!
- Immediately contact the service of Schleuniger!

WARNING

Personnel Qualification and Personal Protective Equipment!

The following instructions are to be followed!

- The test and report may only be executed by technical specialists.

See also chapter "Personnel Qualification" and "Personal Protective Equipment".



Element	Status / Condition / Position
Main Switch	On
Emergency stop switch (All)	Not pressed
Control voltage	On
Safety Cover	This side up
EASY Software	Started and logged in

9.7 MAINTENANCE SHEET - SURFACE CLEANING AND PREVENTION



Surfaces - Cleaning and Care

Task	Clean and maintain surfaces.
Unit	Entire machine
Duration	approx. 30 min.
Interval	Weekly
Personnel qualification	Qualified Personnel



WARNING

Personnel Qualification and Personal Protective Equipment!

The following instructions are to be followed!

- Maintenance work may only be executed by technical specialist.

See also chapter "Personnel Qualification" and "Personal Protective Equipment".



DANGER

Risk of injury if not observed!

You may suffer serious injuries, if the machine is switched on accidentally!

The following instructions are to be followed!

Prior to operating the following points have to be observed:

- Put the main switch in position "OFF"!
- Protect the machine against reactivation.
- Take appropriate measures to ensure, that only you can reactivate the machine.
- Affix a warning sign: "Do not switch on the Machine!"



NOTICE

Property damage due to hand sweat!

Hand sweat is very aggressive.

The following instructions are to be followed!

- Please be sure that any surface that is frequently touched or leaned on is cleaned frequently!



NOTICE

Damage to property if not observed!

Observe the following points when cleaning the machine.

Disregard may lead to damage to property.

The following instructions are to be followed!

- Remove impurities, deposits and lubricant residues from the interior of the machine using appropriate cleaning agents. Never use strong agents.
- Clean the plastic surfaces of the safety cover only with solvent-free no-fuzzing cloths. Do not use cleaning powder.
- Remove carrier strip splits, wire or insulation leftovers with a vacuum cleaner and do not blow them off with compressed air.
- Do not use any sharp-edged objects when cleaning the machine.
- The surface of the platform is not sealed against liquids! Do not use loose liquids but only with a cloth for cleaning!
- Do not use high pressure cleaner, which can damage the Crimp-Center.

Element	Status / Condition / Position
Main Switch	Off
Emergency stop switch (All)	Not pressed
Control voltage	Off
Safety Cover	This side up

Schleuniger recommends observing the following cleaning and care instruction to guarantee continued high processing quality.

- The cleaning interval depends on the type of material produced and the frequency of operation.
- The area of the blades, the wire guides and the conveyor belts should be free of waste material in order to ensure precise processing results.
- Dirt and talcum residues may affect the functioning of the machine. The machine has to be checked and if necessary be cleaned.



Notice

The following pictures are examples of the materials, surfaces and products to be cleaned.

Touchscreen



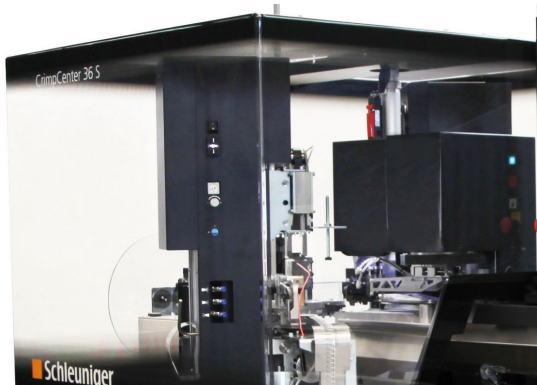
Material

- Microfiber cloth
- clean water

Task

- 1.▶ Lightly moisten the microfiber cloth.
- 2.▶ It is recommend to observe the cleaning and care instructions of the monitor manufacturer!

PET surfaces



Material

- Microfiber clothes (minimum metal parts)
- Glass cleaner

Task

- 1.▶ Wet a cloth with detergent and clean the surface.
- 2.▶ Dry the surface with a dry cloth.

Plastic / Rubber / Eladur

Task

- 1.▶ **No cleaning!**

Tinning Station / Surrounding Parts

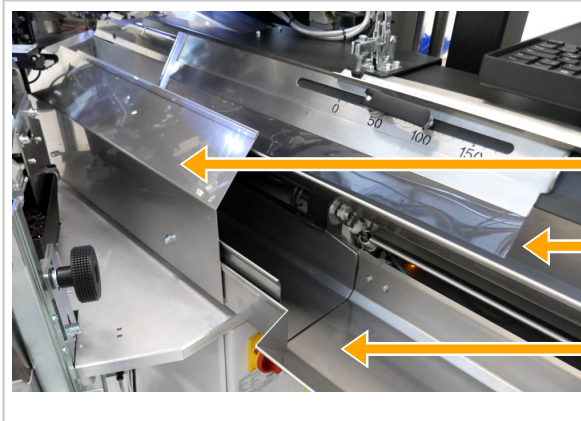
Material

- Lint-free cloth
- WD40 spray oil

Task

- 1.▶ Clean the outside of the flux tank, the tinning station and surrounding parts in conformity with the Flux manufacturer's instructions.
- 2.▶ Clean the metal surfaces with an oil saturated cloth.
- 3.▶ Clean other surfaces with an oil saturated cloth.

Steel Surfaces - Stainless Steel (V2A)



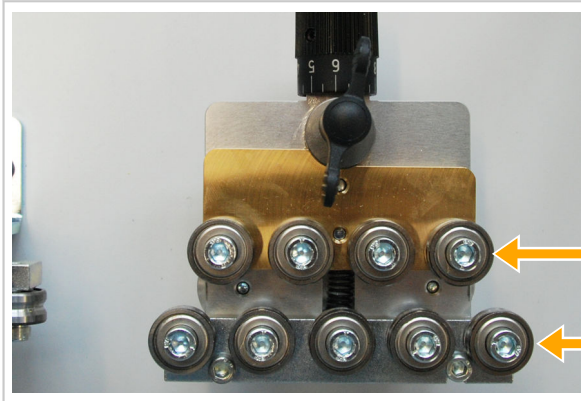
Material

- Lint-free cloth
- Stainless steel cleaner
- WD40 spray oil

Task

- 1.▸ Clean the surface with the stainless steel cleaner.
- 2.▸ Afterwards rub the surface with an oiled cloth.

Steel Surfaces - Crude Steel (not gliding)



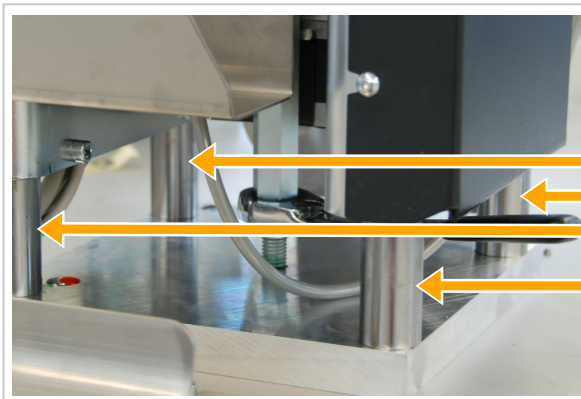
Material

- Lint-free cloth
- WD40 spray oil

Task

- 1.▸ Rub the surface with an oiled cloth.

Steel Surfaces - Crude Steel (guide rails)



Material

- Suitable lubricant (e.g. Castrol LMX grease)

Task

- 1.▸ Check the linear guides for impurities and deposits.
- 2.▸ Clean the guide rails with a cloth and slightly oil them with the lubricant if necessary.
- 3.▸ Make sure that no lubricant is applied to other areas, such as belts or electric parts.
- 4.▸ Remove excessive or dripping lubricant with an absorbent cloth.

Steel Surfaces - Nitrified Steel

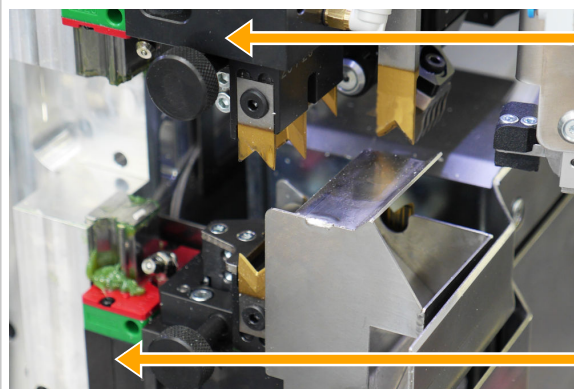


Fig. 63: CrimpCenter 64 SP - Cutting Unit

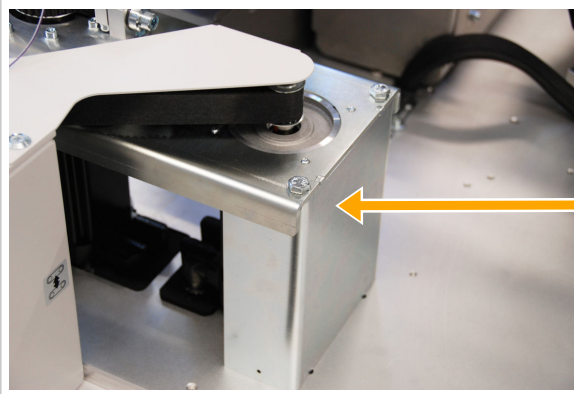
Material

- Lint-free cloth
- WD40 spray oil

Task

1. ▶ Rub the surface with an oiled cloth.

Zinc Coated Surfaces



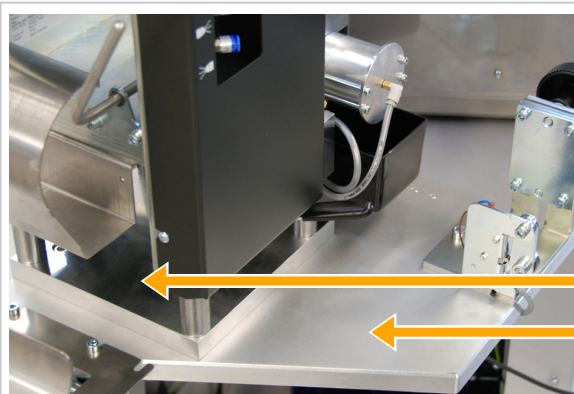
Material

- Lint-free cloth
- Glass cleaner
- WD40 spray oil

Task

1. ▶ Wet cloth with a glass cleaner and clean surface.
2. ▶ Rub the surface with an oiled cloth.

Aluminum



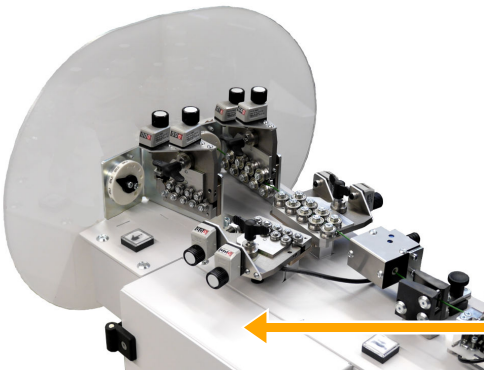
Material

- Lint-free cloth
- Glass cleaner
- WD40 spray oil

Task

1. ▶ Wet cloth with a glass cleaner and clean surface.
2. ▶ Rub the surface with an oiled cloth.

Powdered / Painted Surfaces

	<p>Material</p> <ul style="list-style-type: none">■ Lint-free cloth■ Glass cleaner■ WD40 spray oil■ Paint stick <p>Task</p> <p>1. ▶ Wet cloth with a glass cleaner and clean surface.</p>
<p>2. ▶ Remove damages of the surface like scratches with the paint stick if necessary.</p> <p>3. ▶ Wait until the paint is dry.</p> <p>4. ▶ Rub the surface with an oiled cloth.</p>	

9.8 MAINTENANCE SHEET - LUBRICATE GUIDE RAIL(S)



Lubricate the guide rails

Task	Lubricate the guide rails
Unit	Cutting and stripping unit - guide rails
Duration	approx. 5 min.
Interval	Yearly
Personnel qualification	Qualified Personnel
Parts	<ul style="list-style-type: none"> ■ Suitable lubricant (e.g. Castrol LMX grease)

WARNING



Personnel Qualification and Personal Protective Equipment!

The following instructions are to be followed!

- Maintenance work may only be executed by technical specialist.

See also chapter "Personnel Qualification" and "Personal Protective Equipment".

DANGER



Risk of injury if not observed!

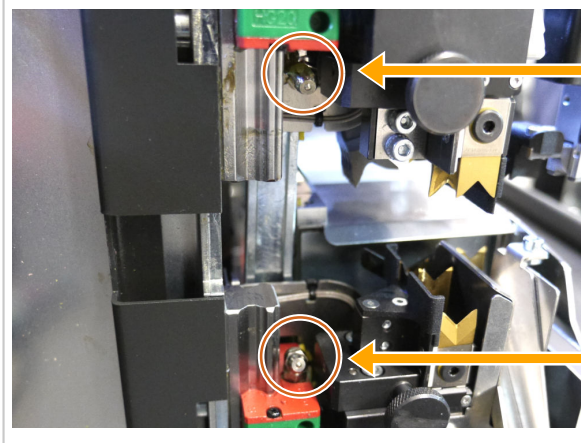
You may suffer serious injuries, if the machine is switched on accidentally!

The following instructions are to be followed!

Prior to operating the following points have to be observed:

- Put the main switch in position "OFF"!
- Protect the machine against reactivation.
- Take appropriate measures to ensure, that only you can reactivate the machine.
- Affix a warning sign: "Do not switch on the Machine!"

Element	Status / Condition / Position
Main Switch	Off
Emergency stop switch (All)	Not pressed
Control voltage	Off
Safety Cover	This side up



1. ▶ Use the grease gun at the highlighted grease fittings.

9.9 MAINTENANCE SHEET - CLEANING THE CUTTER BLOCKS



Clean Cutter Block

Task	Check and clean cutter blocks and surrounding components for contamination and wire and insulation residues.
Unit	Cutting and stripping unit
Duration	approx. 10 min.
Interval	Weekly
Personnel qualification	Qualified Personnel
Parts	<ul style="list-style-type: none"> ■ Brush ■ soft brush



WARNING

Personnel Qualification and Personal Protective Equipment!

The following instructions are to be followed!

- Maintenance work may only be executed by technical specialist.

See also chapter "Personnel Qualification" and "Personal Protective Equipment".



DANGER

Risk of injury if not observed!

You may suffer serious injuries, if the machine is switched on accidentally!

The following instructions are to be followed!

Prior to operating the following points have to be observed:

- Put the main switch in position "OFF"!
- Protect the machine against reactivation.
- Take appropriate measures to ensure, that only you can reactivate the machine.
- Affix a warning sign: "Do not switch on the Machine!"



NOTICE

Damage to property if not observed!

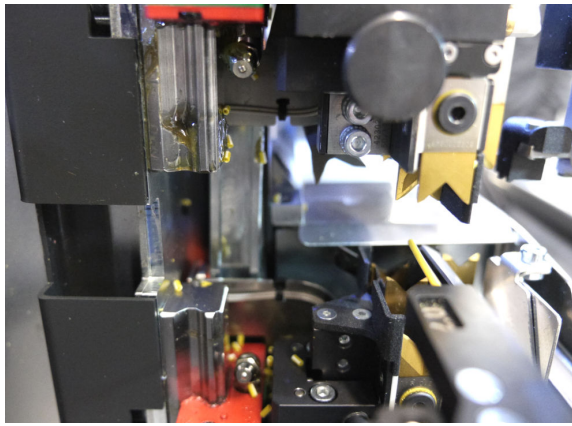
Observe the following points when cleaning the machine.

Disregard may lead to damage to property.

The following instructions are to be followed!

- Remove carrier strip splits, wire or insulation leftovers with a vacuum cleaner and do not blow them off with compressed air.
- Do not use any sharp-edged objects when cleaning the machine.

Element	Status / Condition / Position
Main Switch	Off
Emergency stop switch (All)	Not pressed
Control voltage	Off
Safety Cover	This side up



1. ▶ Check the cutter blocks and the surrounding parts for impurities and wire and insulation leavings.
2. ▶ Remove them with a soft brush or vacuum them.

9.10 MAINTENANCE SHEET - EXCHANGING BLADE



Blade change

Task	Remove cutter blocks, exchange blades, mount cutter blocks
Unit	Cutter blocks - cutting blades, V-stripping blades and reject contact blades
Duration	approx. 20 min.
Interval	Individual
Personnel qualification	Qualified Personnel
Parts	<ul style="list-style-type: none"> ■ Allen wrench 4 mm

WARNING



Personnel Qualification and Personal Protective Equipment!

The following instructions are to be followed!

- Maintenance work may only be executed by technical specialist.

See also chapter "Personnel Qualification" and "Personal Protective Equipment".

DANGER



Risk of injury if not observed!

You may suffer serious injuries, if the machine is switched on accidentally!

The following instructions are to be followed!

Prior to operating the following points have to be observed:

- Put the main switch in position "OFF"!
- Protect the machine against reactivation.
- Take appropriate measures to ensure, that only you can reactivate the machine.
- Affix a warning sign: "Do not switch on the Machine!"

DANGER



Risk of injury if the protective equipment is inadequate!

You may injure seriously when the protective equipment is insufficient. The blades are very sharp and are not protected! There is a risk of being cut!

The following instructions are to be followed!

- For works on the blades and the cutter blocks wear cut resistant gloves, when the safety cover is open!

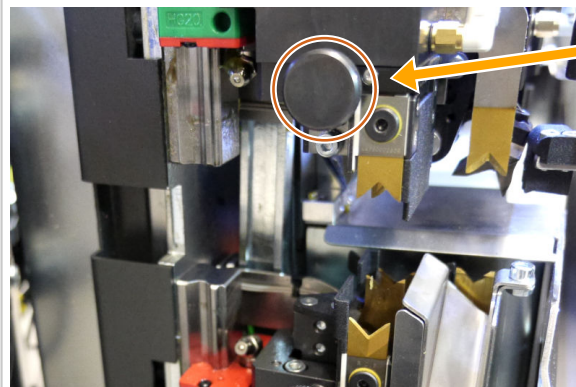
Element	Status / Condition / Position
Main Switch	Off
Emergency stop switch (All)	Not pressed
Control voltage	Off
Safety Cover	This side up

Exchanging cutting and stripping blades



To replace the blades, the cutter blocks have to be removed.

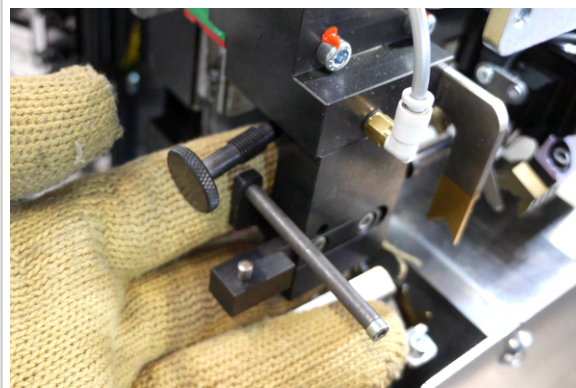
To make the work easier it is recommended to move the swivel arm side 1 and side 2 out of the working area.



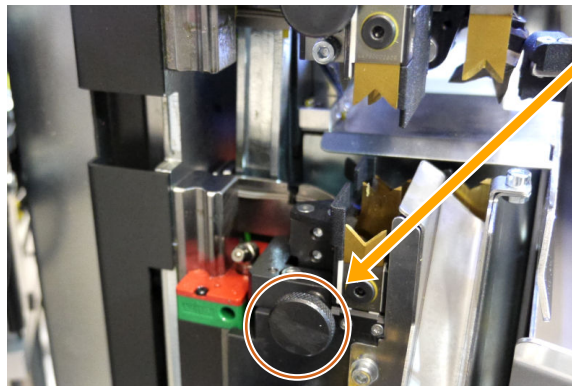
1. ▶ Remove the highlighted knurled screw at the upper cutter block.

Caution!

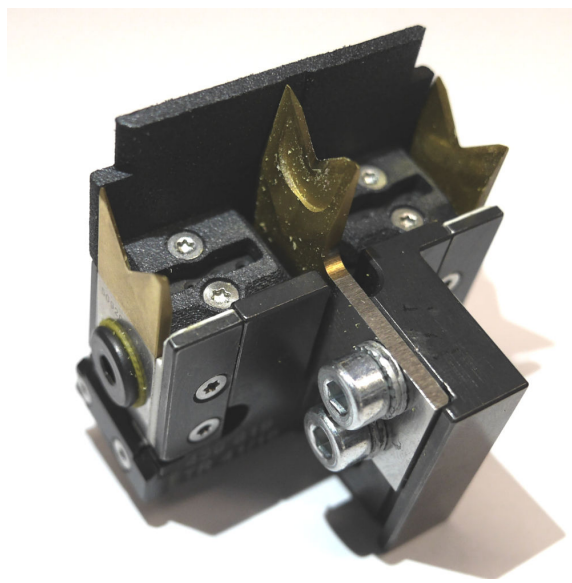
Secure the cutter block from falling down!
Note the next step.



2. ▶ After removing the screw the cutter block can be taken out.



3. ▶ Remove the highlighted knurled screw at the bottom cutter block.
4. ▶ After removing the screw the cutter block can be taken out.



Upper cutter block

Attention:

Remember the way the blades are assembled! Each blade has a front and a back side!

5. ▶ Remove the screw(s) of each blade.
6. ▶ Remove the existing blades.
7. ▶ Place the new blades.
8. ▶ Fix each blade with its original screw(s).

Attention:

Observe the following stacking arrangement!



Lower cutter block

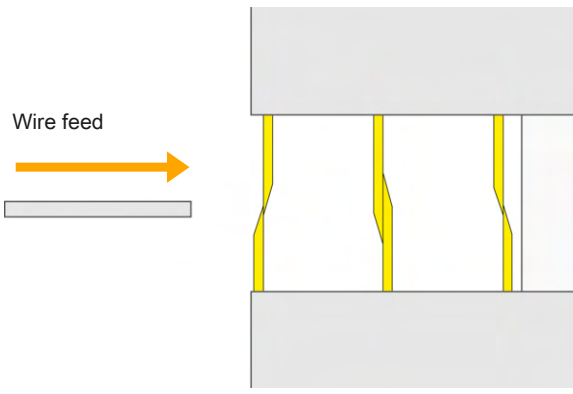
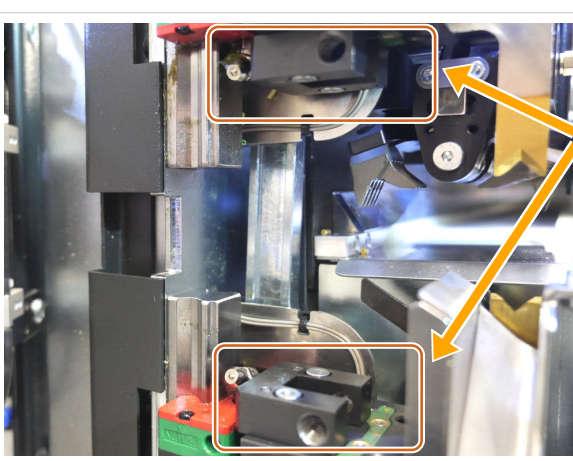
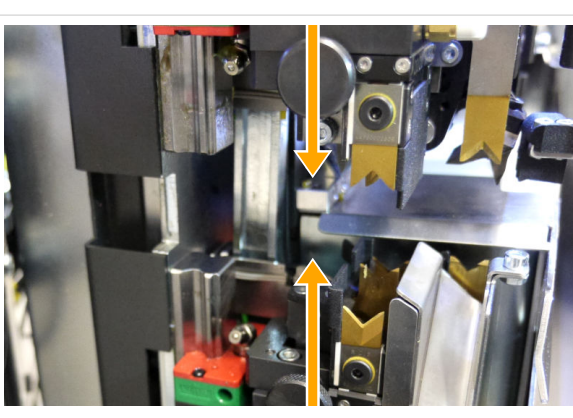
Attention:

Remember the way the blades are assembled! Each blade has a front and a back side!

9. ▶ Remove the screw(s) of each blade.
10. ▶ Remove the blades.
11. ▶ Place the new blades.
12. ▶ Fix each blade with its original screw(s).

Attention:

Observe the following stacking arrangement!

	<p>Stacking arrangement</p> <p>The schematic view shows the mounting direction and the order of the cutting and stripping blades (in the picture painted in yellow).</p>
	<p>13. › Check and clean if necessary the contact surfaces of the cutter blocks and the cutter block supports.</p> <p>14. › Insert the upper cutter block and fix it with the knurled screw to the cutting and stripping unit.</p> <p>15. › Insert the lower cutter block and fix it with the knurled screw to the cutting and stripping unit.</p>
	<p>16. › After mounting the blocks check that the blades are installed in the correct direction.</p> <p>17. › Therefore move the cutter blocks manually towards each other by turning the belt on the top of the cutting and stripping unit.</p> <p>If you do not want to exchange the rejected parts blade, you can mount the cover of the cutting and stripping unit.</p>

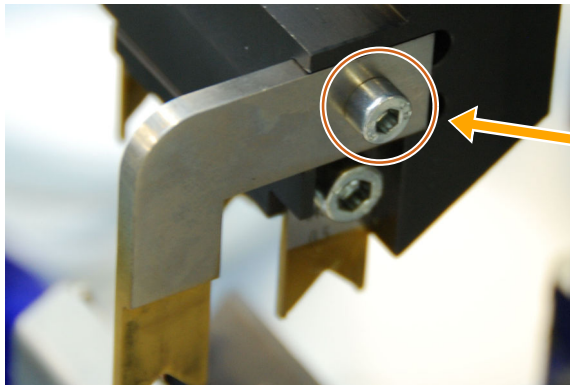
Replacing the rejected contact blades

Before replacing the blades, pull the conveyor belt approx. 30 cm back.

1. ▶ Remove the safety screw and pull the conveyor belt back.

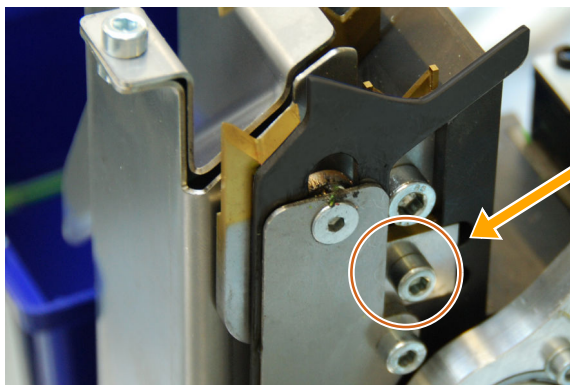
Attention:

Take care that not pneumatic tubes or cables get damaged when pulling back the conveyor belt.



The top reject contact blade is fixed with a cylinder head screw on the backside of the cutter block.

2. ▶ To replace the blade turn out the screw,
3. ▶ remove the existing blade
4. ▶ and mount the new reject contact blade.



The bottom reject contact blade is fixed with a cylinder head screw on the backside of the cutter block.

5. ▶ To replace the blade turn out the screw,
6. ▶ remove the existing blade
7. ▶ and mount the new reject contact blade.
8. ▶ Push the conveyor belt towards the machine
9. ▶ and secure it with the screw.

