

# FERN TECH

Monitor and Control  
Off-Grid Power Systems



Ferntech enables  
Low-maintenance, Robust and Scalable  
Off-Grid Power Systems by applying  
Monitoring and Control technologies.



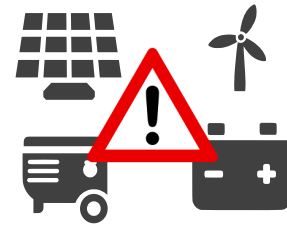
## Off-Grid Power Systems are:



**Not Optimized**  
No proper control



**Maintenance is expensive**  
O&M is 50% of Variable costs



**Disconnected**  
Unplanned Maintenance is 25% of Variable Costs



**Not Scalable**  
Can't be deployed in large amounts

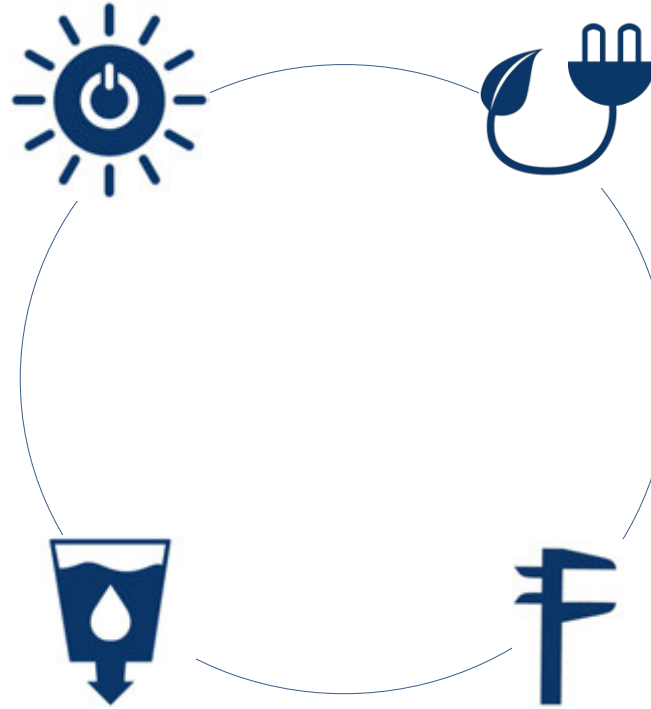


# These problems are found in:



Energy-Access

Hybrid Power



Industrial  
& Commercial  
applications

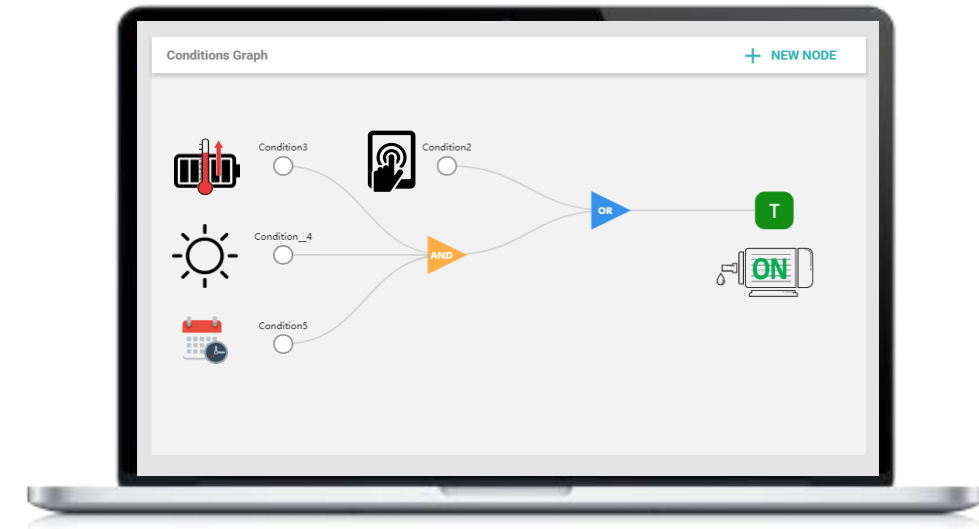
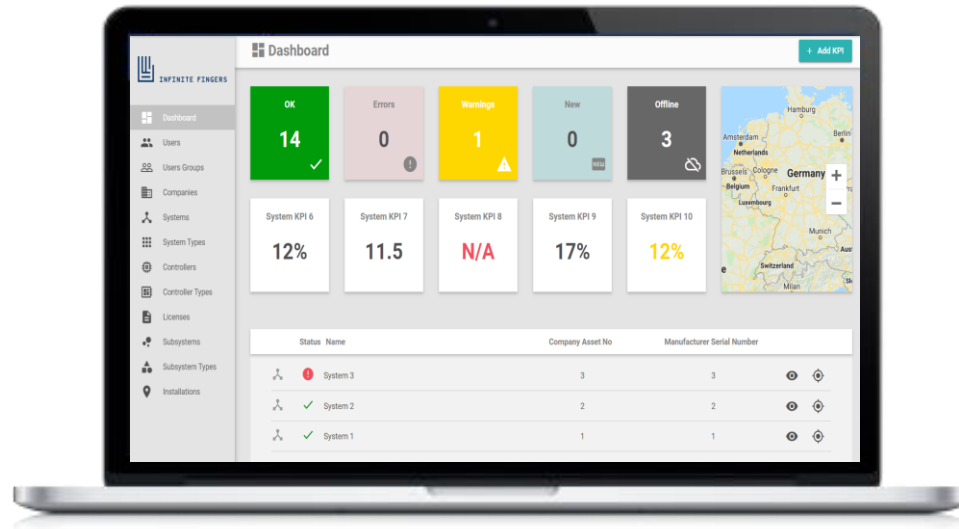
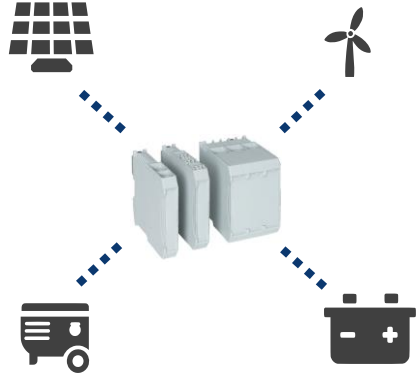
Small Systems



# Our Solution: UMC

(Universal Monitor and Control)

1min Portal DEMO



**Universal Controller**  
Off-the-shelf.

**MONITORING**  
Customizable dashboards  
allowing visualization of  
selected variables and  
configuration of parameters

**CONTROL**  
Customized control module to  
reduce down-time  
and increase profits

# Competitive advantage



## Universal

Compatible with  
any component



## Full Control

to increase efficiency  
and avoid faults



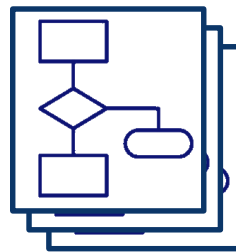
## Fleet Management

enabling scalability



## Affordable

Based on IoT hardware



## Logic Loops

Library of open source  
control algorithms



## Easy to Use

User-driven

# The Controller: UMC

(Universal Monitor and Control)



