Technical Datasheet

MC10-PTC

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1 Introduction

The extension module included in this document is suitable for the following product groups:

- Fume hood controller (e.g. FC400)
- Fume hood monitor (e.g. FM400)
- Volume flow controller (e.g. VAV400)

MC10 extension modules are manufacturer-specific and can only be used in the specified product groups. They can be replaced, removed, and added, but must be compatible with the respective device. This allows the device to support more functions than originally provided. The parameters can be checked and adjusted within the respective product group using a PC or laptop and the SCHNEIDER commissioning software PC4500.

Notice: Connecting the extension module

Always unplug the power cord or disconnect the device from the mains before inserting or removing the extension module.

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Notice: Material damage due to electrostatic discharge

The electronics of the MC10-PTC can be damaged by electrostatic discharge. Avoid direct contact with components and circuit traces on the circuit boards. Before touching, perform a potential equalization by touching metallic surfaces. The surfaces must be grounded to ensure potential equalization.

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2 Extension Module Type MC10-PTC

The extension module MC10-PTC enables the connection of an external resistive temperature sensor with a positive temperature coefficient (PTC). All common sensor types with a nominal value of approximately 1000 ohms are supported.

2.1 Measurement Accuracy

All temperature sensors based on the resistance measurement principle share the characteristic that the ohmic resistance of the measurement line itself can cause a measurement error. This error becomes greater the lower the sensor's nominal resistance is. The use of 100 ohm sensors (such as PT100) is not possible with the MC10-PTC.

To further compensate for the measurement error, the essentially two-terminal sensor can also be connected using three terminals. This third lead enables the measurement of the line resistance, which can then be compensated for computationally. In this way, the measurement accuracy can be further enhanced. Two of the three wires are connected as close to the sensor as possible. For proper error compensation, the wires used must, of course, have identical physical properties. If this function is not required, it can be disabled by a jumper between the first and second terminal blocks.

2.2 Measurement Range

The MC10-PTC supports a resistance measurement range of 500 to 1900 ohms. Depending on the sensor type, this results in different temperature measurement ranges. However, the measurement range required for typical applications, from -10 to 110 °C, is fundamentally covered.

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3 Technical Data and Overview

| Technical Data	
Power Supply	via the baseboard slot
Resistance Measurement Range	500 to 1900 Ω
Temperature Range	-10 to 110 °C
Supported Sensor Types	PT1000, Ni1000 (TK6180), Ni1000 (TK5000), KTY81-110, KTY81-121
Connection	2-wire / 3-wire
Wire Cross-Section (solid/flexible)	0.2 to 2.5 mm²
Ordering Code	
MC10-PTC	Extension Module Temperature Sensor

Table 1: Technical Data MC10-PTC
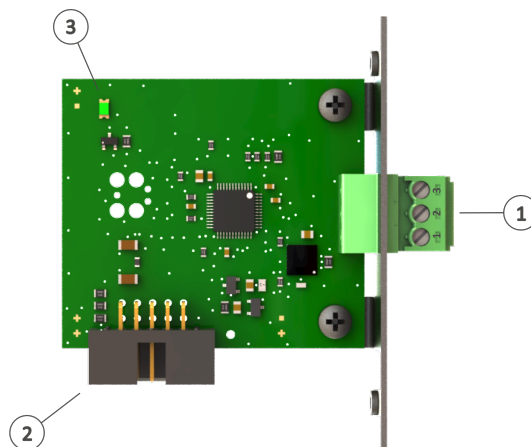
Figure 1: Overview MC10-PTC

No.	Function	Meaning
1	Terminal X1	Temperature input for PTC resistors
2	MC10	Extension slot MC10
3	HB-LED	Operating status indicator

Table 2: Legend MC10-PTC

4 Terminal Diagram MC10-PTC

The information and data contained in this documentation have been compiled to the best of our knowledge and in accordance with the current state of the art (subject to technical changes). The currently valid version applies. The proven properties of SCHNEIDER products are based on the use of the products recommended in this documentation. Diverging situations and individual cases are not taken into account, so that we cannot assume any warranty and liability.

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Do you have any questions? We look forward to your message:

Tel. +49 6171 88479-0

info@schneider-elektronik.de