9.11 MAINTENANCE SHEET - EXCHANGE FEEDING BELTS



Wire Feeding Unit - Change Belts

Task	Remove the feeding belt, replace the feeding belt and install the feeding belt.
Unit	Wire Feeding Unit - Feeding Belt
Duration	approx. 5 min.
Interval	Individual
Personnel qualification	Qualified Personnel
Parts	<ul style="list-style-type: none"> ■ Spare part - Feeding belt (pair)

WARNING

Personnel Qualification and Personal Protective Equipment!

The following instructions are to be followed!

- Maintenance work may only be executed by technical specialist.

See also chapter "Personnel Qualification" and "Personal Protective Equipment".

DANGER

Risk of injury if not observed!

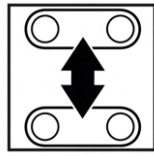
You may suffer serious injuries, if the machine is switched on accidentally!

The following instructions are to be followed!

Prior to operating the following points have to be observed:

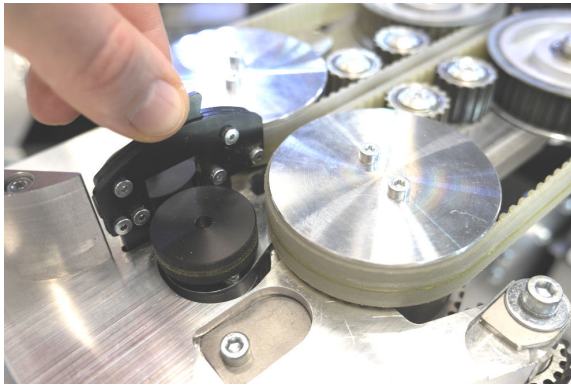
- Put the main switch in position "OFF"!
- Protect the machine against reactivation.
- Take appropriate measures to ensure, that only you can reactivate the machine.
- Affix a warning sign: "Do not switch on the Machine!"

Element	Status / Condition / Position
Main Switch	Off
Emergency stop switch (All)	Not pressed
Control voltage	Off
Safety Cover	This side up

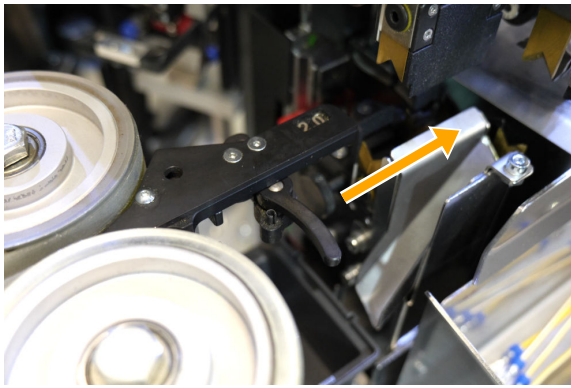


1. ▶ Open the feeding belts of the wire feeding unit.

Therefore use the trigger switch.

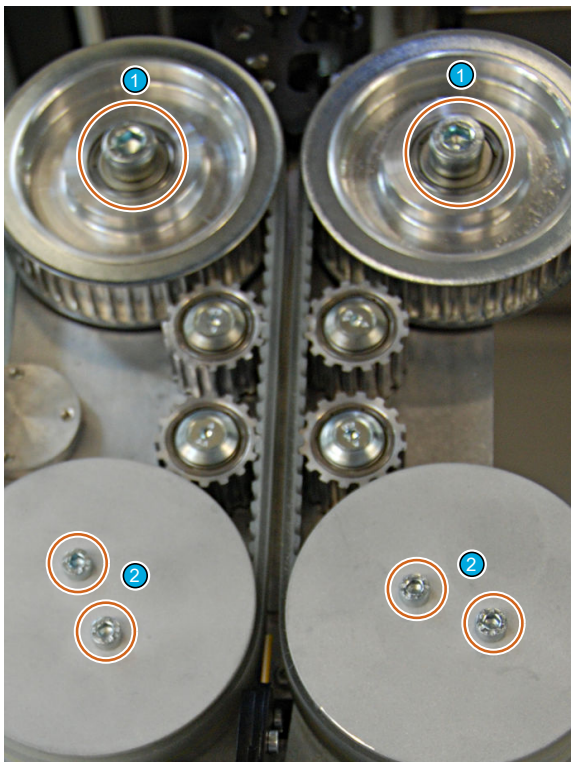


2. ▶ Remove the guide tube in front of the feeding belts.



Remove the guide tubes behind the feeding belts.

3. ▶ Therefore loosen the lever of the quick change holder
4. ▶ and remove the tube.



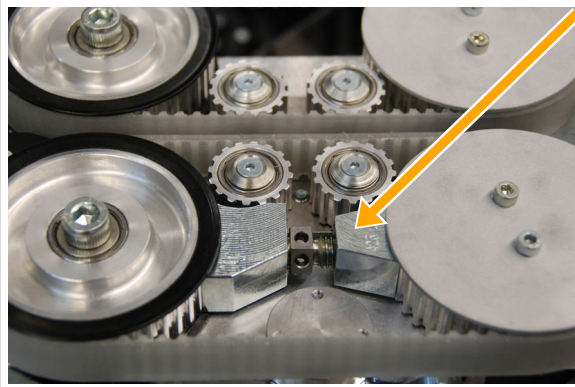
5. ▶ Loosen the 2 cylinder head screws of the pulleys (1).

Do not turn them out.

6. ▶ Remove the cylinder head screws (2)
7. ▶ and the flanged disks (2).

Now the belts can be removed and replaced by new ones.

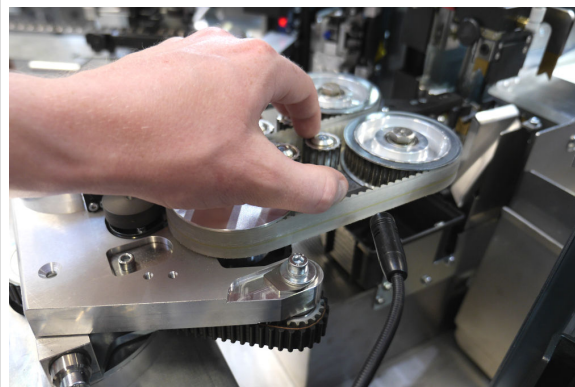
8. ▶ Mount the flanged disks and the cylinder head screws (2).



9. ▶ Place the optional belt tensioner (article number 423 260) between the pulleys.
10. ▶ Turn the hexagonal bolt between the blocks until the belts are tensioned.
11. ▶ Tighten the cylinder head screws (in the picture left).
12. ▶ Remove the belt tensioner.



- The optional belt tensioner (article number 466 678) is needed to check the belt tension.
13. ▶ Hold the Trummeter next to the belt, as shown in the picture.



14. ▶ Hit it like in the picture. The required value is 210 Hz (+/- 10 Hz).
15. ▶ If necessary adjust the tension of the belts again.

Both belts have to be checked.

9.12 MAINTENANCE SHEET - PNEUMATICS - DRAIN CONDENSATION



Pneumatic - Drain Condensate

Task	Check and drain accumulated condensate.
Unit	Pneumatic Unit - Manometer
Duration	approx 1 min.
Interval	Monthly
Personnel qualification	Qualified Personnel
Parts	<ul style="list-style-type: none"> ■ Absorbent cloth

WARNING



Personnel Qualification and Personal Protective Equipment!

The following instructions are to be followed!

- Maintenance work may only be executed by technical specialist.

See also chapter "Personnel Qualification" and "Personal Protective Equipment".

DANGER



Risk of injury if not observed!

You may suffer serious injuries, if the machine is switched on accidentally!

The following instructions are to be followed!

Prior to operating the following points have to be observed:

- Put the main switch in position "OFF"!
- Protect the machine against reactivation.
- Take appropriate measures to ensure, that only you can reactivate the machine.
- Affix a warning sign: "Do not switch on the Machine!"

DANGER

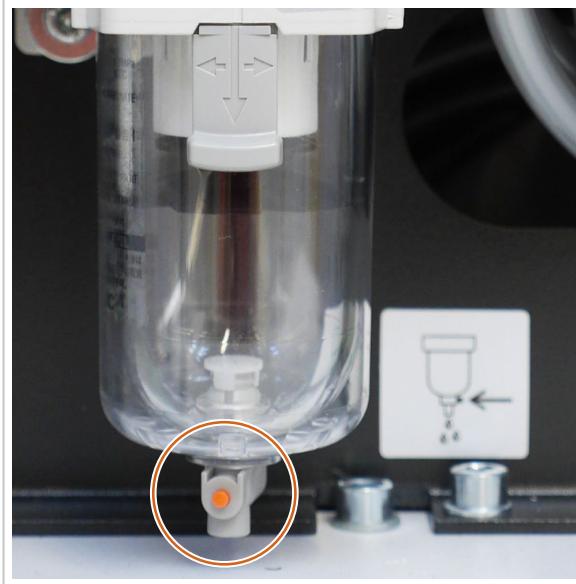


Risk of injury if not observed!

You may suffer serious injuries, if the machine is switched on accidentally!

- The pneumatic system is pressurized.
- Working on pressurized system can cause serious accidents.

Element	Status / Condition / Position
Main Switch	Off
Emergency stop switch (All)	Not pressed
Control voltage	Off
Safety Cover	Bottom



1. ▶ Check the collected condensate.
2. ▶ Dump the water if necessary. Put an absorbent cloth under the drain valve and press the orange button.

9.13 MAINTENANCE SHEET - CONTROL CABINET - CHECK FILTER



Pneumatics - Clean / Replace Filter

Task	Remove filter, clean filter and insert filter.
Unit	Pneumatic Unit - Manometer
Duration	approx. 5 min.
Interval	Yearly
Personnel qualification	Qualified Personnel
Parts	<ul style="list-style-type: none"> ■ Allen wrench 4 mm

WARNING

Personnel Qualification and Personal Protective Equipment!

The following instructions are to be followed!

- Maintenance work may only be executed by technical specialist.

See also chapter "Personnel Qualification" and "Personal Protective Equipment".

DANGER

Risk of injury if not observed!

You may suffer serious injuries, if the machine is switched on accidentally!

The following instructions are to be followed!

Prior to operating the following points have to be observed:

- Put the main switch in position "OFF"!
- Protect the machine against reactivation.
- Take appropriate measures to ensure, that only you can reactivate the machine.
- Affix a warning sign: "Do not switch on the Machine!"

DANGER

Risk of injury if not observed!

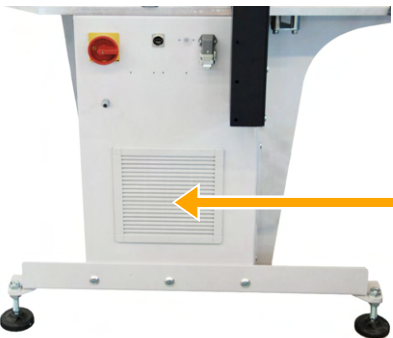
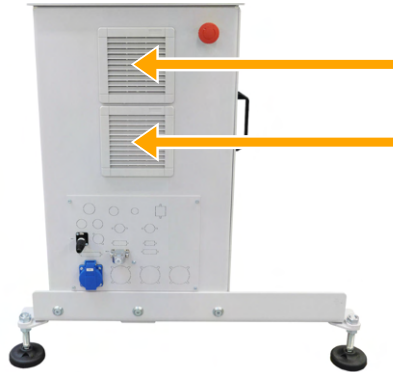
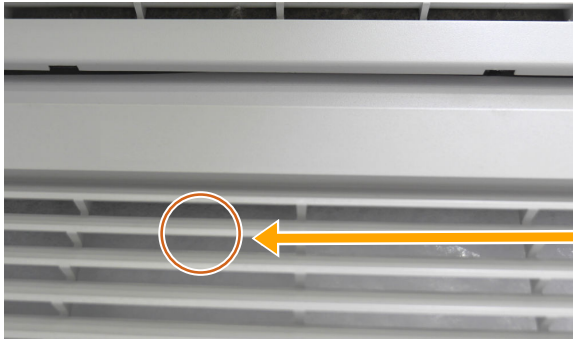
You may suffer serious injuries, if the machine is switched on accidentally!

- The pneumatic system is pressurized.
- Working on pressurized system can cause serious accidents.

Element	Status / Condition / Position
Main Switch	Off
Emergency stop switch (All)	Not pressed
Control voltage	Off
Safety Cover	Bottom

The machine is equipped with air filters on the fan exhausts to prevent dust and other particles from contaminating the machine.

The air filters should be checked periodically, depending on the usage and if required be replaced, to prevent the machine to overheat and to avoid faults.

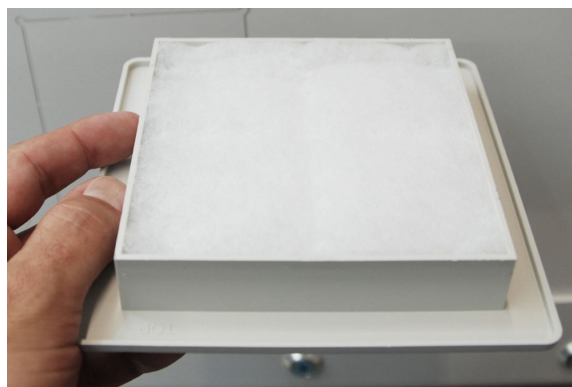
	<p>There are intakes for the supply air and the exhaust air on the control cabinet. Behind the grids filter elements are mounted, which are cleaning the cooling air.</p> <p>They have to be cleaned weekly.</p> <p>If necessary exchange the elements with new ones (Replacement filter elements for filter fan article number 426 908)</p> <p>You will find the filter for the supply air beneath the operator panel.</p>
	<p>The two filters for the exhaust air are placed beneath the wire intake.</p>
	<p>The grids will be opened from the outside.</p> <p>There is an opening at the bottom edge of each grill.</p>



1. ▶ Insert a small slotted screwdriver into the opening and lift off the grill.



2. ▶ Simultaneously grip the grill at the bottom and pull it forward.



Now remove the grill.

3. ▶ Remove the filter element
4. ▶ and clean it.

For reassembly, follow the steps in reversed order.

9.14 MAINTENANCE SHEET - CHECK CONVEYOR BELT



Check conveyor belt

Task	Check the conveyor belt for damages and wearing
Unit	Conveyor belt
Duration	approx. 5 min.
Interval	Weekly
Personnel qualification	Qualified Personnel

**WARNING**

Personnel Qualification and Personal Protective Equipment!

The following instructions are to be followed!

- Maintenance work may only be executed by technical specialist.

See also chapter "Personnel Qualification" and "Personal Protective Equipment".

**DANGER**

Risk of injury if not observed!

You may suffer serious injuries, if the machine is switched on accidentally!

The following instructions are to be followed!

Prior to operating the following points have to be observed:

- Put the main switch in position "OFF"!
- Protect the machine against reactivation.
- Take appropriate measures to ensure, that only you can reactivate the machine.
- Affix a warning sign: "Do not switch on the Machine!"

1. ▶ Check the conveyor belt for damages and wearing.

SPARE PARTS



CAUTION

Risk of injury if operated by unqualified personnel!

Disregarding may lead to injury.

The following instructions are to be followed!

For original spare parts from Schleuniger see document [„Parts List“](#).

DECOMMISSIONING / DISPOSAL



CAUTION

Risk of injury if operated by unqualified personnel!
Disregarding may lead to injury.

The following instructions are to be followed!

- Training of staff shall be in compliance with government regulations.



DANGER

Risk of injury due to electrical voltage!

There is a danger of electric shock!

Even after the machine has been disconnected from the power supply wires are energized.

The following instructions are to be followed!

- Do not touch the wires.
- Set up the barrier.

11.1 DECOMMISSIONING

To decommission the machine proceed as follows:

- 1.▶ Close the safety cover.
- 2.▶ Click the button "System" in the top right corner of the touch screen.
Select in the following dialogues "Quit" and then "Shut down CrimpCenter".
- 3.▶ As far as the request to switch off the CrimpCenter appears on the screen, switch off the main switch.
Before switching on the CrimpCenter again wait at least 5 minutes.
- 4.▶ Unplug the machine from the mains.
- 5.▶ Interrupt the air pressure supply and remove the air hose.
- 6.▶ Remove all interface cables connected to the peripheral devices and put them aside.



WARNING

Removing the Conveyor Belt!

Prior to removing the conveyor belt the supplies must be disconnected!

The following instructions are to be followed!

- Never tear off cables and pneumatic hoses.
Always disconnect the cables and tubes appropriately.
- Prior to release them, label the components and their position in relation to one another.
- Observe the instructions for external component units provided in the manual of the manufacturer.
- Observe the separate manuals of the processing stations and options you are going to install, connect or disassemble.

11.2 DISASSEMBLY / DISPOSAL



NOTICE

Recycling according to legal regulations!

The following instructions are to be followed!

- Disassemble the machine appropriately.
- Dispose of the disassembled parts according to the local legal requirements.

Products Schleuniger mainly consist of the following materials:

Material	Disposal
Aluminum	Scrap metal
Steel	Scrap metal
Other metal	Scrap metal
Electric parts	Electronic waste
Plastics	Recycling



NOTICE

Recycle the battery according to regulations!





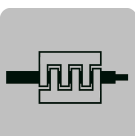
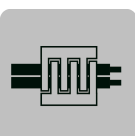
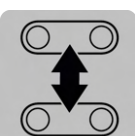

The battery in this product contains heavy metals which are harmful to the environment and is therefore hazardous waste.


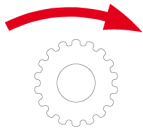


The following instructions are to be followed!

- Recycle the battery!

OVERVIEW OF SYMBOLS

The following table shows all stickers used on the *CrimpCenter 36 S*. Depending on the equipment, some stickers may be not on the specific machine.

Symbol	Function
	<p>Shut off valve</p> <p>The air supply for the complete machine will be switched on or off with the shut off valve.</p> <p>See also chapter "8.5 Starting Conditions (Page 123)"</p>
	<p>Main pressure regulator</p> <p>The air pressure for the complete machine will be adjusted at the main pressure regulator.</p> <p>See also chapter "8.5 Starting Conditions (Page 123)".</p>
	<p>Water drain</p> <p>The condensate can be drawn at the water drain.</p> <p>See also chapter "9.12 Maintenance Sheet - Pneumatics - Drain Condensation (Page 227)".</p>
	<p>Wire feed</p> <p>Adjust the contact pressure of the feeding belts on the swivel arm side 1 with this pressure regulator.</p> <p>See also chapter "8.6.12 Adjust the Contact Pressure of the Wire Feed (Page 151)".</p>
	<p>Gripper pressure</p> <p>Adjust the gripper pressure for the gripper side 2 with this pressure regulator.</p> <p>See also chapter "8.6.13 Adjust the Clamping Force of the Gripper (Page 153)".</p>
	<p>Gripper pressure - Double gripper</p> <p>Adjust the gripper pressure for the gripper side 2 when a double gripper is activated (optional).</p> <p>"8.6.13 Adjust the Clamping Force of the Gripper (Page 153)"</p>
	<p>Open / close wire feed</p> <p>The feeding belts will be opened or closed with this toggle switch.</p> <p>"8.6.11 Insert Wire (Page 147)"</p>
	<p>Safety Cover</p> <p>The safety cover will be opened or closed with these two pushbuttons.</p> <p>See also chapter "6.3 Safety Cover (Page 85)".</p>

Symbol	Function
	<p>Lifting Points</p> <p>This label marks the positions where the machine has to be lifted with a forklift.</p> <p>See also chapter "3.5 Lifting Points (Page 30)".</p>
	<p>Conveyor belt</p> <p>This label shows the designated rotation direction of the conveyor belt.</p>
	<p>Confirm Buttons</p> <p>This is a confirm button.</p> <p>See also chapter "6.4 Confirm Buttons (Page 88)".</p>
	<p>Feed wire</p> <p>The wire will be fed by pushing this button.</p> <p>See also chapter "8.6.11 Insert Wire (Page 147)".</p>

INDEX

A

Assemblies [41](#)
Abbreviations [10](#)
Accident preventions [8](#)
Activity direction [10](#)
Air pressure [35](#)

B

Battery [235](#)
Blocked wire/cable [25](#)
Brands [12](#)

C

Cleaning intervals [178](#)
Clockwise [11](#)
Commands [10](#)
Conveyor belt [232](#)
Cross reference [10](#)
Cutter block [220](#)

D

Disposal [235](#)
Double gripper module [154](#)
Dangerous zones [89](#)
Disposal [10](#)

E

EASY [38](#)
EASY ProductionServer [38](#)
EASY Quality Center [39](#)
Emergency stop circuit [24](#)
Emergency stop link [26](#)
Emergency stop switch [84](#)

F

Fan exhaust [34](#)
Figure [10](#)
Foreseeable misuse [20](#)

G

Ground connector [24](#)

H

Hotline [178](#)

I

Info [10](#)
Information to manual [8](#)
Interface connection cable [24](#)

L

Liability for damage [11](#)
Legend [10](#)
Lubricants [24](#)

M

Machine description [8](#)
Measures [32](#)
Mains connection [35](#)
Maintenance [178, 180](#)
Maintenance table [178, 180](#)
Mark-up [10](#)
Measures [10](#)

N

Noise level [25](#)

O

Operating company [15](#)
Operating instruction [18](#)
Operator Instructions [25, 178](#)
Operator personnel [16](#)
Over heating [34](#)
Overview [10](#)

P

Packaging [30](#)
Personnel older than 14 years [15](#)
PET [211](#)
Product name [10](#)

Q

Qualified personnel [16](#)

R

Recycle [10](#)
Registered trademarks [12](#)
Result [10](#)

S

rating plate [37](#)
Safekeeping operating instructions [9](#)
Safety barrier [26](#)
Safety cover [26](#)
Safety devices [26](#)
Safety regulations [8, 24](#)
Schutzausrüstung [23](#)
Screen titles [10](#)
Service technician [16](#)
Software Version [178](#)
Standards [11](#)
Symbols [10](#)

T

Transport fixations [30](#)

Talcum [25, 210](#)
Technical specialist [16](#)
Third parties [12](#)
Time intervals [178](#)
Tip [10](#)
Topic [10](#)

W

Weight [32](#)
Wire type [178](#)
Warning notice [18](#)
Wire guide [210](#)

LIST OF FIGURES

▶ <i>Connections / Interfaces - Machine Frame - away from CrimpCenter</i>	104
▶ <i>Connections / Interfaces - Machine Frame - to CrimpCenter</i>	105
▶ <i>Conveyor belt - Connections - Control cabinet</i>	98
▶ <i>Conveyor belt - Connections - Machine Frame</i>	98
▶ <i>Conveyor belt - Deflector - 36 S</i>	99
▶ <i>Conveyor belt - Deflector - 36 SP</i>	99
▶ <i>Conveyor belt - Intake and fastening</i>	98
▶ <i>CrimpCenter 36 S - Assemblies of the basic machine</i>	41
▶ <i>CrimpCenter 36 S - Collection Container</i>	205
▶ <i>CrimpCenter 36 S - Conveyor belt</i>	43
▶ <i>CrimpCenter 36 S - Dimensions</i>	32
▶ <i>CrimpCenter 36 S - Location of the supply connections below the platform</i>	36
▶ <i>CrimpCenter 36 S - Machine areas</i>	36
▶ <i>CrimpCenter 36 S - Main Switch</i>	83
▶ <i>CrimpCenter 36 S - Rating plate</i>	37
▶ <i>CrimpCenter 36 S - Safety switch</i>	86
▶ <i>CrimpCenter 36 S - Sample Configuration - Crimp and Crimp</i>	80
▶ <i>CrimpCenter 36 S - Sample Configuration - Crimp and Seal</i>	79
▶ <i>CrimpCenter 36 S - Sample Configuration - Crimp and Seal - Quality Assurance</i>	78
▶ <i>CrimpCenter 36 SP - Control Cabinet</i>	200
▶ <i>CrimpCenter 36 SP - Cutting and stripping unit</i>	201
▶ <i>CrimpCenter 36 SP - Deflector</i>	205
▶ <i>CrimpCenter 36 SP - Swivel Side 1</i>	200
▶ <i>CrimpCenter 36 SP - Swivel Side 2</i>	199
▶ <i>CrimpCenter 36 SP - Swivel Side 2</i>	199
▶ <i>CrimpCenter 36 SP - Swivel Side 2</i>	200
▶ <i>CrimpCenter 64 SP - Cutting Unit</i>	213
▶ <i>Cutting and stripping unit</i>	43
▶ <i>EASY Software - Home Screen</i>	143
▶ <i>Emergency stop switch - inactive</i>	123
▶ <i>Emergency stop switch - inactive active</i>	186
▶ <i>Lifting Points</i>	30
▶ <i>Main switch - off</i>	83
▶ <i>Main switch - On</i>	143
▶ <i>Operating area</i>	44
▶ <i>Pneumatic Main Valve - Closed</i>	190
▶ <i>Pneumatic Main Valve - Closed</i>	203
▶ <i>Pneumatic main valve - opened</i>	124
▶ <i>Power socket</i>	207
▶ <i>Product Photo</i>	38
▶ <i>Safety Cover</i>	42
▶ <i>Safety Cover - from below</i>	195
▶ <i>Safety Cover - Two Helper</i>	193
▶ <i>Safety Cover - Two Helper</i>	197

▶ <i>Safety switch - closed</i>	192
▶ <i>Safety switch with latch</i>	86
▶ <i>Sticker at CrimpCenter</i>	190
▶ <i>Straightener - Ceramic bushing</i>	148
▶ <i>Straightener - Complete - Double</i>	147
▶ <i>Straightener - Complete - Simple</i>	147
▶ <i>Straightener - Perforated disc</i>	148
▶ <i>Straightening Unit - Closed</i>	149
▶ <i>Straightening Unit - Slightly opened</i>	149
▶ <i>Swivel - Side 2</i>	43
▶ <i>the straightening unit</i>	42
▶ <i>ToolingShuttle - Deflecting Plate</i>	186
▶ <i>Top view - Safety cover opened</i>	91
▶ <i>Topview - Safety cover closed</i>	89
▶ <i>UniCrimp 221/222 - Working height</i>	142
▶ <i>UniCrimp 22x - Button</i>	186
▶ <i>Wire feed</i>	42
▶ <i>Wire straightening unit - Double</i>	147
▶ <i>Wire straightening unit - Simple</i>	147