## POWER ELECTRONICS



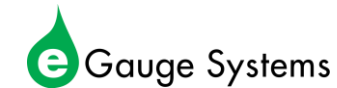
## BATTERIES



## DIESEL GENSET



## SENSORS

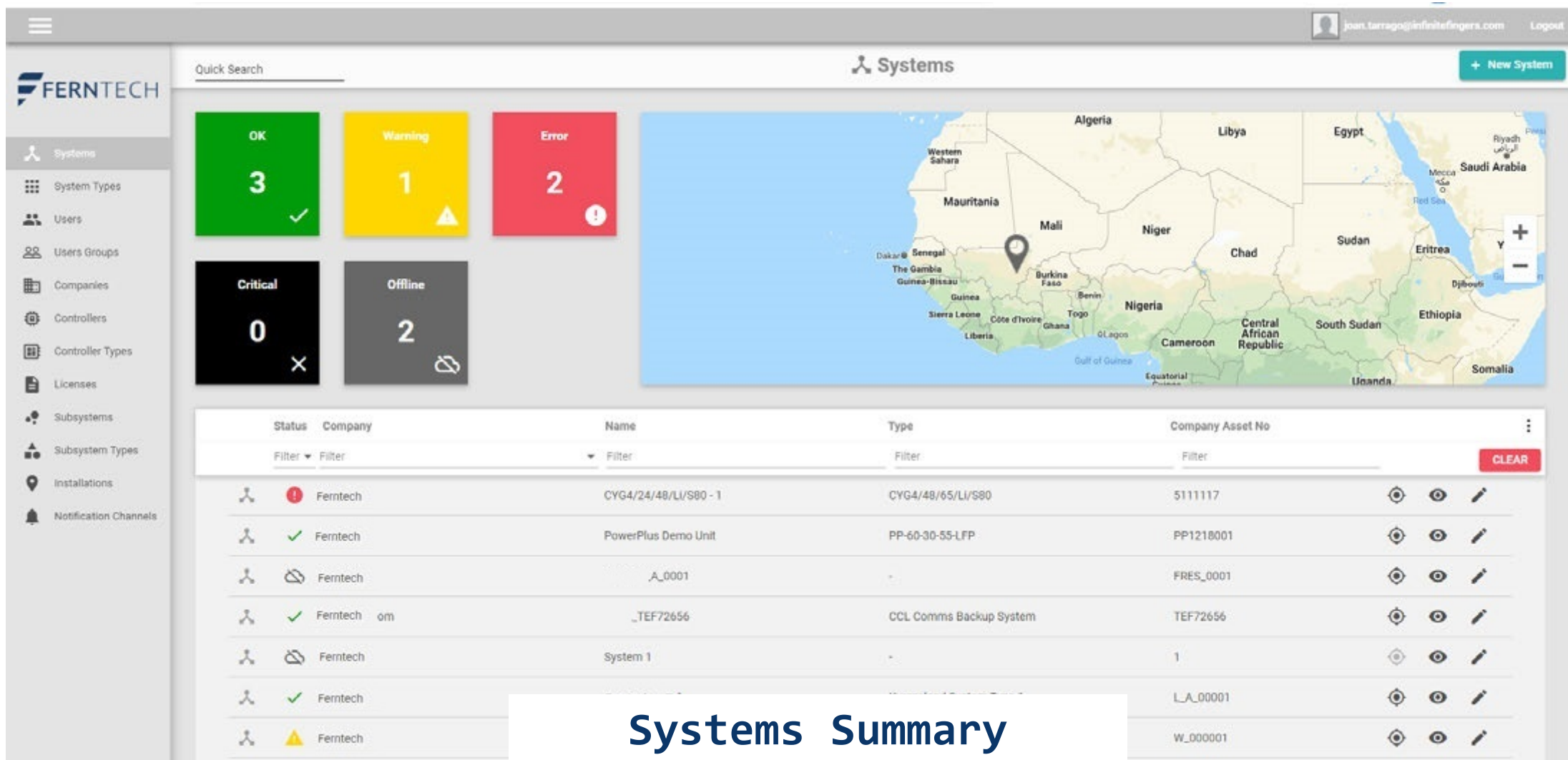


## OTHERS



# Dashboards: UMC

(Universal Monitor and Control)



