
MCB 114 sensor input module

Ⓒ Installation and operating instructions



CONTENTS

	Page
1. Symbols used in this document	2
2. Introduction	2
2.1 General description	2
2.2 Applications	2
2.3 References	2
3. Scope of delivery	2
4. Installation	2
4.1 Wiring diagram	2
4.2 Fitting the MCB 114 in the CUE	3
4.3 CUE displays	3
5. Service	3
5.1 Service documentation	3
6. Technical data	3
6.1 Surroundings	3
6.2 Cable length	3
6.3 Analog inputs	3
7. Disposal	3



Warning

Prior to installation, read these installation and operating instructions. Installation and operation must comply with local regulations and accepted codes of good practice.

1. Symbols used in this document



Warning

If these safety instructions are not observed, it may result in personal injury!

2. Introduction

This manual introduces all aspects regarding installation of your Grundfos MCB 114 sensor input module.

2.1 General description

The MCB 114 is an analog sensor input module for the CUE.

2.2 Applications

The MCB 114 offers three additional analog inputs for the CUE:

- one analog 0/4-20 mA input for an additional sensor
- two analog Pt100/Pt1000 inputs for temperature sensors.

2.3 References

Technical documentation for Grundfos CUE:

- This manual contains all information required for installation of the MCB 114.
- The CUE installation and operating instructions contain all information required for putting the CUE into operation.
- The CUE data booklet contains all technical information about the construction and applications of the CUE.
- The service instructions contain all required instructions for dismantling and repairing the frequency converter.

Technical documentation is available on www.grundfos.com > International website > WebCAPS.

If you have any questions, please contact the nearest Grundfos company or service workshop.

3. Scope of delivery

The MCB 114 sensor input module comes with a terminal cover, an extended frame and an identification label to put onto the CUE.

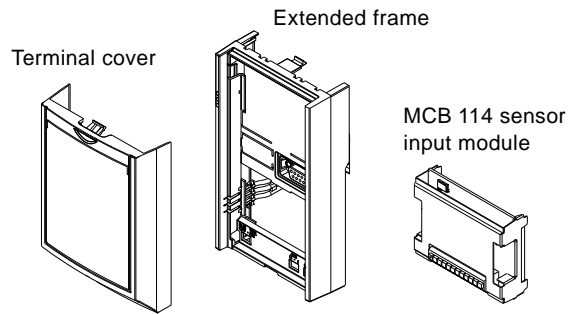


Fig. 1 Scope of delivery

4. Installation

Warning

Touching the electrical parts may be fatal, even after the CUE has been switched off.

Before making any work on the CUE, the mains supply and other voltage inputs must be switched off for at least as long as stated in the CUE installation and operating instructions.



4.1 Wiring diagram

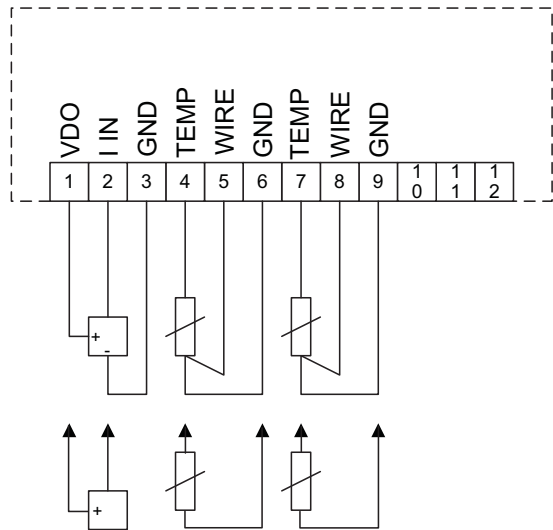


Fig. 2 Wiring diagram, MCB 114

Terminal	Type	Function
1 (VDO)	+24 V out	Supply to sensor
2 (I IN)	AI 3	Sensor 2, 0/4-20 mA
3 (GND)	GND	Common frame for analog input
4 (TEMP)	AI 4	Temperature sensor 1, Pt100/Pt1000
5 (WIRE)	AI 4	Temperature sensor 1, Pt100/Pt1000
6 (GND)	GND	Common frame for temperature sensor 1
7 (TEMP)	AI 5	Temperature sensor 2, Pt100/Pt1000
8 (WIRE)	AI 5	Temperature sensor 2, Pt100/Pt1000
9 (GND)	GND	Common frame for temperature sensor 2

Terminals 10, 11 and 12 are not used.

