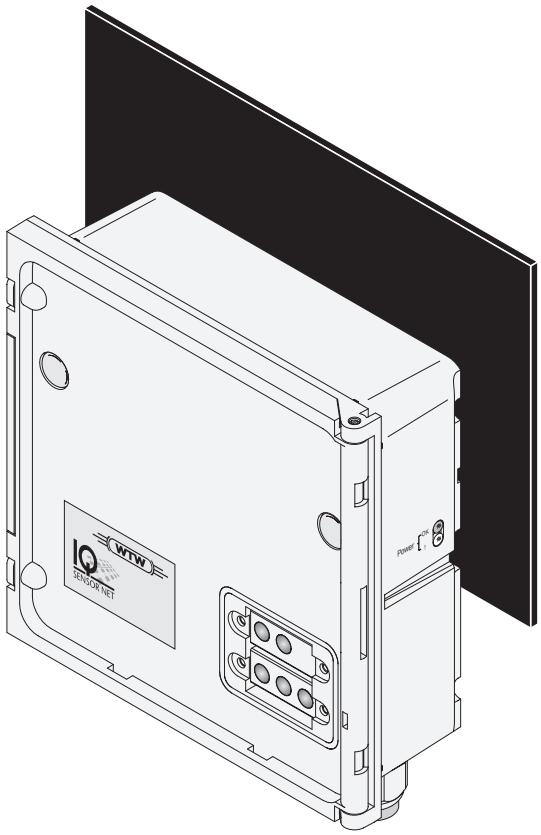
Operating Manual

MIQ/PS PLUS



IQ SENSOR NET wide-range power supply module 30 W

Line voltage 100 ... 240 VAC

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Accuracy when going to press

The use of advanced technology and the high quality standard of our instruments are the result of continuous development. This may result in differences between this operating manual and your instrument. Also, we cannot guarantee that there are absolutely no errors in this manual. Therefore, we are sure you will understand that we cannot accept any legal claims resulting from the data, figures or descriptions.



Note
The latest version of the present operating manual can be found on the Internet under www.WTW.com.

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1 Overview

1.1 How to use this component operating manual

Structure of the IQ SENSOR NET operating manual

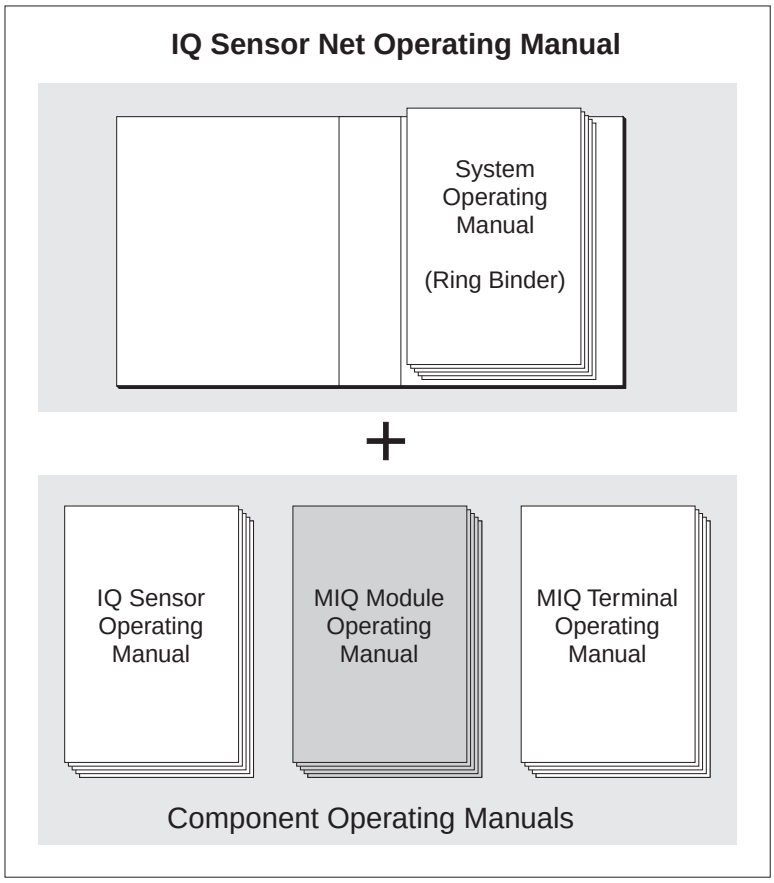


Fig. 1-1 Structure of the IQ SENSOR NET operating manual.

