

Head-mounted transducer - MCR-FL-HT-TS-I-EX



2864545

<https://www.phoenixcontact.com/us/products/2864545>

Please be informed that the data shown in this PDF document is generated from our Online Catalog. Please find the complete data in the user documentation. Our General Terms of Use for Downloads are valid.



Measurement and control temperature transducer, for resistance thermometers, thermocouples, resistance-type sensors, and voltage sensors. For Pt 100 resistance temperature detectors. Replacement part: 2908742 FA MCR-HT-TS-I-OLP-PT.

Your advantages

- Input for resistance thermometers, thermocouples, and linear mV signals, Ex ia IIC
- Configuration via software
- Can be installed in zone 1
- 1-channel
- Loop-powered
- Output: 4 mA ... 20 mA/20 mA ... 4 mA
- HART-compatible
- 2-way electrical isolation

Commercial Data

Item number	2864545
Packing unit	1 pc
Minimum order quantity	1 pc
Note	Made to Order (non-returnable)
Sales Key	C03
Product Key	CK3322
Catalog Page	Page 188 (C-5-2017)
GTIN	4017918893200
Weight per Piece (including packing)	83.6 g
Weight per Piece (excluding packing)	78.2 g
Customs tariff number	85437090
Country of origin	DE

Technical Data

Product properties

Product type	Temperature transmitter
Application	Temperature
Configuration	With HART protocol

Electrical properties

Switch-on delay	6 s
Line monitoring	NE 43
Test voltage input/output	2 kV AC (50 Hz, 60 s)
Step response (10-90%)	< 2 s
Transmission error voltage sensor	± 20 µV (-10...75 mV)
Transmission error thermocouples	typ. 0.5 K (K, J, T, E, L, U), 1.0 K (N, C, D), 2.0 K (S, B, R)
Transmission error resistance-type sensor	± 0.1 Ω (10...400 Ω), ± 1.5 Ω (10...2000 Ω)
Transmission error resistance thermometer	0.2 K (Pt 100, Ni 100), 0.5 K (Pt 500, Ni 500), 0.3 K (Pt 1000, Ni 1000)

Supply

Designation	Loop-powered
Supply voltage range	12 V DC ... 30 V DC
Max. current consumption	< 3.5 mA

Input data

Signal:

Number of inputs	1
Input signal	Temperature

Measurement

Configurable/programmable	Yes, programmable
Sensor types (RTD) that can be used	Pt, Ni (100, 500, 1000); min. measurement range 10 K
Sensor types that can be used (TC)	B, C, D, E, J, K, L, N, R, S, T, U; min. measurement range 50 K/500 K
Sensor type:	-200 °C ... 850 °C (freely adjustable)
	-200 °C ... 250 °C (freely adjustable)
	-200 °C ... 250 °C (freely adjustable)
	-60 °C ... 250 °C (freely adjustable)
	-60 °C ... 150 °C (freely adjustable)
	-60 °C ... 150 °C (freely adjustable)
	50 °C ... 1820 °C (freely adjustable)
	0 °C ... 2320 °C (freely adjustable)
	0 °C ... 2495 °C (freely adjustable)
	-270 °C ... 1000 °C (freely adjustable)
	-210 °C ... 1200 °C (freely adjustable)

Head-mounted transducer - MCR-FL-HT-TS-I-EX



2864545

<https://www.phoenixcontact.com/us/products/2864545>

	-270 °C ... 1372 °C (freely adjustable)
	-200 °C ... 900 °C (freely adjustable)
	-270 °C ... 1300 °C (freely adjustable)
	-50 °C ... 1768 °C (freely adjustable)
	-50 °C ... 1768 °C (freely adjustable)
	-270 °C ... 400 °C (freely adjustable)
	-200 °C ... 600 °C (freely adjustable)
Connection technology	2-, 3-, 4-conductor
Linear resistance measuring range	10 Ω ... 400 Ω (min. measurement range 10 Ω)
	10 Ω ... 2000 Ω (min. measurement range 100 Ω)
Linear mV signal range	-10 mV ... 75 mV (min. measurement range 5 mV)