ADDITIONAL DOCUMENTS

WIRING DIAGRAMS

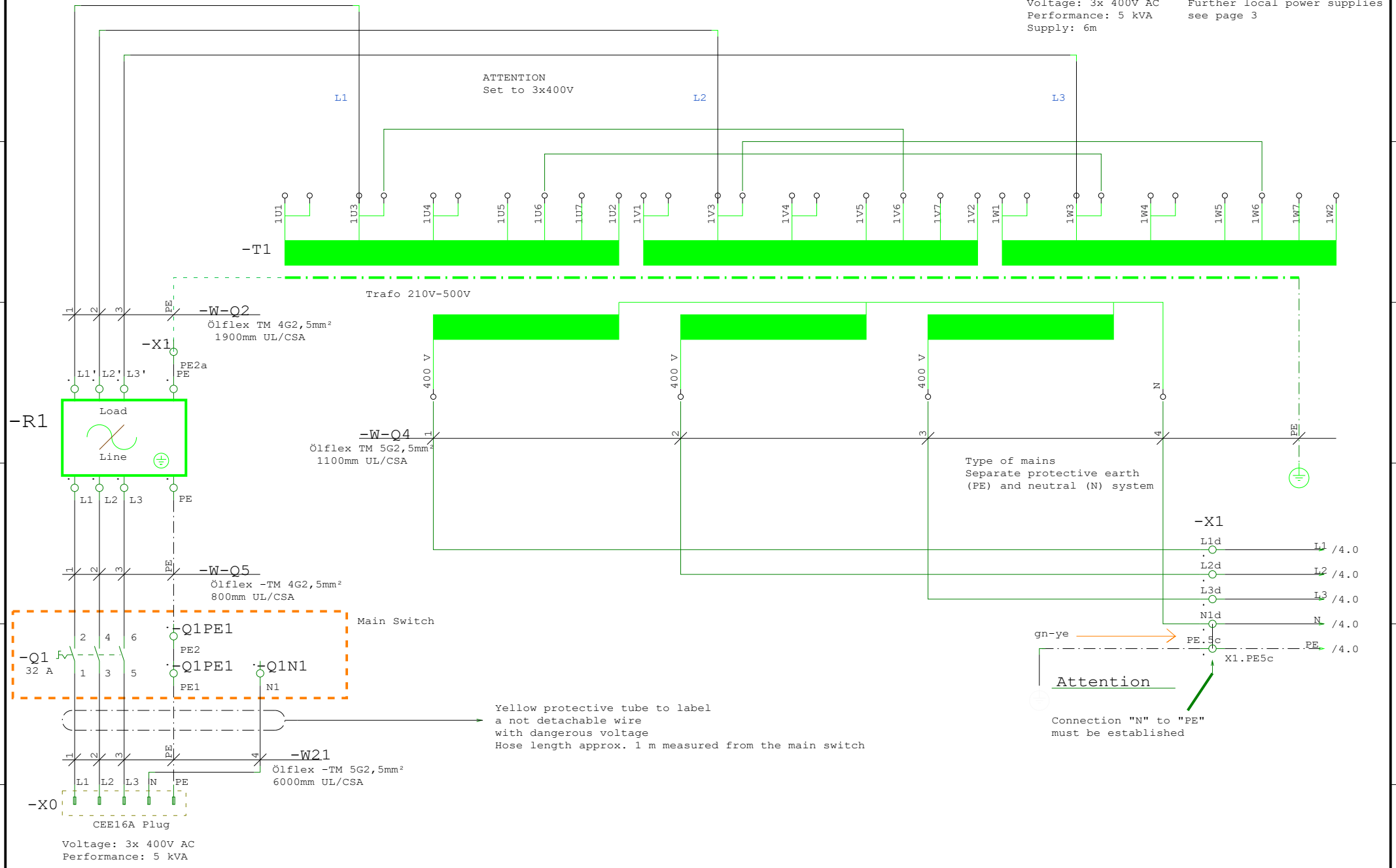


V0108		28.06.	G. Wo	Date	28.06.2022	Machine Type: CC36S_R2020		Product presentation	Project number	
V0107		31.01.	C. He	work	B.Hanania				497892	Drawing number
V0106		21.10.	C. He	check		Additional Information:	created from	497613	of	40
Status	rev.	Date	name	norm	DIN 81346					

Voltage: 3x 400V AC
 Performance: 5 kVA
 Supply: 6m

Further local power supplies
 see page 3

ATTENTION
 Set to 3x400V



Yellow protective tube to label
 a not detachable wire
 with dangerous voltage
 Hose length approx. 1 m measured from the main switch

gn-ye → PE 5c
Attention
 Connection "N" to "PE"
 must be established

V0108		28.06.	G. Wo	Date	28.06.2022	Machine Type:	Supply 400 V	Project number	
V0107		31.01.	C. He	work	B.Hanania	CC36S_R2020		497892	
V0106		21.10.	C. He	check		Additional Information:		Drawing number	sheet 2
Status	rev.	Date	name	norm	DIN 81346		created from	497613	of 40



Primary	Connection	Connect to	3-pole fuse	recommendation: tripping characteristic
210 V	1U4 1V4 1W4	1U4 - 1V5 1V4 - 1W5 1W4 - 1U5	25 A	D
230 V	1U3 1V3 1W3	1U3 - 1V5 1V3 - 1W5 1W3 - 1U5	25 A	D
250 V	1U1 1V1 1W1	1U1 - 1V5 1V1 - 1W5 1W1 - 1U5	25 A	D
380 V	1U4 1V4 1W4	1U4 - 1V6 1V4 - 1W6 1W4 - 1U6	16 A	D
400 V	1U3 1V3 1W3	1U3 - 1V6 1V3 - 1W6 1W3 - 1U6	16 A	D
420 V	1U1 1V1 1W1	1U1 - 1V6 1V1 - 1W6 1W1 - 1U6	16 A	D
440 V	1U4 1V4 1W4	1U4 - 1V7 1V4 - 1W7 1W4 - 1U7	16 A	D
460 V	1U3 1V3 1W3	1U3 - 1V7 1V3 - 1W7 1W3 - 1U7	10 A	D
480 V	1U3 1V3 1W3	1U3 - 1V2 1V3 - 1W2 1W3 - 1U2	10 A	D
500 V	1U1 1V1 1W1	1U1 - 1V2 1V1 - 1W2 1W1 - 1U2	10 A	D

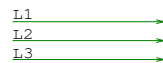
The cable cross section must be determined in accordance with the country regulations!

For a primary voltage of 400 V, an on-site 16 A circuit breaker with tripping characteristic D is recommended!

Example:

Primary / Supply:

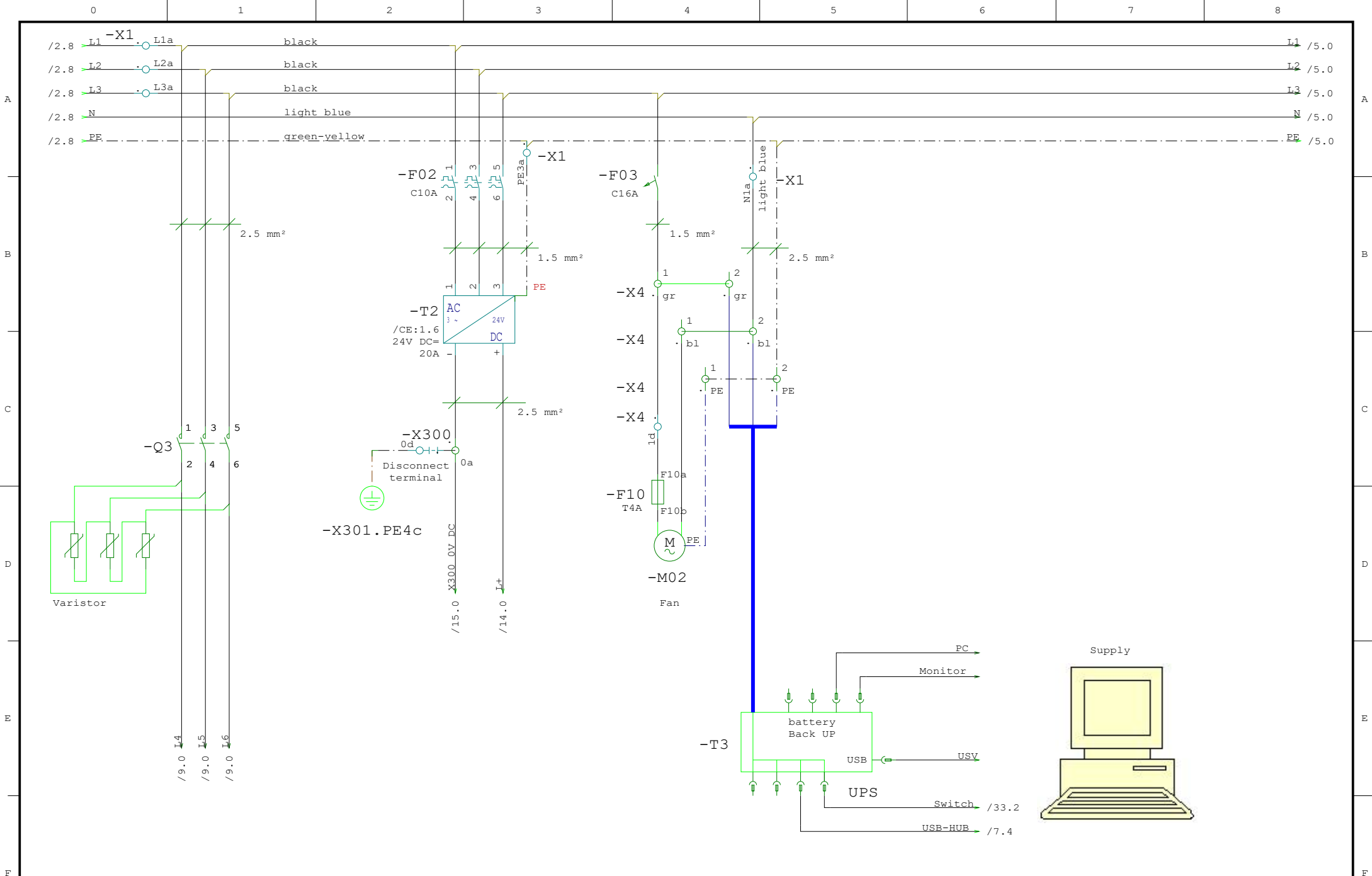
3 x 400 V



Secondary / Outgoing:

400 V
400 V
400 V
N

V0108		28.06.	G. Wo	Date	28.06.2022	Machine Type: CC36S_R2020		Connection variants supply voltage	Project number	
V0107		31.01.	C. He	work	B.Hanania				497892	sheet
V0106		21.10.	C. He	check		Additional Information:		Drawing number	of	40
Status	rev.	Date	name	norm	DIN 81346		created from	497613		



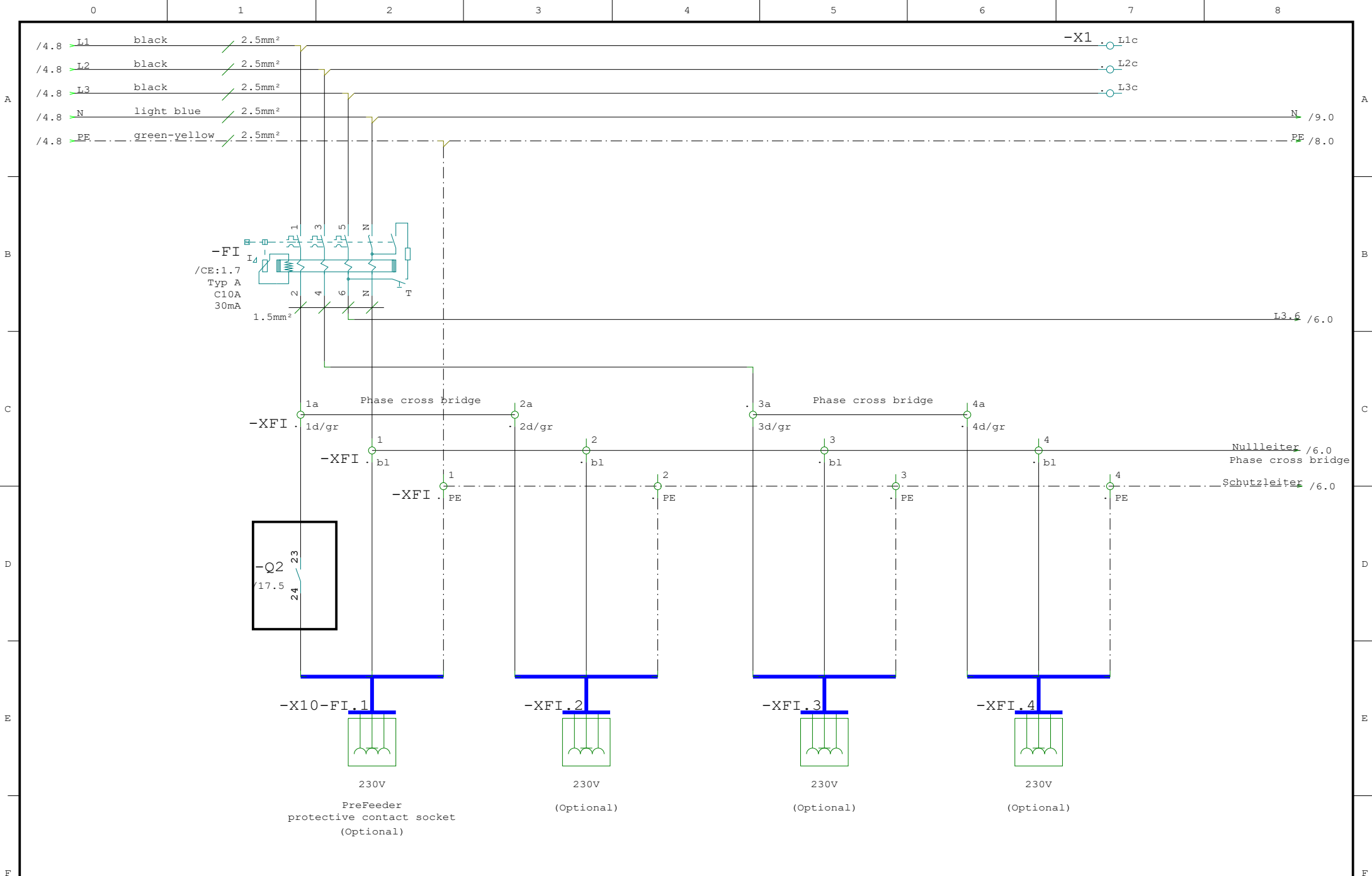
V0108		28.06	G. W	Date	28.06.2022	Machine Type: CC36S_R2020 Additional Information:
V0107		31.01	C. H	work	B.Hanania	
V0106		21.10	C. H	check		
Status	rev.	Date	name	norm	DIN 81346	

Schleuniger

created from

400V AC distribution

Project number		497892	
Drawing number	sheet	497613	4
	of		40



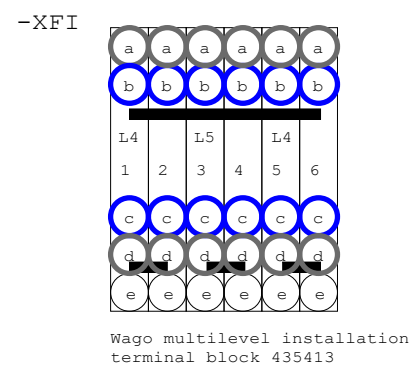
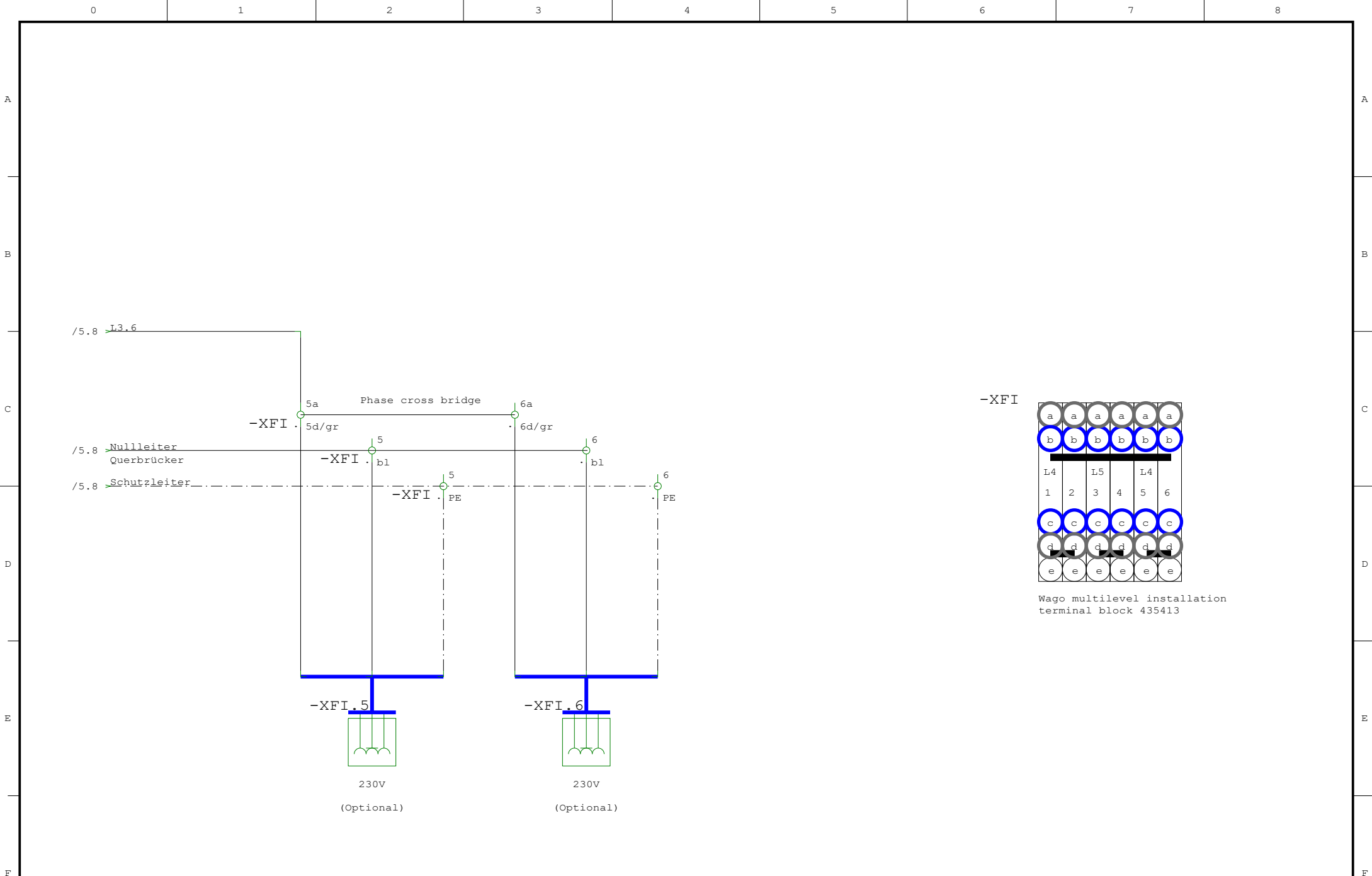
G		03.05.	ROA06	Date	28.06.2022	Machine Type:	
V0108		28.06.	G. Wo	work	B.Hanania	CC36S_R2020	
V0107		31.01.	C. He	check		Additional Information:	
Status	rev.	Date	name	norm	DIN 81346		

created from

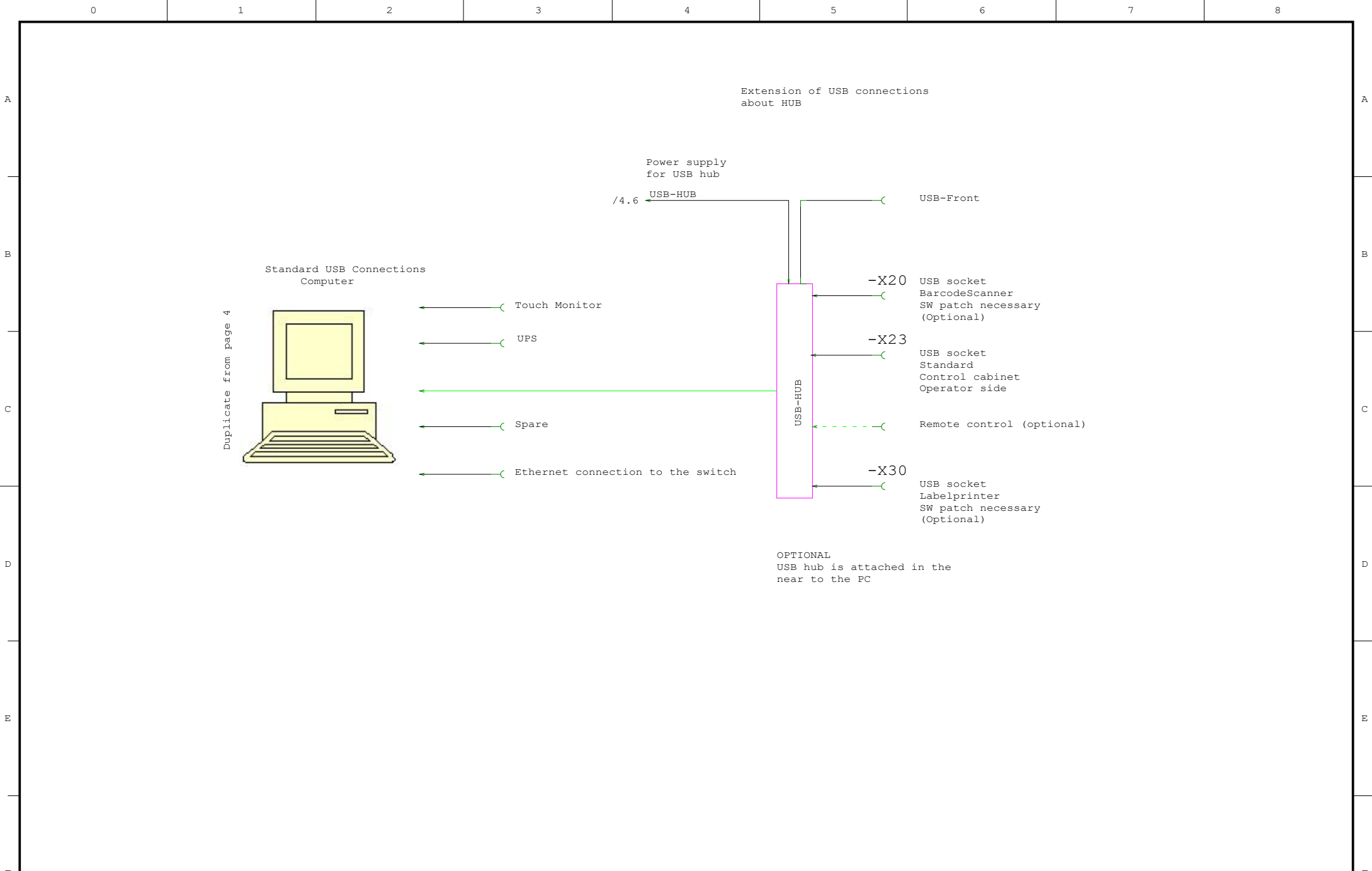


RCBO & optional 230V protective contact sockets

Project number		497892
Drawing number	sheet	5
497613	of	40



Date	28.06.2022	Machine Type:	CC36S_R2020		Optional 230V protective contact sockets	Project number		
work	E.Hanania	Additional Information:				497892	sheet	6
V0108	28.06	G. W	check	created from		Drawing number	of	
Status	rev.	Date	name	norm	DIN 81346	497613	of	40

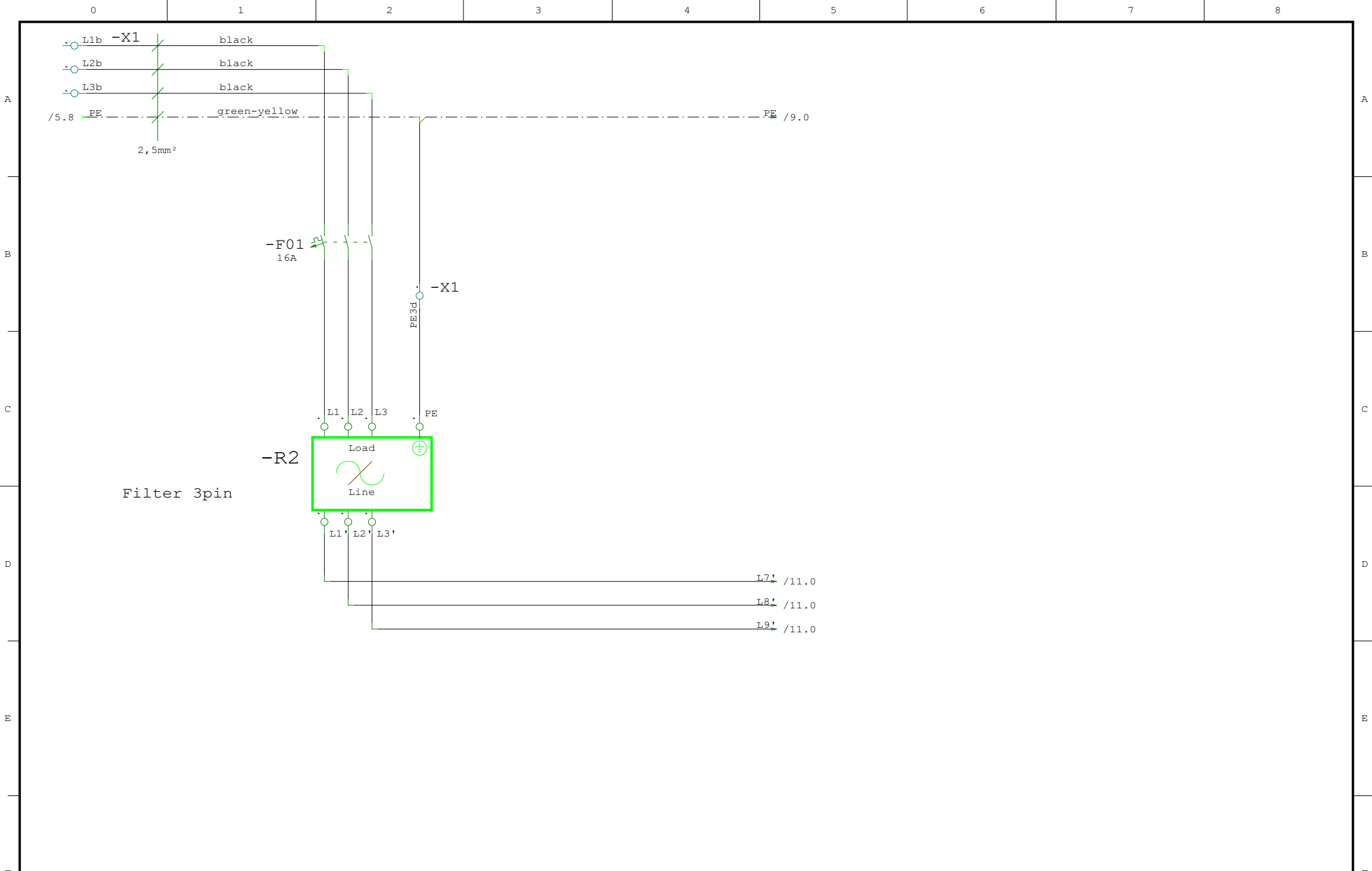


V0108		28.06.	G. Wo	Date	28.06.2022	Machine Type:
V0107		31.01.	C. He	work	B.Hanania	CC36S_R2020
V0106		21.10.	C. He	check		Additional Information:
Status	rev.	Date	name	norm	DIN 81346	


 created from

USB distribution

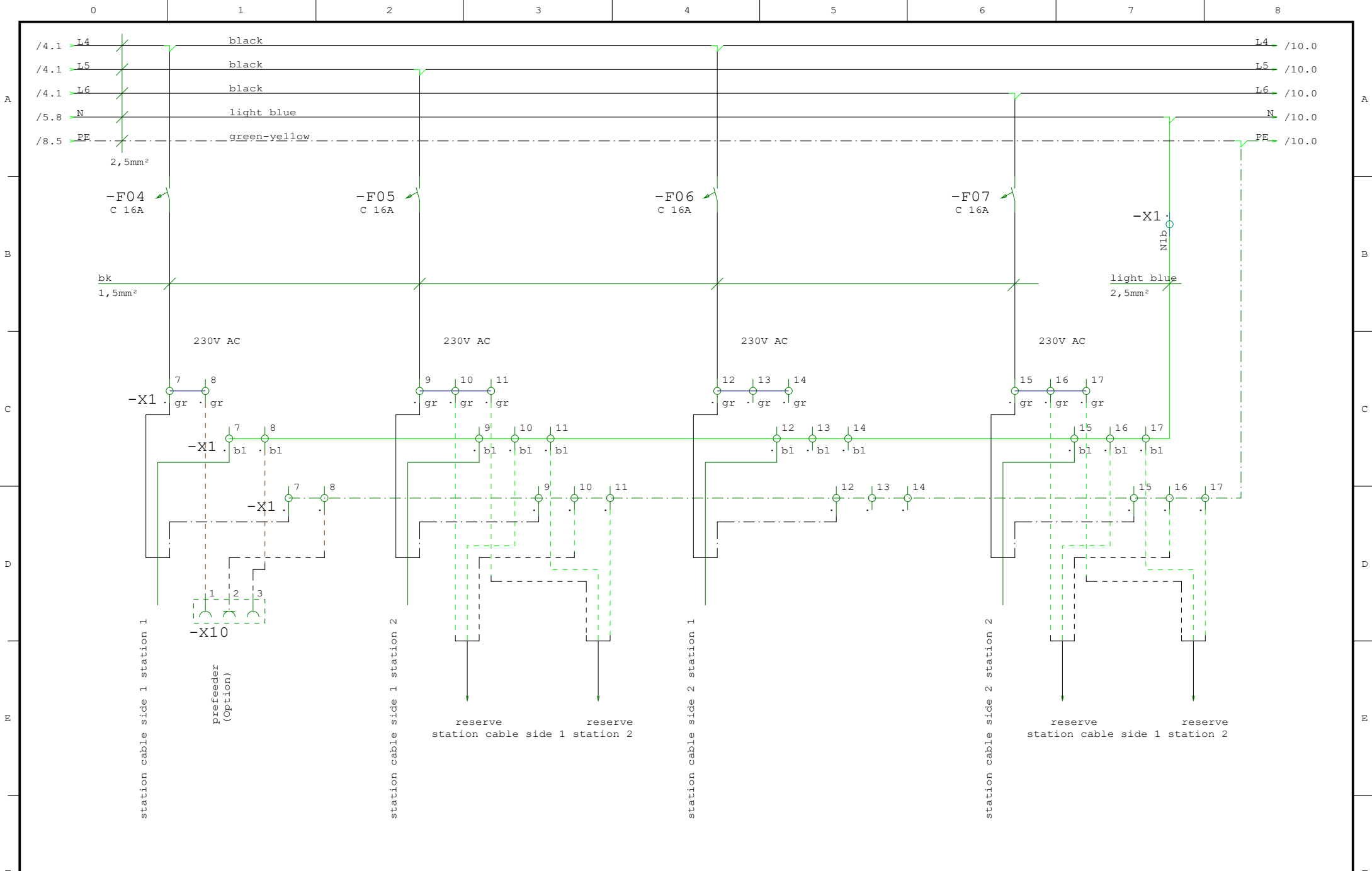
Project number		497892	
Drawing number	sheet	7	
497613	of	40	