The IQ SENSOR NET operating manual has a modular structure like the IQ SENSOR NET system itself. It consists of a system operating manual and the operating manuals of all the components used.

Please file these component operating manuals into the ring binder of the system operating manual.

1.2 Features of the MIQ/PS PLUS

General characteristics

The MIQ/PS PLUS wide-range power supply supplies the IQ SENSOR NET with its operational voltage. The operational voltage is forwarded to the consumers in the following ways:

- In the case of stacked mounting, via the IQ SENSOR NET contacts on the front of the module.
- In the case of distributed mounting, via the IQ SENSOR NET SNCIQ cable.
- In the case of sensors, via the SACIQ sensor connecting cable.

With the standard MIQ module housing, the MIQ/PS PLUS has the same characteristics as all MIQ modules regarding stability, leakproofness and weather resistance.

Up to three power modules can be installed in an IQ SENSOR NET system. The number of modules that are required depends on the number of consumers in the system and their power requirement as well as on the overall loss of power in the IQ SENSOR NET cables. Instructions for determining the correct number of power modules are given in the INSTALLATION chapter of the system operating manual.

Terminal strip

The MIQ/PS PLUS has the following electrical connections on the terminal strip inside the housing:

- 1 x line connecor, two-pole
- 2 x SENSORNET connection

2 Safety instructions

This component operating manual contains special instructions that must be followed during the installation of the MIQ/PS PLUS power supply module. Thus, it is essential to read this component operating manual before carrying out any work with the system. In addition to this manual, the SAFETY chapter of the IQ SENSOR NET system operating manual must be followed.

Always keep this component operating manual together with the system operating manual and all other component operating manuals in the vicinity of the IQ SENSOR NET system.

Special user qualifications

The MIQ/PS PLUS may only be connected to the power supply by a trained electrician.

General safety instructions

The following safety labels in the individual chapters of this operating manual indicate different levels of danger:



Warning
indicates instructions that must be followed precisely in order to prevent serious dangers to personnel.

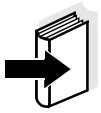


Attention
indicates instructions that must be followed precisely in order to avoid slight injuries to personnel or damage to the instrument or the environment.

Other labels



Note
indicates notes that draw your attention to special features.



Note
indicates cross-references to other documents, e.g. operating manuals.

2.1 Authorized use

The authorized use of the MIQ/PS PLUS consists of its use as a power supply module in the IQ SENSOR NET.
The technical specifications given in chapter 5 TECHNICAL DATA must be observed. Only operation according to the instructions in this operating manual is authorized.

Any other use is considered to be **unauthorized**. Unauthorized use invalidates any claims with regard to the guarantee.

2.2 General safety instructions

The MIQ/PS PLUS is constructed and inspected in accordance with the relevant guidelines and norms for electronic instruments (see chapter 5 TECHNICAL DATA).
It left the factory in a safe and secure technical condition.

Function and operational safety

The failure-free function and operational safety of the MIQ/PS PLUS is only guaranteed if the generally applicable safety measures and the special safety instructions in this operating manual are followed during its use.

The failure-free function and operational safety of the MIQ/PS PLUS is only guaranteed under the environmental conditions that are specified in chapter 5 TECHNICAL DATA.

Safe operation

If safe operation is no longer possible, the MIQ/PS PLUS must be taken out of operation and secured against inadvertent operation.
Safe operation is no longer possible if the MIQ/PS PLUS:

- has been damaged during transport
- has been stored under adverse conditions for a lengthy period of time
- is visibly damaged
- no longer operates as described in this manual.

