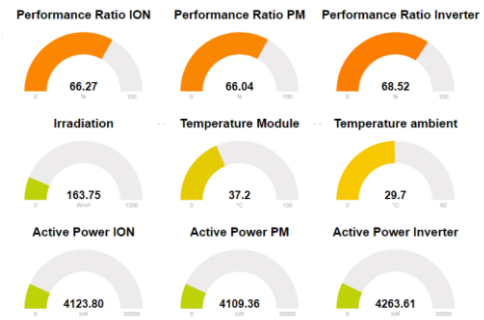
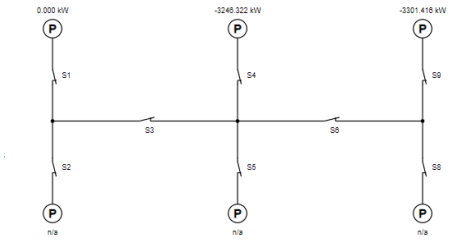
Q.reader based SCADA & HMI

Visualization and Control Interface

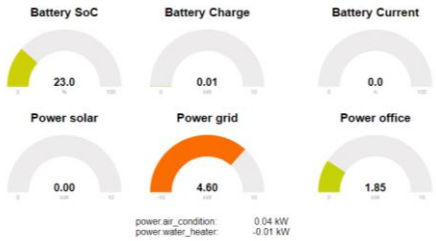
dashboard view



gauges



circuit breaker control



Gauges for BEES

Key features:

- **Q.reader Data logger and Power Plant controller with integrated simple SCADA/HMI System**
- **Web browser-based visualization and control** (requires a PC with latest Google Chrome Browser, NOT Gantner Scope)
- Fully customizable dashboards
- GUI graphical user interface elements
  - Dashboard
  - Plant view
  - Table view
  - Gauges
  - Graphs
  - Switches and buttons
  - Trend curve
  - Text display
  - Numeric and seven-segment-displays
- Typical Screen list
  - Overview screen
  - SLD of Electrical connection
  - Inverter overview
  - Weather station parameter view
  - String combiner Box parameter view
  - Trend display of components
  - Performance ratio trend
  - Communication architecture view
- **Connectivity**
  Protocols from all leading inverter manufacturers are integrated
  I/O devices (e.g. weather stations, medium voltage parameters)
- **Data memory with individual logging interval**
  8GB flash – extendable
  amount of historical data depends on storage space

