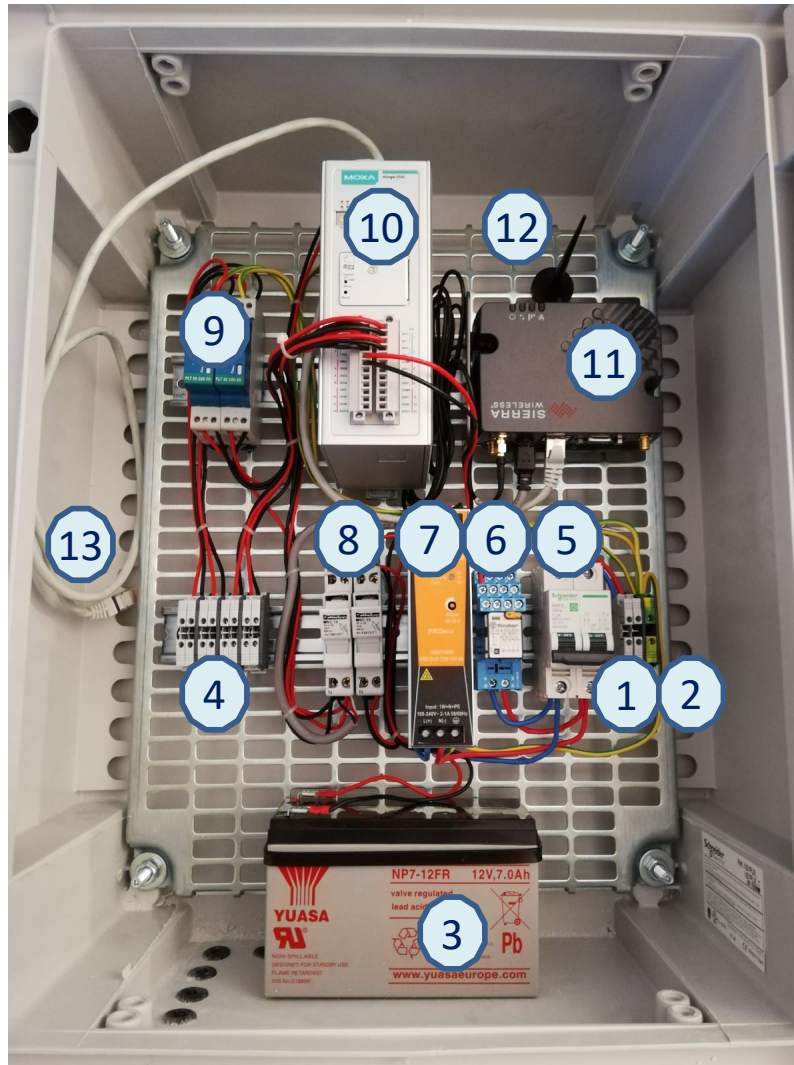




AquaBox 2018-v2



- 1: Electrical terminal block
- 2: Electrical Ground
- 3: 12V battery
- 4: Sensors terminal block
- 5: Circuit breaker
- 6: All-or-Nothing contactor
- 7: Electric Transformer / Charger 220V-12V
- 8: Fuse holder
- 9: Lightning protections
- 10: Data-Logger
- 11: Modem
- 12: Antenna
- 13: Ethernet cable for administration