If you are in any doubt, contact the supplier of your MIQ/PS PLUS.

3 Installation

3.1 Scope of delivery

The scope of delivery of the MIQ/PS PLUS is listed in the INSTALLATION chapter of the system operating manual.

3.2 Installation in the IQ SENSOR NET

3.2.1 General rules



Attention
Protect the MIQ/PS PLUS from direct solar radiation. Observe the environmental conditions specified in chapter TECHNICAL DATA of the system operating manual. Take into account that the maximum power delivery is reduced at temperatures over 45 °C (for details, refer to chapter TECHNICAL DATA of this operating manual).



Attention
The heat conduction plate on the back of the instrument must not be removed in any case.



Note
If there are several power supply modules in the IQ SENSOR NET, it is helpful if all the power supply modules are connected to a single power supply. As a result, the system can be easily switched on and off from a single location.

Types of installation

The IQ SENSOR NET provides a number of options for integrating the MIQ/PS PLUS mechanically and electrically in the system (stacked mounting, distributed mounting, etc.).

The individual types of installation are described in detail in the INSTALLATION chapter of the system operating manual. Note that the MIQ/PS PLUS can only be installed in the backmost position of a module stack.

Panel mounting is possible as stack mounting on a separate front module.

For top hat rail mounting, no WTW accessories are available.

3.2.2 Connecting the power supply



Warning
If the power supply is connected incorrectly, it may represent a danger to life from electric shock. Pay attention to the following points during installation:

- The MIQ/PS PLUS may only be connected to the power supply by a trained electrician.
- The connection of the MIQ/PS PLUS to the power supply may only be carried out when it is not carrying any voltage.
- The power supply must fulfill the specifications given on the nameplate and in chapter 5 TECHNICAL DATA.
- When installed in a building, a switch or power switch must be provided as a disconnecting device for the MIQ/PS PLUS. The interrupt facility must:
  - be installed in the vicinity of the MIQ/PS PLUS, easily accessible by the user, and
  - be identified as a disconnecting device for the MIQ/PS PLUS.
- After it has been installed, the MIQ/PS PLUS may only be opened if the line voltage has been switched off beforehand.

Installation notes

Follow these instructions when connecting the connecting wires to the terminal strip:

- Shorten all the wires to be used to the length required for the installation
- Always fit all the ends of the wires with wire end sleeves before connecting them to the terminal strip
- Any wires that are not used and project into the housing must be cut off as closely as possible to the cable gland.



Warning
No free wires must be allowed to project into the housing. Otherwise, there is a danger that safe areas could come into contact with dangerous voltages. This could result in a life threatening electric shock when working with the IQ SENSOR NET. Always cut off any wires that are not in use as closely as possible to the cable gland.

Materials required

- Wire end sleeves, suitable for the power line, with suitable crimping tool

Tools

- Cable stripping knife
- Wire stripper
- Phillips screw driver
- Small screw driver.

Preparing the supply line

1	Cut off the cable to the required length.
2	Strip the cable insulation for approx. 55 mm.
3	Bare the wires of phases L and N and fit them with wire end sleeves.
4	If present, cut off the protective earth conductor wire at the end of the cable sheath.

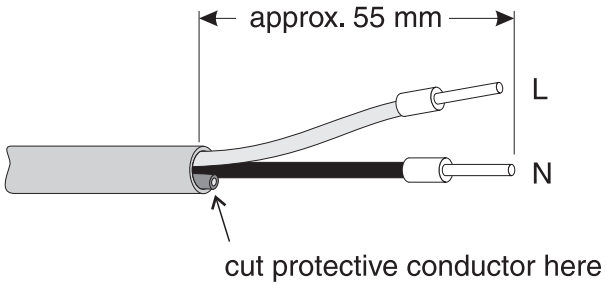


Fig. 3-1 Prepared power cable.



Attention
The protective earth conductor must not project into the housing. Otherwise, malfunctions could occur.