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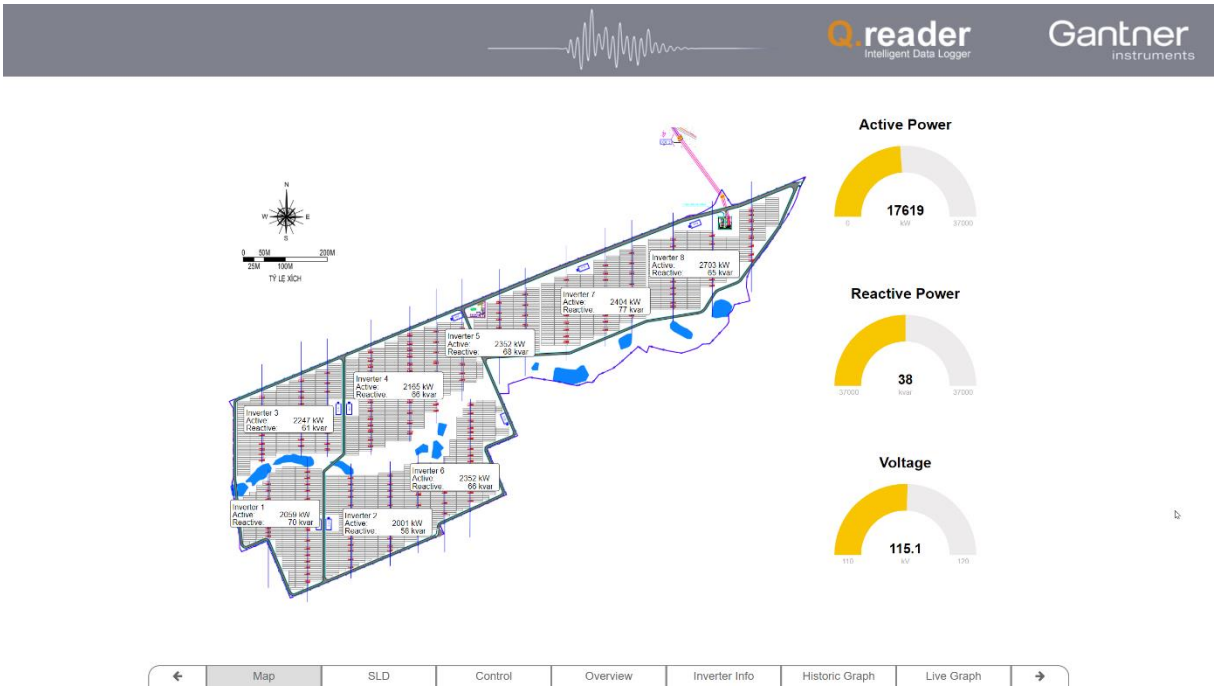
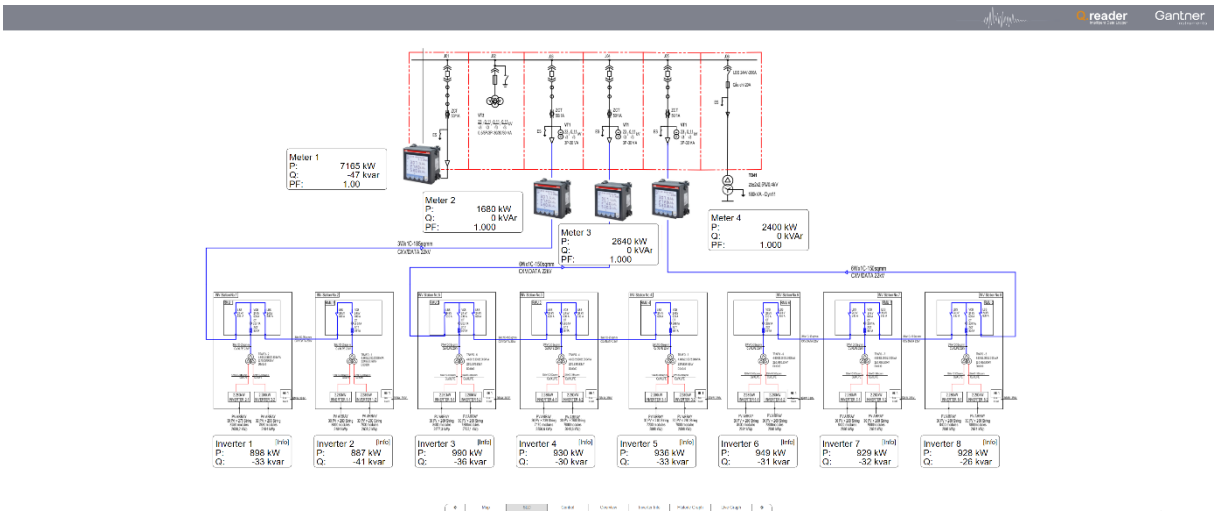
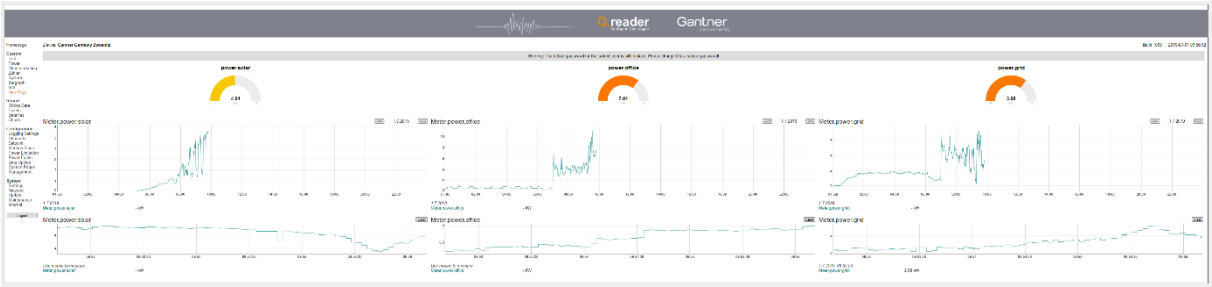
Visualization and Control Interface