# Installation guide

*Cabinet for Data logging analogic sensors with GPRS transmission*

AquaBox 2018-v2

May 2019

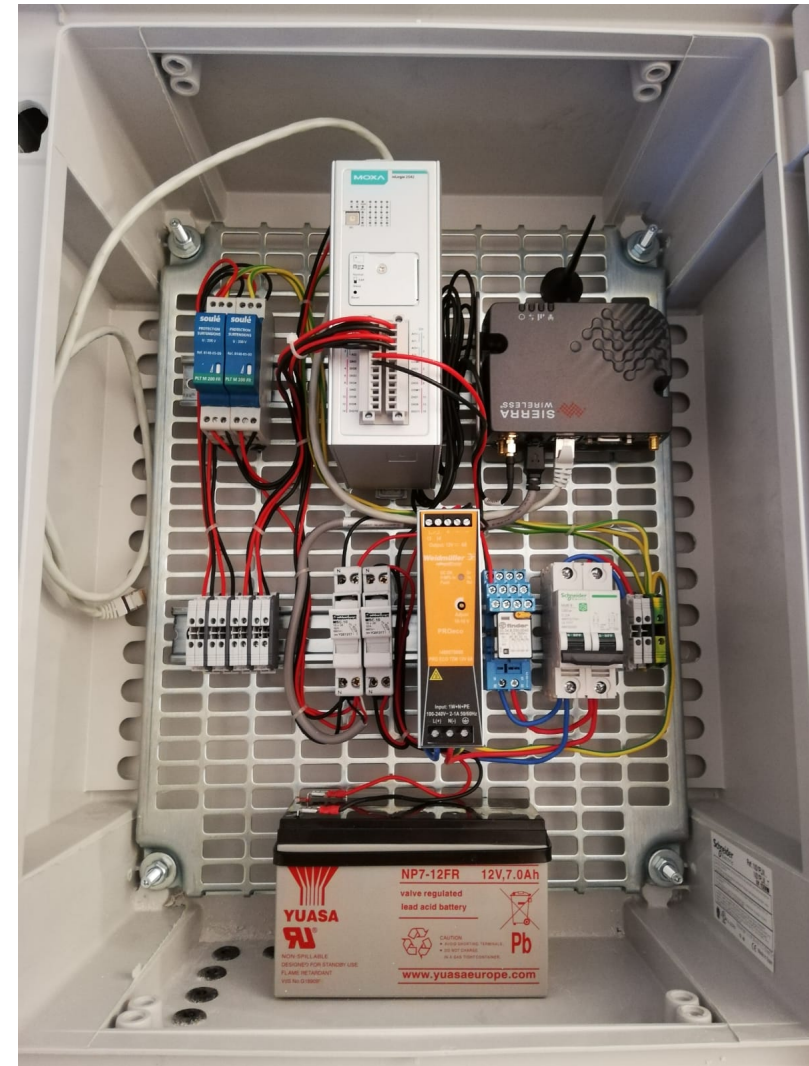


This guide should be used for AquaBox 2018-v1 Cabinet.

It describes the installation process of the cabinet, the power supply connection and the sensors connections.

This cabinet is prepared with 4 analogical channels for piezometer measures, conductivity, flow meter and temperature.

Installation of the cabinet depends on the environment. Please contact the responsible of the site to define the best options before.



## 1

### Installation on the borehole

Install the box near the borehole taking care that the cabinet is levelled.

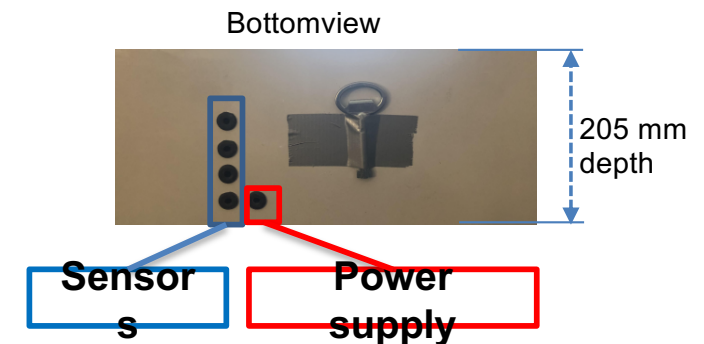
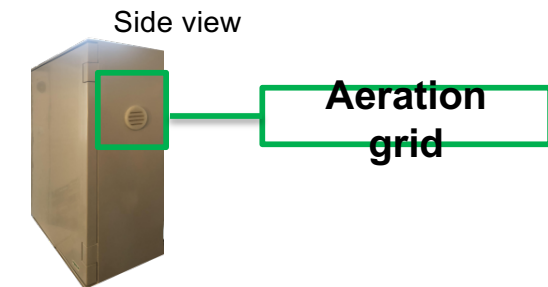
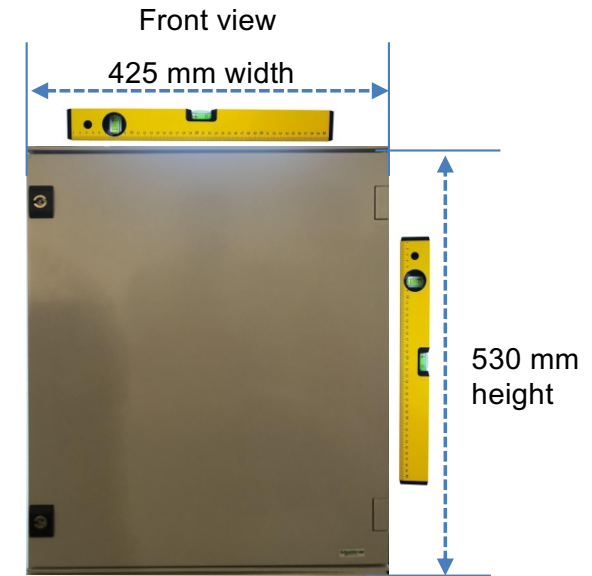
You can use several fastening systems depending on the condition.