Output data

Switching:

Configurable/programmable	no
---------------------------	----

Signal:

Number of outputs	1
Configurable/programmable	Yes, programmable
Current output signal	4 mA ... 20 mA
	20 mA ... 4 mA
Max. current output signal	≤ 23 mA
Output current with short-circuit	≤ 3.6 mA or ≥ 21 mA (adjustable, not for thermocouples)
Output current with wire break	≤ 3.6 mA or ≥ 21 mA (adjustable)
Output current range with overrange/underrange	3.8 mA ... 20.5 mA (linear increase/decrease)
Load/output load current output	≤ 630 Ω (At UV = 24 V; U _{supply} - 10 V / 0.023 A)

Connection data

Connection method	Screw connection
Stripping length	8 mm
Screw thread	M3
Conductor cross section solid	0.2 mm ² ... 1.75 mm ²
Conductor cross section flexible	0.2 mm ² ... 1.75 mm ²
Conductor cross section AWG	24 ... 15
Tightening torque	0.5 Nm ... 0.6 Nm

Ex data

Safety data

Max. voltage U _i	30 V
Max. current I _i	100 mA
Max. power P _i	750 mW
Max. output voltage U _o	5 V DC
Max. output current I _o	5.4 mA
Max. output power P _o	6.6 mW

Head-mounted transducer - MCR-FL-HT-TS-I-EX



2864545

<https://www.phoenixcontact.com/us/products/2864545>

Max. ambient temperature	Category 1: T4 = 60°C, T5 = 50°C, T6 = 40°C
	Category 2: T4 = 85°C, T5 = 70°C, T6 = 55°C
Safety-related maximum voltage U_m	250 V
IIA: Max. external inductivity L_o / Max. external capacitance C_o	100 mH / 9.9 μ F
IIB: Max. external inductivity L_o / Max. external capacitance C_o	100 mH / 9.9 μ F
IIC: Max. external inductivity L_o / Max. external capacitance C_o	100 mH / 2 μ F

Material specifications

Flammability rating according to UL 94	V0
Housing material	Polycarbonate, PC

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP00
	IP66 (Installed in the connection head)
Ambient temperature (operation)	-40 °C ... 55 °C

Approval data

CE

Certificate	CE-compliant
-------------	--------------

ATEX

Identification	☐ II 1 G bzw. II 2 G Ex ia IIC T6/T5/T4
----------------	--

UL, USA / Canada

Identification	cULus
----------------	-------

Safety Integrity Level (SIL, IEC 61508)

Identification	2
----------------	---

Standards and regulations

Standards

Standards/regulations	NAMUR recommendation NE 21
-----------------------	----------------------------

Mounting

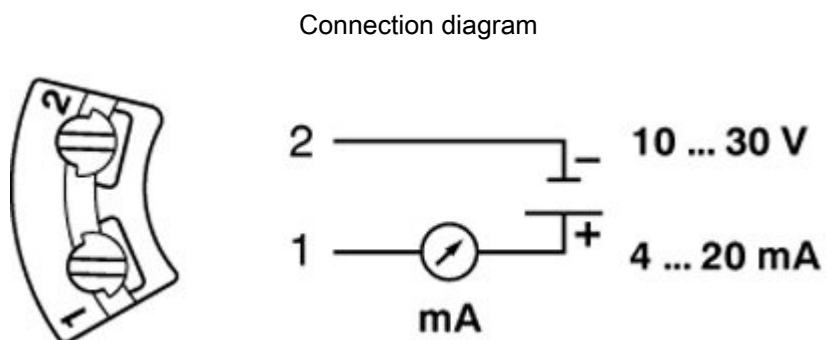
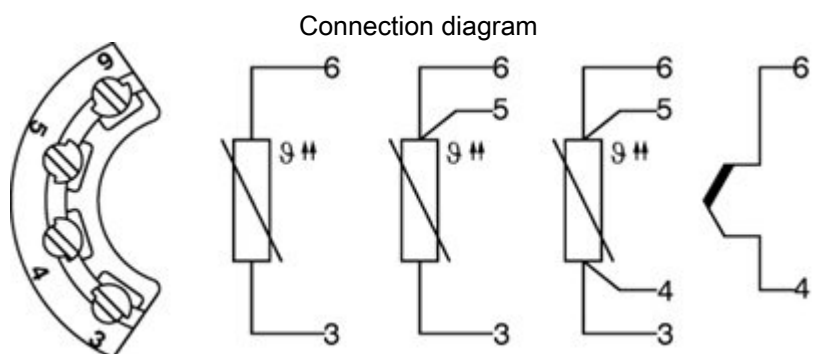
Assembly instructions	Installation in connection head according to DIN 43729 form B
Mounting position	Connecting head in acc. with DIN 43729 form B