Power Plant View



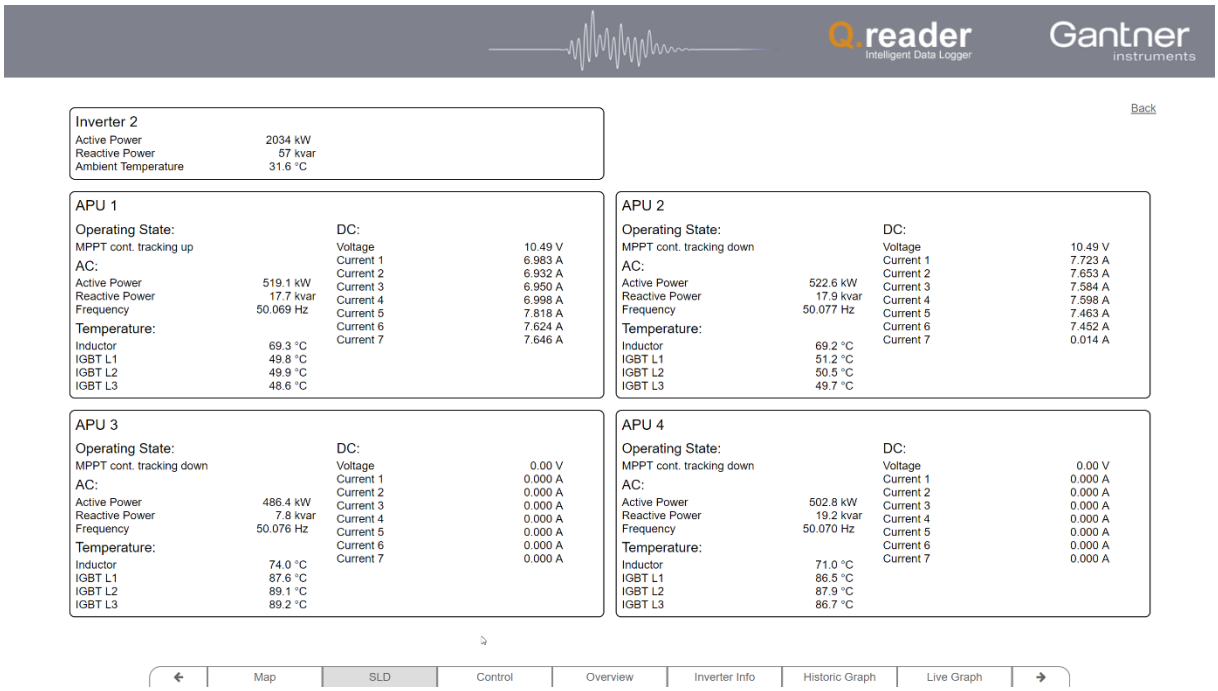
Single Line View



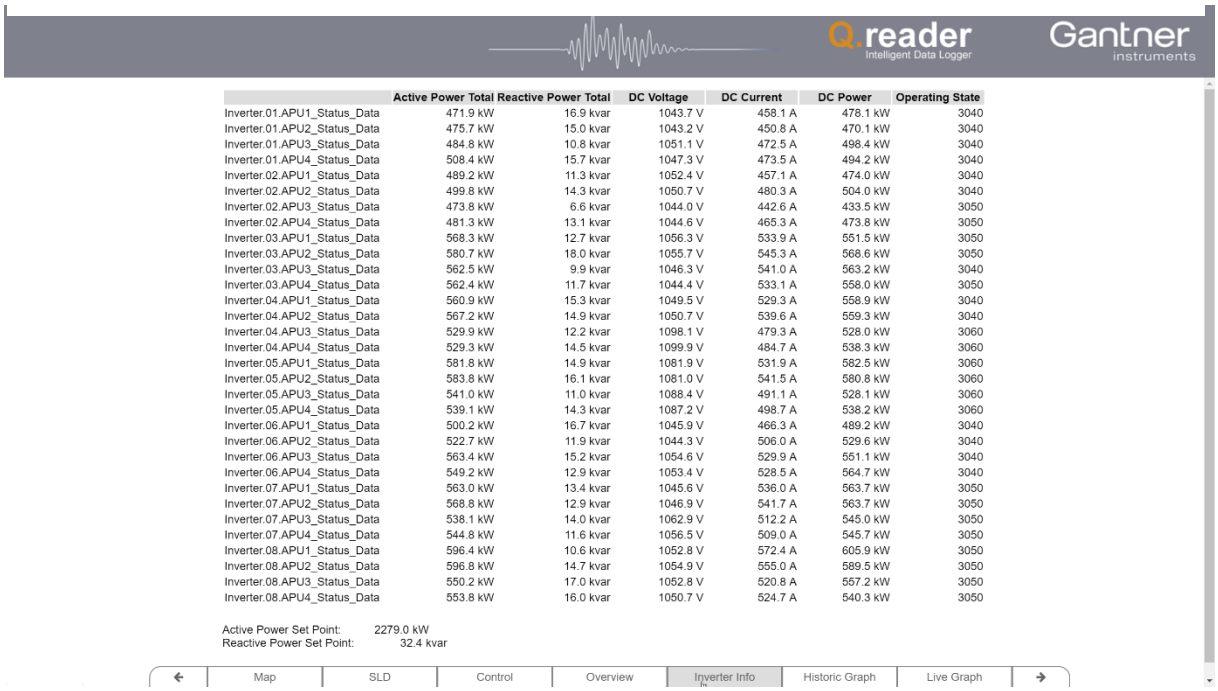
Trend Plot, Historic Graph, Gauges

Q.reader based SCADA & HMI

Visualization and Control Interface



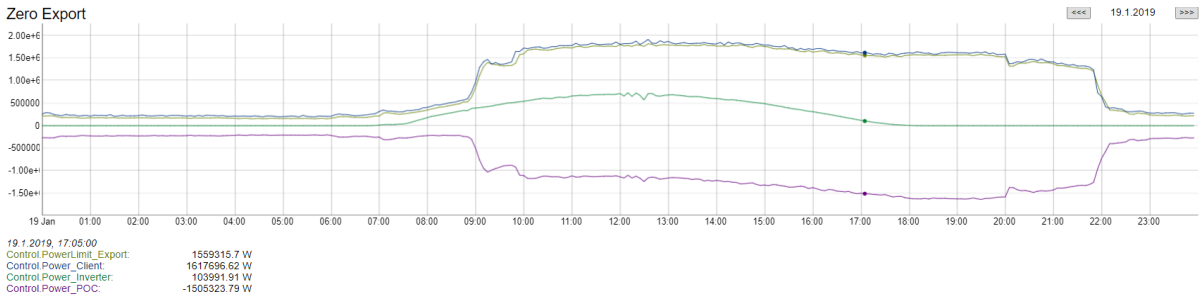
Numeric View



	Active Power Total	Reactive Power Total	DC Voltage	DC Current	DC Power	Operating State
Inverter.01.APU1_Status_Data	471.9 kW	16.9 kvar	1043.7 V	458.1 A	478.1 kW	3040
Inverter.01.APU2_Status_Data	475.7 kW	15.0 kvar	1043.2 V	450.8 A	470.1 kW	3040
Inverter.01.APU3_Status_Data	484.8 kW	10.8 kvar	1051.1 V	472.5 A	498.4 kW	3040
Inverter.01.APU4_Status_Data	508.4 kW	15.7 kvar	1047.3 V	473.5 A	494.2 kW	3040
Inverter.02.APU1_Status_Data	489.2 kW	11.3 kvar	1052.4 V	457.1 A	474.0 kW	3040
Inverter.02.APU2_Status_Data	499.8 kW	14.3 kvar	1050.7 V	480.3 A	504.0 kW	3040
Inverter.02.APU3_Status_Data	473.8 kW	6.6 kvar	1044.0 V	442.6 A	433.5 kW	3050
Inverter.02.APU4_Status_Data	481.3 kW	13.1 kvar	1044.6 V	465.3 A	473.8 kW	3050