The cabinet must be close enough to power supply, sensors and ground protection.

The cabinet must be installed in a clear environment to get signal for GSM.

The cabinet has 2 aeration grids on both sides. These grids must be clear.

Holes have been prepared for sensors and power supply.



## 2

### Sensors

Open the 2 locks of the cabinet with the key is located under the box.

4 analogic sensors can be plug on the cabinet. Terminals have been pre configured to connect the sensors directly on the terminal. Please respect the order and the type of sensors connections.

The different channels are:

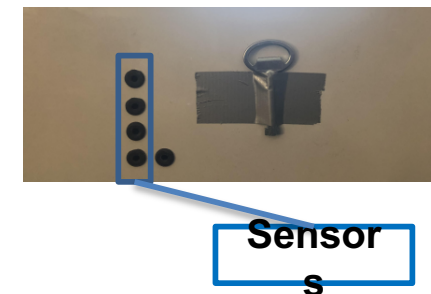
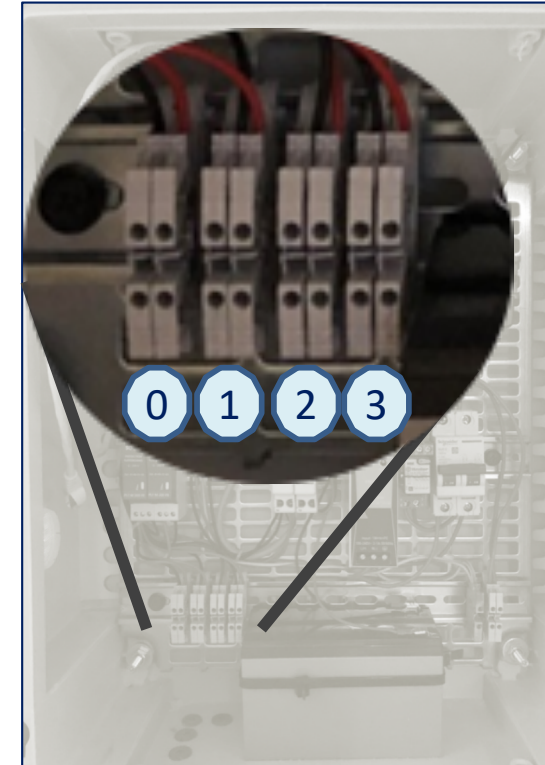
- Analogic 0: Piezometer measure
- Analogic 1: Conductivity
- Analogic 2: Flow measure
- Analogic 3: Temperature

The first channel is powered with 12V to be able to power the pressure sensors.

Analogic channels 1 and 2 are protected by lightning protection.

Take of cable from the opening hole on the bottom of the cabinet then plug the sensor cable through this hole.

