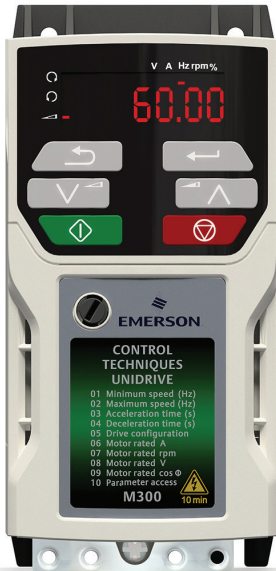


Unidrive M300 Drives for Industry

Enhance throughput with Machine Safety for open loop applications



Unidrive M300 Frame Size 1



Unidrive M300 helps machine builders maximize up-time and meet modern functional safety standards. Dual onboard Safe Torque Off (STO) inputs offer easy SIL3 conformity and reduce the need for external components, minimizing overall machine dimensions and costs.

Other Unidrive M300 benefits include:

Enhance productivity through integration with the automation system and reduce machine downtime

- Optional RS485 and a wide range of fieldbus communication SI modules allow remote control and diagnostics with different networks
- Flexible I/O

Quick and easy to install and configure

- Simple fixed LED keypad as standard
- 10 most commonly used parameters listed on front of drive

Reduce machine size and cost

- Compact drive dimensions, among the smallest in class at every power rating

Save energy

- Low losses up to 98% efficient
- Low power standby mode

Typical applications:

- Speed control for material transport, cutting, woodworking, machine tools; where protection to people or assets is required

Key data:

Heavy Duty rating:	0.33 hp to 150 hp (0.25 kW to 110 kW)
Supply phases:	110 V drives – 1Ø, 230 V and 460 V drives - 1Ø or 3Ø; 575 V and 690 V drives - 3Ø
User-friendly control connections:	2 x Analog inputs, 4 x Digital inputs, 1 x Analog output, 1 Digital I/O, 2 x STO, 1 x Relay
Drive rating:	IP21 / UL open class (NEMA 1) on size 1 to 4 as standard

Standard features

Machine safety:	2 x Safe Torque Off terminals
Keypad:	Fixed LED
Option slots:	1 (size 2 and above)
Parameter cloning via:	PC tools, SD card

Options

Keypad:	Remote-mountable, plain-text, multi-language LCD REMOTE-KEYPAD requires AI-485-ADAPTOR REMOTE-KEYPAD-RTC requires AI-485-ADAPTOR
SI Modules:	SI-ETHERCAT, SI-PROFIBUS, SI-ETHERNET, SI-DEVICENET, SI-CANOPEN, SI-PROFINET-V2, SI-I/O
Adaptors:	AI-BACKUP-ADAPTOR (input for 24 V backup), AI-SMART-ADPTOR (includes 4 GB SD card), AI-485-ADAPTOR
Conduit kits:	Available to meet UL Type 1 rating

Voltage ratings	
100 V (100 V - 120 V ± 10%)	✓
200 V (200 V - 240 V ± 10%)	✓
400 V (380 V - 480 V ± 10%)	✓
575 V (500 V - 575 V ± 10%)	✓
690 V (500 V - 690 V ± 10%)	✓
Control mode	
Open loop vector or V/Hz induction motor control	✓
Open loop Rotor Flux Control for induction motors (RFC-A)	✓
Open loop permanent magnet motor control (RFC-S)	
Closed loop Rotor Flux Control for induction motors (RFC-A)	
Closed loop permanent magnet motor control (RFC-S)	
Active Front End (AFE) power quality converter	



How to select a drive (Consult online catalog for complete drive information)

1. Electrical Considerations

- What is the supply voltage?
- Single or three phase input power?
- What is the motor current rating?
 - Continuous current – FLA (Full Load Amps)
 - Select the drive based on Amps rather than horsepower

2. Load Type (choose one)

- Normal Duty: 110% overload (fans & pumps)
- Heavy Duty: 150% overload (mixers, conveyors, etc.)

3. Drive Mechanical Mounting

- Panel mounting – as standard
- Wall mounting – consult website

Dimensions



Order Information & Ratings

115 VAC, Single Phase 50/60 Hz Input, 230 VAC 3-Phase Output						
Unidrive M300 Order Code *	Normal Duty		Heavy Duty		Dimensions H x W x D (in)	Weight (lbs)
	HP	Amps	HP	Amps		
M300-01100017A	0.33	1.7	0.33	1.7	6.3 x 3.0 x 5.1	1.7
M300-01100024A	0.5	2.4	0.5	2.4		
M300-02100042A	1	4.2	1	4.2	8.1 x 3.1 x 5.9	2.2
M300-02100056A	1.5	5.6	1.5	5.6		