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4.2 Fitting the MCB 114 in the CUE

4.2.1 Enclosures A2, A3 and B3

1. Turn off the power to the CUE. See section 4.
2. Remove the control panel, the terminal cover and the frame from the CUE. See fig. 3.
3. Fit the MCB 114 into port B.
4. Connect the signal cables, and fasten the cables with the enclosed cable strips.
5. Remove the knock-out plate in the extended frame so that the MCB 114 fits under the extended frame.
6. Fit the extended frame and the terminal cover.
7. Fit the control panel in the extended frame.
8. Connect power to the CUE.
9. Set the input functions in the displays as shown in section 6.5.1 of the CUE installation and operating instructions.

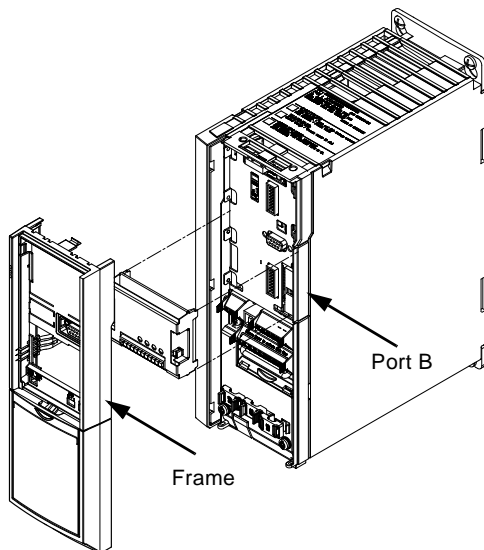


Fig. 3 Enclosures A2, A3 and B3

4.2.2 Enclosures A5, B1, B2, B4, C1, C2, C3, C4, D1 and D2

1. Turn off the power to the CUE. See section 4.
2. Remove the control panel and the cradle from the CUE. See fig. 4.
3. Fit the MCB 114 into port B.
4. Connect the signal cables, and fasten the cables with the enclosed cable strips. See fig. 4.
5. Fit the cradle and the control panel.
6. Connect power to the CUE.
7. Set the input functions in the displays as shown in section 6.5.1 of the CUE installation and operating instructions.

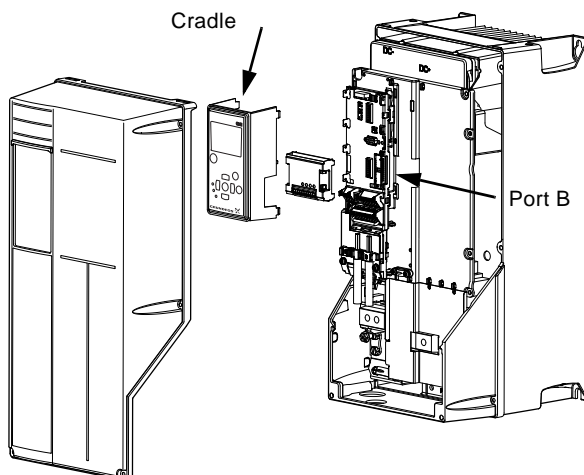


Fig. 4 Enclosures A5, B1, B2, B4, C1, C2, C3, C4, D1 and D2

4.3 CUE displays

Displays for reading	(2.5), (2.12) and (2.13)
Displays for setting	(3.16), (3.21) and (3.22)

For further information, see section 6.5.1 of the CUE installation and operating instructions.

5. Service

5.1 Service documentation

Service documentation is available on www.grundfos.com > International website > WebCAPS > Service.

If you have any questions, please contact the nearest Grundfos company or service workshop.

6. Technical data

6.1 Surroundings

Relative humidity	5-95 % RH
Ambient temperature during operation	-10 to 55 °C
Temperature during storage and transportation	-25 to 70 °C

6.2 Cable length

Maximum length, signal cable	300 m
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6.3 Analog inputs

Analog input 3 , terminal number	2
Current range	0/4-20 mA
Input resistance	< 200 Ω
Analog inputs 4 and 5 , terminal number	4, 5 and 7, 8
Signal type, 2- or 3-wire	Pt100/Pt1000

All analog inputs are galvanically separated from the supply voltage (PELV) and other high-voltage terminals.

7. Disposal

This product or parts of it must be disposed of in an environmentally sound way:

1. Use the public or private waste collection service.
2. If this is not possible, contact the nearest Grundfos company or service workshop.

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Subject to alterations.

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