**In case of different connections, please contact the support.**



## 3

### Power supply connection

1. Plug the ground protection
2. Plug the power supply on 220V

### Power supply switching on

3. Toggle breaker
4. Toggle fuses

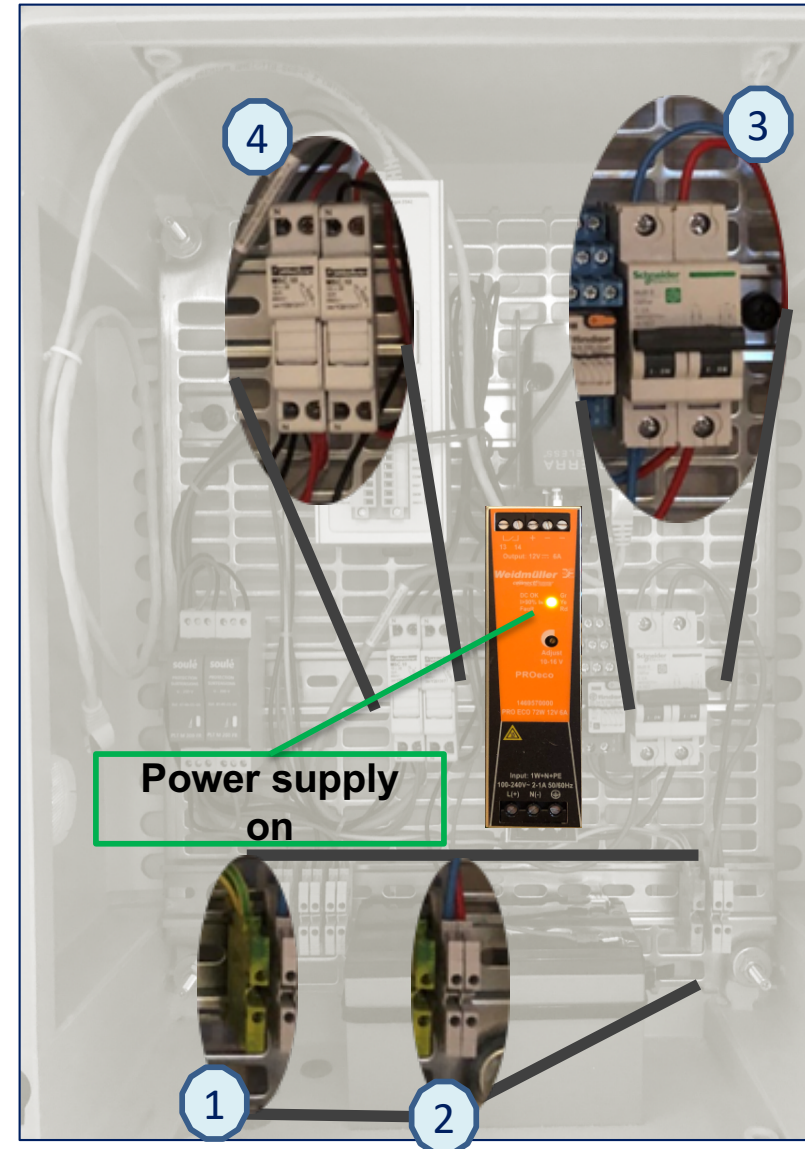
The cabinet is now running.

Breaker protects the cabinet from the input 220V power supply.

The right side fuse isolate the battery power supply.

The left side fuse protects the data logger and the modem from the 12V power supply.

If 220V power supply is on, the green light must be on, on the electric transformer/charger.



## 4

### Checking the data

Connect the Ethernet cable on the laptop. This cable is connected directly to the data logger to get the live view of the data.

Start a browser such as Chrome and go to **<http://192.168.100.1>**

Login interface will be display with an authentication form.



