

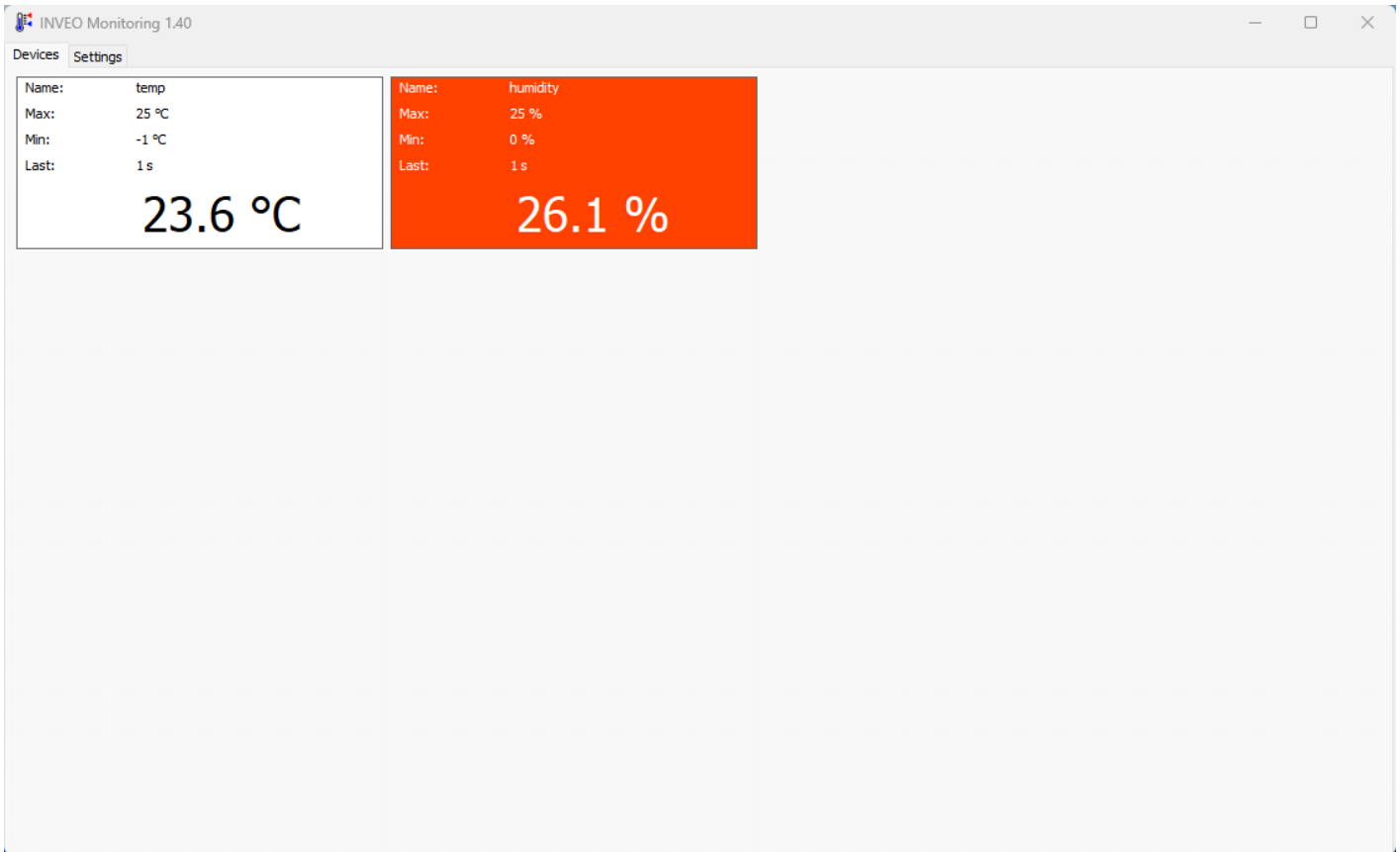
Inveo Sp. z o.o.

