IQ SensorNet MIQ/IC2 Module

QUICK START GUIDE

Overview

The MIQ/IC2 current input module provides two 0/4 - 20 mA current inputs for IQ SensorNet and thus enables to connect external sensors via their current output. Measured values of the external sensors can be displayed, recorded and processed like the measured values from IQ SensorNet.

Examples:

- Connecting flow meters to IQ SensorNet
- Connecting level meters to IQ SensorNet
- Connecting analyzers to IQ SensorNet
- Connecting pressure sensors to IQ SensorNet

Scope of Delivery:

- MIQ/IC2 module
- 4 x cable glands (clamping range 4.5-10 mm) with seals and blind plugs
- 4 x ISO blind nuts M4 with suitable cheese-head screws and plain washers
- 2 x countersunk screws M3x6 to close the module lid (+ 2 replacement screws)
- 1 x contact base with fixing screws

Materials Required

To set up the MIQ/IC2 module you will need the following tools:
- Cable stripping knife
- Wire stripper
- Phillips screw driver
- Small screw driver
- Cable

Figure 1: MIQ IC2 Module

Warning

This document is not intended to replace the MIQ/IC2 module operation manual. Please use the operating manual as a reference during the following functions; installation, operation, cleaning, maintenance and troubleshooting.

Step By Step Instructions

1 Install all cable glands to the bottom of the MIQ/IC2 module as shown below

sealing ring 20 x 15 x 1 mm

cable gland M16

blind plug

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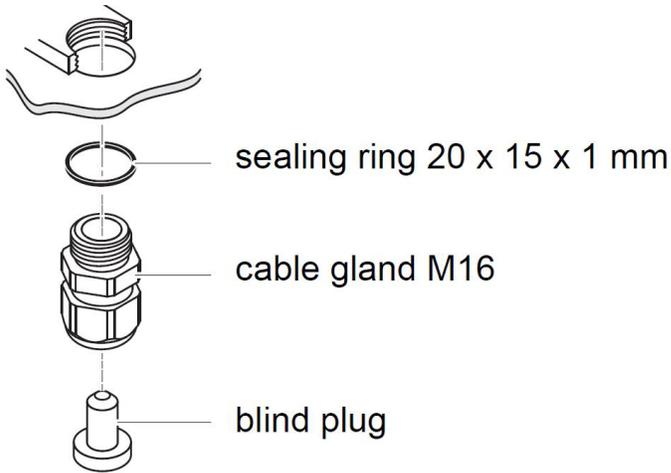
2 **Connect the cable to the terminal strip**

1. Open the MIQ/IC2 module.
2. Open the cable gland fitting under the required input. Keep the blind plug fitting for later. modifications, if necessary.
3. Loosen the coupling ring.
4. Feed the cable through the cable gland in the module housing.
5. Open the terminal strip with a small screw driver.
6. Connect the cable to the terminal strip with a small screw driver. Make sure to connect the first device to "REC 1".
7. Tighten the coupling ring to secure the cable in place.
8. Close the module.

3 **Connect the cable to the device or an isolator.**
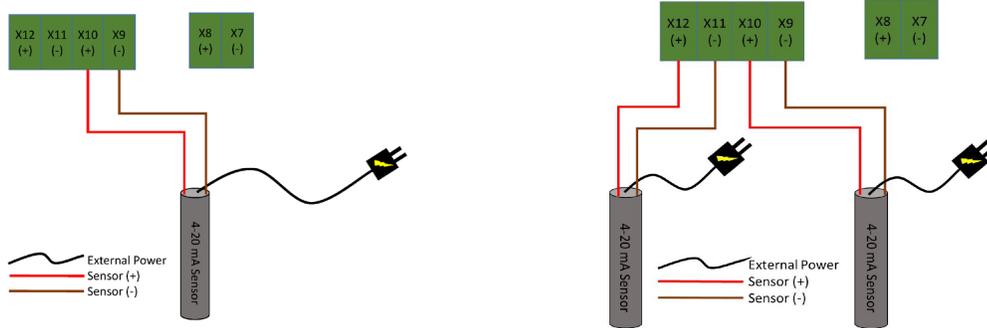
Direct connection without powering the device: The current outputs of external measuring systems can be directly connected to the current inputs of the MIQ/IC2 module. If the connection data of the external meter is suitable.
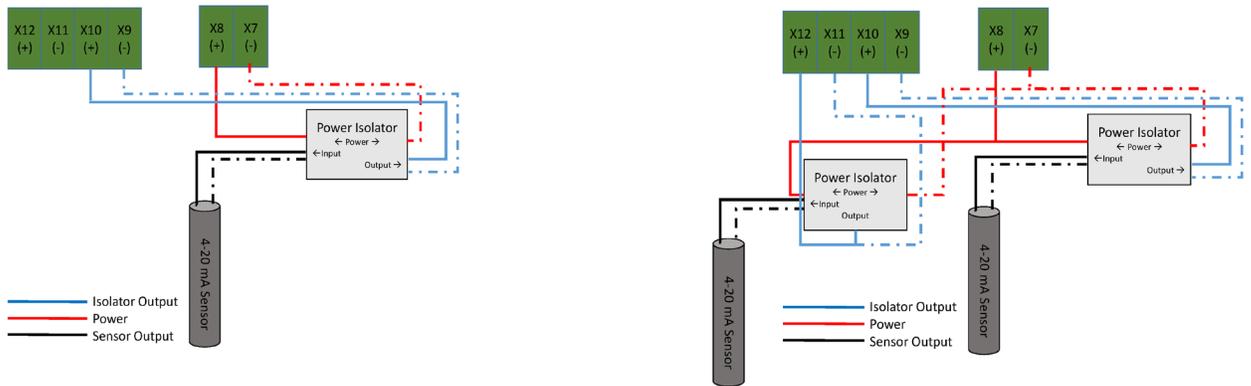
Direct connection with powering the device: The - wire of the current outputs of external measuring systems need be directly connected to the current inputs (X10) of the MIQ/IC2 module. The + wire of the current outputs of external measuring systems need be directly connected to the + 24V power supply (X8) of the MIQ/IC2 module. A jumper cable needs to be ran from the - current inputs (X9) to the - 24V power supply (X7) of the MIQ/IC2 to complete the loop.