Connecting the power line.

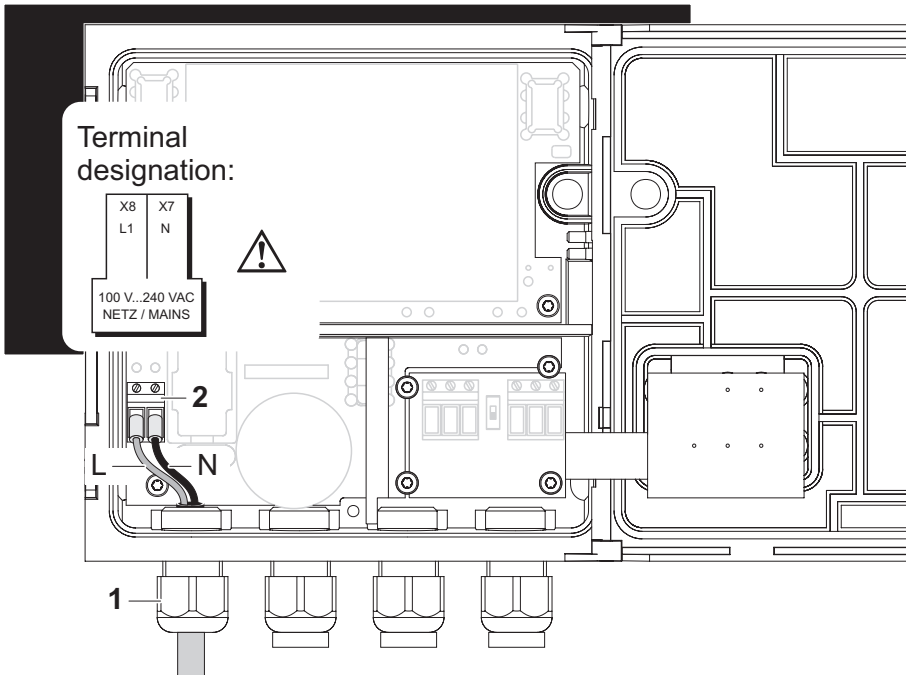


Fig. 3-2 Connecting the power line.

1	Open the module.
2	Loosen the cap nut of the left-hand screwed cable gland (pos. 1 in Fig. 3-2) and remove the blind plug.
3	Feed the power line through the cable gland into the module housing.
4	Connect phases L and N to the terminal strip. Make sure that the cable assignment agrees with the specification on the terminal label under the terminal strip.
5	Tighten the cap nut (pos. 1).



Warning
No free wires must be allowed to project into the housing. Otherwise, there is a danger that safe areas could come into contact with dangerous voltages. This could lead to danger when working with the IQ SENSOR NET. Always cut off any wires that are not in use as closely as possible to the cable gland.

6	Close the module.

4 Maintenance and cleaning

4.1 Maintenance

The MIQ/PS PLUS requires no special maintenance. The general maintenance of IQ SENSOR NET components is described in the IQ SENSOR NET system operating manual.

4.2 Cleaning

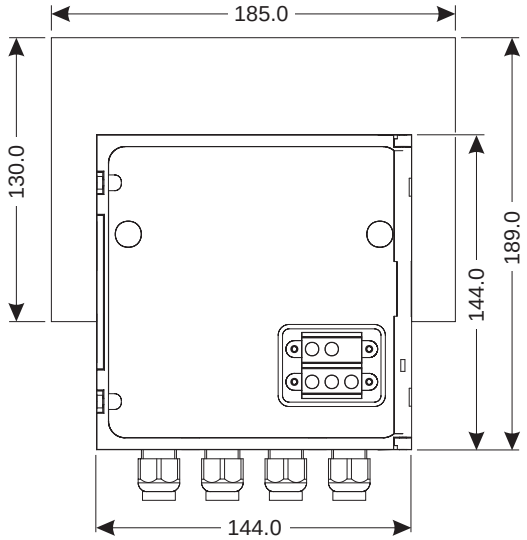
The cleaning of IQ SENSOR NET components is described in the IQ SENSOR NET system operating manual.