230 VAC, Single Phase Input, 3-Phase Output, 50/60 Hz Input						
Unidrive M300 Order Code *	Normal Duty		Heavy Duty		Dimensions H x W x D (in)	Weight (lbs)
	HP	Amps	HP	Amps		
M300-01200017A	0.33	1.7	0.33	1.7	6.3 x 3.0 x 5.1	1.7
M300-01200024A	0.5	2.4	0.5	2.4		
M300-01200033A	0.75	3.3	0.75	3.3		
M300-01200042A	1	4.2	1	4.2	8.1 x 3.1 x 5.9	2.2
M300-02200024A	0.5	2.4	0.5	2.4		
M300-02200033A	0.75	3.3	0.75	3.3		
M300-02200042A	1	4.2	1	4.2		
M300-02200056A	1.5	5.6	1.5	5.6		
M300-02200075A	2	7.5	2	7.5		
M300-03200100A	3	10	3	10	8.9 x 3.5 x 6.3	3.3
M300-04200133A	3	13.3	3	13.3	10.9 x 4.5 x 6.9	6.9

230 VAC, 3-Phase Input and Output, 50/60 Hz Input						
Unidrive M300 Order Code *	Normal Duty		Heavy Duty		Dimensions H x W x D (in)	Weight (lbs)
	HP	Amps	HP	Amps		
M300-02200024A	0.5	2.4	0.5	2.4	8.1 x 3.1 x 5.9	2.2
M300-02200033A	0.75	3.3	0.75	3.3		
M300-02200042A	1	4.2	1	4.2		
M300-02200056A	1.5	5.6	1.5	5.6		
M300-02200075A	2	7.5	2	7.5	8.9 x 3.5 x 6.3	3.3
M300-03200100A	3	10	3	10		
M300-04200133A	3	13.3	3	13.3	10.9 x 4.5 x 6.9	6.9
M300-04200176A	5	17.6	5	17.6		
M300-05200250A	10	30	7.5	25	15.4 x 5.6 x 7.9	16.3
M300-06200330A	15	50	10	33		
M300-06200440A	20	58	15	44	15.4 x 8.3 x 9.0	30.9
M300-07200610A	25	75	20	61		
M300-07200750A	30	94	25	75	21.9 x 10.6 x 11.0	61.7
M300-07200830A	40	117	30	83		
M300-08201160A	50	149	40	116	31.7 x 12.2 x 11.4	114.6
M300-08201320A	60	180	50	132		
M300-09201760A	75	216	60	176	43.6 x 12.2 x 11.4	146.6
M300-09202190A	100	266	75	219		
M300-09201760E	75	216	60	176	42.1 x 12.2 x 11.4	101.4
M300-09202190E	100	266	75	219		

*Add 10101AB100 to the base order code when ordering standard US (60 Hz) default products. Ratings are at 3 kHz switching frequency.

Order Information & Ratings

460 VAC, 3-Phase Input and Output, 50/60 Hz Input

Unidrive M300 Order Code*	Normal Duty		Heavy Duty		Dimensions H x W x D (in)	Weight (lbs)
	HP	Amps	HP	Amps		
M300-02400013A	0.5	1.3	0.5	1.3	8.1 x 3.1 x 5.9	2.2
M300-02400018A	0.75	1.8	0.75	1.8		
M300-02400023A	1	2.3	1	2.3		
M300-02400032A	1.5	3.2	1.5	3.2		
M300-02400041A	2	4.1	2	4.1		
M300-03400056A	3	5.6	3	5.6	8.9 x 3.5 x 6.3	3.3
M300-03400073A	3	7.3	3	7.3		
M300-03400094A	5	9.4	5	9.4		
M300-04400135A	7.5	13.5	7.5	13.5	10.9 x 4.5 x 6.9	6.9
M300-04400170A	10	17	10	17		
M300-05400270A	20	30	20	26	15.4 x 5.6 x 7.9	16.3
M300-05400300A	20	31	20	30		
M300-06400350A	25	38	25	35	15.4 x 8.3 x 9.0	30.9
M300-06400420A	30	48	30	42		
M300-06400470A	50	63	30	46		
M300-07400660A	60	79	50	66	21.9 x 10.6 x 11.0	61.7
M300-07400770A	75	94	60	77		
M300-07401000A	75	112	75	100		
M300-08401340A	125	155	100	134	31.7 x 12.2 x 11.4	114.6
M300-08401570A	150	184	125	157		
M300-09402000A	150	221	150	180	43.6 x 12.2 x 11.4	146.6
M300-09402240A	200	255	150	211		
M300-09402000E	150	221	150	180	42.1 x 12.2 x 11.4	101.4
M300-09402240E	200	266	150	211		