Inveo Monitoring

Instruction Manual

Warning

This manual applies only to the program version v1.40 onwards. Inveo does not guarantee that the information contained in this document applies to previous firmware revisions.



Purpose of the application

The application is used to preview the values of sensors and input/output states, write subsequent readings and alarm conditions to a log file, send e-mail and SMS (SMSAPI) messages.

The program uses the MQTT protocol for communication and supports the following Inveo modules:

- **Virtus**
- **Daxi**
- **IQIO PRO**
- **IQIO Sens**
- **Hero Web Sensor**
- **Nano In/Nano Digital Input PoE**
- **Nano Out/Nano Relay Output PoE**
- **Nano Temp/Nano Temperature Sensor PoE**

The program can be used both on Microsoft Windows and Linux operating systems.

Changelog

1.0 22nd of January 2026

- Application version v1.40

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Program configuration

After running the installation program, follow the instructions shown on the screen.

Modules configuration

Virtus, Daxi, IQIO

1. Enable the MQTT service in the device's web interface using the **Services / MQTT** tab and enter the minimum required parameters:

- **Broker** – MQTT broker address,
- **Port**,
- **QoS** – Quality of Service setting:
 - **QoS0** – At most once,
 - **QoS1** – At least once,
 - **QoS2** – Exactly once.



Tip

When using the Inveo broker, the following values should be entered: - **Broker:** mqtt.inveo.com.pl
- **Port:** 1883



Tip

It is possible to use the PC running Inveo Monitoring as an MQTT broker.
To do this, enter the PC's IP address into the **Broker** field.

Services

Web HTTPc **MQTT** E-mail SMS

Modbus SNMP TCP/UDP iCluster REST API

MQTT Client configuration



Name	Value	Description
MQTT Client	<input checked="" type="checkbox"/>	Enable MQTT Client
Broker	<input type="text" value="mqtt.inveo.com.pl"/>	Broker address
Port	<input type="text" value="1883"/>	MQTT port
QoS	<input type="text" value="QOS0"/>	Quality of service



2. In the **Sensors** tab, select the desired sensor. Click the icon, and select **Notifications** and **MQTT Notification**.

Notifications	<input checked="" type="checkbox"/>	Enable notifications
MQTT notification	<input checked="" type="checkbox"/>	Enable MQTT notification

3. After installing and running the **Inveo Monitoring** software, enter the broker address first. To do that, go to the **Settings** tab.

Information

For correct operation, the broker's address must match the one defined in the module's web interface.

MQTT

MQTT server

Connected

Information

The program must be restarted after modifying the broker address.

4. In the **Add device** section, enter the details of a sensor to be displayed:

- **MQTT topic** – Topic the readings will be received from,

- **Custom name** – Name of the sensor that will be displayed inside its frame for user convenience.

For **Virtus**, **Daxi** and **IQIO** modules, the default topic has the following structure:

```
model/<mac_address>/s[x]
```

where:

- `model` is the device's model,
- `<adres_mac>` is the device's MAC address,
- `[x]` is the sensor index (**ID** column in the **Sensors** tab).

Example

The MAC address of a Virtus module is 11:22:33:AA:BB:CC. We'd like to view the temperature sensor's (ID = 0) readings.

Default topic: `virtus/112233aabbcc/s0`.

After entering the parameters, click the **Add** icon. The data will be moved to the table below.

Add device

MQTT topic

virtus/112233aabbcc/s0

Custom name

Engine room temperature

Add

Delete selected

Name	MQTT topic
Engine room temperature	virtus/112233aabbcc/s0

Entering correct data here will display the sensor readings in the **Devices** tab.

5. For the values to display correctly, a sensor type should be set. In the **Devices** tab, click the tile of the sensor to be modified and select the **Sensor type**, accepting with **OK**:

- **Temperature**,
- **Humidity**,
- **Input**,
- **Output**.