Inverter.03.APU1_Status_Data	568.3 kW	12.7 kvar	1056.3 V	533.9 A	551.5 kW	3050
Inverter.03.APU2_Status_Data	580.7 kW	18.0 kvar	1055.7 V	545.3 A	568.6 kW	3050
Inverter.03.APU3_Status_Data	562.5 kW	9.9 kvar	1046.3 V	541.0 A	563.2 kW	3040
Inverter.03.APU4_Status_Data	562.4 kW	11.7 kvar	1044.4 V	533.1 A	558.0 kW	3050
Inverter.04.APU1_Status_Data	560.9 kW	15.3 kvar	1049.5 V	529.3 A	558.9 kW	3040
Inverter.04.APU2_Status_Data	567.2 kW	14.9 kvar	1050.7 V	539.6 A	559.3 kW	3040
Inverter.04.APU3_Status_Data	529.9 kW	12.2 kvar	1098.1 V	479.3 A	528.0 kW	3060
Inverter.04.APU4_Status_Data	529.3 kW	14.5 kvar	1099.9 V	484.7 A	538.3 kW	3060
Inverter.05.APU1_Status_Data	581.8 kW	14.9 kvar	1081.9 V	531.9 A	582.5 kW	3060
Inverter.05.APU2_Status_Data	583.8 kW	16.1 kvar	1081.0 V	541.5 A	580.8 kW	3060
Inverter.05.APU3_Status_Data	541.0 kW	11.0 kvar	1088.4 V	491.1 A	528.1 kW	3060
Inverter.05.APU4_Status_Data	539.1 kW	14.3 kvar	1087.2 V	498.7 A	538.2 kW	3060