Head-mounted transducer - MCR-FL-HT-TS-I-EX

2864545

<https://www.phoenixcontact.com/us/products/2864545>

Drawings



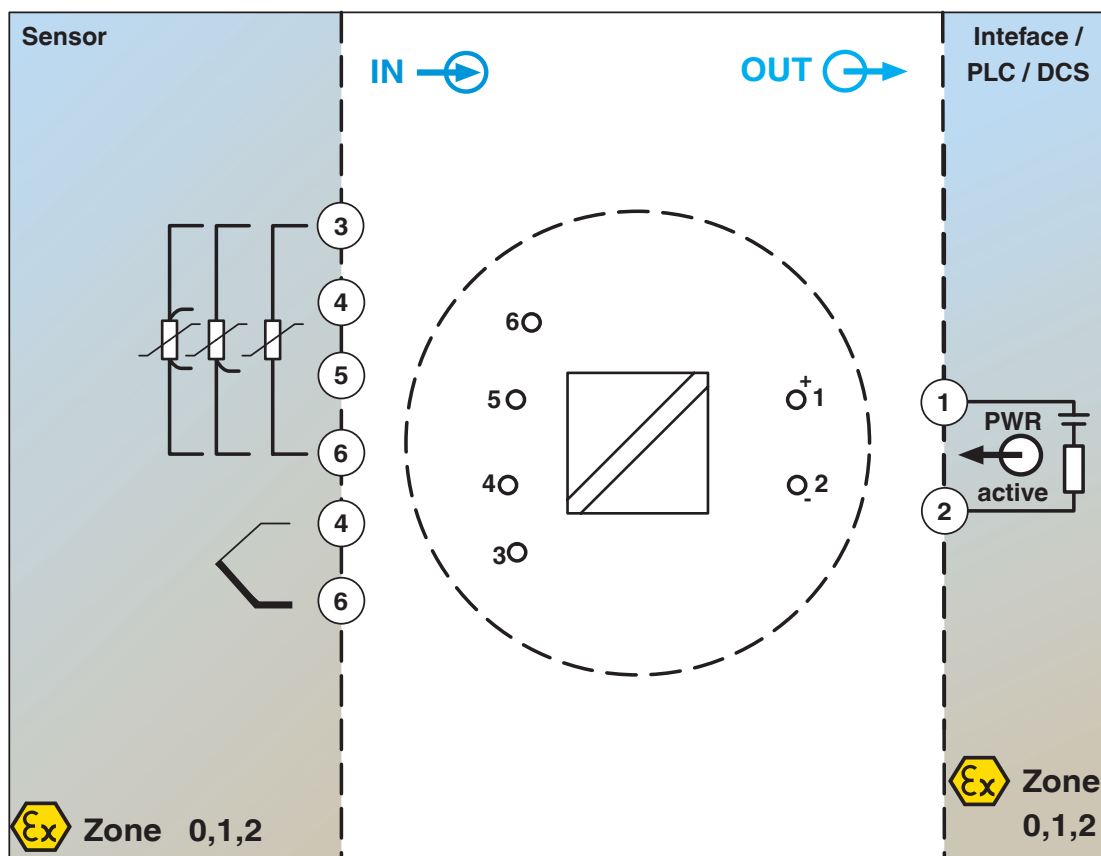
Head-mounted transducer - MCR-FL-HT-TS-I-EX



