

# FA MCR-EX-HT-1TS-I-OLP - Head-mounted transducer



1145217

<https://www.phoenixcontact.com/de/produkte/1145217>

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Ex i-Output loop-powered head transmitter for transmitting RTD and TC sensor signals, as well as from resistance and voltage sensors via 4 mA ... 20 mA. HART, Standard configuration, Screw connection

## Commercial Data

Item number	1145217
Packing unit	1 pc
Minimum order quantity	1 pc
Sales Key	J1 - MSR-Technik
Product Key	CK3322
GTIN	4063151134983
Weight per Piece (including packing)	186 g
Weight per Piece (excluding packing)	70 g
Customs tariff number	85437090
Country of origin	DE

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## Technical Data

### Product properties

Product type	Temperature transmitter
Product family	Field Analog
No. of channels	1
Configuration	Software
	HART

### Insulation characteristics

Overvoltage category	II
Pollution degree	2

### Electrical properties

No. of channels	1
Step response (0–99%)	1 s (TC)
	1 s (RTD)

### Electrical isolation Input/output

Test voltage	2 kV AC (50 Hz, 60 s)
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### Supply

Supply voltage range	loop-powered, no external supply necessary
	10 V DC ... 30 V DC (Ex)

### Input data

#### Measurement

Number of inputs	1
Input voltage range	-20 mV ... 100 mV (Minimum measuring span: 5 mV)
Sensor types (RTD) that can be used	Pt, Ni, Cu sensors: 2, 3, 4-wire
Sensor types that can be used (TC)	A, B, C, D, E, J, K, L, N, R, S, T, U
Temperature measuring range	-250 °C ... 2500 °C (Range depending on the sensor type)
Temperature measuring range	≥ 10 K (RTD)
	≥ 50 K (TC)
Linear resistance measuring range	10 Ω ... 2000 Ω (Minimum measuring span: 10 Ω)

### Output data

#### Signal: Current

Current output signal	4 mA ... 20 mA (HART)
	20 mA ... 4 mA (HART)
Max. current output signal	23 mA
Load	(U <sub>L</sub> - 10 V) / 0.023 A
HART coding	FSK ± 0.5 mA
HART version	7

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Transmission speed	1200 Baud
Mains frequency filter	50/60 Hz
Communication resistance	$\geq 250 \Omega$
Switch-on delay	$\approx \phi$ s (HART) $\approx \phi$ s (Measured value)

## Connection data

Connection method	Screw connection
Stripping length	8 mm
Screw thread	M3
Conductor cross section rigid	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section flexible	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section AWG	24 ... 14
Tightening torque	0.5 Nm

## Ex data

Ex installation (EPL)	Ga Div. 1
Ex i circuits (EPL)	Gb Div. 1

## Interfaces

### Data communication (bypass)

Protocols supported	HART
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## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP00 (upon installation in field housing IP66/67, NEMA 4X)
Ambient temperature (operation)	-40 °C ... 85 °C
Ambient temperature (storage/transport)	-50 °C ... 100 °C
Altitude	$\leq 4000$ m (Above sea level)
Climatic class	C1
Permissible humidity (operation)	5 % ... 95 % (condensation permitted)

## Approvals

### CE

Certificate	CE-compliant
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### ATEX

Identification	⊕ II 1G Ex ia IIC T6...T4 Ga
Certificate	EPS 20 ATEX 1 166 X

### IECEX

Identification	II 1G Ex ia IIC T6...T4 Ga
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Certificate	IECEX EPS 20.0060X
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## UKCA Ex (UKEX)

Certificate	CML 21UKEX21009X
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## CSA

Identification	IS for Class I, Div. 1, Groups A, B, C, D; T6...T4
	Ex ia IIC T6...T4 Ga

## Mounting

Mounting type	Installation
	DIN rail mounting
Assembly instructions	Installation in connection head according to DIN 43729 form B