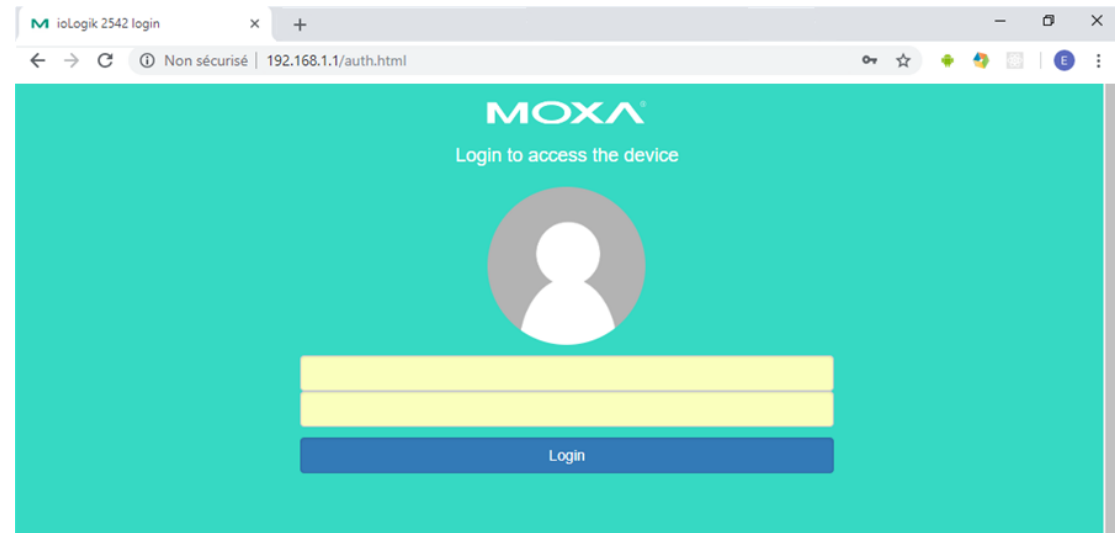
### 4.1

## Data logger interface


Default user is **operator** with password **@Box44Operator!**

**If you need additional rights, please contact the support.**

Once connected to the interface, you will get live values from the sensors.



Channel 0 pressure value is automatically converted with a 0 to 16 m range sensor. If you need specific settings, please contact the support.



ioLogik 2542

No	Name	Range	Value	Min	Max	Reset Min/Max
0	ANA0_Piezo	0 - 16 M	0 M	0 M	0 M	Reset
1	ANA1_Flow	4 - 20 mA	4 mA	4 mA	4 mA	Reset
2	ANA2_Cond	4 - 20 mA	4 mA	4 mA	4 mA	Reset
3	ANA3_Temp	4 - 20 mA	4 mA	4 mA	4 mA	Reset

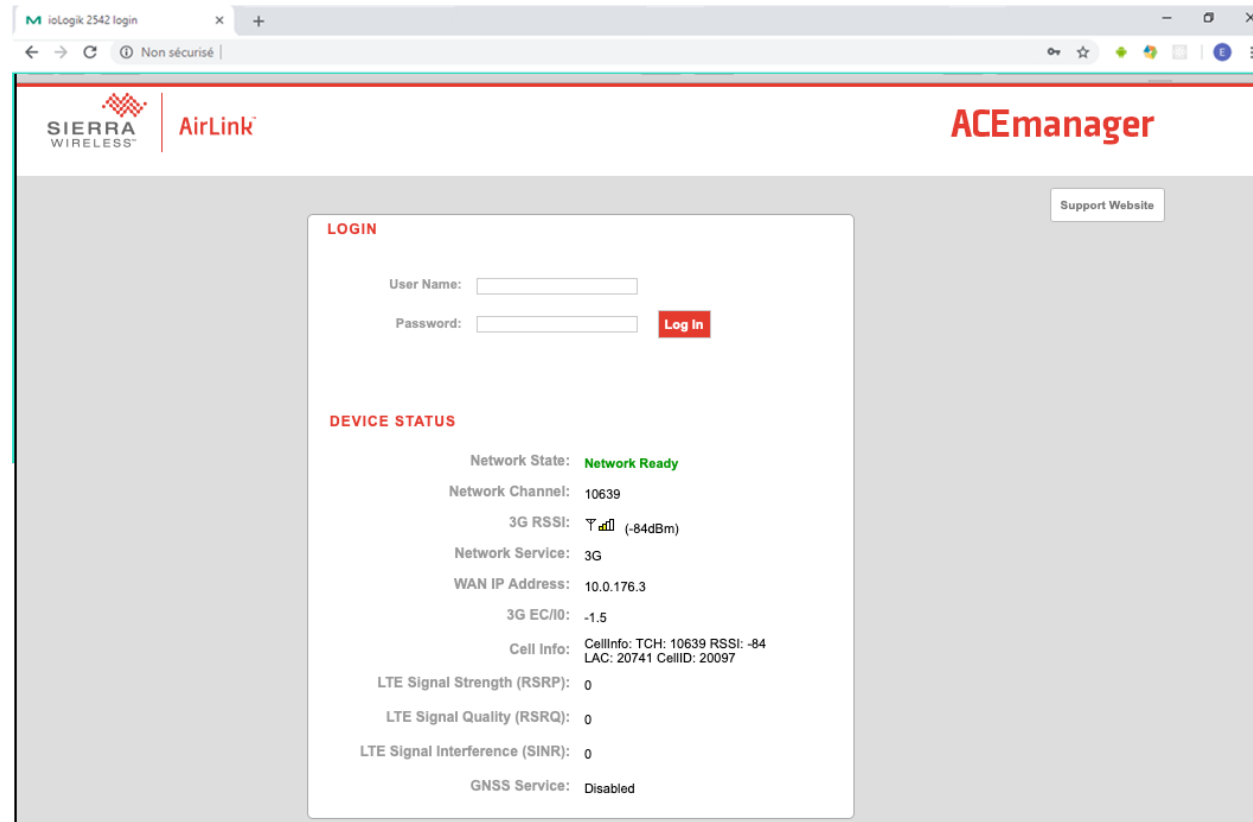
No	Name	Mode	Counter value	Trigger event	Filter	Status	Start/stop counter
4	ToR	DIO-DI	-	-	100 us	On	-