**Systems Summary**  
Status of the Fleet





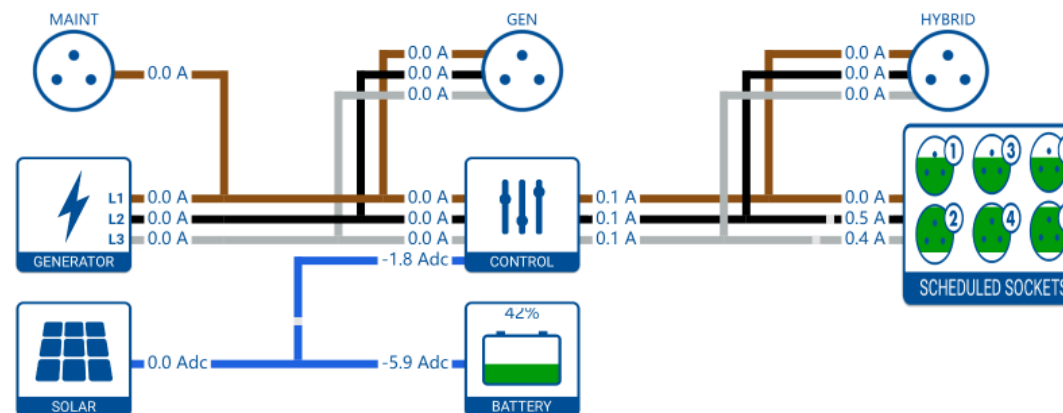
joan.tarrago@infinitefingers.com

Logout



Systems &gt; PowerPlus Demo Unit &gt; Dashboard

## System Electric Layout



## General System Details

System State

OK



Inverter State

On

SOC

(%)

42

Batt Amperes

(A)

5.01

Hybrid Runtime

(%)

100

Hybrid Runtime

(h)

24

CO<sub>2</sub> Saved

(Tonnes)

0.3

Fuel Saved

(l)

101

System Page

Status of the System

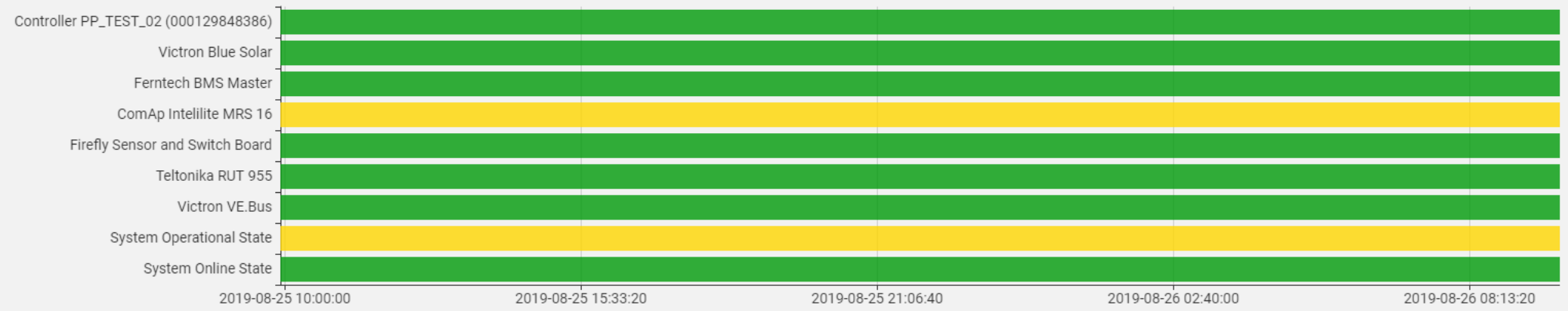


**System config**  
Change set-up parameters



- Systems
- System Types
- Users
- Companies
- Controllers
- Controller Types
- Licenses
- Subsystems
- Subsystem Types
- Installations
- Notification Channels