Inverter.06.APU1_Status_Data	500.2 kW	16.7 kvar	1045.9 V	466.3 A	489.2 kW	3040
Inverter.06.APU2_Status_Data	522.7 kW	11.9 kvar	1044.3 V	506.0 A	529.6 kW	3040
Inverter.06.APU3_Status_Data	563.4 kW	15.2 kvar	1054.6 V	529.9 A	551.1 kW	3040
Inverter.06.APU4_Status_Data	549.2 kW	12.9 kvar	1053.4 V	528.5 A	564.7 kW	3040
Inverter.07.APU1_Status_Data	563.0 kW	13.4 kvar	1045.6 V	536.0 A	563.7 kW	3050
Inverter.07.APU2_Status_Data	568.8 kW	12.9 kvar	1046.9 V	541.7 A	563.7 kW	3050
Inverter.07.APU3_Status_Data	538.1 kW	14.0 kvar	1062.9 V	512.2 A	545.0 kW	3050
Inverter.07.APU4_Status_Data	544.8 kW	11.6 kvar	1056.5 V	509.0 A	545.7 kW	3050
Inverter.08.APU1_Status_Data	596.4 kW	10.6 kvar	1052.8 V	572.4 A	605.9 kW	3050
Inverter.08.APU2_Status_Data	596.8 kW	14.7 kvar	1054.9 V	555.0 A	589.5 kW	3050
Inverter.08.APU3_Status_Data	550.2 kW	17.0 kvar	1052.8 V	520.8 A	557.2 kW	3050
Inverter.08.APU4_Status_Data	553.8 kW	16.0 kvar	1050.7 V	524.7 A	540.3 kW	3050