## 4.2 Modem interface

Once connected to the data logger (see step 4), you can use a browser such as Chrome and go to **http://192.168.100.14:9191**

The modem interface gives live information about the network connection. You don't need login to get default values.

**If you need additional rights, please contact the support.**



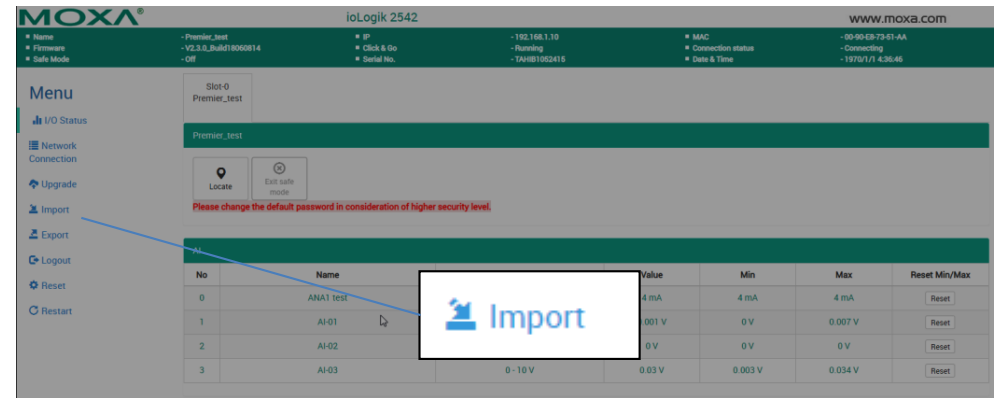
The screenshot shows a web browser window with the URL 'iLogik 2542 login'. The page header includes the 'SIERRA WIRELESS' and 'AirLink' logos on the left, and the 'ACEmanager' logo on the right. A 'Support Website' button is visible in the top right corner. The main content area is divided into two sections: 'LOGIN' and 'DEVICE STATUS'. The 'LOGIN' section contains a 'User Name:' input field, a 'Password:' input field, and a red 'Log In' button. The 'DEVICE STATUS' section displays the following information:

- Network State: **Network Ready**
- Network Channel: 10639
- 3G RSSI: **▮▮▮** (-84dBm)
- Network Service: 3G
- WAN IP Address: 10.0.176.3
- 3G EC/IO: -1.5
- Cell Info: TCH: 10639 RSSI: -84  
LAC: 20741 CellID: 20097
- LTE Signal Strength (RSRP): 0
- LTE Signal Quality (RSRQ): 0
- LTE Signal Interference (SINR): 0
- GNSS Service: Disabled