System State Chart



Filter

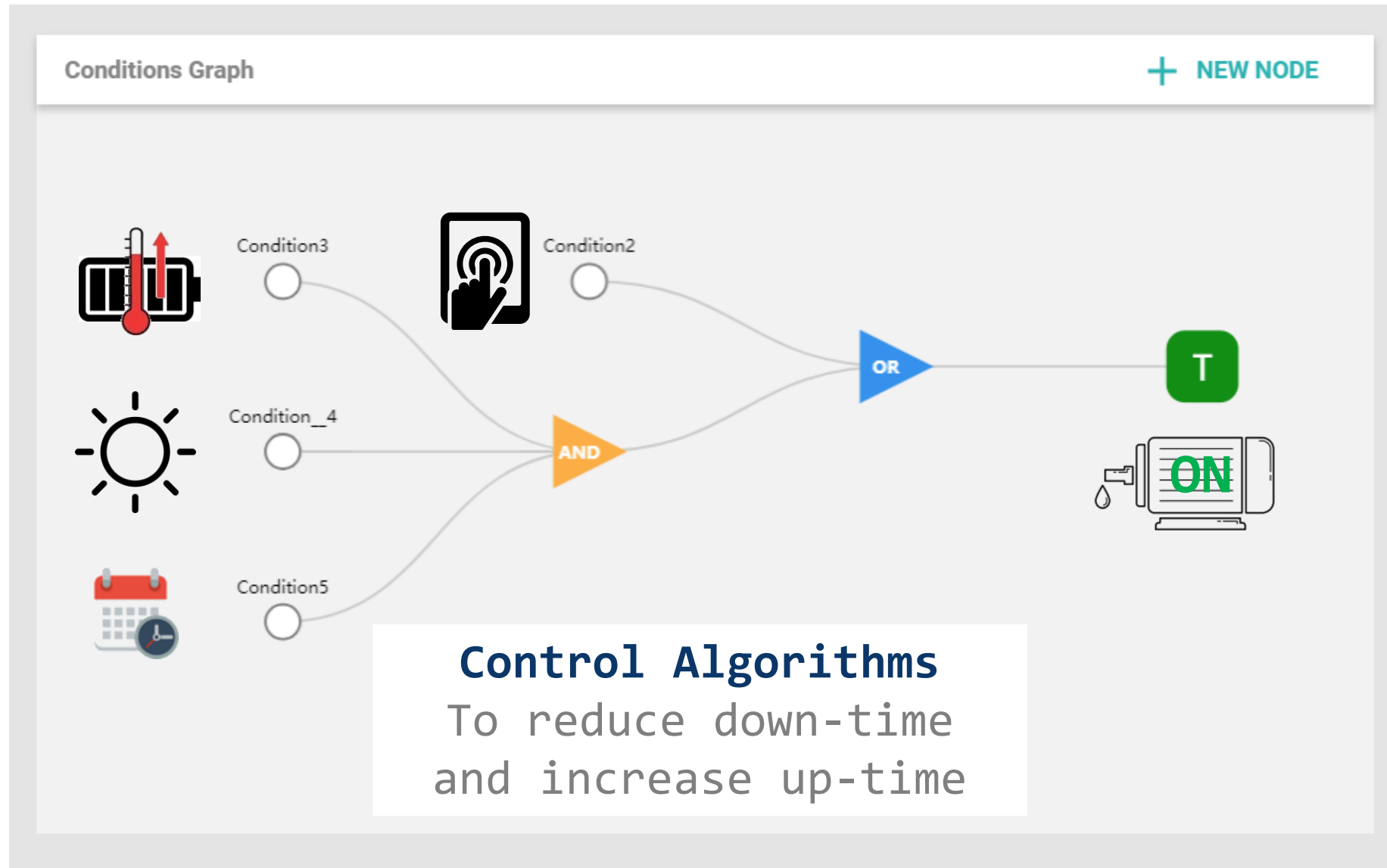
Time	Description	Other Information	Type	Controller ID	Subsystem ID	Device	Level
2019-08-26 07:38:30	Control panel message:	Wrn Fuel Level	Device	000129848386	comap01	mrs_16_1	Alarm
2019-08-26 07:38:29	Control panel message disappeared:	Wrn Fuel Level	Device	000129848386	comap01	-	Notification
2019-08-25 23:39:30	Cc			000129848386	comap01	mrs_16_1	Alarm
2019-08-25 23:39:29	Cc			000129848386	comap01	-	Notification