Sensor type	Temperature
Maximum temperature	Temperature
Minimum temperature	Humidity
	Input
	Output

Hero Web Sensor

1. Enable the MQTT service in the device's web interface using the **Services / MQTT** tab and enter the minimum required parameters:

- **Server Address** – MQTT broker address,
- **Server port**,

- **Topic**, to which the module will send its readings,
- **QoS** – Quality of Service setting:
 - **QoS0** – At most once,
 - **QoS1** – At least once,
 - **QoS2** – Exactly once.



Tip

When using the Inveo broker, the following values should be entered: - Broker: mqtt.inveo.com.pl
- Port: 1883



Tip

It is possible to use the PC running Inveo Monitoring as an MQTT broker.
To do this, enter the PC's IP address into the Broker field.

Services

HTTP	MQTT	E-mail	SNMP	Syslog	History	Modbus
MQTT						
Name		Value		Description		
Enable Service		<input checked="" type="checkbox"/>				
Server Address		<input type="text" value="mqtt.inveo.com.pl"/>		IP or domain name		
Server port		<input type="text" value="1883"/>				
Topic		<input type="text" value="/hero/112233aabbcc"/>		i.e. /topic		
Username		<input type="text"/>		optional		
Password		<input type="text"/>		optional		
QOS		<input type="text" value="0"/>				
				<input type="button" value="Save"/>		

2. In the **Sensors** tab, select the desired sensor's index. In the **Warn Matrix** section, **MQTT** row, select the information to be sent via MQTT.

Warn Matrix						
	Info	Alarm L	Warn L	Warn H	Alarm H	Error
Enable	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Out 1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Out 2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E-mail On	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E-mail Off	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SNMP Trap	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HTTP On	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HTTP Off	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MQTT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Syslog	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

It's possible to set the reading transmission frequency by changing the **Info period** value in the **Sensors** tab.

Info period	<input type="text" value="5"/>	Info time [s]
-------------	--------------------------------	---------------

Information

Apply all changes using the **Save** button.

3. After installing and running the **Inveo Monitoring** software, enter the broker address first. To do that, go to the **Settings** tab.

Information

For correct operation, the broker's address must match the one defined in the module's web interface.

MQTT

MQTT server

Connected

Information

The program must be restarted after modifying the broker address.

4. In the **Add device** section, enter the details of a sensor to be displayed:

- **MQTT topic** – Topic the readings will be received from,
- **Custom name** – Name of the sensor that will be displayed inside its frame for user convenience.

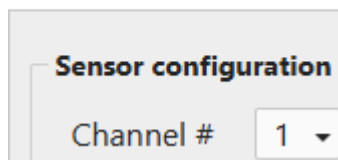
The default topic has the following structure:

```
topic/sensor[x]
```

where:

- `topic` is the value from the **Topic** field (**Services** tab),
- `[x]` is the sensor index (**Channel** field in **Sensors**).

Sensors



Example

The user entered the following topic: `/hero/112233aabbcc` . We'd like to view the readings from a sensor assigned to channel 1. The topic will look like this: `/hero/112233aabbcc/sensor1`

After entering the parameters, click the **Add** icon. The data will be moved to the table below.

Entering correct data here will display the sensor readings in the **Devices** tab.

Nano series modules

1. Enable the MQTT service in the device's web interface by clicking **Enable MQTT Inveo** in the **Adminsitration** tab. Clicking **Show Info** will open a window containing the information required for configuration.

Save all changes by clicking **Save Config**.

☒ Enable MQTT Inveo [\[Show Info\]](#)

MQTT Client Configuration:

- Server: mqtt.inveo.com.pl
- Port: 1883
- Username: nano
- Password: DeV876
- Topic: /nanoT/6827199fb6c8
- Alarm Topic: /nanoT/6827199fb6c8/a

2. In the **Network** tab, configure the MQTT broker **address** and **port**.



Tip

When using the Inveo broker, the following values should be entered: - Broker: mqtt.inveo.com.pl
- Port: 1883



Tip

It is possible to use the PC running Inveo Monitoring as an MQTT broker.
To do this, enter the PC's IP address into the Broker field.