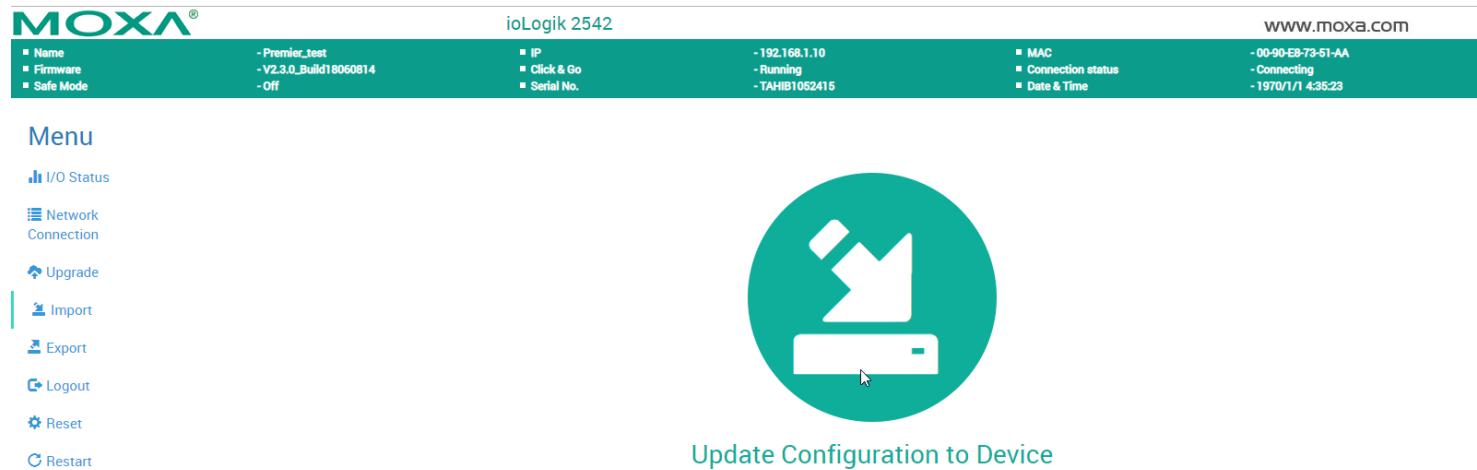


### 5 Datalogger update (optional)

If you need specific settings for the data logger or the frequency of exchange of data, the support, will prepare the setting file and send it to you by email. The setting file is a XML file that can be sent to the data logger with the previous interface.



With a specific login, you will be able to upload the setting file. The data logger will restart and will apply these new settings.



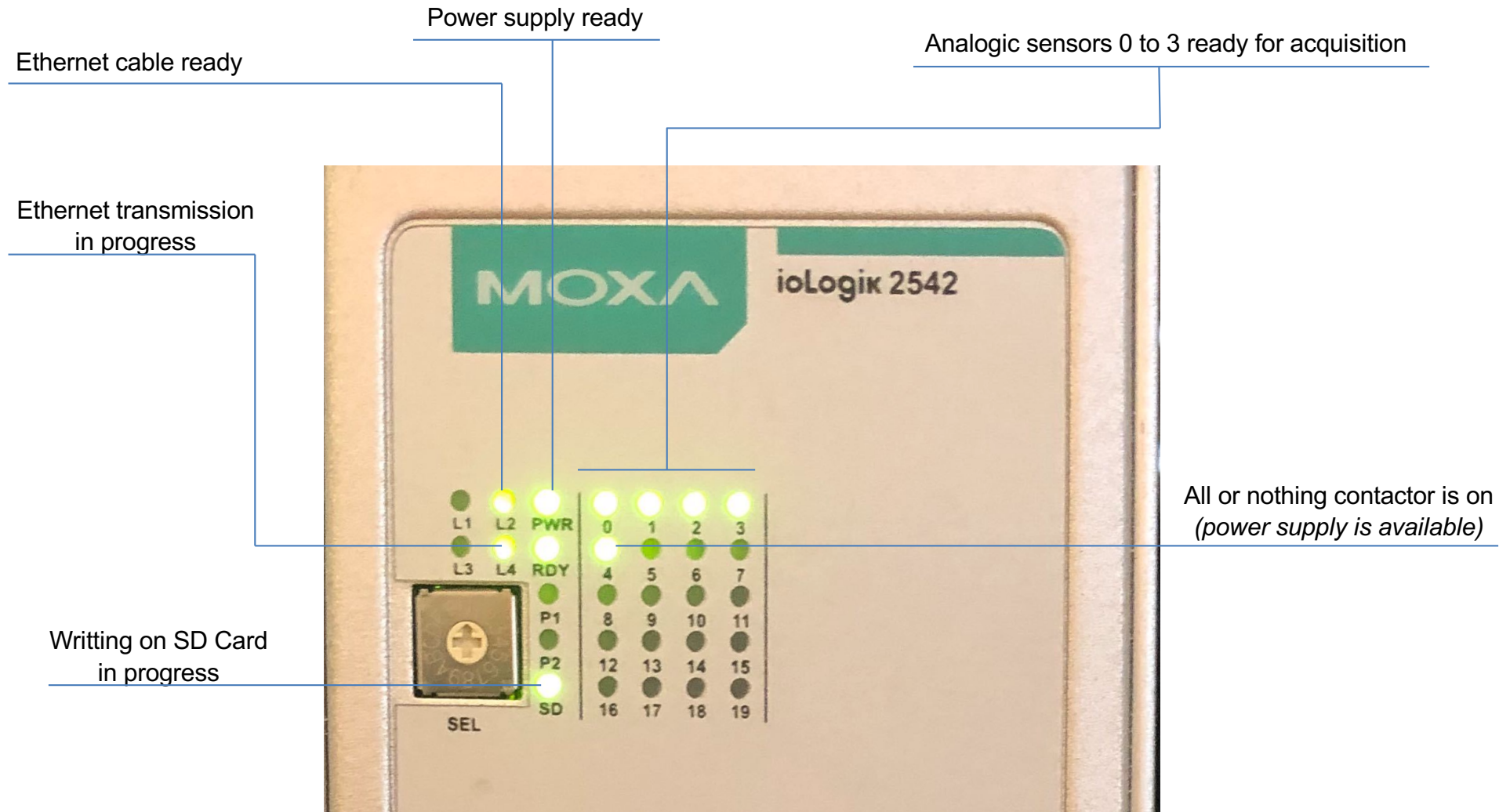
Click above icon to update configuration or drag & drop configuration file to above icon.