V0108		28.06.	G. Wo	Date	28.06.2022	Machine Type:	Mains filter controller supply	Project number	
V0107		31.01.	C. He	work	B.Hanania	CC36S_R2020		497892	
V0106		21.10.	C. He	check		Additional Information:		Drawing number	sheet 8
Status	rev.	Date	name	norm	DIN 81346		created from	497613	of 40



Project number		497892	
Drawing number	sheet	of	8
497613			40



V0108		28.06.	G. Wo	Date	28.06.2022
V0107		31.01.	C. He	work	B.Hanania
V0106		21.10.	C. He	check	
Status	rev.	Date	name	norm	DIN 81346

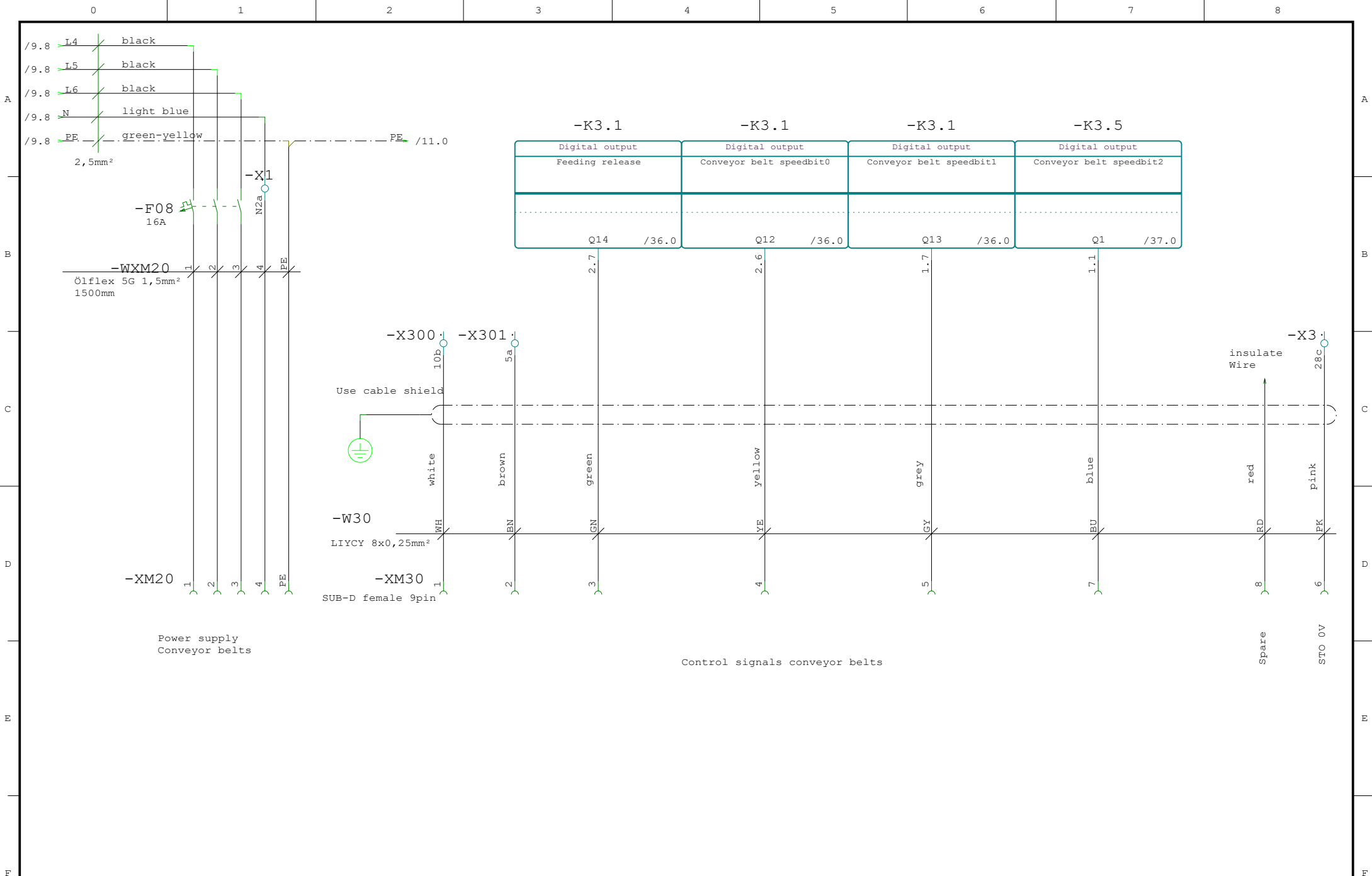
Machine Type:
CC36S_R2020

Additional Information:



230V AC supply

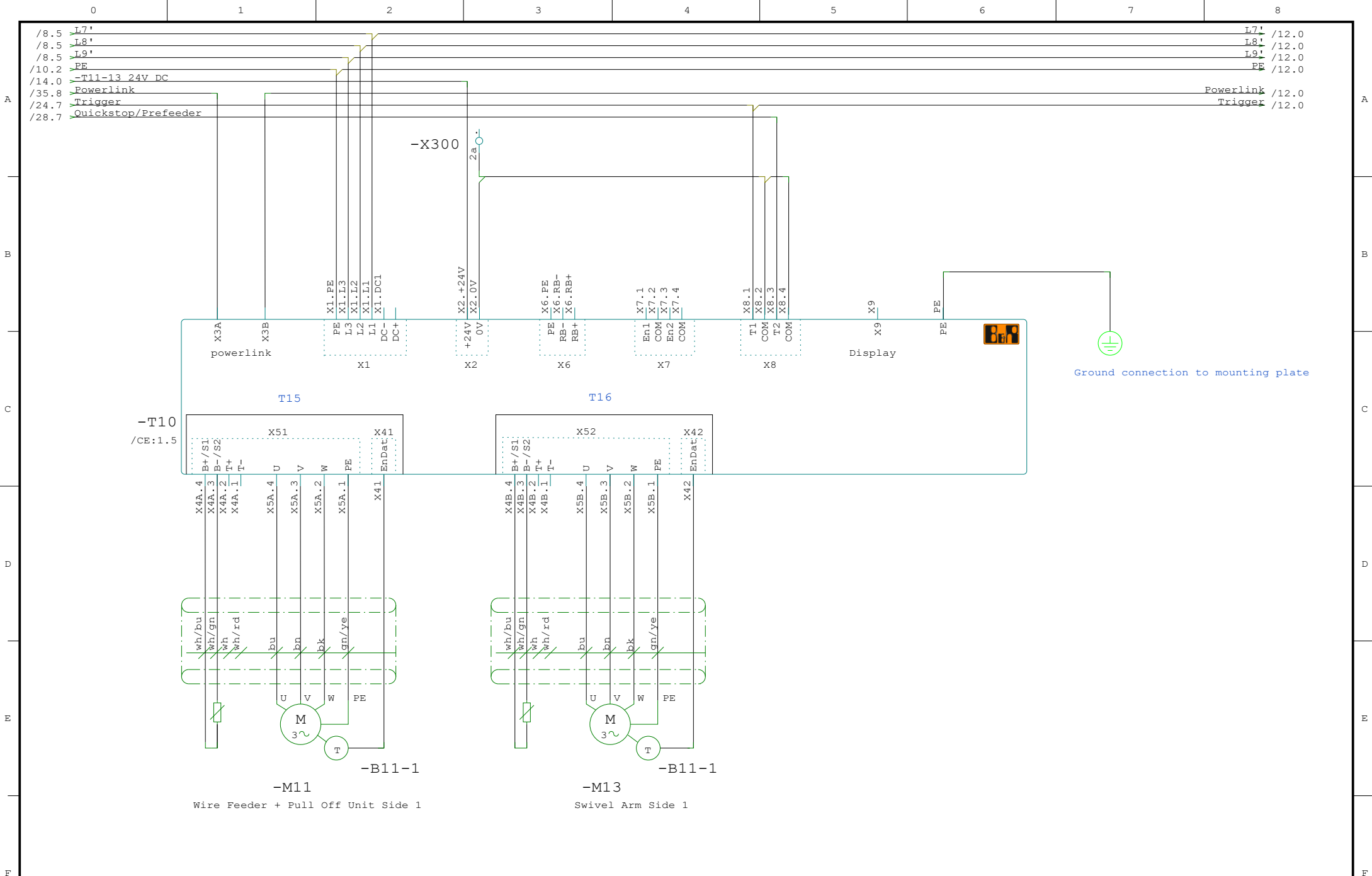
Project number		497892
Drawing number	sheet	9
497613	of	40



V0108		28.06.	G. Wo	Date	28.06.2022	Machine Type: CC36S_R2020	Conveyor belt	Project number	
V0107		31.01.	C. He	work	B.Hanania			497892	
V0106		21.10.	C. He	check		Additional Information:		Drawing number	sheet 10
Status	rev.	Date	name	norm	DIN 81346			497613	of 40



created from



V0108		28.06.	G. Wo	Date	28.06.2022
V0107		31.01.	C. He	work	B.Hanania
V0106		21.10.	C. He	check	
Status	rev.	Date	name	norm	DIN 81346

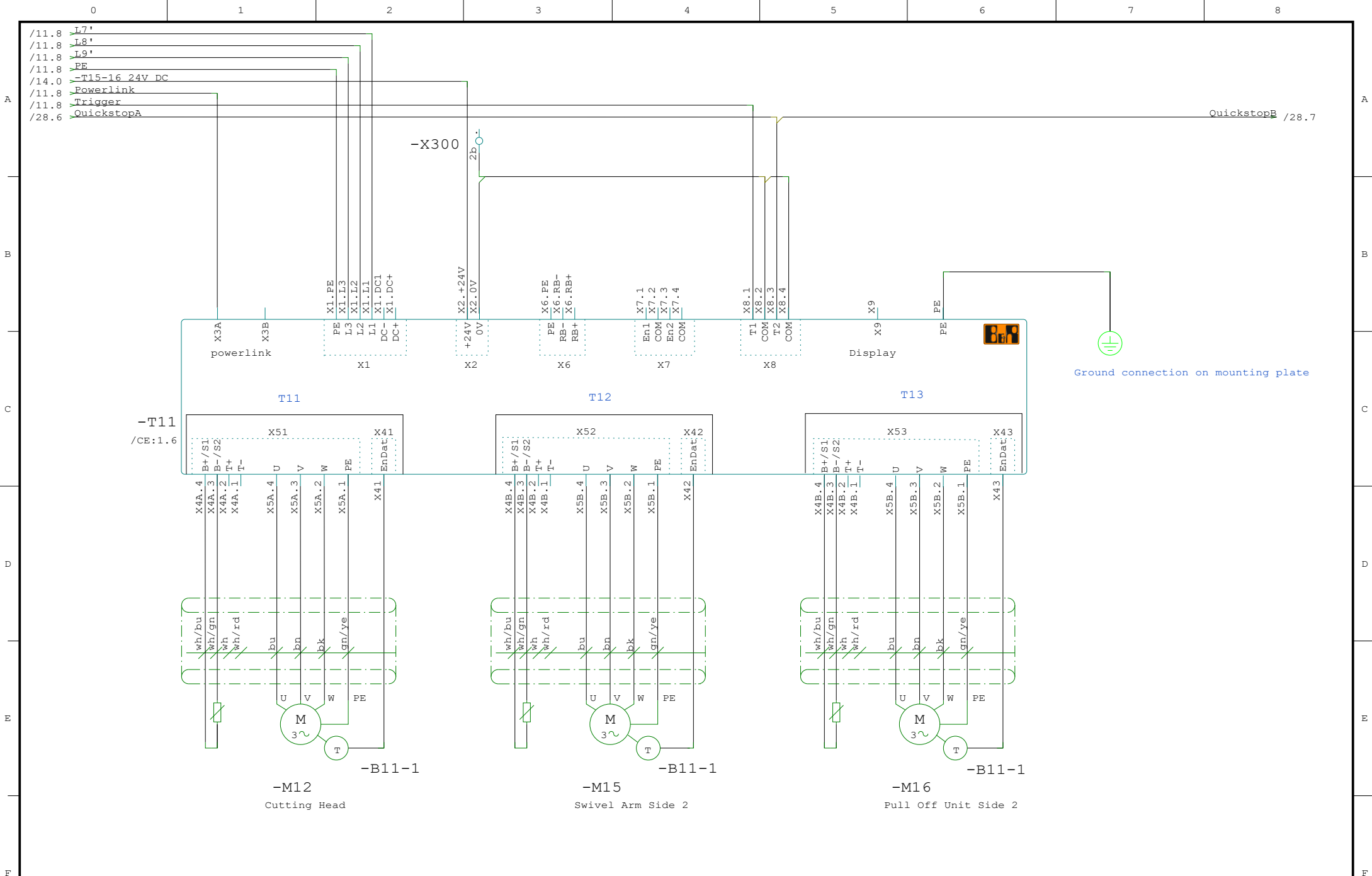
Machine Type:
CC36S_R2020

Additional Information:



Drives M11 & M13

Project number		497892	
Drawing number	sheet	11	
497613	of	40	



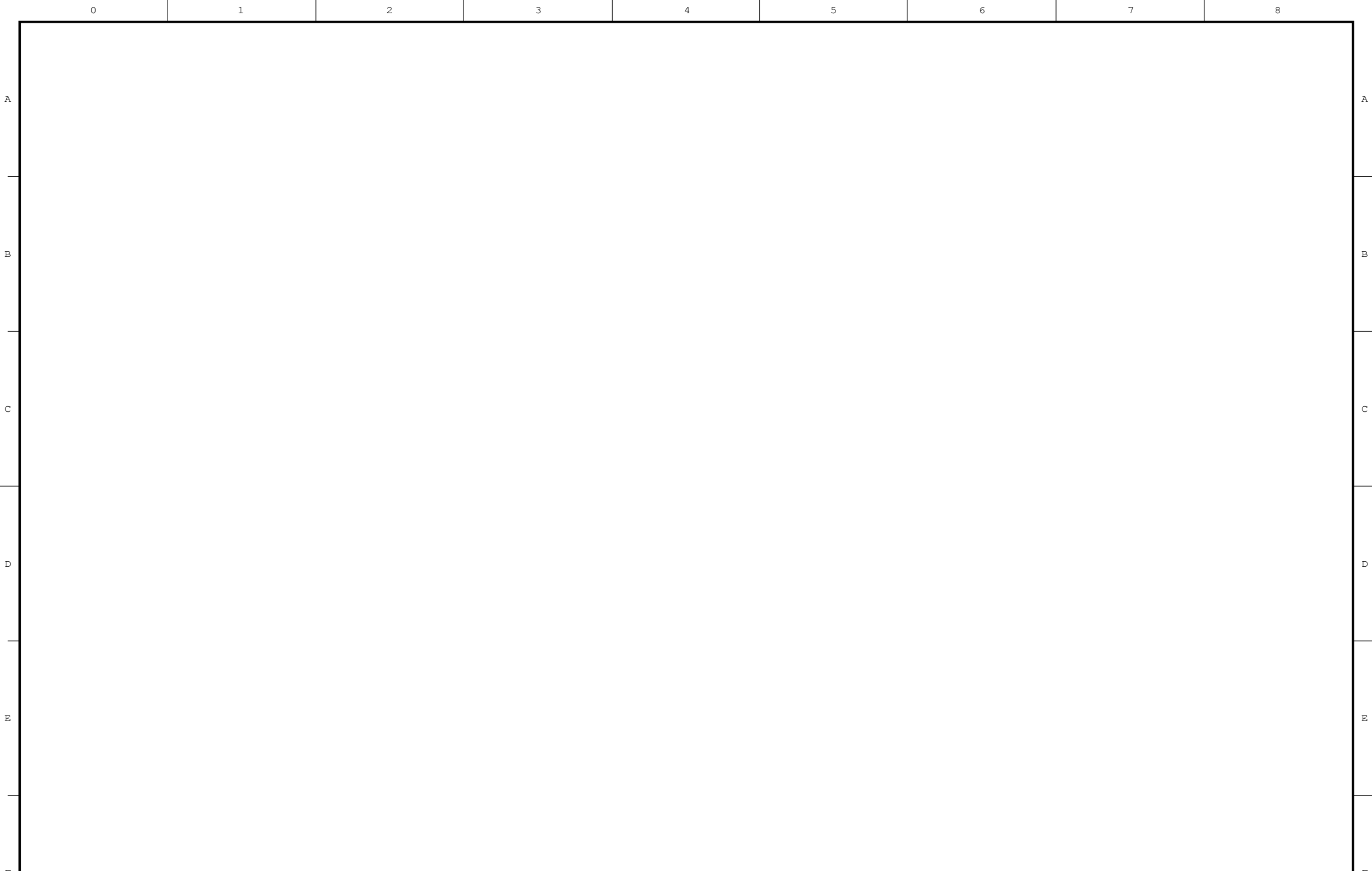
V0108		28.06.	G. Wo	Date	28.06.2022
V0107		31.01.	C. He	work	B.Hanania
V0106		21.10.	C. He	check	
Status	rev.	Date	name	norm	DIN 81346

Machine Type:
CC36S_R2020
Additional Information:



Drives M12, M12 & M16

Project number		497892	
Drawing number	sheet	12	
497613	of	40	



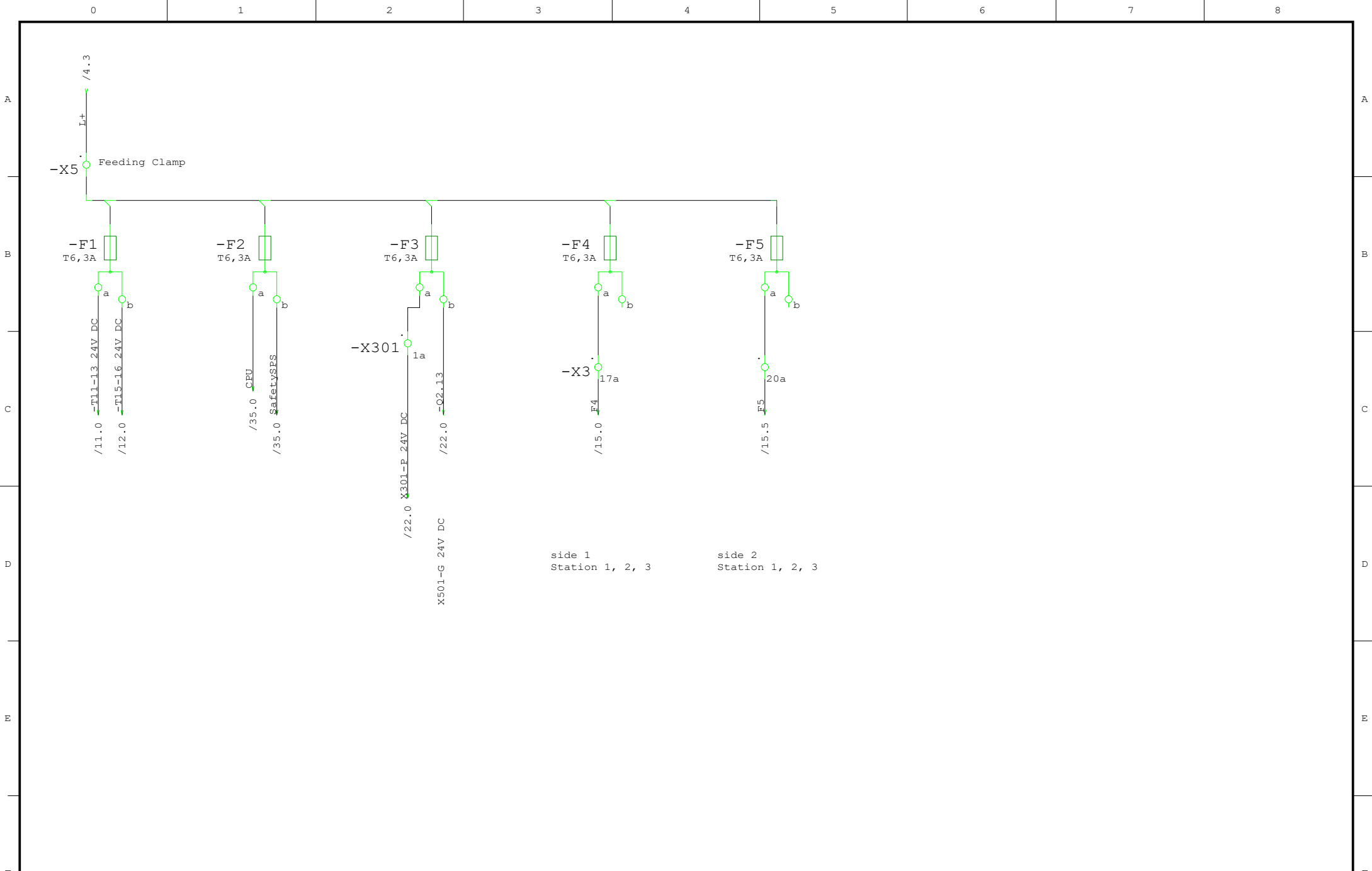
V0108		28.06.	G. Wo	Date	28.06.2022	Machine Type: CC36S_R2020
V0107		31.01.	C. He	work	B.Hanania	
V0106		21.10.	C. He	check		Additional Information:
Status	rev.	Date	name	norm	DIN 81346	



created from

Project number		497892	
Drawing number	sheet	of	13
497613			40

0	1	2	3	4	5	6	7	8	
A									A
B									B
C									C
D									D
E									E
F									F
0	1	2	3	4	5	6	7	8	



V0108		28.06.	G. Wo	Date	28.06.2022
V0107		31.01.	C. He	work	B.Hanania
V0106		21.10.	C. He	check	
Status	rev.	Date	name	norm	DIN 81346

Machine Type:
CC36S_R2020

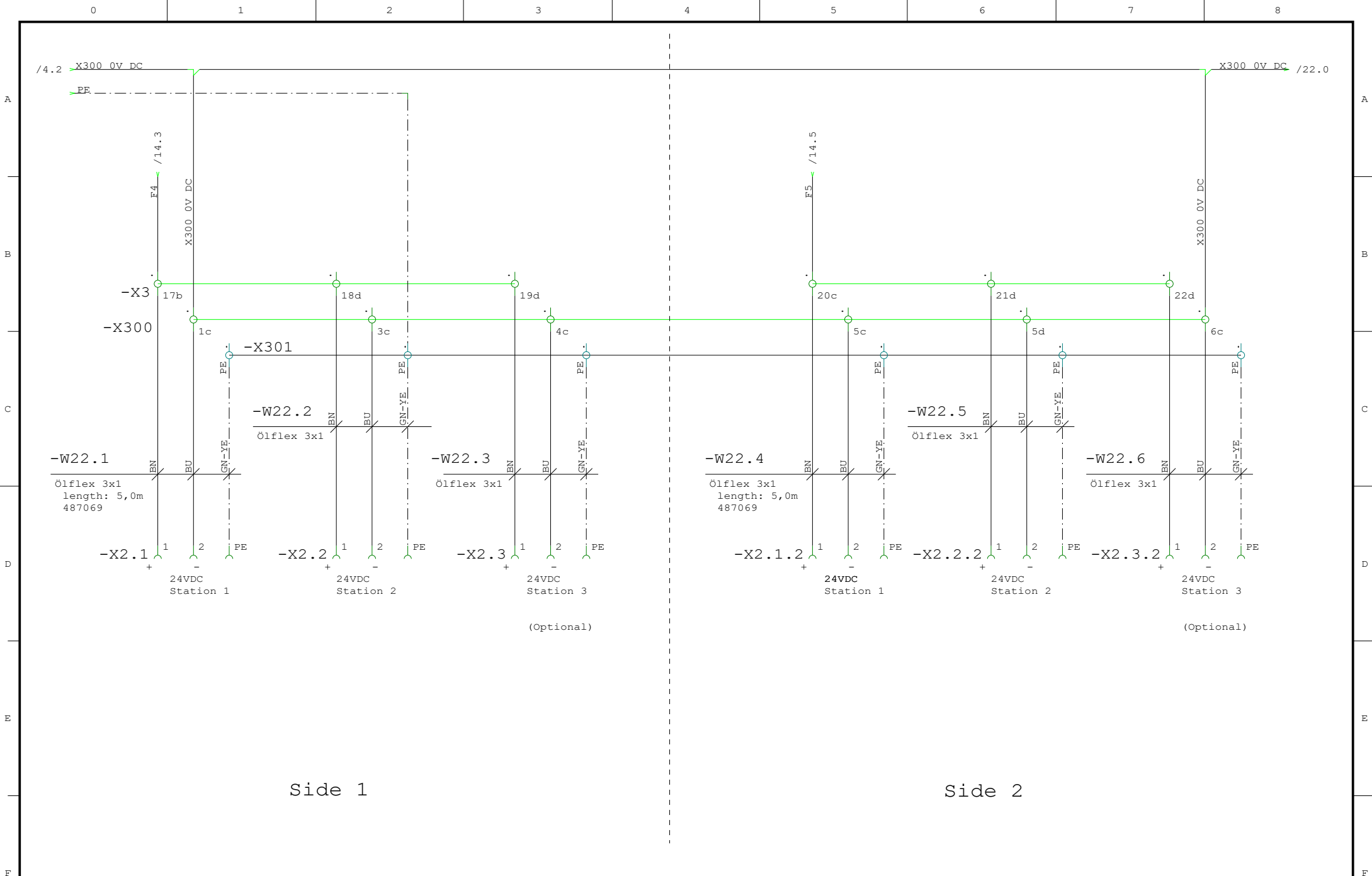
Additional Information:



Fuse protection 24V DC

created from

Project number		497892	
Drawing number	sheet	14	
497613	of	40	



Side 1

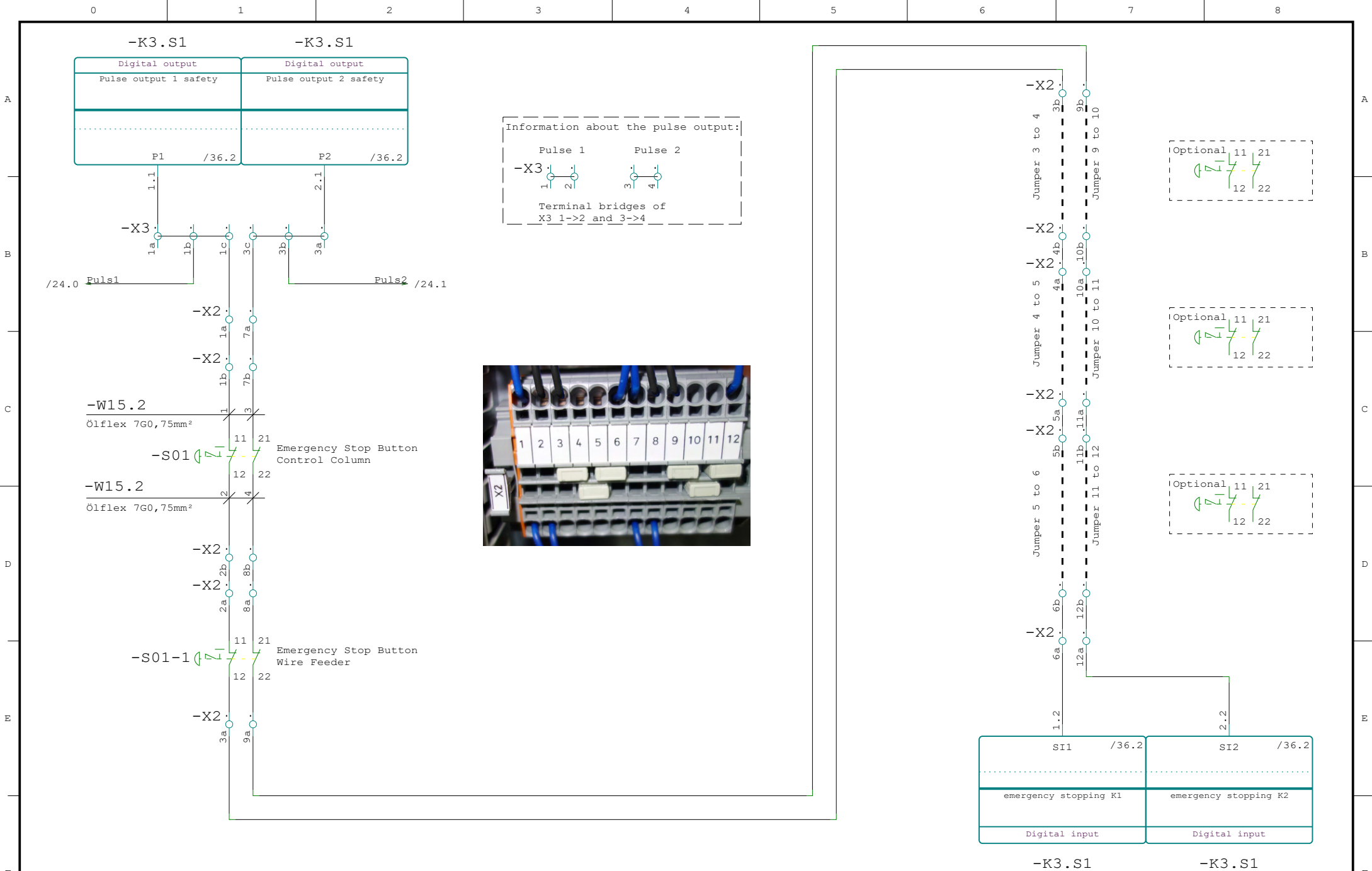
Side 2

V0108		28.06.	G. Wo	Date	28.06.2022	Machine Type: CC36S_R2020 Additional Information:
V0107		31.01.	C. He	work	B.Hanania	
V0106		21.10.	C. He	check		
Status	rev.	Date	name	norm	DIN 81346	


 created from

24V DC voltage distribution for station lines

Project number		497892	
Drawing number	sheet	15	
497613	of	40	

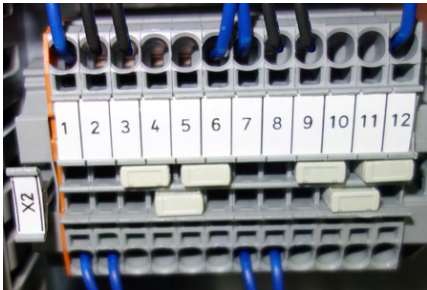


Information about the pulse output:

Pulse 1 Pulse 2

-X3 -X3

Terminal bridges of X3 1->2 and 3->4



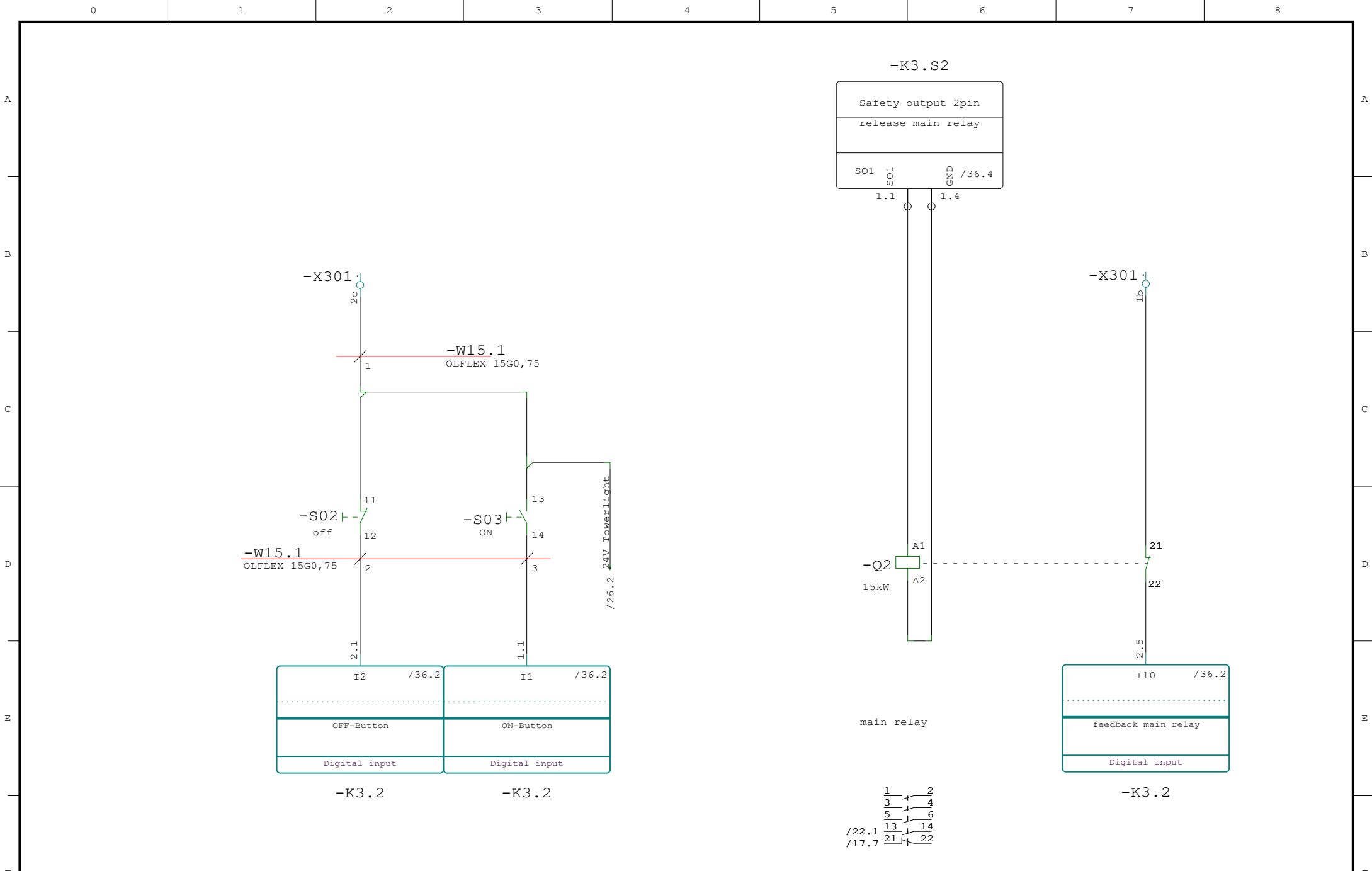
V0108		28.06.	G. Wo	Date	28.06.2022	Machine Type:
V0107		31.01.	C. He	work	B.Hanania	CC36S_R2020
V0106		21.10.	C. He	check		Additional Information:
Status	rev.	Date	name	norm	DIN 81346	

Schleuniger

created from

Emergency stopping connection

Project number	
497892	
Drawing number	sheet 16
497613	of 40



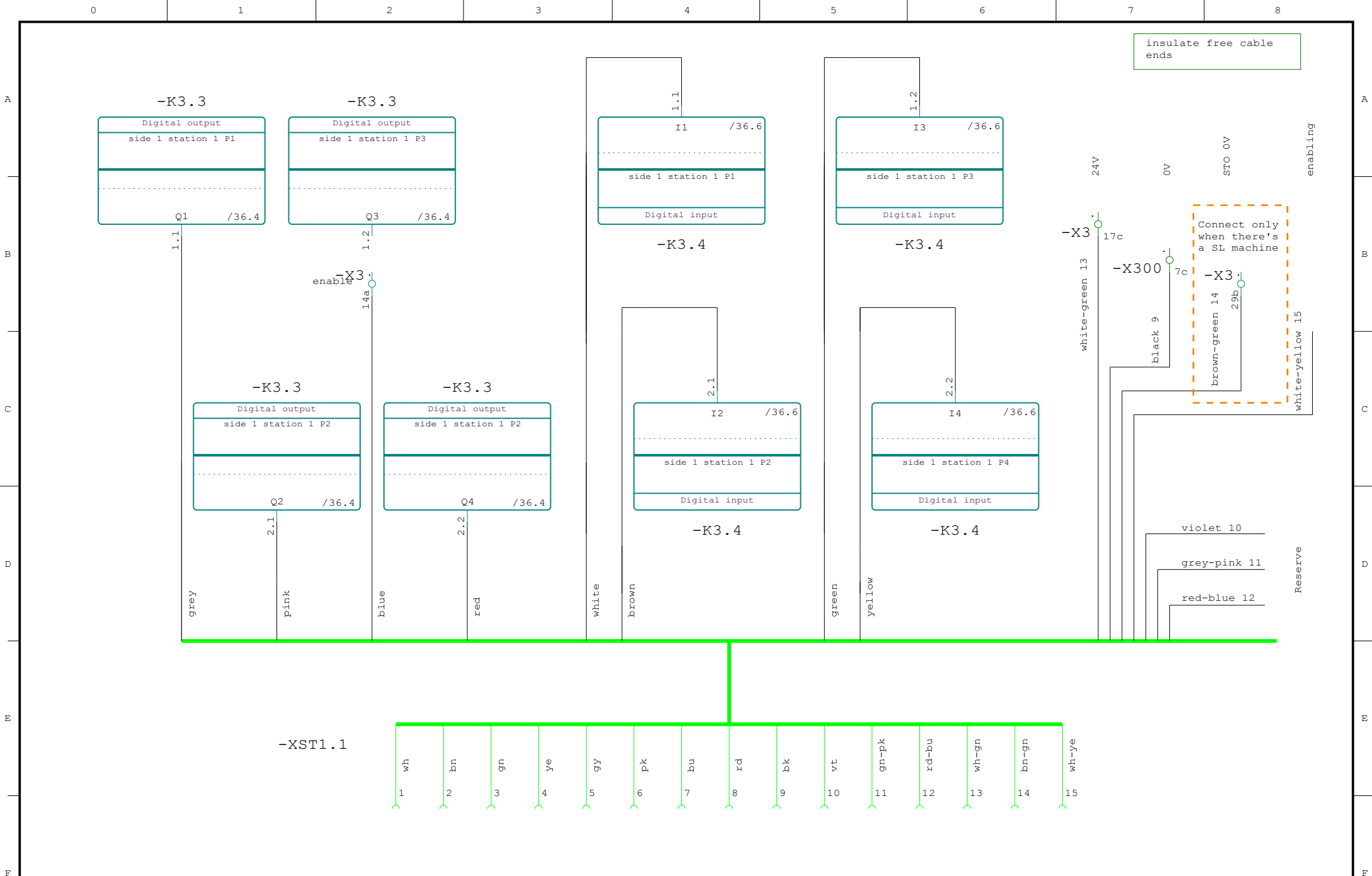
V0108		28.06.	G. Wo	Date	28.06.2022	Machine Type:	
V0107		31.01.	C. He	work	B.Hanania	CC36S_R2020	
V0106		21.10.	C. He	check		Additional Information:	
Status	rev.	Date	name	norm	DIN 81346		

Schleuniger

created from

- Off-switch
- On switch
- Main Contactor

Project number		497892	
Drawing number	sheet	of	17
497613			40



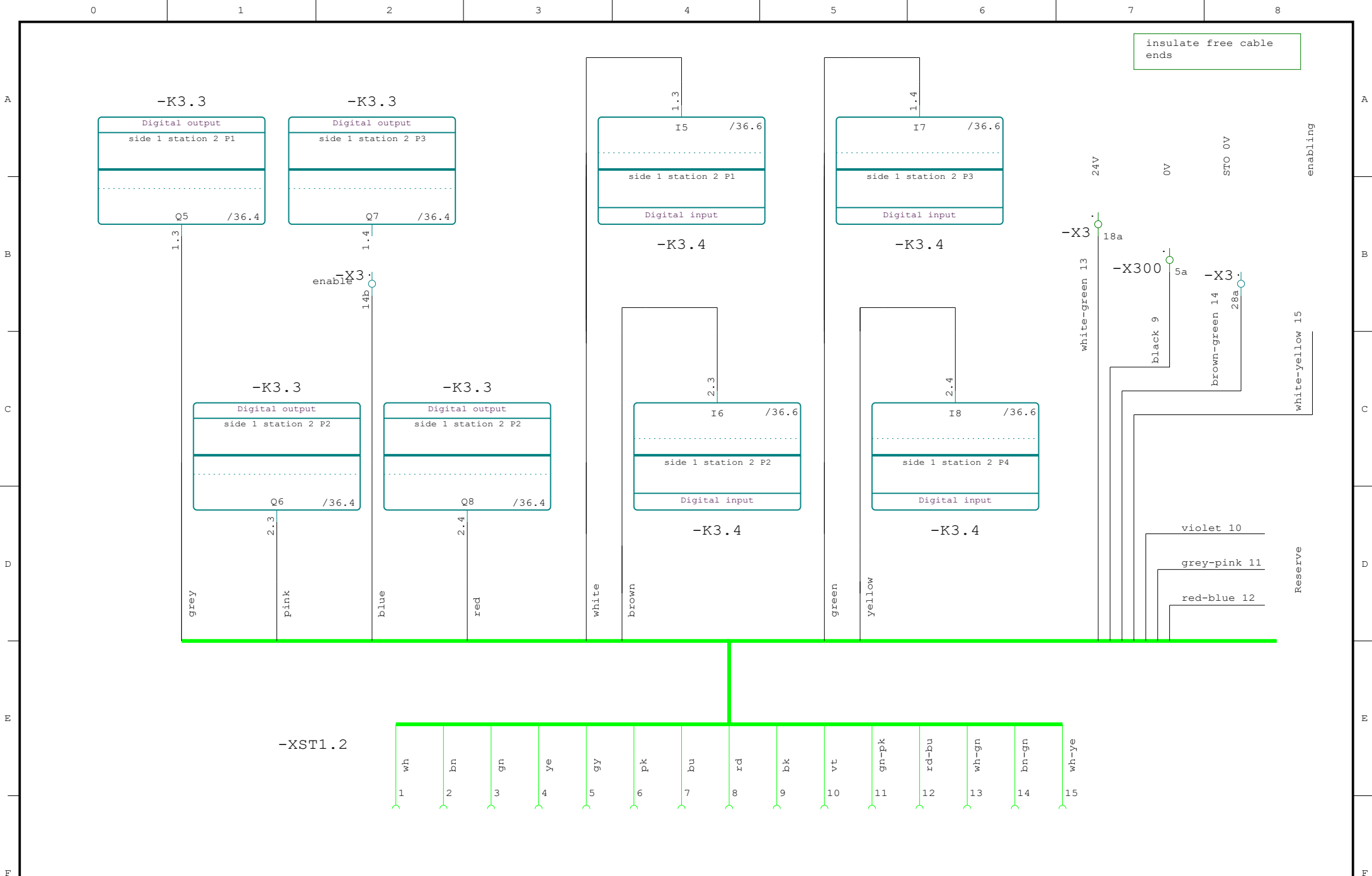
G		03.05.	ROA06	Date	28.06.2022	Machine Type:	
V0108		28.06.	G. Wo	work	B.Hanania	CC36S_R2020	
V0107		31.01.	C. He	check		Additional Information:	
Status	rev.	Date	name	norm	DIN 81346		

created from



Station connection sealing
station side 1 station 1

Project number		497892	
Drawing number	sheet	18	
497613	of	40	



insulate free cable ends

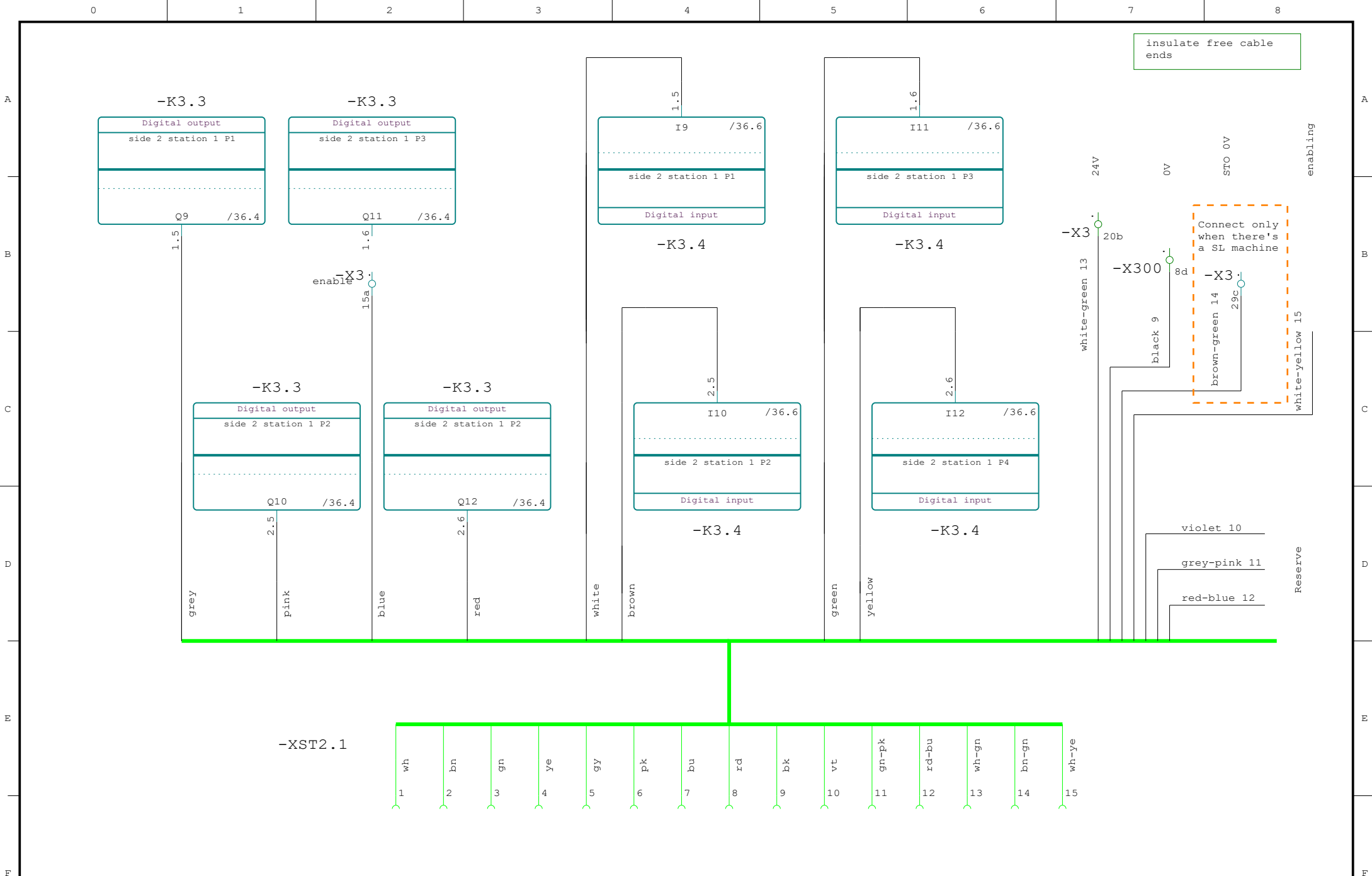
G		03.05.	ROA06	Date	28.06.2022	Machine Type:	
V0108		28.06.	G. Wo	work	B.Hanania	CC36S_R2020	
V0107		31.01.	C. He	check		Additional Information:	
Status	rev.	Date	name	norm	DIN 81346		



Station connection crimping
station side 1 station 2

Project number	497892
Drawing number	497613
sheet	19
of	40

created from



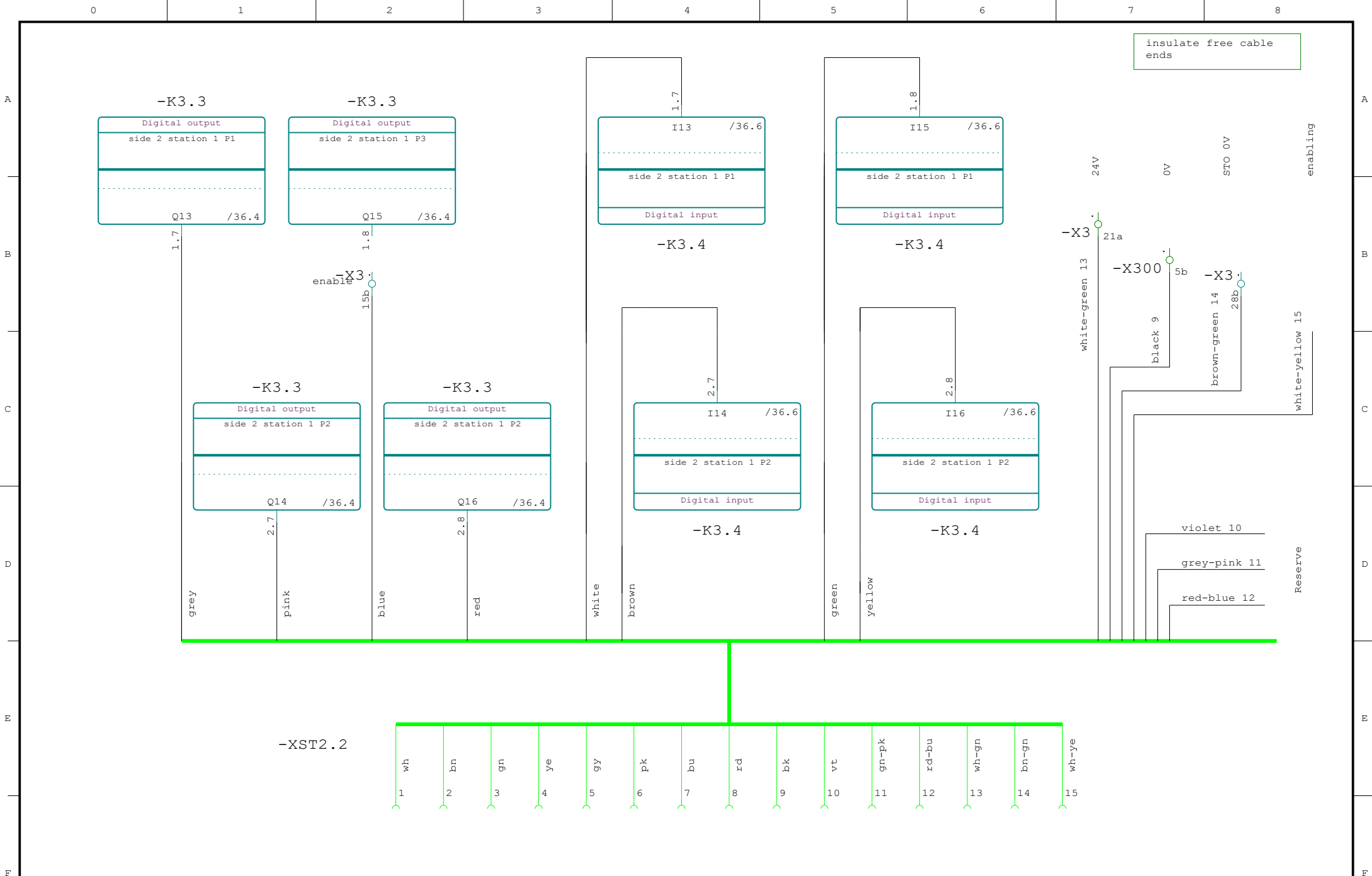
G		03.05.	ROA06	Date	28.06.2022	Machine Type:	
V0108		28.06.	G. Wo	work	B.Hanania	CC36S_R2020	
V0107		31.01.	C. He	check		Additional Information:	
Status	rev.	Date	name	norm	DIN 81346		