MAC Address:	<input type="text" value="00:00:00:00:00:00"/>
Host Name:	<input type="text" value="NANO"/>
	<input checked="" type="checkbox"/> Enable DHCP
IP Address:	<input type="text" value="192.168.111.15"/>
Gateway:	<input type="text" value="0.0.0.0"/>
Subnet Mask:	<input type="text" value="255.255.255.0"/>
Primary DNS:	<input type="text" value="0.0.0.0"/>
Secondary DNS:	<input type="text" value="0.0.0.0"/>
Destination IP:	<input type="text" value="0.0.0.0"/>
Destination Port:	<input type="text" value="0"/>
MQTT Address:	<input type="text" value="mqtt.inveo.com.pl"/>
MQTT Port:	<input type="text" value="1883"/>
	<input type="button" value="Save Config"/>

3. After installing and running the **Inveo Monitoring** software, enter the broker address first. To do that, go to the **Settings** tab.

 **Information**

For correct operation, the broker's address must match the one defined in the module's web interface.

A screenshot of a web interface for MQTT configuration. It has a title 'MQTT' at the top left. Below it, there is a label 'MQTT server' followed by a text input field containing 'mqtt.inveo.com.pl'. At the bottom left, there is a label 'Connected' and a 'Save' button to its right.

MQTT

MQTT server

Connected

 **Information**

The program must be restarted after modifying the broker address.

4. In the **Add device** section, enter the details of a sensor to be displayed:

- **MQTT topic** – Topic the readings will be received from,
- **Custom name** – Name of the sensor that will be displayed inside its frame for user convenience.

After entering the parameters, click the **Add** icon. The data will be moved to the table below.

Entering correct data here will display the sensor readings in the **Devices** tab.

Application main screen – Devices tab

Clicking the sensor tile will display additional settings.

Parameters			
MQTT Topic	<input type="text" value="virtus/112233aabbcc/s0"/>		
Custom name	<input type="text" value="Engine room temperature"/>		
Sensor type	<input type="text" value="Temperature"/>		
Maximum temperature	<input type="text" value="25"/>	Color	<div></div>
Minimum temperature	<input type="text" value="-1"/>	Color	<div></div>
<input type="checkbox"/> Maximize when alarm	<input type="checkbox"/> Communication alarm		
<input type="checkbox"/> Send e-mail	<input type="text" value="10:28:46"/>	Add	
Periodic sending	<div></div>	Remove	
<input type="checkbox"/> Send SMS			
<input type="checkbox"/> Save to file			
<input type="button" value="Anuluj"/>		<input type="button" value="OK"/>	

- **MQTT Topic** – Sensor's topic,
- **Custom name**,
- **Sensor type**: Temperature, Humidity, Input, Output,
- **Maximum temperature** – Applies to the temperature sensor only – upper limit of temperature, exceeding of which will trigger an alarm. Default value: 25°C,
- **Minimum temperature** – Applies to the temperature sensor only – lower limit of temperature, exceeding of which will trigger an alarm. Default value: -1°C,
- **Maximum humidity value** – Applies to the humidity sensor only – maximum allowed humidity value, exceeding of which will trigger an alarm,
- **Minimum humidity value** – Applies to the humidity sensor only – minimum allowed humidity value, exceeding of which will trigger an alarm,
- **Alarm when** – Applies to input, output modules – sets the alarm condition to:
 - **0** – Relay open/input not triggered,
 - **1** – Relay closed/input triggered,
 - **2** – Alarm inactive.
- **Color** – Sensor tile background colour during an alarm condition,
- **Maximize when alarm** – The program window will be maximized during an alarm,
- **Communication alarm** – Activating this option will trigger an alarm if communication is lost,

- **Send e-mail** – Selecting this option will send e-mail messages containing the current sensor values and alarm notifications,
- **Add** – Sets the time range of sending notifications via e-mail or SMS,
- **Remove** – Removes the time range described above,
- **Periodic sending** – Displays the time ranges of e-mail notifications,
- **Send SMS** – Activating this option will send SMS messages containing the current sensor values and alarm notifications,
- **Save to file** – Zapisywanie kolejnych odczytów w pliku określonym w zakładce **Settings**.