230 VAC, 3-Phase Input and Output, 50/60 Hz Input

Unidrive M300 Order Code*	Normal Duty		Heavy Duty		Dimensions H x W x D (in)	Weight (lbs)
	HP	Amps	HP	Amps		
M300-05500030A	3	3.9	2	3	15.4 x 5.6 x 7.9	16.3
M300-05500040A	5	6.1	3	4		
M300-05500069A	7.5	10	5	6.9		
M300-06500100A	10	12	7.5	10	15.4 x 8.3 x 9.0	30.9
M300-06500150A	15	17	10	15		
M300-06500190A	20	22	15	19		
M300-06500230A	25	27	20	23		
M300-06500290A	30	34	25	29		
M300-06500350A	40	43	30	34	21.9 x 10.6 x 11.0	61.7
M300-07500440A	50	53	40	44		
M300-07500550A	60	73	50	55		
M300-08500630A	75	86	60	63	31.7 x 12.2 x 11.4	114.6
M300-08500860A	100	108	75	86		
M300-09501040A	125	125	100	104	43.6 x 12.2 x 11.4	146.6
M300-09501310A	150	150	125	131		
M300-09501040E	125	125	100	104	42.1 x 12.2 x 11.4	101.4
M300-09501310E	150	150	125	131		

230 VAC, 3-Phase Input and Output, 50/60 Hz Input

Unidrive M300 Order Code*	Normal Duty		Heavy Duty		Dimensions H x W x D (in)	Weight (lbs)
	HP	Amps	HP	Amps		
M300-07600190A	25	23	20	19	21.9 x 10.6 x 11.0	61.7
M300-07600240A	30	30	25	24		
M300-07600290A	40	36	30	29		
M300-07600380A	50	46	40	38		
M300-07600440A	60	52	50	44		
M300-07600540A	75	73	60	54	31.7 x 12.2 x 11.4	114.6
M300-08600630A	100	86	75	63		
M300-08600860A	125	108	100	86		
M300-09601040A	150	125	125	104	43.6 x 12.2 x 11.4	146.6
M300-09601310A	175	155	150	131		
M300-09601040E	150	125	125	104	42.1 x 12.2 x 11.4	101.4
M300-09601310E	175	155	150	131		

*Add 10101AB100 to the base order code when ordering standard US (60 Hz) default products.
Ratings are at 3 kHz switching frequency.

Option Modules, Backup Devices, Keypads & Cables			
Item Type	Description	Order Code	Cat
I/O	Additional analog* and digital I/O (*high precision differential analog input and analog output is only supported on Unidrive M600-M702)	SI-I/O	BV
Communications	RS485 Comms Adaptor M200-M400 Top Mount	AI-485-ADAPTOR	BV
	CANopen System Integration Module	SI-CANOPEN	BV
	DeviceNet System Integration Module	SI-DEVICENET	BV
	EtherCAT System Integration Module	SI-ETHERCAT	BV
	EtherNet/IP and Modbus TCP/IP System Integration Module	SI-ETHERNET	BV
	Profinet-RT System Integration Module	SI-PROFINET-V2	BV
	Profibus-DP System Integration Module	SI-PROFIBUS	BV
Software	Windows based drive configuration software for Unidrive M200-M702, requires an Ethernet or RS485 connection (CT-USB-CABLE)	UNIDRIVE M CONNECT*	FS
	Digital oscilloscope for drive tuning and parameter tracing (also built-in to UNIDRIVE M CONNECT software)	CTSCOPE*	FS
Keypads	Remote mountable LCD keypad, requires an RS485 port and cable (order code UM-LCD-485-XXX)	REMOTE-KEYPAD	VP
	Remote mountable LCD keypad with Real Time Clock, requires an RS485 port and cable (order code UM-LCD-485-XXX)	REMOTE-KEYPAD-RTC	VP
Cloning and Backup	SD card adaptor plus 24 Vdc control backup connections (SD card not included)	AI-BACKUP-ADAPTOR	BV
	Supplied 4GB SD card memory for parameter cloning and application programs, plus 24 Vdc control backup connections	AI-SMART-ADAPTOR	BV
	8GB SD Card	CTSD8GB	BV
Programming Cable	USB to RJ45 Programming Cable with USB to RS485 Converter	CT-USB-CABLE	PP
Conduit Kits	NEMA 1 Conduit Kit for Unidrive M100-M400, HS30 - Size 1	C-BOX-OF1	VP
	NEMA 1 Conduit Kit for Unidrive M100-M400, HS30 - Size 2	C-BOX-OF2	VP
	NEMA 1 Conduit Kit for Unidrive M100-M400, HS30 - Size 3	C-BOX-OF3	VP
	NEMA 1 Conduit Kit for Unidrive M100-M400, HS30 - Size 4	C-BOX-OF4	VP
	NEMA 1 Conduit Kit for Unidrive M - Size 5	C-BOX-F5	VP
	NEMA 1 Conduit Kit for Unidrive M - Size 6	C-BOX-F6	VP
	NEMA 1 Conduit Kit for Unidrive M - Size 7	C-BOX-F7	VP
	NEMA 1 Conduit Kit for Unidrive M - Size 8	C-BOX-F8	VP
	NEMA 1 Conduit Kit for Unidrive M - Size 9 & 10	C-BOX-F9-10	VP

*Software is available free from www.controltechniques.com