Schleuniger

created from

Station connection sealing
station side 2 station 1

Project number		497892
Drawing number	sheet	20
497613	of	40



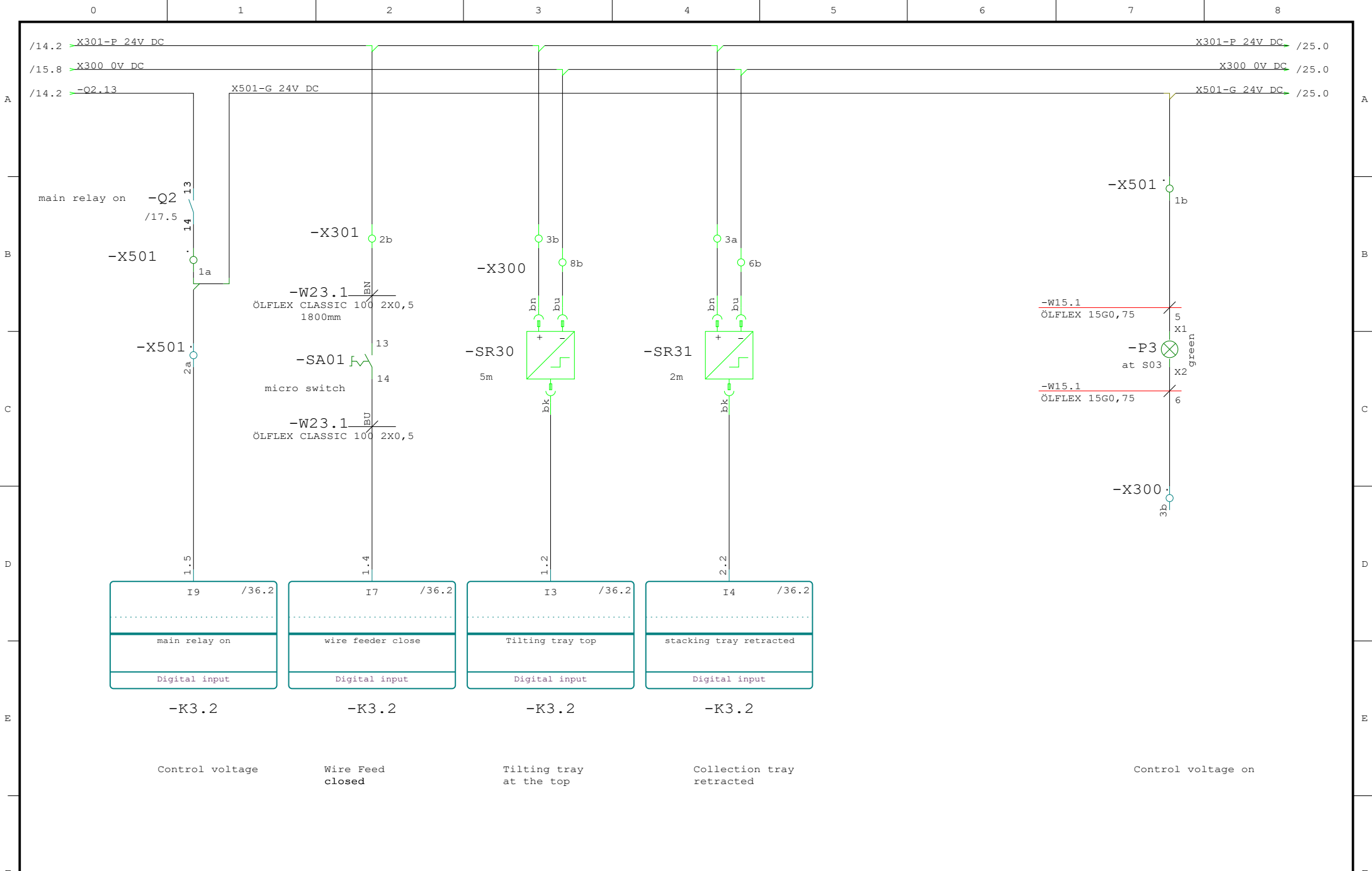
V0108		28.06.	G. Wo	Date	28.06.2022	Machine Type:	
V0107		31.01.	C. He	work	B.Hanania	CC36S_R2020	
V0106		21.10.	C. He	check		Additional Information:	
Status	rev.	Date	name	norm	DIN 81346		

Schleuniger

created from

Station connection crimping
station side 2 station 2

Project number		497892	
Drawing number	sheet	497613	21
of		40	



-K3.2

-K3.2

-K3.2

-K3.2

Control voltage

Wire Feed closed

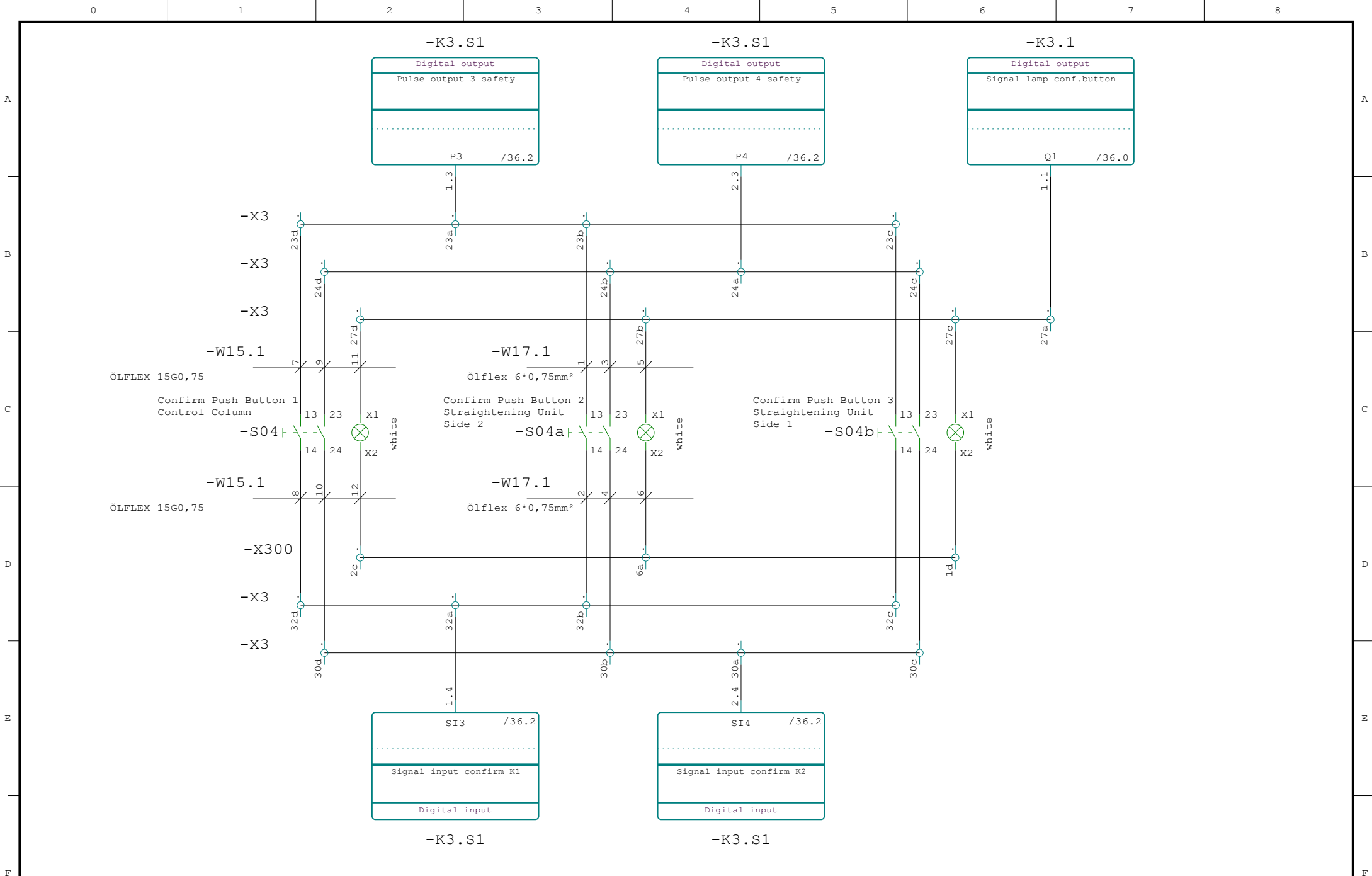
Tilting tray at the top

Collection tray retracted

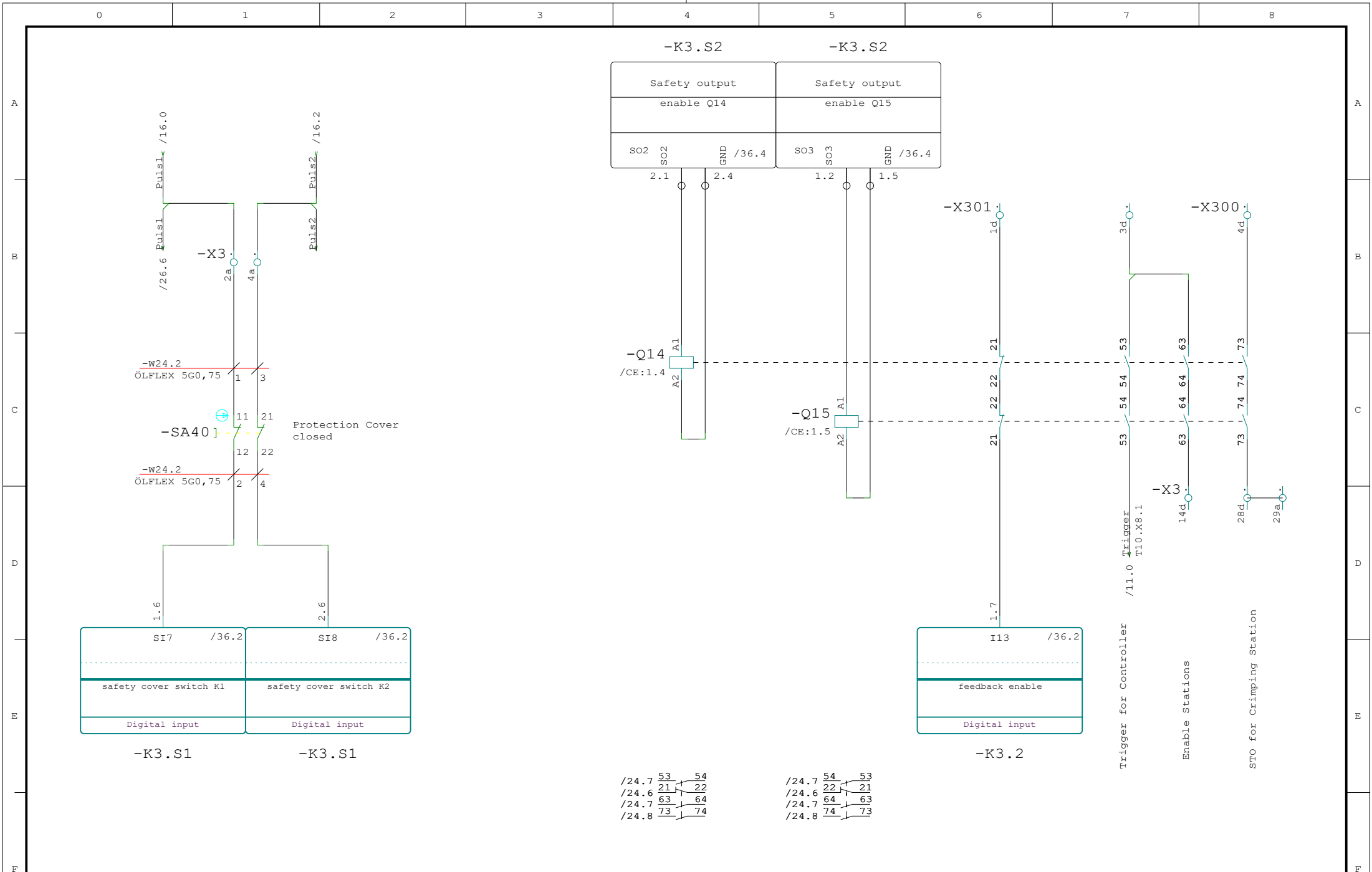
Control voltage on

V0108		28.06.	G. Wo	Date	28.06.2022	Machine Type:	SPS-Input	Project number	
V0107		31.01.	C. He	work	B.Hanania	CC36S_R2020		497892	
V0106		21.10.	C. He	check		Additional Information:		Drawing number	sheet 22
Status	rev.	Date	name	norm	DIN 81346		created from	497613	of 40





V0108		28.06.	G. Wo	Date	28.06.2022	Machine Type: CC36S_R2020		Confirm push button		Project number	
V0107		31.01.	C. He	work	B.Hanania					497892	
V0106		21.10.	C. He	check		Additional Information:		Drawing number	sheet	23	
Status	rev.	Date	name	norm	DIN 81346		created from	497613	of	40	



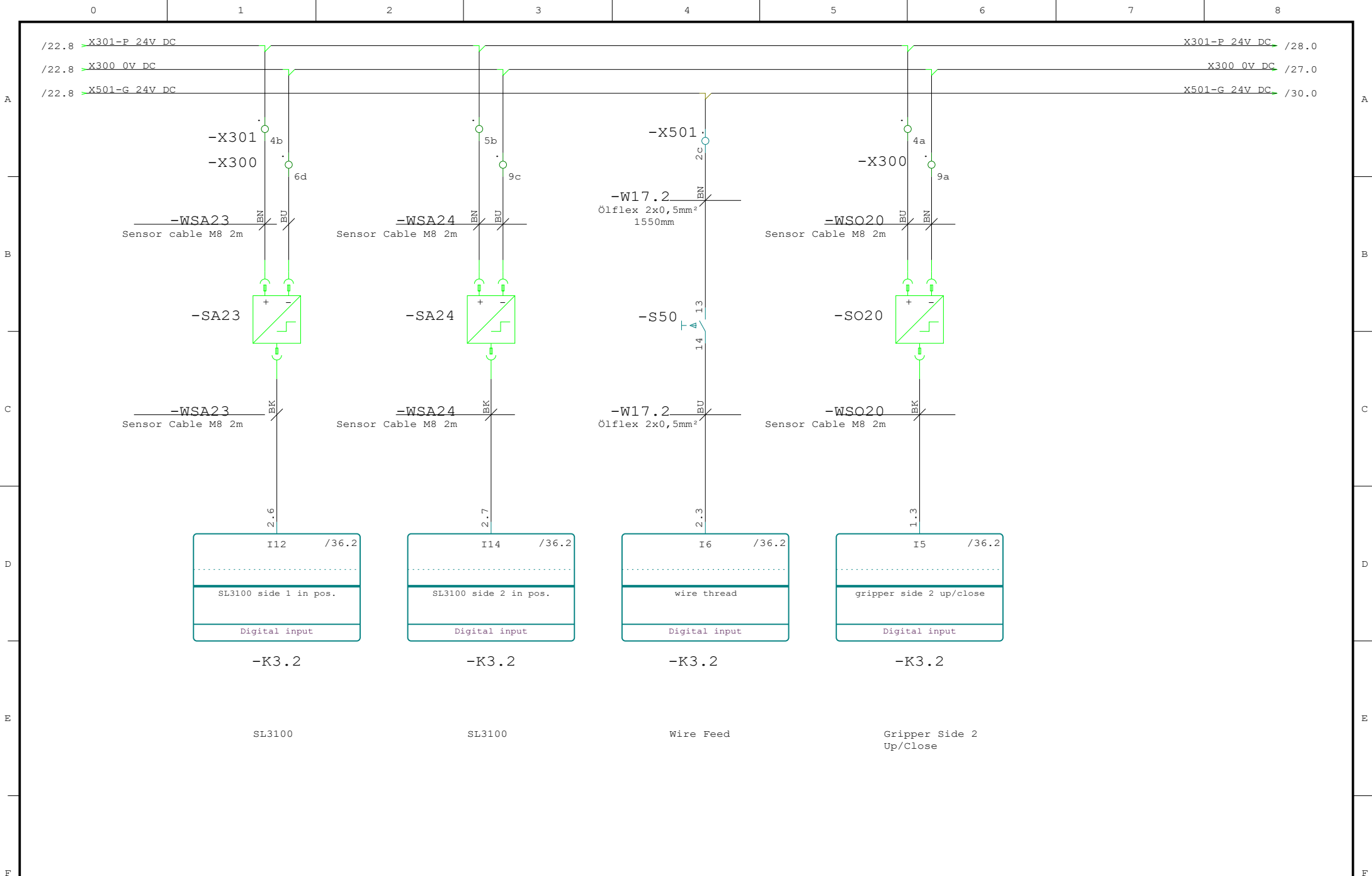
V0108		28.06.	G. Wo	Date	28.06.2022	Machine Type:	
V0107		31.01.	C. He	work	B.Hanania	CC36S_R2020	
V0106		21.10.	C. He	check		Additional Information:	
Status	rev.	Date	name	norm	DIN 81346		

created from



- Cover safety switch
- STO crimping station
- Station release

Project number		497892	
Drawing number	sheet	24	
497613	of	40	

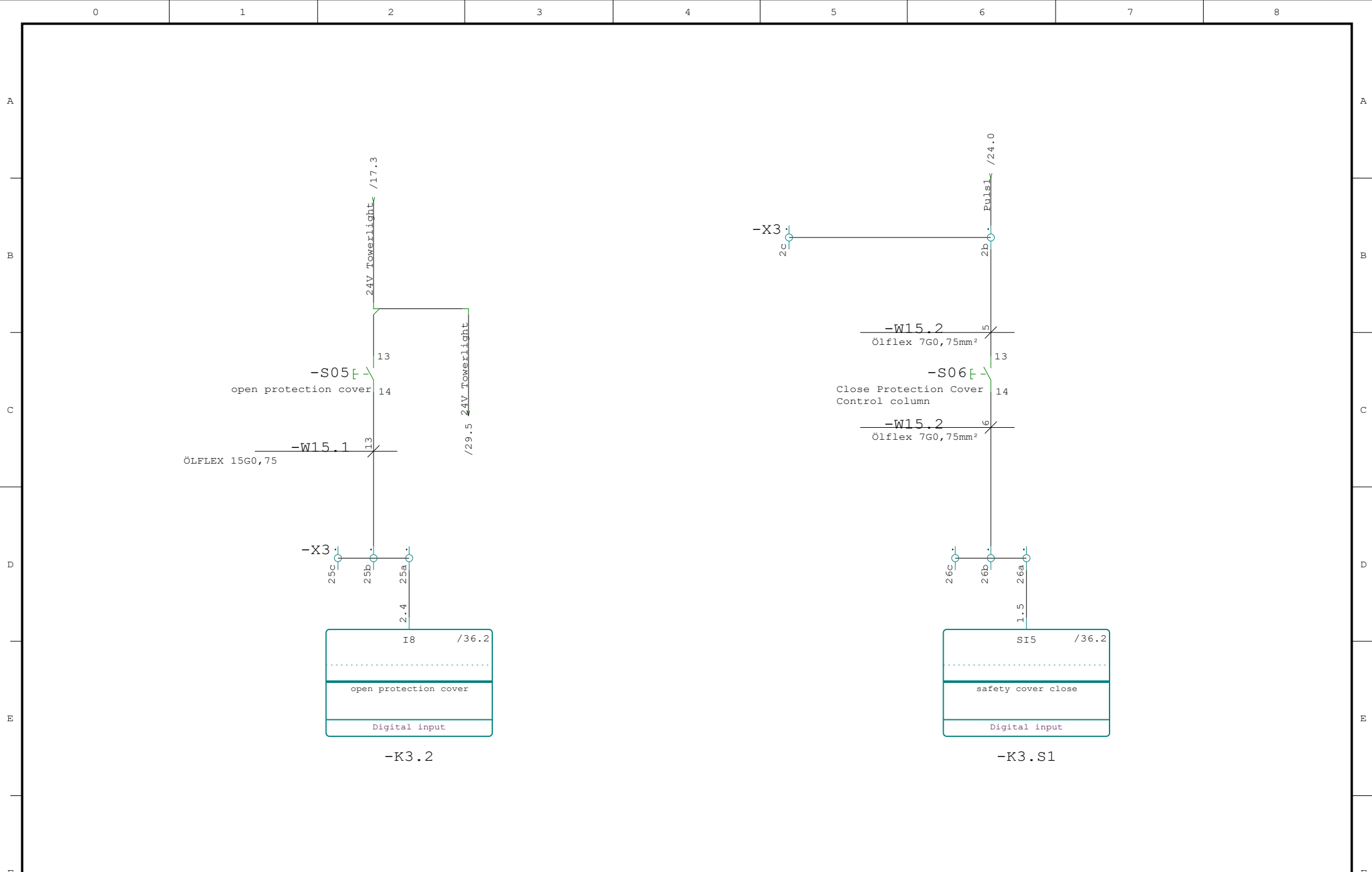


V0108		28.06.	G. Wo	Date	28.06.2022	Machine Type:
V0107		31.01.	C. He	work	B.Hanania	CC36S_R2020
V0106		21.10.	C. He	check		Additional Information:
Status	rev.	Date	name	norm	DIN 81346	


 created from

Various PLC inputs

Project number	
497892	
Drawing number	sheet 25
497613	of 40

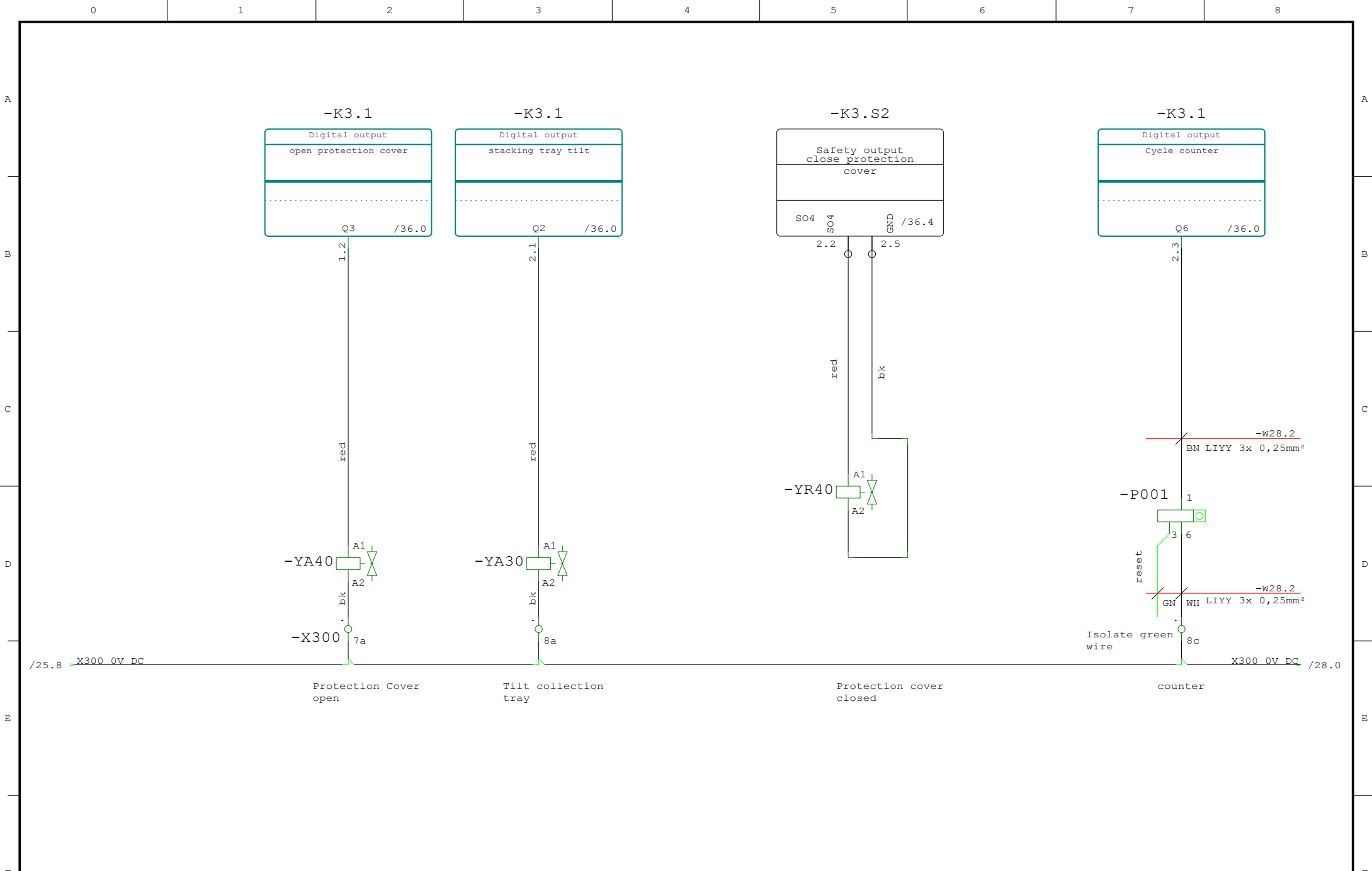


V0108		28.06.	G. Wo	Date	28.06.2022	Machine Type: CC36S_R2020
V0107		31.01.	C. He	work	B.Hanania	
V0106		21.10.	C. He	check		Additional Information:
Status	rev.	Date	name	norm	DIN 81346	


 created from

Open / close protective cover
double version

Project number 497892	
Drawing number 497613	sheet of 26 40

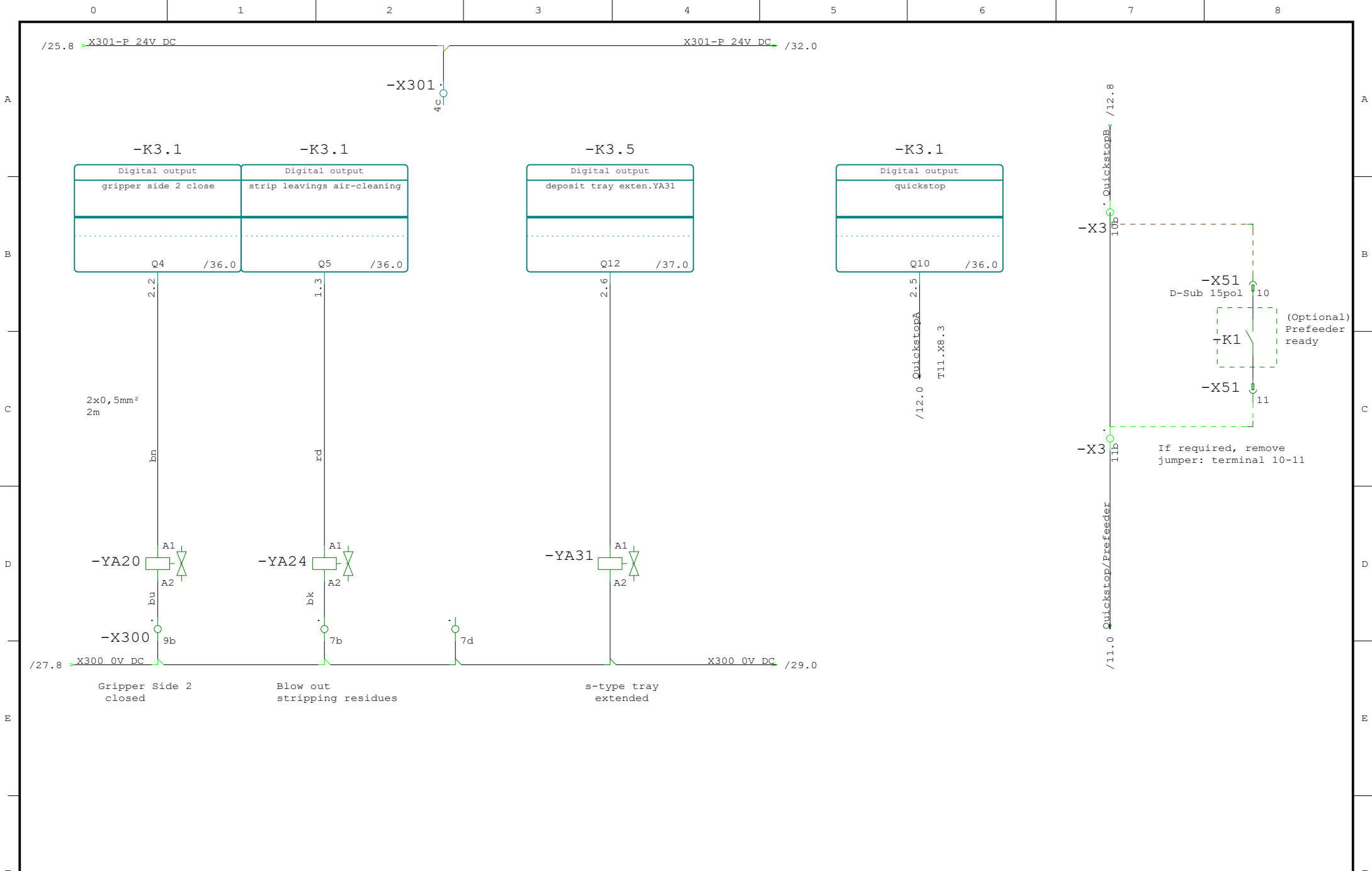


V0109	-YA31 hinzug	09.02.	HAB06	Date	28.06.2022	Machine Type: CC36S_R2020
V0108		28.06.	G. Wo	work	B.Hanania	
V0107		31.01.	C. He	check		Additional Information:
Status	rev.	Date	name	norm	DIN 81346	



