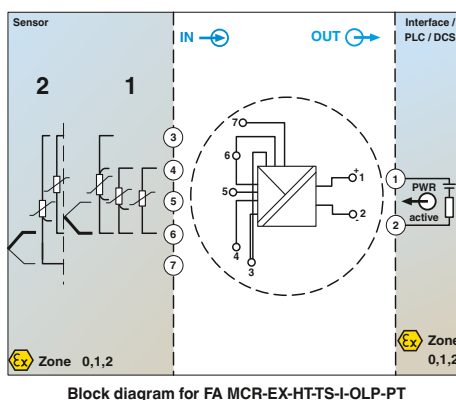


- Output loop-powered temperature head-mounted transducers
- 2 universal inputs for RTD, TC, resistance-type sensors and voltage sensors (mV), Ex ia IIC
- 4 to 20 mA output
- HART communication
- Freely configurable
- SIL 2/3
- For mounting in the connecting head, form B
- Can be installed in zone 0



Loop-powered temperature head-mounted transducer




















Input data	
Resistance thermometers	
Thermocouple sensors	
Resistor	
Input voltage range	
Output data	
Output signal	
Maximum output signal	
Load R_B	
Switch-on delay	
General data	
Supply voltage range	
Current consumption	
Step response (0 - 99%)	
Electrical isolation	
	Input/output
Degree of protection	
Ambient temperature (operation)	
Screw connection rigid / flexible / AWG	
Conformance/approvals	
Conformance	
ATEX	
UL, USA/Canada	
FM approval	
CSA	

Output loop-powered temperature transducer,
for RTD, TC, resistance-type sensors and voltage sensors (mV)

Programming adapter for configuring modules with T-PORT interface

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

Adapter for control cabinet installation of head-mounted transducers

Field housing for head-mounted transducers, with display window and two cable entries

Wall fastening for FA MCR-HT-FH field housing

Adapter cable, 1 m long, with USB connection, for HART configuration

Pt, Ni, Cu sensors: 2-, 3-, 4-conductor: -
A, B, C, D, E, J, K, L, N, R, S, T, U
10 Ω ... 2,000 Ω (minimum measuring span: 10 Ω)
-20 mV ... 100 mV

4 ... 20 mA, HART / 20 ... 4 mA
23 mA
($U_L - 11 \text{ V}$) / 0.023 A
Approx. 10 s (HART)
Approx. 28 s (measured value)

11 V DC ... 42 V DC
23.5 mA
0.8 s (TC)

Input/output 2 kV AC
IP33 (upon installation in field housing IP66/67, NEMA 4X)

-40°C ... 85°C
0.2 ... 1.5 mm² / 0.2 ... 1.5 mm² / 24 - 16

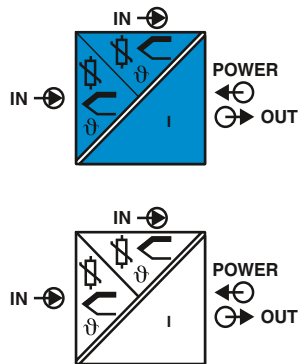
CE-compliant  II 1G Ex ia IIC T6...T4 Ga	CE-compliant  II 3G Ex nA IIC T6...T4 Gc
UL 61010 Recognized NI / Class I / Div. 1, 2 / Group ABCD T6/T5/T4	UL 61010 Recognized NI / Class I / Div. 1, 2 / Group ABCD T6/T5/T4
Exia / Class I / Group ABCD T6/T5/T4	NI, Class I, Div. 2, Groups A, B, C, D

Ordering data

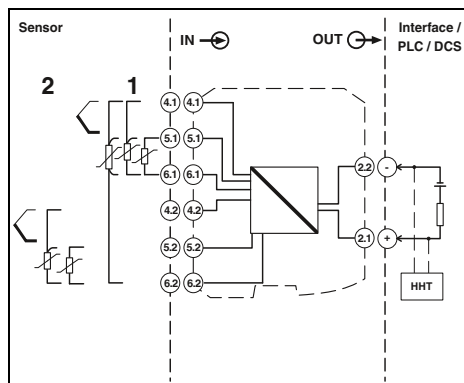
Type	Order No.	Pcs./Pkt.
FA MCR-EX-HT-TS-I-OLP-PT	2908743	1
FA MCR-HT-TS-I-OLP-PT	2908742	1

Accessories

MCR-PAC-T-USB	2309000	1
FA MCR-HT-D	2908735	1
MCR-DIN-RAIL-ADAPTER HT	2864671	1
FA MCR-HT-FH	2908736	1
FA MCR-HT-FH-WM	2908737	1
GW HART USB MODEM	1003824	1

Temperature,
temperature transducers

- Loop-powered temperature transducer
- 2 universal inputs for RTD, TC, resistance-type sensors and voltage sensors (mV), Ex ia IIC
- 4 to 20 mA output
- HART communication
- Freely configurable
- SIL 2/3
- For DIN rail mounting
- Can be installed in zone 0



SIL
IEC 61508



new

Output loop-powered temperature transducer

Ex: Functional Safety

Housing width 12.5 mm

Technical data

Pt, Ni, Cu sensors: 2-, 3-, 4-conductor: -
A, B, C, D, E, J, K, L, N, R, S, T, U
-250°C ... 2,500°C (range depending on the sensor type)