5 Technical data

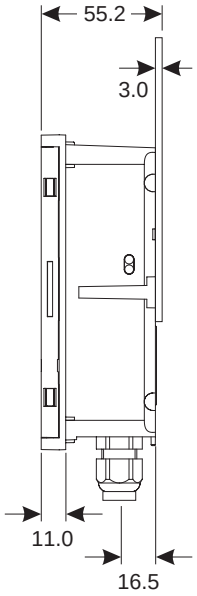
Note
General technical data on MIQ modules are given in the TECHNICAL DATA chapter of the IQ SENSOR NET system operating manual.

Dimensions

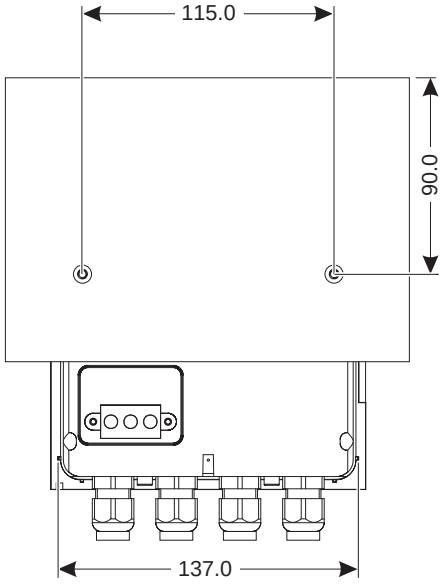
Front view:



Side view:

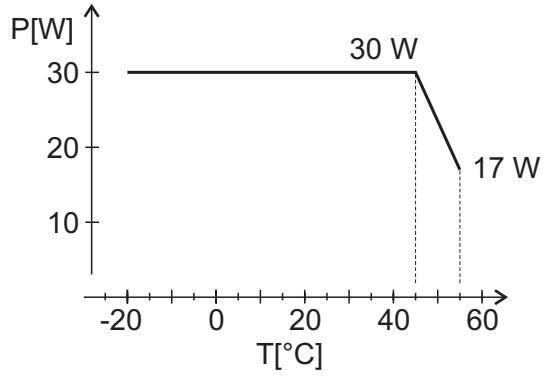


Rear view:



Weight approx. 990 g

Electrical data

Power supply	Nominal voltage: 100 ... 240 VAC ± 10 % Frequency: 50/60 Hz according to DIN IEC 60038 Line power connection: 2-pole, N and L Line cross-section of line power connection: Europe: 1.5 ... 4.0 mm^2 USA: AWG 14 ... 12 Fuse rating on the operator side: 16 A maximum
Power consumption	Approx. 45 W
Output voltage	Max. 24 VDC via the IQ SENSOR NET (for details, see chapter TECHNICAL DATA of the IQ SENSOR NET system operating manual).
Power output	Max. 30 W up to 45 °C ambient temperature Maximum power delivery above 45 °C: 
Protective class	II
Overvoltage category	II
Number of power supply modules in one IQ SENSOR NET system (sum of MIQ/PS, MIQ/24 V and MIQ/PS PLUS)	Maximum of 3, depending on the overall power requirement of the system (see system operating manual, section PRINCIPLES OF AN OPTIMUM INSTALLATION)

Instrument safety

Applicable norms	– EN 61010-1 – UL 3111-1 – CAN/CSA C22.2 No. 1010.1

Terminal connections

IQ SENSOR NET connections	2 Additional connectable SENSORNET terminator (terminating resistor)
Terminal type	Screw-type terminal strip, accessible by raising the lid
Terminal ranges	Solid wires: 0.2 ... 4.0 mm^2 AWG 24 ... 12 Flexible wires: 0.2 ... 2.5 mm^2
Cable feeds	4 cable glands M16 x 1.5 on the underside of the module



Attention
Only the line cross-sections specified under ELECTRICAL DATA, page 5-2 may be used for the line power connection.