Output	
created from	

Project number	497892
Drawing number	497613
sheet	27
of	40

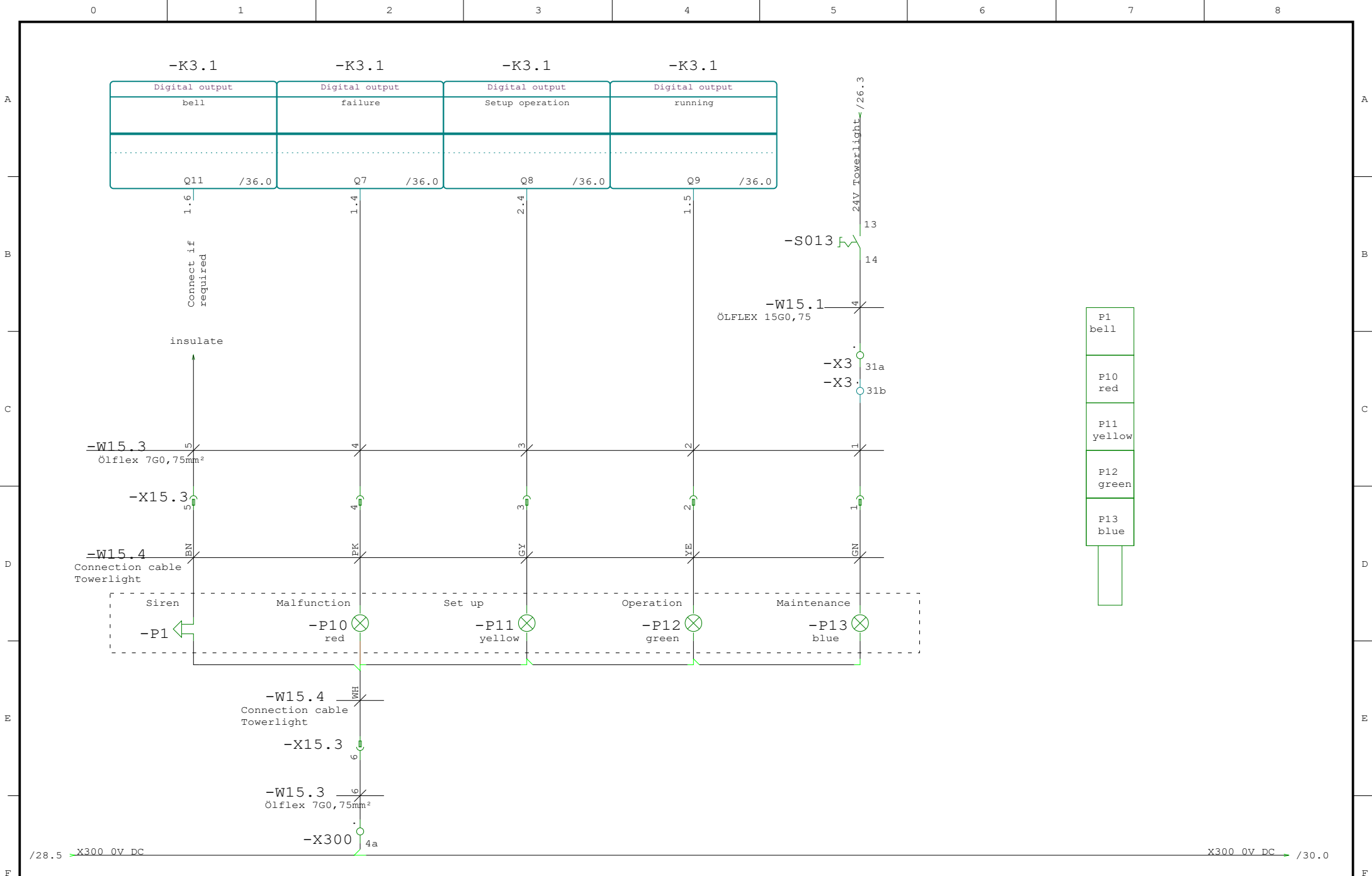


V0109	-YA31 hinzug	09.02.	HAB06	Date	28.06.2022	Machine Type: CC36S_R2020 Additional Information:
V0108		28.06.	G. Wo	work	B.Hanania	
V0107		31.01.	C. He	check		
Status	rev.	Date	name	norm	DIN 81346	



Output	Project number	497892
	Drawing number	497613
	sheet	28
	of	40

created from



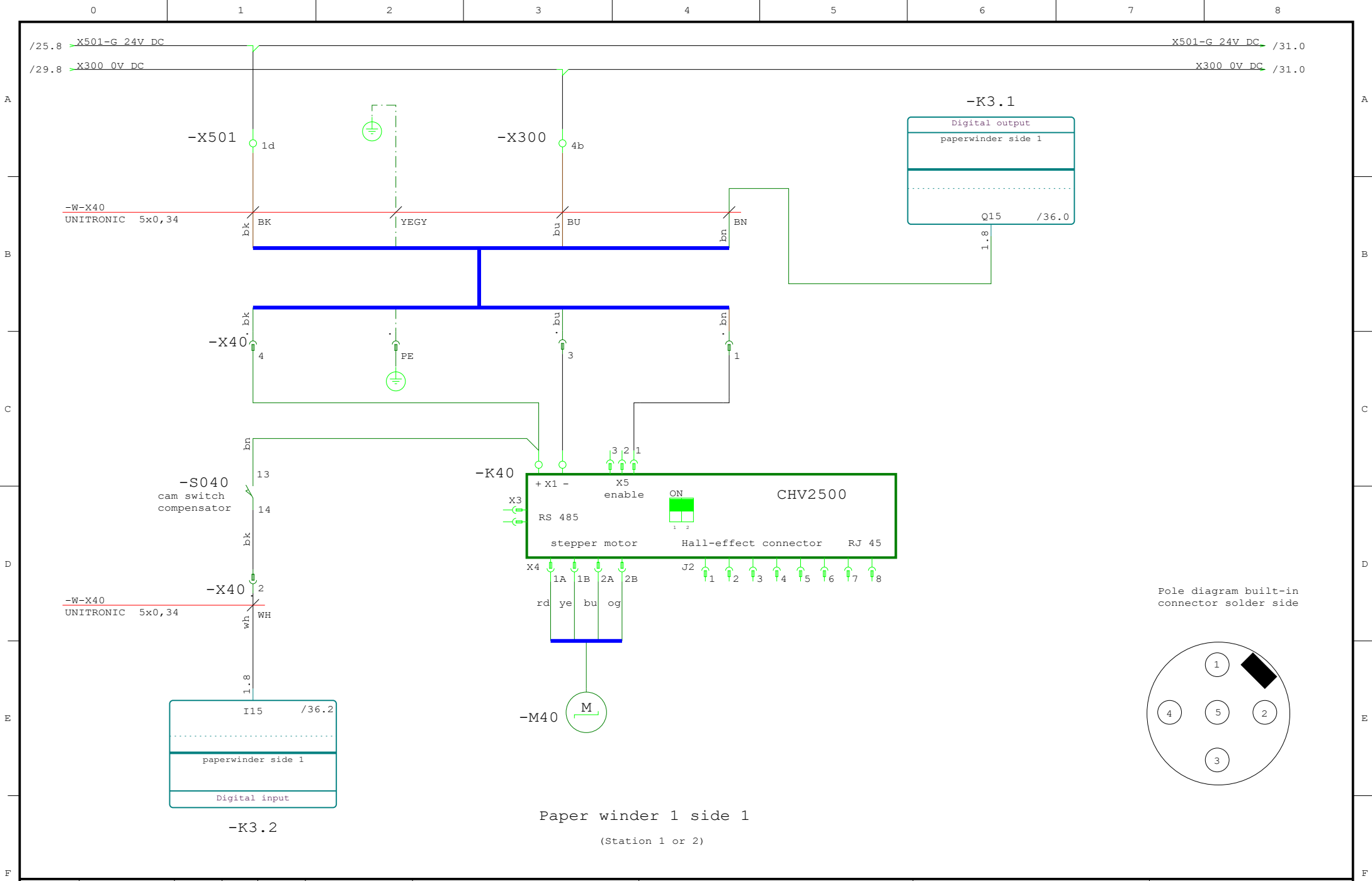
V0108		28.06.	G. Wo	Date	28.06.2022	Machine Type: CC36S_R2020
V0107		31.01.	C. He	work	B.Hanania	
V0106		21.10.	C. He	check		Additional Information:
Status	rev.	Date	name	norm	DIN 81346	

Schleuniger

created from

Connect Towerlight

Project number		497892	
Drawing number	sheet	497613	29
	of		40

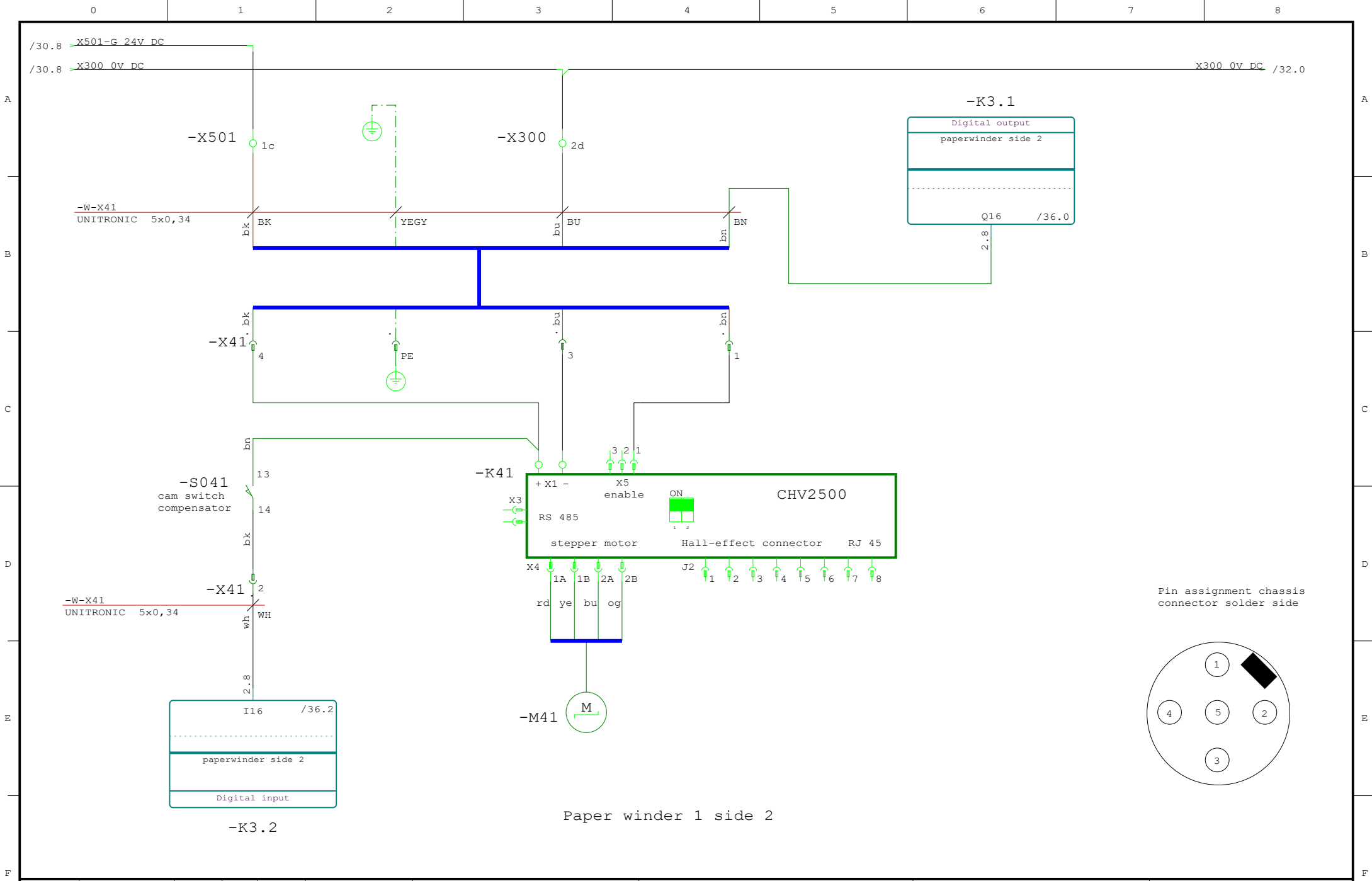


V0108		28.06.	G. Wo	Date	28.06.2022	Machine Type: CC36S_R2020 Additional Information:
V0107		31.01.	C. He	work	B.Hanania	
V0106		21.10.	C. He	check		
Status	rev.	Date	name	norm	DIN 81346	

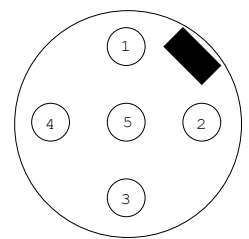


Paper winder 1 side 1
created from

Project number		497892
Drawing number	sheet	30
497613	of	40



Pin assignment chassis connector solder side

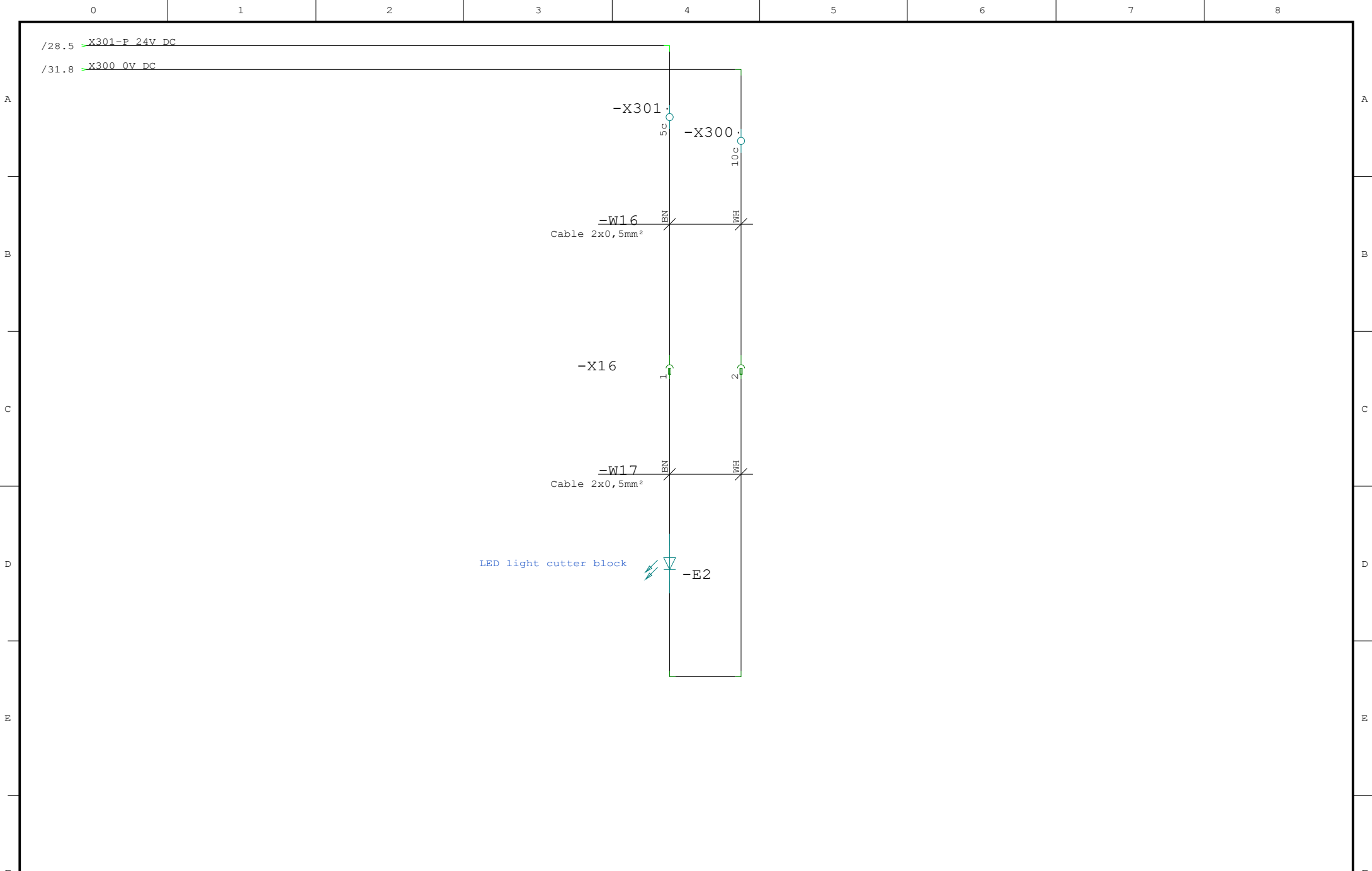


V0108		28.06.	G. Wo	Date	28.06.2022	Machine Type: CC36S_R2020 Additional Information:
V0107		31.01.	C. He	work	B.Hanania	
V0106		21.10.	C. He	check		
Status	rev.	Date	name	norm	DIN 81346	



Paper winder 1 side 2
created from

Project number 497892	
Drawing number 497613	sheet 31 of 40

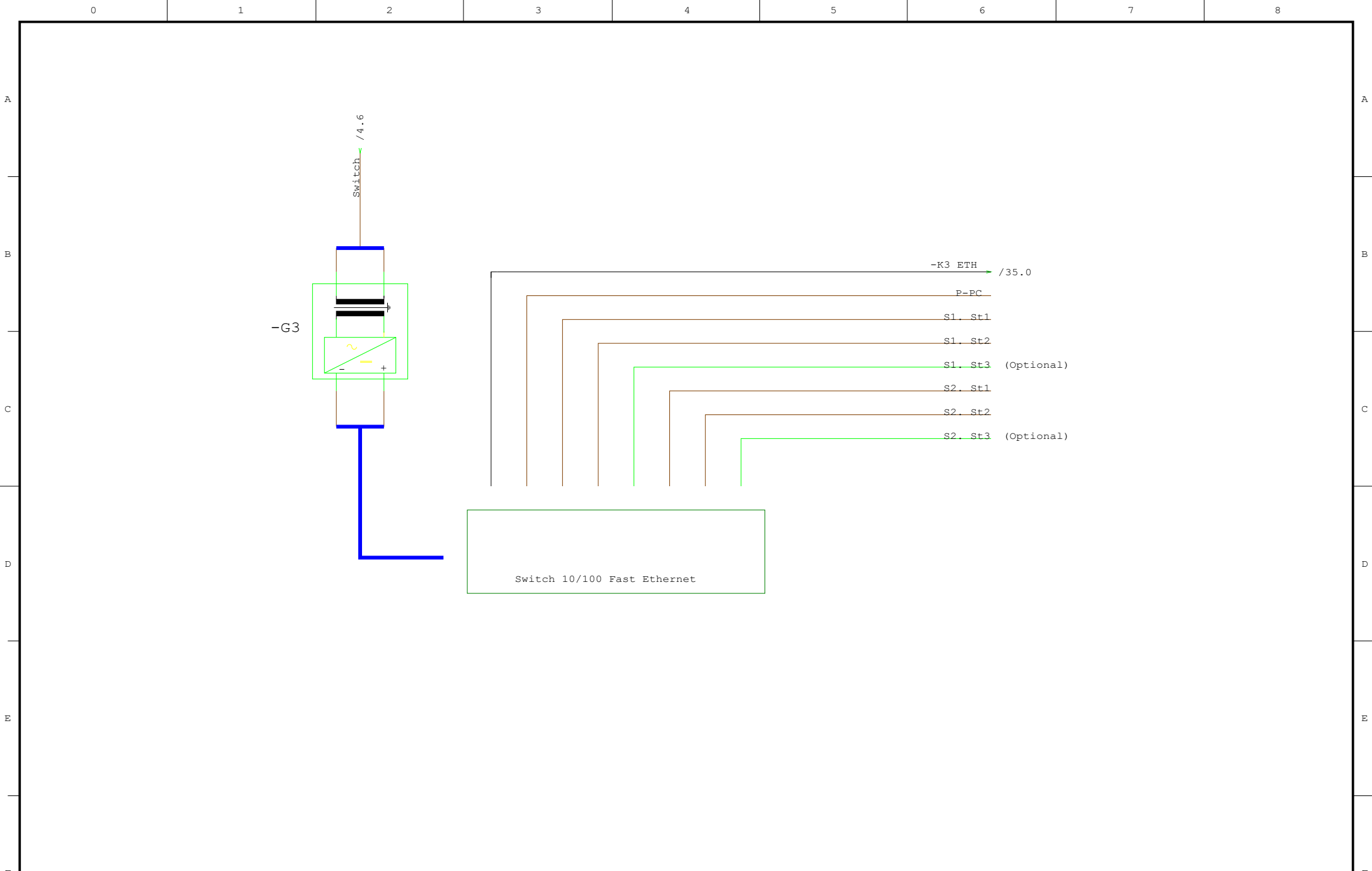


V0108		28.06.	G. Wo	Date	28.06.2022	Machine Type: CC36S_R2020
V0107		31.01.	C. He	work	B.Hanania	
V0106		21.10.	C. He	check		Additional Information:
Status	rev.	Date	name	norm	DIN 81346	


Schleuniger
 created from

LED light cutter block

Project number		497892	
Drawing number	sheet	of	32
497613			40



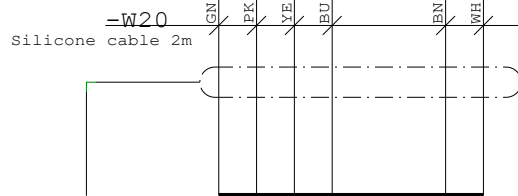
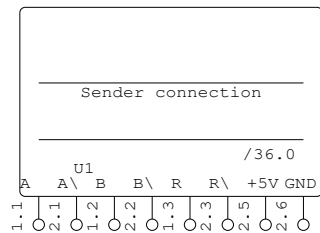
V0108		28.06.	G. Wo	Date	28.06.2022	Machine Type: CC36S_R2020
V0107		31.01.	C. He	work	B.Hanania	
V0106		21.10.	C. He	check		Additional Information:
Status	rev.	Date	name	norm	DIN 81346	


Schleuniger
 created from

TCP/IP switch connections

Project number		497892	
Drawing number	sheet	33	
497613	of	40	

-K3.Z1



Shielded clamp on cap rail

GHM3S05



V0108		28.06.	G. Wo	Date	28.06.2022	Machine Type:
V0107		31.01.	C. He	work	B.Hanania	CC36S_R2020
V0106		21.10.	C. He	check		Additional Information:
Status	rev.	Date	name	norm	DIN 81346	



Wire feed encoder

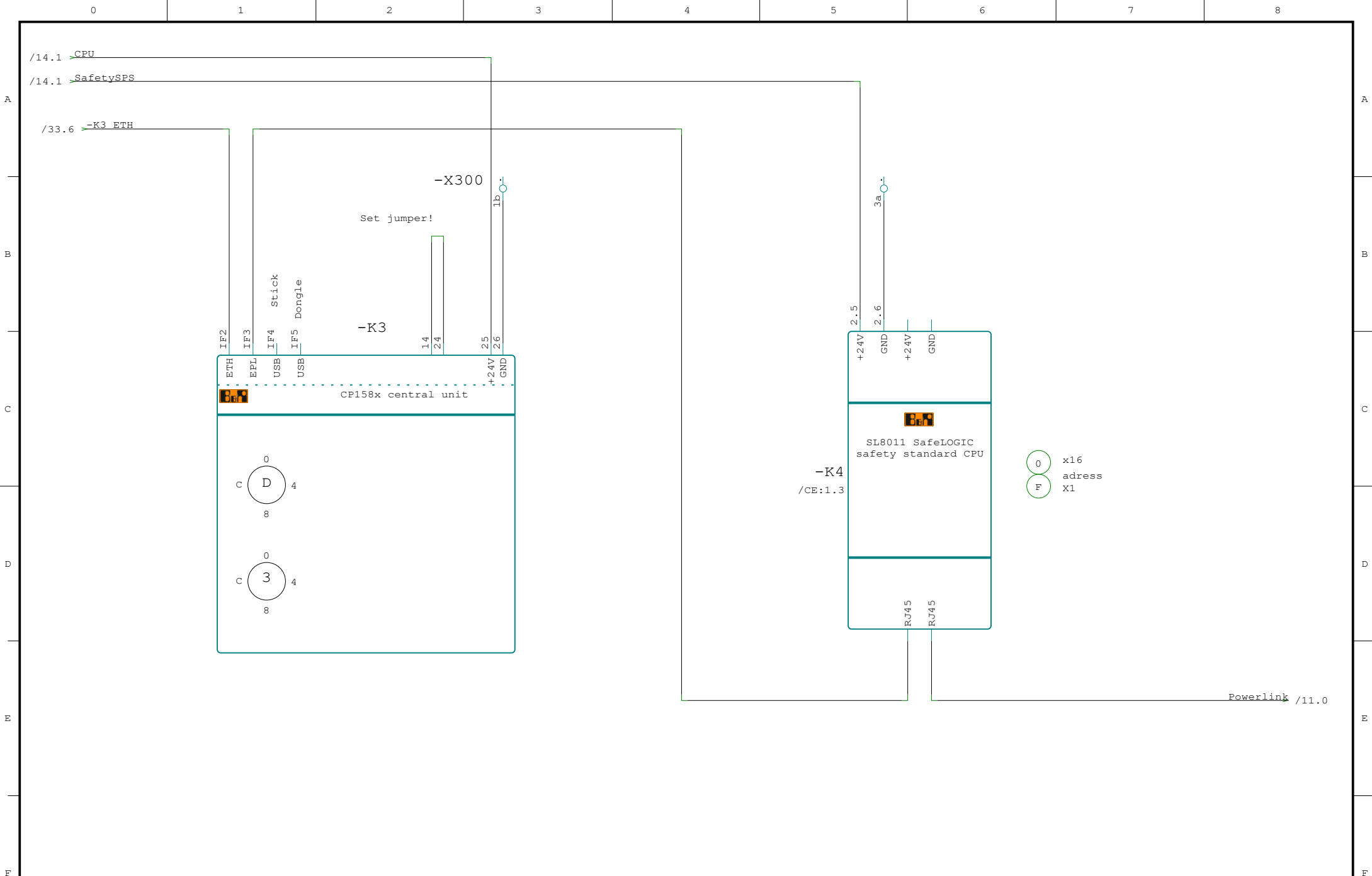
Project number

497892

Drawing number sheet 34

497613 of 40

created from



V0109	-YA31 hinzug	09.02.	HAB06	Date	28.06.2022	Machine Type: CC36S_R2020
V0108		28.06.	G. Wo	work	B.Hanania	
V0107		31.01.	C. He	check		Additional Information:
Status	rev.	Date	name	norm	DIN 81346	


 created from

Connection CP1586
 Connection SL8100

Project number		497892	
Drawing number	sheet	of	35
497613			40

-K3.Z1

Digital counter module DC1176		
1.1	A	/34.3 Sender connection
2.1	A\	
1.2	B	
2.2	B\	
1.3	R	
2.3	R\	
2.5	+5V	
2.6	GND	
<hr/>		
1.4	DI	
1.5	+24V	
1.6	GND	
<hr/>		
2.4	DI	
1.5	+24V	
2.6	GND	