Save readings to a file

Inveo Monitoring allows subsequent sensor readings to be saved to a file located in a user-specified folder.

1. In the **Devices** tab, open the sensor settings window by clicking its tile. Tick **Save to file**.

Parameters			
MQTT Topic	virtus/112233aabbcc/s0		
Custom name	Engine room temperature		
Sensor type	Temperature		
Maximum temperature	25	Color	<div style="background-color: orange; width: 100px; height: 15px;"></div>
Minimum temperature	-1	Color	<div style="background-color: blue; width: 100px; height: 15px;"></div>
<input type="checkbox"/> Maximize when alarm	<input type="checkbox"/> Communication alarm		
<input type="checkbox"/> Send e-mail	10:28:46	Add	
Periodic sending	<div style="border: 1px solid black; width: 150px; height: 50px;"></div>	Remove	
<input type="checkbox"/> Send SMS			
<input checked="" type="checkbox"/> Save to file			
Anuluj	OK		

2. In the **Settings** tab, fill the **Logs** section:

- **Path** – Target folder access path,
- **File name** – Target file name,
- **Interval** – Data saving interval (in seconds).



Tip

The green status bar in the Logs sections indicates a successful write operation. The colour red appears when Inveo Monitoring can't write the file, for example while it's open.

Logs	
Path	C:\Users\serwi\Desktop\logs Select
File name	data.csv
Interval	11
Last save	2026-01-22 12:23:37

Sending data via SMS

Inveo Monitoring enables the sensor readings and alarm conditions to be sent via SMS (smsapi.pl).

1. In the **Devices** tab, open the sensor settings window by clicking its tile. Tick **Send SMS**.

Parameters			
MQTT Topic	virtus/112233aabbcc/s0		
Custom name	Engine room temperature		
Sensor type	Temperature		
Maximum temperature	25	Color	
Minimum temperature	-1	Color	
<input type="checkbox"/> Maximize when alarm	<input type="checkbox"/> Communication alarm		
<input type="checkbox"/> Send e-mail	12:25:39	Add	
Periodic sending		Remove	
<input checked="" type="checkbox"/> Send SMS			
<input checked="" type="checkbox"/> Save to file			
Anuluj	OK		

2. In the **Settings** tab, fill the **SMS Api Configuration**.

- Username,
- Password,
- Sender,
- Receiver.

Clicking **Send test SMS** allows the user to verify the correctness of entered parameters by sending a test SMS.

Successful configuration will cause the program to send sensor readings and alarm notifications when they appear during the hours specified.

Sending data via e-mail

Inveo Monitoring enables the sensor readings and alarm conditions to be sent via e-mail.

1. In the **Devices** tab, open the sensor settings window by clicking its tile. Tick **Send email**.

Parameters			
MQTT Topic	virtus/112233aabbcc/s0		
Custom name	Engine room temperature		
Sensor type	Temperature		
Maximum temperature	25	Color	
Minimum temperature	-1	Color	
<input type="checkbox"/> Maximize when alarm	<input type="checkbox"/> Communication alarm		
<input checked="" type="checkbox"/> Send e-mail	12:25:39	Add	
Periodic sending		Remove	
<input checked="" type="checkbox"/> Send SMS			
<input checked="" type="checkbox"/> Save to file			
Anuluj	OK		

2. In the **Settings** tab, fill the **Mail Configuration**.

- **Server** – Outbound SMTP server address,
- **Port**,
- **Username**,
- **Password**,
- **Receiver**.

Clicking **Send test e-mail** allows the user to verify the correctness of entered parameters by sending a test e-mail.

Successful configuration will cause the program to send sensor readings and alarm notifications when they appear during the hours specified.