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4 **Apply power to device.**

Keep in mind the following information when setting up the MIQ/IC2 Module and third party devices.

IQSN Power Consumption: The power consumption is 0.2 watts plus 2.2 watts per connected power supply/isolator.

Loop Powered Devices: The 24V power supply in the MIQ/IC2 is rated for 240mA. If powering two devices make sure the current draw of the entire 24V loop (the devices and isolators) doesn't exceed 240mA.

Figure 1: Press the "S" button on the IQ SensorNet controller

5 Scroll down to the "Setting of sensors and diff. sensors" option and press "OK".

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Settings
Language
Data transfer to USB memory
Access control
Measured value logging
Edit list of sensors
Edit list of outputs
Settings of sensors and diff. sensors
Settings of outputs and links
Settings bus interfaces
Alarm settings
System settings
Service

Select menu item ⬍⬌, edit OK

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6 Select the "Measuring range" column and press "OK".

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Settings of sensors and diff. sensors

&	No.	Sensor name	Measuring range
	S03	13151098	0.00..20.00

Select ⬍⬌, edit sensor settings OK

---

7 Press "Continue"

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Settings of sensors and diff. sensors

&	No.	Sensor name	Measuring range

Attention! If the measuring mode or measuring range is changed, links of the sensor are erased.

Continue
Cancel

Select ⬍⬌, edit sensor settings OK

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8 Customize the following settings to the appropriate values

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S03 MIQIC2 REC1 13151098

Measuring mode	REC
Measuring range	4..20 mA
Decimal places	2 (.00)
Disp. value (0/4 mA)	0.00
Disp. value (20 mA)	5.00
Disp. unit	mg/L
Measured parameter	Cl2
Error detection	>= Error threshold
Error threshold	20.5 mA
MIQ/IC2 REC2	inactive

Save and quit
Quit

Select setting ⬍⬌

9 Measuring range

```
MIQ-MC2-16141260   04 Mar  2020   08:54   [lock] [!] (i)
S03 MIQIC2 REC1 13151098
  Measuring mode                              REC
  Measuring range                          4..20 mA
  Decimal places                            2 (.00)
  Disp. val | Measuring range |               0.00
  Disp. val | 0..20 mA        |              20.00
  Disp. uni | 4..20 mA        |              .....
  Measured parameter                         .....
  Error detection                 >= Error threshold
  Error threshold                          20.5 mA
  MIQ/IC2 REC2                             inactive

  Save and quit
  Quit
Adjust setting ⬍⬌, confirm OK
```

10 Decimal places

```
MIQ-MC2-16141260   04 Mar  2020   08:55   [lock] [!] (i)
S03 MIQIC2 REC1 13151098
  Measuring mode                              REC
  Measuring range                          4..20 mA
  Decimal places                            2 (.00)
  Disp. val | Decimal places |               0.00
  Disp. val | none           |              20.00
  Disp. uni | 1 (.0)         |              .....
  Measure   | 2 (.00)        |              .....
  Error det | 3 (.000)       |   >= Error threshold
  Error threshold                          20.5 mA
  MIQ/IC2 REC2                             inactive

  Save and quit
  Quit
Adjust setting ⬍⬌, confirm OK
```

11 Display value (0/4mA)

```
MIQ-MC2-16141260   04 Mar  2020   08:57   [lock] [!] (i)
S03 MIQIC2 REC1 13151098
  Measuring mode                              REC
  Measuring range                          4..20 mA
  Decimal places                            2 (.00)
  Disp. val | Disp. value (0/4 mA) |         0.00
  Disp. val | 0.00_               |         20.00
  Disp. uni | ←⬚1234567890.-      |         .....
  Measured parameter                         .....
  Error detection                 >= Error threshold
  Error threshold                          20.5 mA
  MIQ/IC2 REC2                             inactive

  Save and quit
  Quit
Adjust setting ⬍⬌, confirm OK
```