# Installation guide - Datalogger Status

Cabinet for Data logging analogic sensors with GPRS transmission

AquaBox 2018-v2

May 2019

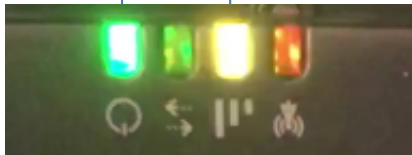


### Modem

SIM card status:

- Orange blinking: no card
- Red: card blocked
- Green: activated

Power supply ready



Transmission in progress

GPRS network status:

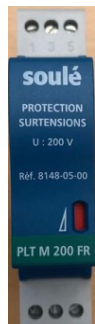
- Orange: signal is low
- Red blinking: antenna is disconnected
- Green: ready

### Electric transformer/Charger



Power supply ready

### Lightning protection



Protection is out of order



Protection is ready

## Power supply

- If the electric transformer/charger has no led alight, check the input voltage from the 220V power supply and the breaker.

## Fuse

- If the data logger or the modem has no led alight, check that the left fuse is on and functional.
- If the data logger or the modem has no led alight while the breaker is off, check that the right fuse is on and functional. The battery should provide power supply. Therefore, the fuse may be off or the battery discharged.

## Sensors

- Data can not be displayed for several reasons. First check if the sensors are correctly plugged on the right terminal.
- If data are not displayed with the right value, please check the range of the sensor. The default's one is a 0 to 16 m range.

## Out of order lightning protection

- If the red light is on, on the lightning protection, it means that the component is out of order. Replace the component with similar element.

## GPRS Connection

- The modem displays connectivity information on the front of the equipment. If the signal is not strong enough, the second led on the right side may be orange or blinking. Check the antenna. The antenna is provided with a 2m cable and can be installed outside of the cabinet.
- The modem got a SIM card. If the SIM card is blocked or out of order, the right led may be blinking red.

# Installation guide - References

Cabinet for Data logging analogic sensors with GPRS transmission

AquaBox 2018-v2

May 2019



Component	Brand	Characteristic	Serial number
Battery	YUASA	NP7-12FR 12V,7.0Ah	G189099
Circuit breaker	SCHNEIDER	Multi 9 2A	M9F22202
All or Nothing contactor	FINDER	7A-250V	55.34.8.230.0040
Electric Transformer/charger	WEIDMULLER	PRO ECO 72W 12V 6A	1469570000
Fuse	MERSEN	500V 1A	
Lightning protections	SOULE	200V	8148-0-00
Datalogger	MOXA	ioLogik 2542	3093000001183
Modem	SIERRA WIRELESS	RV50X	QR84430024011010
Antenna	ROHS	ANTENNA 4G/3G/GSM GPRS 2M Magnetic	899308325
Ethernet cable		Cat6 S/FTP PVC 1M	