-K3.S1

B&R safe mixer module		
1.1	P1	/16.0 Pulse output 1 safety
2.1	P2	/16.2 Pulse output 2 safety
1.2	SI1	/16.7 emergency stopping K1
2.2	SI2	/16.8 emergency stopping K2
1.3	P3	/23.2 Pulse output 3 safety
2.3	P4	/23.4 Pulse output 4 safety
1.4	SI3	/23.2 Signal input confirm K1
2.4	SI4	/23.4 Signal input confirm K2
1.6	SI7	/24.0 safety cover switch K1
2.6	SI8	/24.2 safety cover switch K2
1.5	SI5	/26.6 safety cover close
2.5	SI6	

-K3.S2

B&R safe mixer module		
1.1	SO1	/17.5 release main relay
1.4	GND	
2.1	SO2	/24.4 enable Q14
2.4	GND	
1.2	SO3	/24.5 enable Q15
1.5	GND	
2.2	SO4	/27.5 close protection cover
2.5	GND	
1.3	SO5	
1.6	GND	
2.3	SO6	
2.6	GND	

-K3.1

Digital output module DOF322		
1.1	Q1	/23.6 Signal lamp conf.button
1.2	Q3	/27.2 open protection cover
1.3	Q5	/28.2 strip leavings
1.4	Q7	/29.2 failure
1.5	Q9	/29.4 running
1.6	Q11	/29.1 bell
1.7	Q13	/10.6 Conveyor belt speedbit1
1.8	Q15	/30.6 paperwinder side 1
<hr/>		
2.1	Q2	/27.3 stacking tray tilt
2.2	Q4	/28.0 gripper side 2 close
2.3	Q6	/27.7 Cycle counter
2.4	Q8	/29.3 Setup operation
2.5	Q10	/28.6 quickstop
2.6	Q12	/10.5 Conveyor belt speedbit0
2.7	Q14	/10.3 Feeding release
2.8	Q16	/31.6 paperwinder side 2

-K3.2

Digital input module DIF371		
1.1	I1	/17.3 ON-Button
1.2	I3	/22.3 Tilting tray top
1.3	I5	/25.6 gripper side 2 up/close
1.4	I7	/22.2 wire feeder close
1.5	I9	/22.1 main relay on
1.6	I11	Sensor guide plate
1.7	I13	/24.6 feedback enable
1.8	I15	/30.1 paperwinder side 1
<hr/>		
2.1	I2	/17.2 OFF-Button
2.2	I4	/22.4 stacking tray retracted
2.3	I6	/25.4 wire thread
2.4	I8	/26.2 open protection cover
2.5	I10	/17.7 feedback main relay
2.6	I12	/25.1 SL3100 side 1 in pos.
2.7	I14	/25.3 SL3100 side 2 in pos.
2.8	I16	/31.1 paperwinder side 2

-K3.3

Digital output module DOF322		
1.1	Q1	/18.1 side 1 station 1 P1
1.2	Q3	/18.2 side 1 station 1 P3
1.3	Q5	/19.1 side 1 station 2 P1
1.4	Q7	/19.2 side 1 station 2 P3
1.5	Q9	/20.1 side 2 station 1 P1
1.6	Q11	/20.2 side 2 station 1 P3
1.7	Q13	/21.1 side 2 station 1 P1
1.8	Q15	/21.2 side 2 station 1 P3
<hr/>		
2.1	Q2	/18.1 side 1 station 1 P2
2.2	Q4	/18.3 side 1 station 1 P2
2.3	Q6	/19.1 side 1 station 2 P2
2.4	Q8	/19.3 side 1 station 2 P2
2.5	Q10	/20.1 side 2 station 1 P2
2.6	Q12	/20.3 side 2 station 1 P2
2.7	Q14	/21.1 side 2 station 1 P2
2.8	Q16	/21.3 side 2 station 1 P2

-K3.4

Digital input module DIF371		
1.1	I1	/18.4 side 1 station 1 P1
1.2	I3	/18.6 side 1 station 1 P3
1.3	I5	/19.4 side 1 station 2 P1
1.4	I7	/19.6 side 1 station 2 P3
1.5	I9	/20.4 side 2 station 1 P1
1.6	I11	/20.6 side 2 station 1 P3
1.7	I13	/21.4 side 2 station 1 P1
1.8	I15	/21.6 side 2 station 1 P1
<hr/>		
2.1	I2	/18.4 side 1 station 1 P2
2.2	I4	/18.6 side 1 station 1 P4
2.3	I6	/19.4 side 1 station 2 P2
2.4	I8	/19.6 side 1 station 2 P4
2.5	I10	/20.4 side 2 station 1 P2
2.6	I12	/20.6 side 2 station 1 P4
2.7	I14	/21.4 side 2 station 1 P2
2.8	I16	/21.6 side 2 station 1 P2

station

station

V0109	-YA31 hinzug	09.02.	HAB06	Date	28.06.2022	Machine Type: CC36S_R2020		PLC block diagram	Project number		
V0108		28.06.	G. Wo	work	B.Hanania				497892		
V0107		31.01.	C. He	check					Drawing number	sheet	36
Status	rev.	Date	name	norm	DIN 81346	Additional Information:	created from		497613	of	40

A

B

C

D

E

F

-K3.5

-K3.6

-K3.7

-K3.8

DO		Digital output module DOF322	
1.1	Q1	/10.7	Conveyor belt speedbit2
1.2	Q3		side 1 station 3 P1
1.3	Q5		side 1 station 3 P3
1.4	Q7		side 2 station 3 P1
1.5	Q9		side 2 station 3 P3
1.6	Q11		enable ITV gripper
1.7	Q13		
1.8	Q15		Open depositing gripper
2.1	Q2		splice check reset
2.2	Q4		side 1 station 3 P2
2.3	Q6		side 1 station 3 P4
2.4	Q8		side 1 station 3 P2
2.5	Q10		side 1 station 3 P4
2.6	Q12	/28.3	deposit tray exten.YA31
2.7	Q14		Close depositing
2.8	Q16		Printer select 0=A,1=B

DI		Digital input module DIF371	
1.1	I1		Splice detection
1.2	I3		side 1 station 3 P2
1.3	I5		side 1 station 3 P4
1.4	I7		side 2 station 3 P2
1.5	I9		side 2 station 3 P4
1.6	I11		Line B prints
1.7	I13		Printer B ready
1.8	I15		Depositng grip.idle
2.1	I2		side 1 station 3 P1
2.2	I4		side 1 station 3 P3
2.3	I6		side 2 station 3 P1
2.4	I8		side 2 station 3 P3
2.5	I10		Line A prints
2.6	I12		Printer A ready
2.7	I14		pressure controler ITV
2.8	I16		printer feedback signal

DO		Digital output module DOF322	
1.1	Q1		SLD4100 pressure switch
1.2	Q3		SLD4100 Gripper 2
1.3	Q5		SLD4100 Rotat.Cylinder
1.4	Q7		STW1100 exhaust side 1
1.5	Q9		Smart detection Enable
1.6	Q11		Smart detection Sweep
1.7	Q13		Print. Text selec Bit0
1.8	Q15		Print Text selec Bit2
2.1	Q2		SLD4100 Gripper 1
2.2	Q4		SLD4100 Lower Cylinder
2.3	Q6		SLD4100 Lifting
2.4	Q8		STW1100 clamping sidel
2.5	Q10		Smart detect.ResetFault
2.6	Q12		Smart detection Adjust
2.7	Q14		Print Text selec. Bit1
2.8	Q16		Print go

DI		Digital input module DIF371	
1.1	I1		SLD 4100 Lowering Cyl.
1.2	I3		SLD 4100 Lifting
1.3	I5		MCD_Tools lever_S1_St2
1.4	I7		MCD_side feed_S1_St.2
1.5	I9		MCD_Tools lever_S2_St2
1.6	I11		MCD_side feed_S2_St.2
1.7	I13		Smart Detect.1 noTouch1
1.8	I15		Smart Detect. 3 ready
2.1	I2		SLD4100 Rotation Cyl.
2.2	I4		MCD_contact_end_S1_St.2
2.3	I6		MCD_backfeed_S1_St.2
2.4	I8		MCD_contact_end_S2_St.2
2.5	I10		MCD_backfeed_S2_St.2
2.6	I12		MCD_line monitoring 1
2.7	I14		Smart Detect.2 noTouch2
2.8	I16		Smart Detect.4 no_error

-K3.9

-K3.10

DO		Digital output module DOF322	
1.1	Q1		CSU start (option)
1.2	Q3		CSU hand launching
1.3	Q5		STW1100 clamping side2
1.4	Q7		
1.5	Q9		Valve guide plate
1.6	Q11		
1.7	Q13		
1.8	Q15		
2.1	Q2		CSU reset (option)
2.2	Q4		STW1100 exhaust side2
2.3	Q6		Line brake
2.4	Q8		
2.5	Q10		
2.6	Q12		
2.7	Q14		
2.8	Q16		

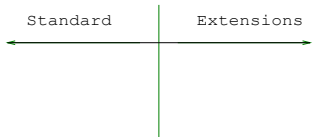
DI		Digital input module DIF371	
1.1	I1		CSU ready
1.2	I3		
1.3	I5		MCD_tools_lever_S1_St.3
1.4	I7		MCD_side_feed_S1_St.3
1.5	I9		MCD_tools_lever_S2_St.3
1.6	I11		MCD_side_feed_S2_St.3
1.7	I13		
1.8	I15		
2.1	I2		
2.2	I4		MCD_contact_end_S1_St,3
2.3	I6		MCD_back_feed_S1_St.3
2.4	I8		MCD_contact_end_S2_St.3
2.5	I10		MCD_back_feed_S2_St.3
2.6	I12		MCD_line monitoring 2
2.7	I14		
2.8	I16		

V0109	-YA31 hinzug	09.02.	HAB06	Date	28.06.2022	Machine Type:	
V0108		28.06.	G. Wo	work	B.Hanania	CC36S_R2020	
V0107		31.01.	C. He	check		Additional Information:	
Status	rev.	Date	name	norm	DIN 81346		



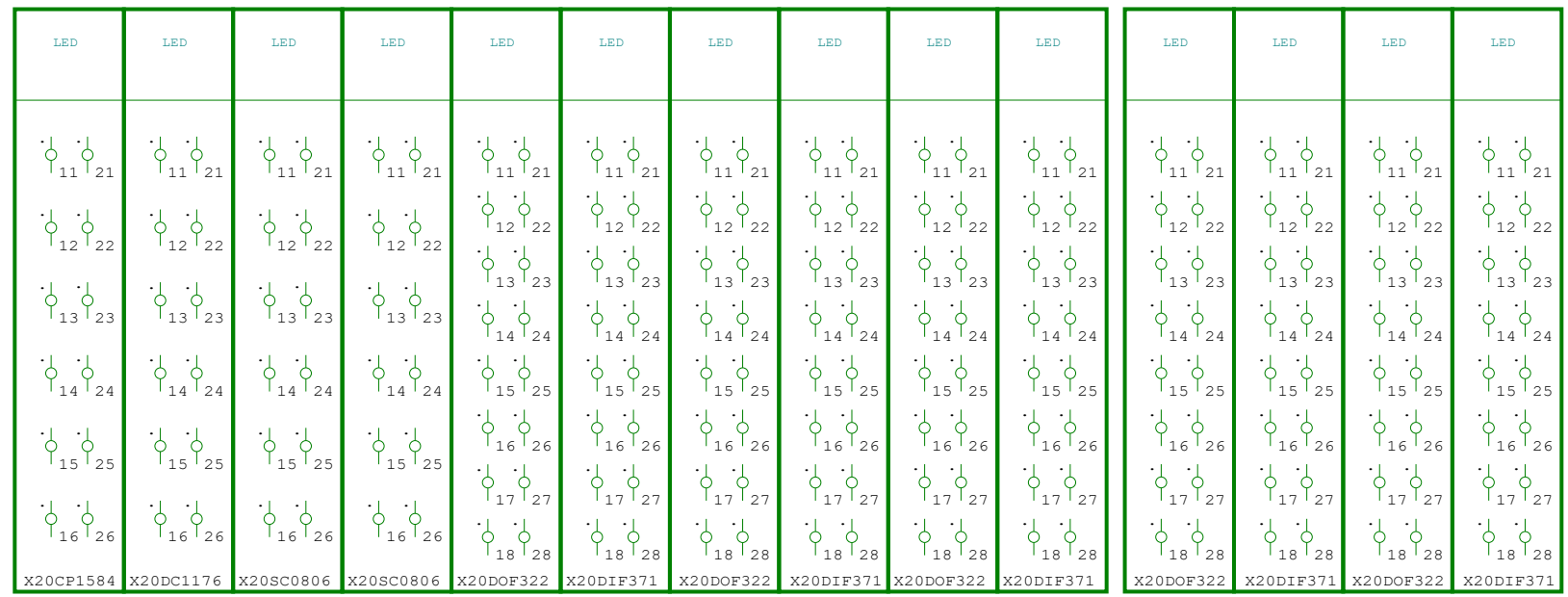
PLC block diagram	Project number	497892	
created from	Drawing number	sheet	37
	497613	of	40

Node switch X20BM15 Node switch X20BM15



K3 K3.Z1 K3.S1 K3.S2 K3.1 K3.2 K3.3 K3.4 K3.5 K3.6 K3.7 K3.8 K3.9 K3.10

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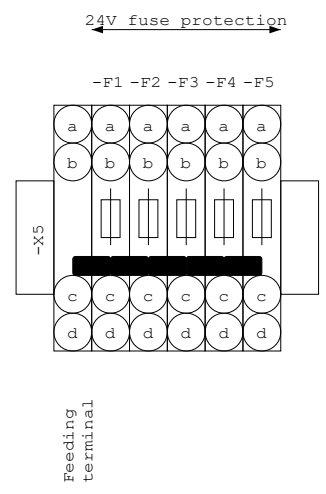
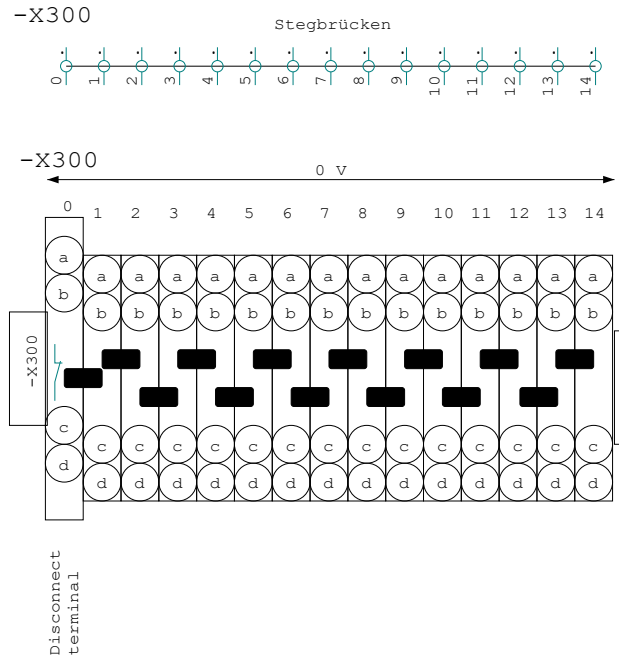
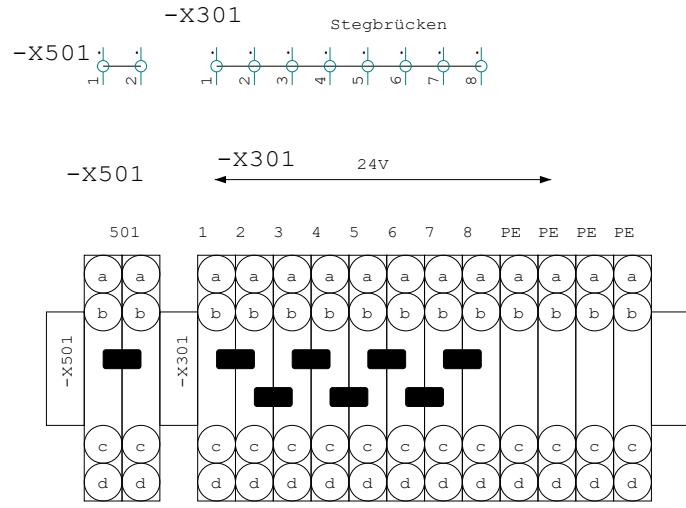
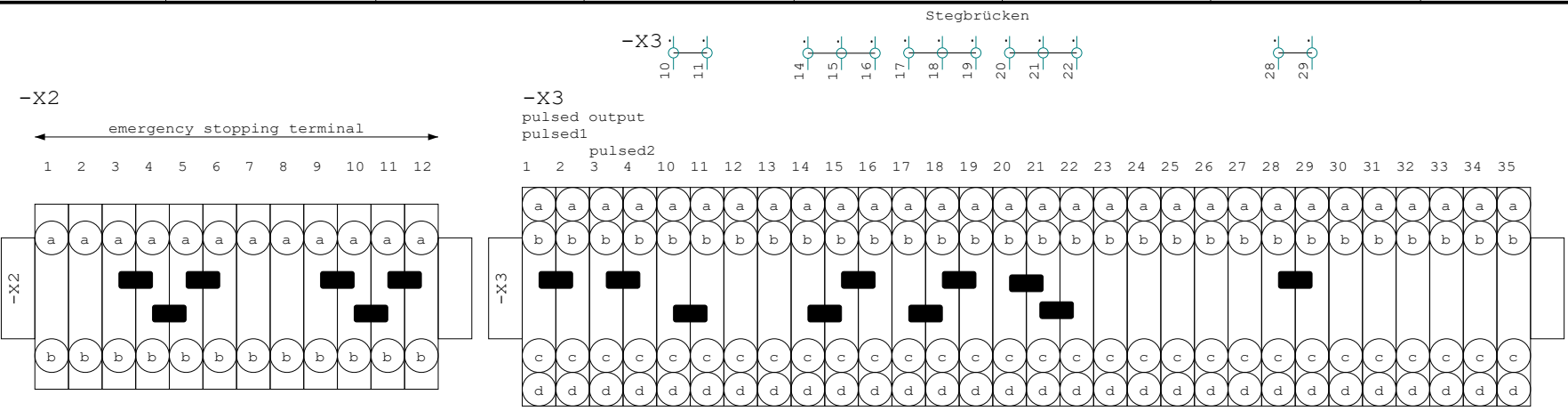
V0108		28.06.	G. Wo	Date	28.06.2022	Machine Type:	
V0107		31.01.	C. He	work	B.Hanania	CC36S_R2020	
V0106		21.10.	C. He	check		Additional Information:	
Status	rev.	Date	name	norm	DIN 81346		

Schleuniger

created from

Structure of the PLC-modules

Project number		497892	
Drawing number	sheet	of	38
497613			40



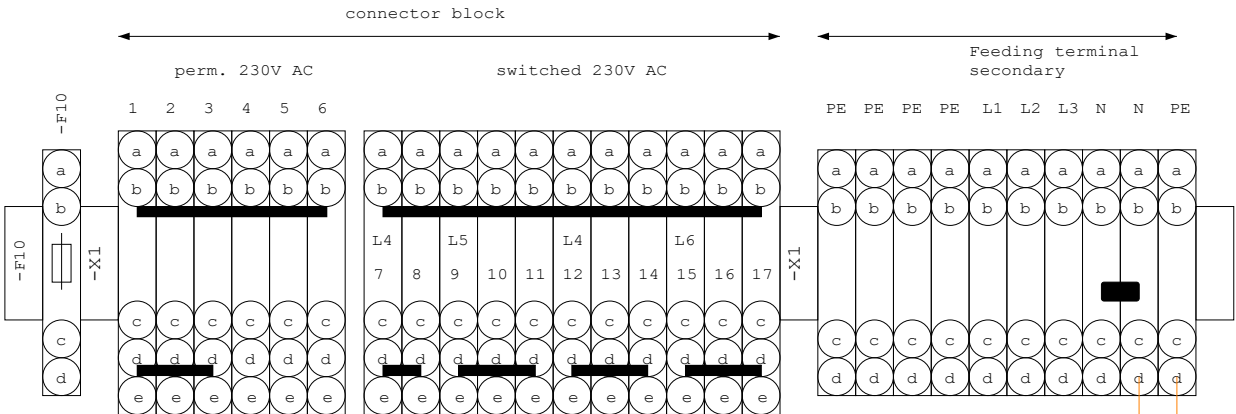
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V0107		31.01.	C. He	work	B.Hanania	CC36S_R2020	
V0106		21.10.	C. He	check		Additional Information:	
Status	rev.	Date	name	norm	DIN 81346		

Schleuniger

created from

Terminal setup 24V DC

Project number		497892
Drawing number	sheet	39
497613	of	40

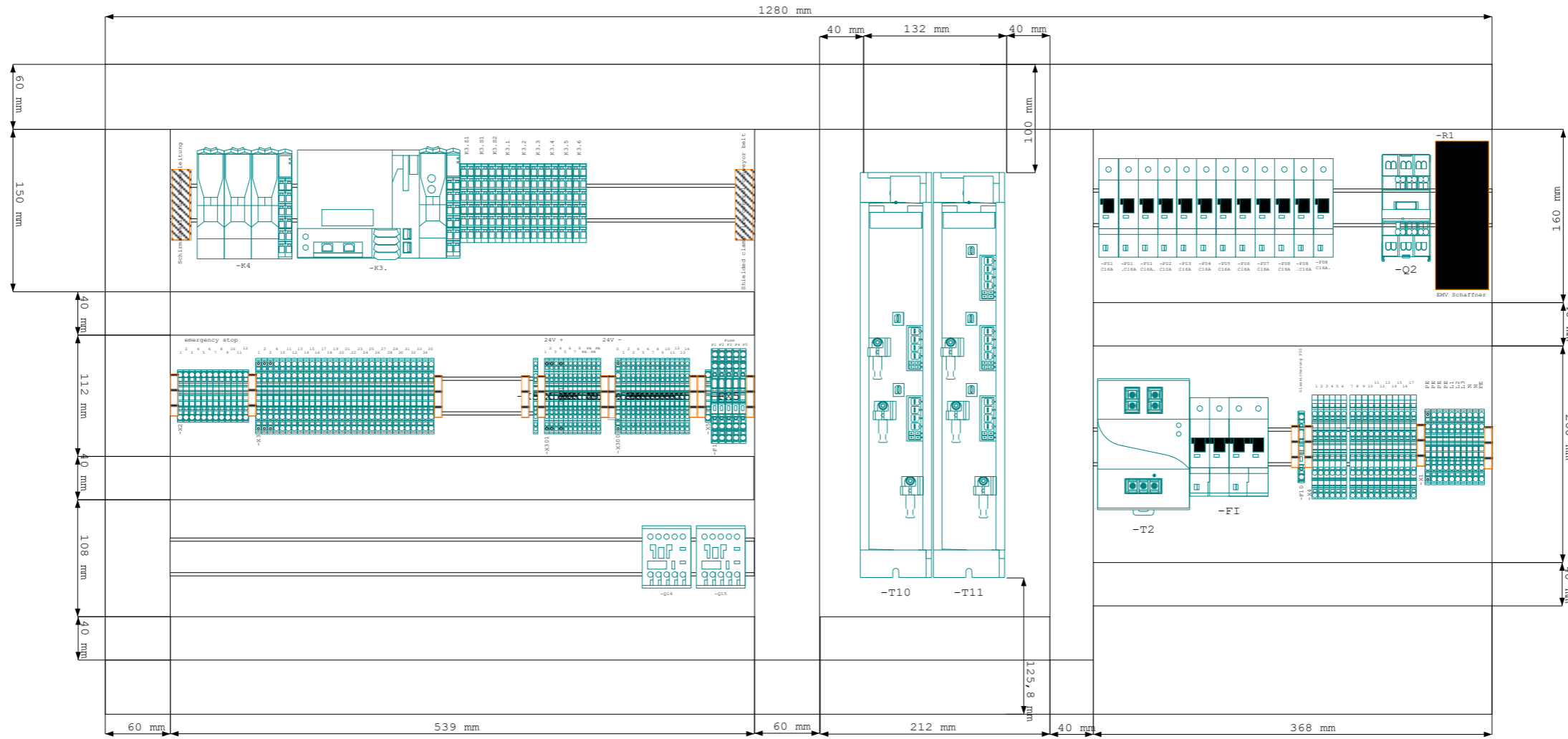


PEN bridge
 Wire jumper
 gn-ye 2,5mm²
 See also page 2.7

V0108		28.06.	G. Wo	Date	28.06.2022	Machine Type: CC36S_R2020 Additional Information:
V0107		31.01.	C. He	work	B.Hanania	
V0106		21.10.	C. He	check		
Status	rev.	Date	name	norm	DIN 81346	



Terminal setup 230/400V AC		Project number 497892	
created from		Drawing number 497613	sheet 40 of 40



Status	rev.	Date	name	Date	work	check	norm	name	sheet
V0107		01.04.2021	C. Heimen	28.06.2022	B.Hanania		DIN 81346	created for	current
V0107		31.01.2022	C. Heimen				1		
V0108		28.06.2022	G. Woitke				previously		
G		03.05.2024	ROA0601				afterwards		



Technology: Cabinet Engineering

Drawing number: 497613
Scale: 1:5
Number sheets: 1

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