

MCR-T-UI-E

Order No.: 2814113



<http://eshop.phoenixcontact.de/phoenix/treeViewClick.do?UID=2814113>

MCR-T module, programmable temperature measuring transducer, configured, for thermocouple sensors and resistance thermometers, with 2, 3, or 4-wire system, with electrical isolation between input/output and input/auxiliary power



Commercial data	
Note	Made-to-order
sales group	H510
Pack	1 pcs.
Customs tariff	85437090
Catalog page information	Page 412 (IF-2011)

Product notes

WEEE/RoHS-compliant since: 11/14/2006

<http://www.download.phoenixcontact.com>
 Please note that the data given here has been taken from the online catalog. For comprehensive information and data, please refer to the user documentation. The General Terms and Conditions of Use apply to Internet downloads.

Technical data

Input data	
Configurable/programmable	Yes, preconfigured
Sensor types (RTD) that can be used	Pt, Ni, Cu sensors
Sensor types that can be used (TC)	U, T, L, J, E, K, N, S, R, B, C, W, HK

Linear resistance measuring range	0 Ω ... 8000 Ω (freely adjustable, min. measuring range 100 Ω)
Sensor input current	250 μ A (resistance thermometer)
Temperature measuring range	(Depending on sensor type used)
Connection method	2, 3, 4-wire
Protective circuit	Transient protection
	Surge protection 30 V DC
Connection method	Pluggable screw connection

Output data

Output name	Voltage output / current output
Configurable/programmable	Yes, preconfigured
Voltage output signal	0 V ... 10 V
	0 V ... 5 V
	-5 V ... 5 V
	-10 V ... 10 V
	10 V ... 0 V
	5 V ... 0 V
	10 V ... -10 V
	5 V ... -5 V
	1 V ... 5 V
Current output signal	0 mA ... 20 mA
	4 mA ... 20 mA
	20 mA ... 0 mA
	20 mA ... 4 mA
Max. output voltage	\pm 12 V
Max. output current	24 mA
Output voltage range with wire break	-12 V ... 12 V
Output current range with wire break	0 A ... 24 mA
Output voltage range with overrange/underrange	-12 V ... 12 V
Output current range with overrange/underrange	0 A ... 24 mA
Load/output load voltage output	\geq 10 k Ω
Load/output load current output	\leq 500 Ω
Protective circuit	Transient protection
D/A resolution	\pm 12 Bit

Switching output

Output name	Transistor output, pnp
Output description	Can carry a load of 100 mA, switches supply voltage (not protected against short-circuit); locked in case of order-specific configuration, otherwise freely programmable through MCR/PI-CONF-WIN
Output voltage range	18 V DC ... 30 V DC (switches supply voltage, not short-circuit resistant)
Continuous load current	100 mA

Power supply

Supply voltage range	18 V DC ... 30 V DC
Max. current consumption	≤ 60 mA
Typical current consumption	40 mA

Connection data

Connection method	Pluggable screw connection
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	2.5 mm ²
Conductor cross section stranded min.	0.2 mm ²
Conductor cross section stranded max.	2.5 mm ²
Conductor cross section AWG/kcmil min.	24
Conductor cross section AWG/kcmil max	14
Stripping length	8 mm
Screw thread	M3

General data

Width	17.5 mm
Height	99 mm
Depth	114.5 mm
Maximum transmission error	≤ 0.1 % (Of final value, ± 6 mV or ± 12 µA at output)
Maximum temperature coefficient	≤ 0.01 %/K
Temperature coefficient, typical	0.005 %/K
Cold point error, max.	≤ 3 K
Typical cold point errors	1.5 K
Ambient temperature (operation)	-20 °C ... 65 °C
Test voltage input/output	1 kV (50 Hz, 1 min.)
Test voltage input/power supply	1 kV (50 Hz, 1 min.)