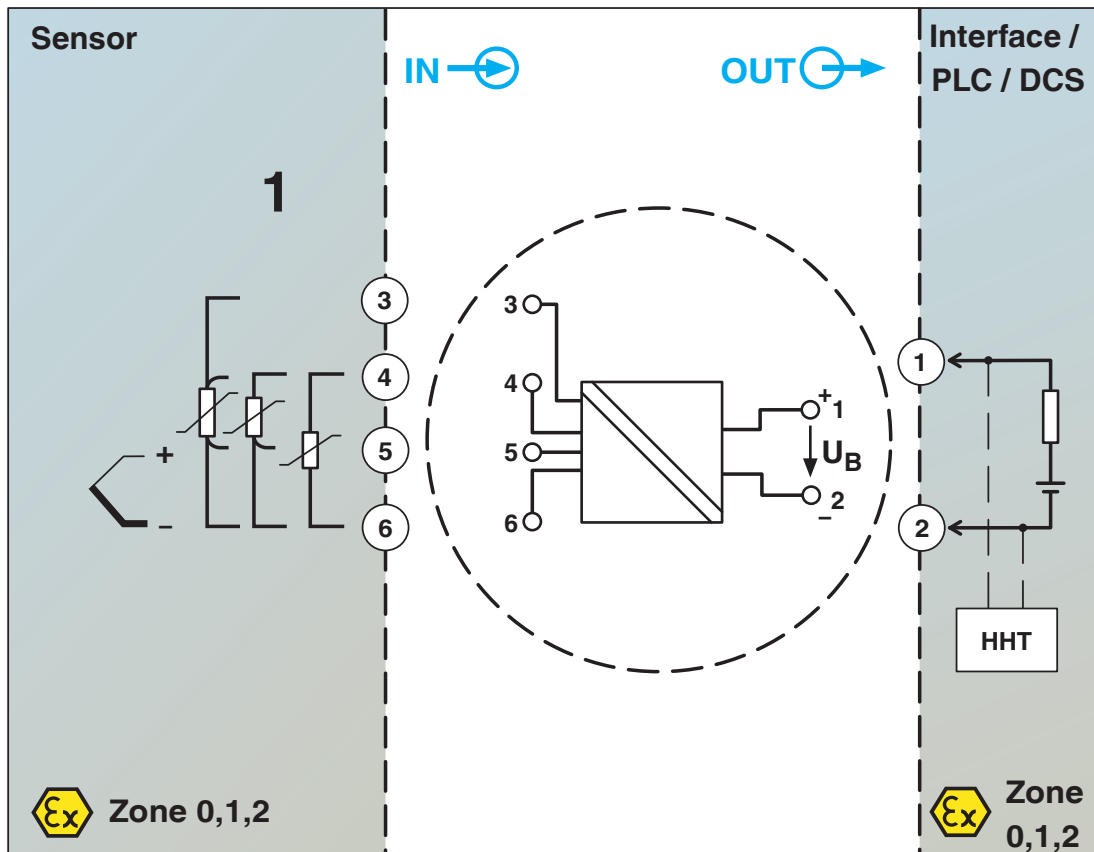
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## Drawings

Block diagram



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/de/produkte/1145217>



**IECEx**

Approval ID: IECEx\_EPS\_20.0060X



**CSA**

Approval ID: 80070110



**ATEX**

Approval ID: EPS 20 ATEX 1 166 X



**CSAus**

Approval ID: 80070110

**cCSAus**

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## Classifications

### ECLASS

ECLASS-11.0	27210129
ECLASS-12.0	27210129
ECLASS-13.0	27210129

### ETIM

ETIM 8.0	EC002919
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### UNSPSC

UNSPSC 21.0	41112100
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## Environmental Product Compliance

China RoHS	Environmentally Friendly Use Period = 50 years For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"
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## Accessories

### MCR-PAC-T-USB - Programming adapter

2309000

<https://www.phoenixcontact.com/de/produkte/2309000>

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



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### GW HART USB MODEM - Cable adapter

1003824

<https://www.phoenixcontact.com/de/produkte/1003824>

USB HART modem cable for communication between a PC and HART devices, cable length: 1m.



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## MCR-DIN-RAIL-ADAPTER HT - Adapter

2864671

<https://www.phoenixcontact.com/de/produkte/2864671>

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



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## FA MCR-HT-D - Display

2908735

<https://www.phoenixcontact.com/de/produkte/2908735>

Display unit for plugging directly into the FA MCR-... head transmitter



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## FA MCR-HT-FH - Electronic housing

2908736

<https://www.phoenixcontact.com/de/produkte/2908736>



Field housing for the installation of head transmitters with or without display unit.  
For direct connection to the process.

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## FA MCR-HT-FH-WM - Mounting kit

2908737

<https://www.phoenixcontact.com/de/produkte/2908737>

Wall fastening for FA MCR-HT-FH field housing



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## FA MCR-HT-FH-PM - Mounting kit

2908738

<https://www.phoenixcontact.com/de/produkte/2908738>

Pipe fastening for FA MCR-HT-FH field housing



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