Events page

List, filter and create notifications from events

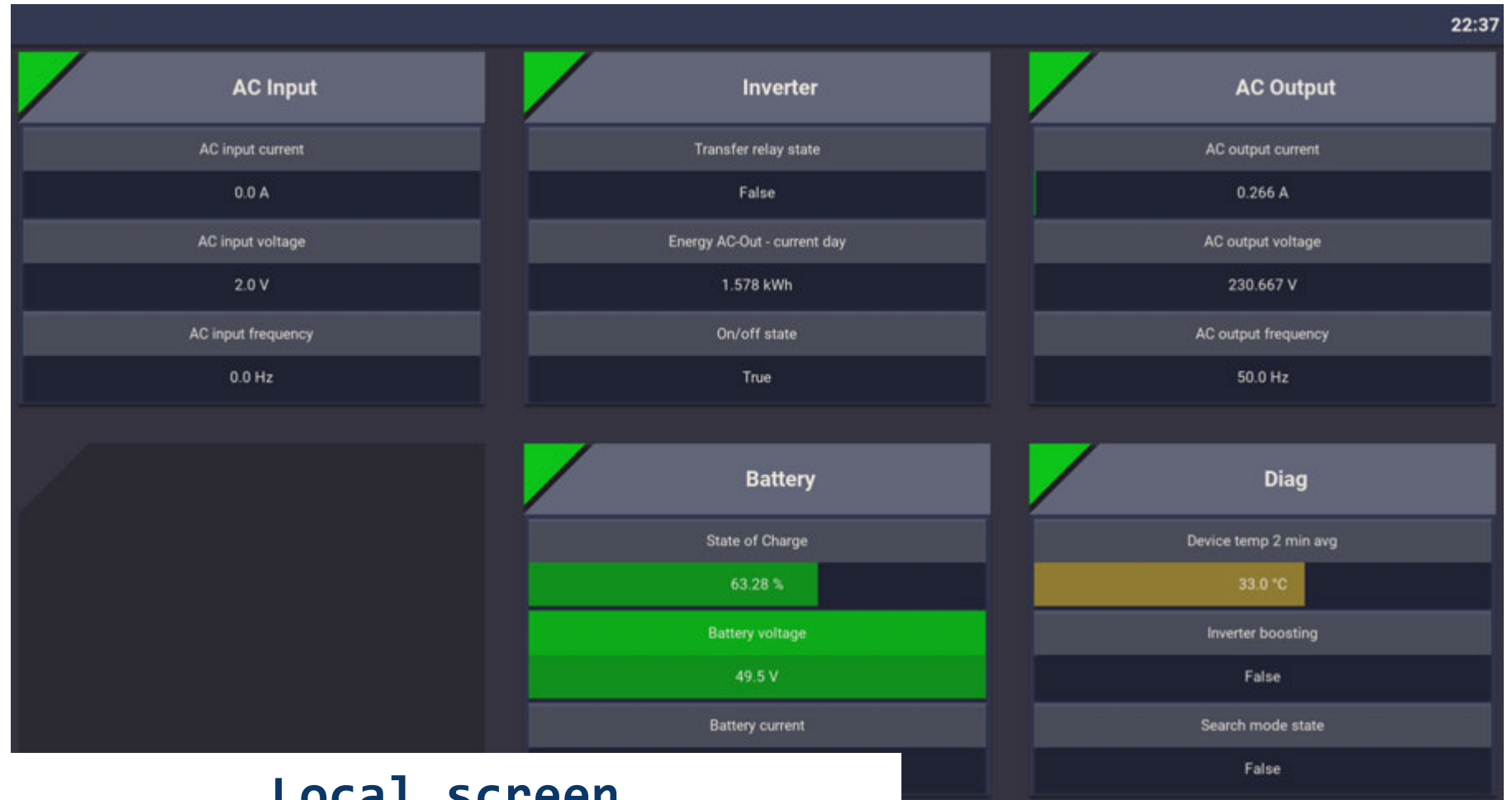
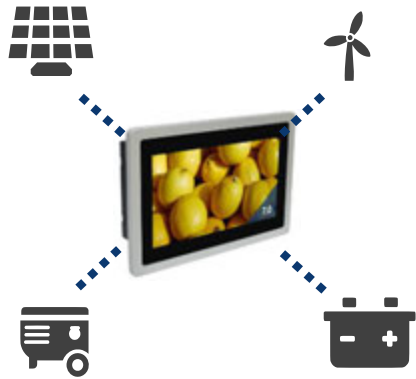
# Control tools: UMC

(Universal Monitor and Control)





# Local visualization: UMC-vision



## Local screen

For visualization and config  
of main parameters

**100+** units deployed



**Energy Access**

**Diesel Hybrid**

**Industry**