2864545

<https://www.phoenixcontact.com/us/products/2864545>

Block diagram



Block diagram MCR-FL-HT-TS-I-EX

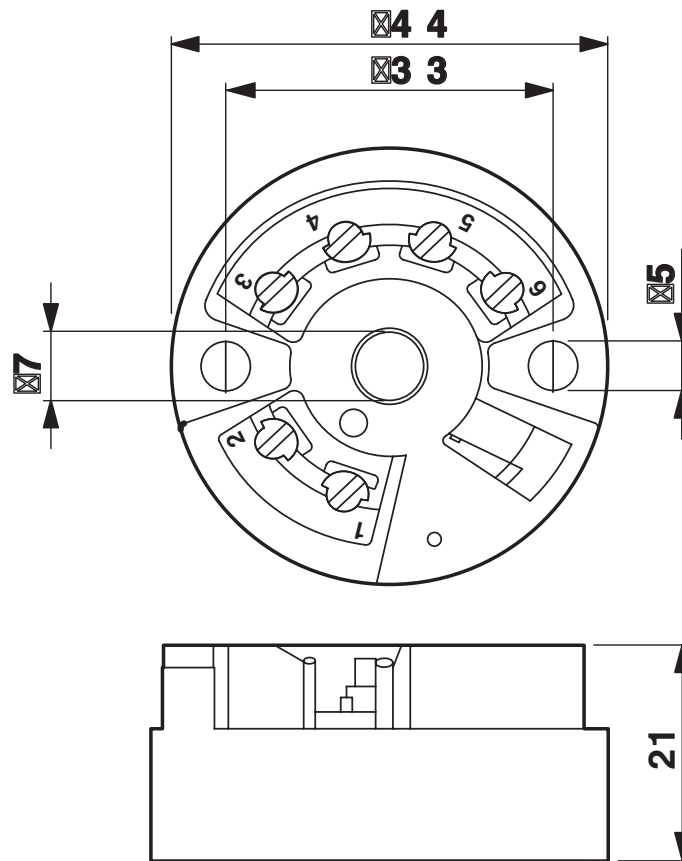
Head-mounted transducer - MCR-FL-HT-TS-I-EX

2864545

<https://www.phoenixcontact.com/us/products/2864545>



Dimensional drawing



Dimensional drawing

Head-mounted transducer - MCR-FL-HT-TS-I-EX



2864545

<https://www.phoenixcontact.com/us/products/2864545>

Classifications

ECLASS

ECLASS-9.0	27210129
ECLASS-10.0.1	27210129
ECLASS-11.0	27210129

ETIM

ETIM 7.0	EC002919
----------	----------

Head-mounted transducer - MCR-FL-HT-TS-I-EX



2864545

<https://www.phoenixcontact.com/us/products/2864545>

Environmental Product Compliance

China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

Head-mounted transducer - MCR-FL-HT-TS-I-EX



2864545

<https://www.phoenixcontact.com/us/products/2864545>

Accessories

Programming adapter

Programming adapter - MCR-PAC-T-USB - 2309000

<https://www.phoenixcontact.com/us/products/2309000>

Programming adapter with USB and T port interface, 2.4 m for programming FA MCR-..., MCR-...-LP-..., and MCR-...-HT-... modules



Adapter

Adapter - MCR-DIN-RAIL-ADAPTER HT - 2864671

<https://www.phoenixcontact.com/us/products/2864671>

DIN rail adapter for head-mounted transducers. Suitable for 35 mm DIN rails in accordance with EN 60715.



Phoenix Contact 2022 © - all rights reserved

<https://www.phoenixcontact.com>

Phoenix Contact USA

586 Fulling Mill Road

Middletown, PA 17057, United States

(+717) 944-1300

info@phoenixcon.com