12 Display value (20 mA)

```
MIQ-MC2-16141260   04 Mar  2020   08 58   [lock] [!] (i)
S03 MIQIC2 REC1 13151098
  Measuring mode                              REC
  Measuring range                          4..20 mA
  Decimal places                            2 (.00)
  Disp. val | Disp. value (20 mA) |          0.00
  Disp. val | 5.00OK              |         20.00
  Disp. uni | ←⬚1234567890.-      |         .....
  Measured parameter                         .....
  Error detection                 >= Error threshold
  Error threshold                          20.5 mA
  MIQ/IC2 REC2                             inactive

  Save and quit
  Quit
Adjust setting ⬍⬌, confirm OK
```

13 Display unit

```
MIQ-MC2-16141260    04 Mar  2020    08 59   🔓  ⚠  ⓘ
S03 MIQIC2 REC1 13151098
Measuring mode                                    REC
Measuring range                              4..20 mA
Decimal places                                 2 (.00)
Disp. val ┌Disp. unit──────────────────────┐    0.00
Disp. val │mg/L⏎                            │    5.00
Disp. uni │←▓▓                              │   .....
Measure   │abcdefghijklmnopqrstuvwxyz       │   .....
Error det │ABCDEFGHIJKLMNOPQRSTUVWXYZ       │ hreshold
Error thr │0123456789 _äöüßÄÖÜ              │ 20.5 mA
MIQ/IC2   │μ%@&/\()+-=><.!?°$#              │ inactive
          └────────────────────────────────┘
Save and quit
Quit
Adjust setting ⬍⬌, confirm ▓▓
```

14 Measured parameter

```
MIQ-MC2-16141260    04 Mar  2020    09 01   🔓  ⚠  ⓘ
S03 MIQIC2 REC1 13151098
Measuring mode                                    REC
Measuring range                              4..20 mA
Decimal places                                 2 (.00)
Disp. val ┌Measured parameter──────────────┐    0.00
Disp. val │Cl2_                            │    5.00
Disp. uni │←▓▓                             │   mg/L
Measure   │abcdefghijklmnopqrstuvwxyz      │   .....
Error det │ABCDEFGHIJKLMNOPQRSTUVWXYZ      │ hreshold
Error thr │0123456789 _äöüßÄÖÜ             │ 20.5 mA
MIQ/IC2   │μ%@&/\()+-=><.!?°$#             │ inactive
          └───────────────────────────────┘
Save and quit
Quit
Adjust setting ⬍⬌, confirm ▓▓
```

15 Error detection

```
MIQ-MC2-16141260    04 Mar  2020    09 02   🔓  ⚠  ⓘ
S03 MIQIC2 REC1 13151098
Measuring mode                                    REC
Measuring range                              4..20 mA
Decimal places                                 2 (.00)
Disp. val ┌Error detection───────────────┐      0.00
Disp. val │>= Error threshold            │      5.00
Disp. unit│<= Error threshold            │      mg/L
          └──────────────────────────────┘
Measured parameter                                Cl2
Error detection                       >= Error threshold
Error threshold                              20.5 mA
MIQ/IC2 REC2                                  inactive
Save and quit
Quit
Adjust setting ⬍⬌, confirm ▓▓
```

16 Error threshold

```
MIQ-MC2-16141260    04 Mar  2020    09:02   🔓  ⚠  ⓘ
S03 MIQIC2 REC1 13151098
Measuring mode                                    REC
Measuring range                              4..20 mA
Decimal places                                 2 (.00)
Disp. val ┌Error threshold───────────────┐      0.00
Disp. val │20.5_                         │      5.00
Disp. unit│←▓▓1234567890.-               │      mg/L
          └──────────────────────────────┘
Measured parameter                                Cl2
Error detection                       >= Error threshold
Error threshold                              20.5 mA
MIQ/IC2 REC2                                  inactive
Save and quit
Quit
Adjust setting ⬍⬌, confirm ▓▓
```

17 **MIQ/IC2 REC 2**
If only one device is connected to MIQ/IC2 module = Inactive
If two devices are connected to MIQ/IC2 module = Active

18 **Press "Save and quit"**

MIQ-MC2-16141260	04 Mar 2020	09 03	🔓	⚠	ⓘ

S03 MIQIC2 REC1 13151098

Measuring mode	REC
Measuring range	4..20 mA
Decimal places	2 (.00)
MIQ/IC2 REC2	
inactive	0.00
active	5.00
Disp. unit	mg/L
Measured parameter	Cl2
Error detection	>= Error threshold
Error threshold	20.5 mA
MIQ/IC2 REC2	inactive
Save and quit	
Quit	

Adjust setting ⬍◄►, confirm 🆗

MIQ-MC2-16141260	04 Mar 2020	09 04	🔓	⚠	ⓘ

S03 MIQIC2 REC1 13151098

Measuring mode	REC
Measuring range	4..20 mA
Decimal places	2 (.00)
Disp. value (0/4 mA)	0.00
Disp. value (20 mA)	5.00
Disp. unit	mg/L
Measured parameter	Cl2
Error detection	>= Error threshold
Error threshold	20.5 mA
MIQ/IC2 REC2	inactive
Save and quit	
Quit	

Select setting ⬍◄►

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