Color	green
Housing material	Polyamide PA non-reinforced
Mounting position	Any
Conformance	CE-compliant
UL, USA / Canada	Class I, Div. 2, Groups A, B, C, D or non-hazardous locations
GL	Germanischer Lloyd

Certificates / Approvals



Certification

CUL, GL, GOST, UL

Certification Ex:

CUL-EX LIS, UL-EX LIS

Configuration options

Sensor type	Pt30Rh-Pt6Rh +500 ... +1820C [B] -18C ... +2316C (C) [C] -70C ... +500 C (SAMA) [CU10] -50C ... +200C [CU50] -50C ... +180 C [CU53] NiCr-CuNi -226C ... +1000C [E] -200C ... +800C [HK] TypeJ:Fe-CuNi -210C ... +1200C [J] TypeK:NiCr-Ni -200C ... +1372C [K] KTY81-110 -55C...+150C Philips [KTY81] KTY84-130 [KTY84] Type L: Fe-CuNi -200C ...+900C [L] NiCrSi-NiSi -200C ... +1300C [N] NI10 [NI10] NI20 [NI20] NI30 [NI30] NI40 [NI40] NI50 [NI50] NI60 [NI60] NI70 [NI70] NI80 [NI80] NI90 [NI90] NI100 [NI100] NI200 [NI200] NI300 [NI300] NI400 [NI400] NI500 [NI500] NI600 [NI600] NI700 [NI700] NI800 [NI800] NI900 [NI900] NI1000 [NI1000] 0 ... 100% (3-cond.) pot [POT] PT10 [PT10] PT20 [PT20] PT30 [PT30] PT40 [PT40] PT50 [PT50] PT60 [PT60] PT70 [PT70] PT80 [PT80] PT90 [PT90] PT100 [PT100] PT200 [PT200] PT300 [PT300] PT400 [PT400] PT500 [PT500] PT600 [PT600] PT700 [PT700] PT800 [PT800] PT900 [PT900] PT1000 [PT1000] PT2000 [PT2000] Pt13Rh-Pt -50C ... +1768C [R] 0 ... 8000 Ohm (2-conductor) [RES] Pt10Rh-Pt -50C ... +1768C [S] Cu-CuNi -200C ... +400C [T]
PHOENIX CONTACT Inc., USA http://www.phoenixcon.com	Cu-CuNi -200C ... +600C [U] -20mV ... +2400mV voltage [V01] -18C ... +2316C (W) [W]

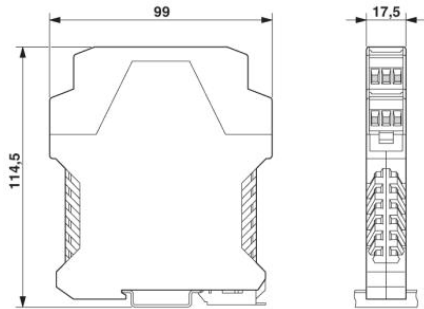
Input characteristic curve	TC, R, potentiometer or volt. [0] DIN [D] SAMA [S]
Connection systems	With sensor TCs, RES, POT, VOL [0] 2-conductor [2] 3-conductor [3] 4-conductor [4]
Unit of measurement	Celsius [C] Fahrenheit [F] Ohm [O] Percent [P] In millivolts [V]
Output signal	0...20 mA [OUT01] 4...20 mA [OUT02] 0...10 V [OUT03] 0...5 V [OUT05] -5...+5 V [OUT13] -10...+10 V [OUT14]
Output characteristic curve	Inverse [I] Normal [N]
Plant calibration certificate	No plant calibration certific. [NONE] Certificate without test data [YES] Certificate with test data [YESPLUS]

Accessories

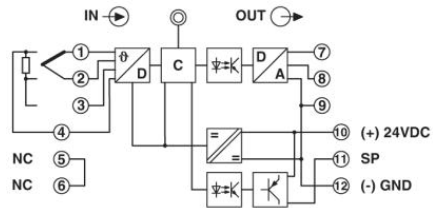
Item	Designation	Description
Cable/conductor		
2881078	CM-KBL-RS232/USB	Connecting cable D-9-SUB to USB, with adapter D-9-SUB to D-25-SUB.
2814388	MCR-TTL-RS232-E	Software adapter cable (Stereo jack connector/D-SUB 25-pos.), 1.2 m length, for programming MCR-T-..., MCR-S-... and MCR-f-... modules
General		
2814799	MCR/PI-CONF-WIN	PI/MCR configuration software, for programming the PI/Ex-RTD..., PI/Ex-THC..., MCR-T-..., MCR-PSP-..., MCR-f... and MCR-s...modules

Diagrams/Drawings

Dimensioned drawing



Circuit diagram



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