Active Power Set Point: 2279.0 kW
Reactive Power Set Point: 32.4 kvar

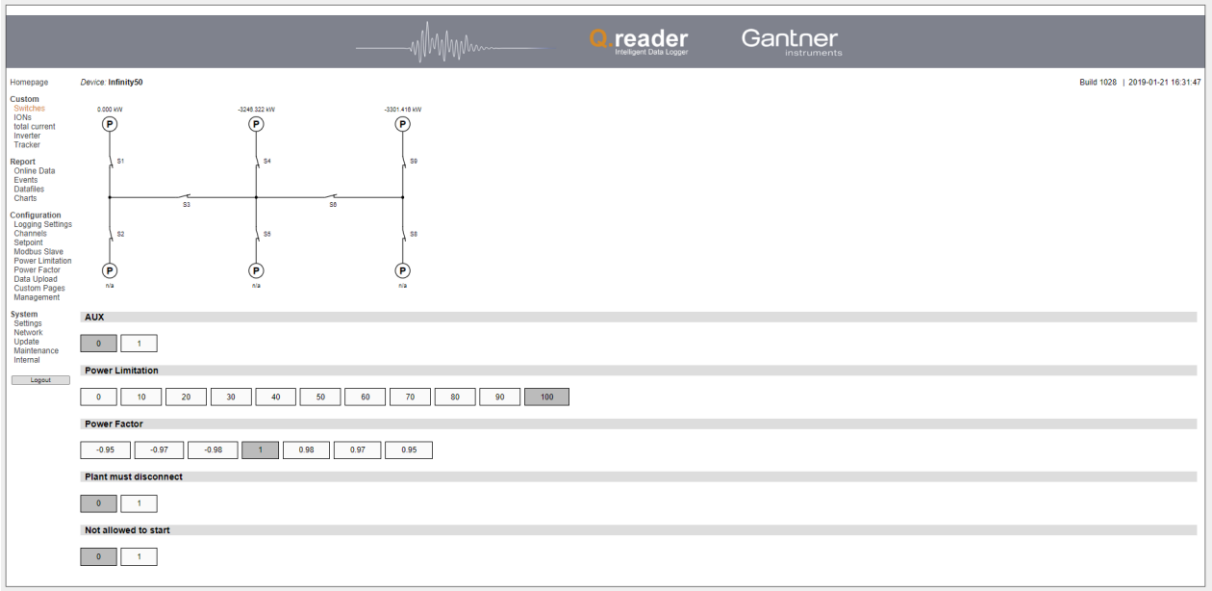
Table View



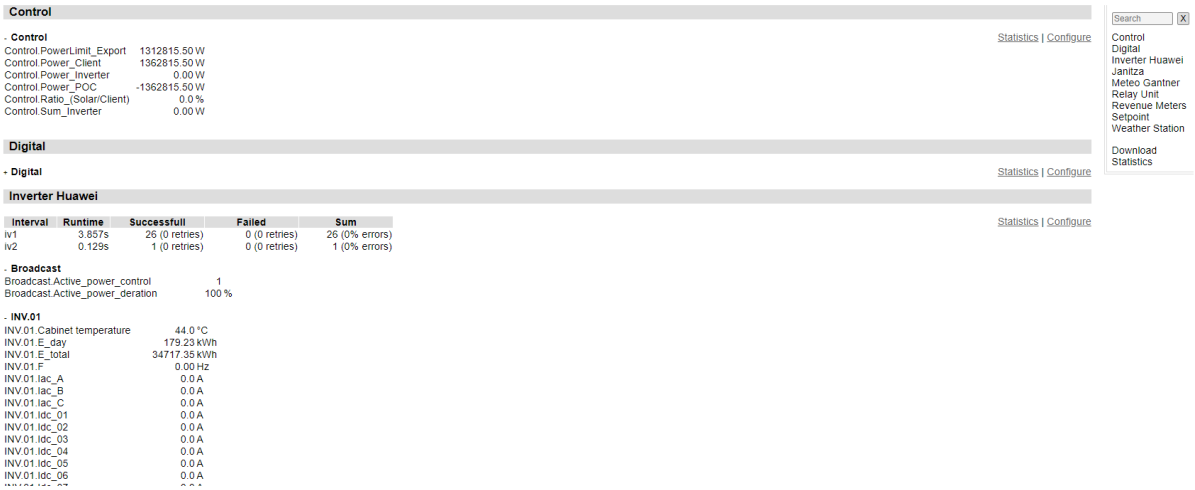
Custom Graphs

Q.reader based SCADA & HMI

Visualization and Control Interface



Switches Buttons



Control

- **Control**

Control.PowerLimit_Export	1312815.50 W
Control.Power_Client	1362815.50 W
Control.Power_Inverter	0.00 W
Control.Power_POC	-1362815.50 W
Control.Ratio_(Solar/Client)	0.0 %
Control.Sum_Inverter	0.00 W

Statistics | Configure

Digital

+ **Digital**

Statistics | Configure

Inverter Huawei

Interval	Runtime	Successfull	Failed	Sum
iv1	3.857s	26 (0 retries)	0 (0 retries)	26 (0% errors)
iv2	0.129s	1 (0 retries)	0 (0 retries)	1 (0% errors)

Statistics | Configure

- **Broadcast**

Broadcast.Active_power_control	1
Broadcast.Active_power_deration	100 %

- **INV.01**

INV.01.Cabinet temperature	44.0 °C
INV.01.E_day	179.23 kWh
INV.01.E_total	34717.35 kWh
INV.01.F	0.00 Hz
INV.01.Iac_A	0.0 A
INV.01.Iac_B	0.0 A
INV.01.Iac_C	0.0 A
INV.01.Idc_01	0.0 A
INV.01.Idc_02	0.0 A
INV.01.Idc_03	0.0 A
INV.01.Idc_04	0.0 A
INV.01.Idc_05	0.0 A
INV.01.Idc_06	0.0 A

Search X
Control
Digital
Inverter Huawei
Janitza
Meteo Gantner
Relay Unit
Revenue Meters
Setpoint
Weather Station

Download
Statistics

Live Measurement

iv2

Name	Runtime	Successfull		Failed		Overall		Connects	
		Requests	Retries	Requests	Retries	Sum	Error rate	Success	Failed
Control	0.000s	-	-	-	-	-	-	-	-
Inverter Huawei	0.101s	1	0	0	0	1	0%	-	-
Janitza	0.018s	2	0	0	0	2	0%	0	0
Revenue Meters	0.681s	3	0	0	0	3	0%	-	-

iv1

Name	Runtime	Successfull		Failed		Overall		Connects	
		Requests	Retries	Requests	Retries	Sum	Error rate	Success	Failed
Digital	0.000s	-	-	-	-	-	-	-	-
Inverter Huawei	3.859s	26	0	0	0	26	0%	-	-
Meteo Gantner	0.351s	7	0	0	0	7	0%	-	-
Relay Unit	0.501s	0	0	1	1	2	100%	1	0
Weather Station	0.114s	1	0	0	0	1	0%	-	-

Communication Statistic