10 Ω ... 2,000 Ω (minimum measuring span: 10 Ω)
-20 mV ... 100 mV

4 ... 20 mA / 20 ... 4 mA
23 mA
(U_L - 11 V) / 0.023 A

12 V DC ... 42 V DC
≤23 mA
0.8 s (TC)
2 kV AC
-40°C ... 85°C
≤4,000 m (above sea level)
12.5 / 99 / 114.5 mm
0.2 ... 1.5 mm² / 0.2 ... 1.5 mm² / 24 - 16
0.2 ... 2.5 mm² / 0.2 ... 2.5 mm² / 24 - 14

CE-compliant II 3G Ex nA IIC T6...T4 Gc UL 61010 Recognized NI, Class I, Div. 2, Groups A, B, C, D NI / Class I / Div. 2 / ABCD T6/T5/T4	CE-compliant II 3G Ex nA IIC T6...T4 Gc UL 61010 Recognized NI, Class I, Div. 2, Groups A, B, C, D NI / Class I / Div. 2 / ABCD T6/T5/T4
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Ordering data

Type	Order No.	Pcs./Pkt.
MACX MCR-TS-I-OLP	2908662	1
MACX MCR-TS-I-OLP-SP	2908664	1
MACX MCR-TS-I-OLP-C	1012249	1
MACX MCR-EX-TS-I-OLP	2908660	1
MACX MCR-EX-TS-I-OLP-SP	2908661	1

Accessories

MCR-PAC-T-USB	2309000	1
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Input data

Input signal (can be configured using DIP switches)
Input signal (can be configured using DIP switches)
Temperature range

Linear resistance measuring range
Input voltage range

Output data

Output signal
Maximum output signal
Load R_B

General data

Supply voltage range
Current consumption
Step response (0 - 99%)
Electrical isolation of input/output
Ambient temperature (operation)
Altitude
Dimensions W/H/D
Push-in connection rigid / flexible / AWG
Screw connection rigid / flexible / AWG

Conformance/approvals

Conformance
ATEX
UL, USA/Canada
FM approval

CSA

Description

Output loop-powered temperature transducer,
for RTD, TC, resistance-type sensors and voltage sensors (mV)

Screw connection
Push-in connection
Screw connection
Screw connection
Push-in connection

Programming adapter for configuring modules
with T-PORT interface

Field Analog – Process indicators and field devices

Order key for MACX MCR-TS-I-OLP-C output loop-powered temperature transducers (standard configuration entered as an example)

Order No.	Safety Integrity Level	Input		Connection technology	Measuring range		Error	Output
		Measuring unit	Sensor type		Start	End		
1012249	ON	C	PT100	3	-200	850	MIN	3.58
1012249 ≡ MACX MCR- TS-I-OLP-C	ON ≡ SIL ON	C ≡ Celsius	PT100 ≡ PT100 IEC 751	2 ≡ 2-conductor	Freely selectable between -250°C ... 2,500°C (measuring range limits depend on sensor type)	Freely selectable between -250°C ... 2,500°C (measuring range limits depend on sensor type)	MIN ≡ 3.58 mA	3.58 ≡ 3.58 mA
	OFF ≡ SIL OFF	F ≡ Fahrenheit	PT200 ≡ PT200 IEC 751	3 ≡ 3-conductor				
		O ≡ Ω	PT500 ≡ PT500 IEC 751	4 ≡ 4-conductor				
		V ≡ Millivolts	PT1000 ≡ PT1000 IEC 751					
		K ≡ Kelvin	PT100J ≡ PT100 JIS C1604					
		R ≡ Rankine	NI100 ≡ NI100 DIN 43760					
			NI120 ≡ NI120 DIN 43760					
			NI100G ≡ NI100 OIML/GOST 6651-09					
			NI120G ≡ NI120 OIML/GOST 6651-09					
			PT50G ≡ PT50 G GOST 6651 (α=0.00391)					
			PT100G ≡ PT100 G GOST 6651 (α=0.00391)					
			CU50 ≡ CU 50 GOST (α=0.00428)					
			CU50G ≡ CU 50 GOST (α=0.00426)					
			CU100 ≡ CU 100 GOST (α=0.00428)					
			A1G ≡ A-1 GOST 8.585-2001					
			B ≡ B IEC584-1 (Pt30Rh-Pt6Rh)					
			C ≡ C ASTM E988					
			DA ≡ DA ASTM E988(2002)					
			E ≡ E IEC584-1 (NiCr-CuNi)					
			J ≡ J IEC584-1 (Fe-CuNi)					
			K ≡ K IEC584-1 (NiCr-Ni)					
			N ≡ N IEC 584-1 (NiCrSi-NiSi)					
			R ≡ R IEC 584-1 (Pt13Rh-Pt)					
			S ≡ S IEC 584-1 (Pt10Rh-Pt)					
			T ≡ T IEC 584-1 (Cu-CuNi)					
			L ≡ L DIN 43760 (Fe-CuNi)					
			LG ≡ LG GOST 8.585-2001					
			U ≡ U DIN 43760 (Cu-CuNi)					
			RES13 ≡ PT100 IEC751					
			RES14 ≡ PT100 IEC751					
			V11 ≡ PT100 IEC751					

Measurement range signal span of at least 10°K for RTD sensors/50°K for TC sensors

Accessories for head-mounted transducers

- 2 cable entries
- Aluminum with polyester coating
- For use with head-mounted transducers
- Display window in cover



Field housing for head-mounted transducers

General data	
Housing material	
Description	
Field housing for head-mounted transducers, with display window and two cable entries	
Wall fastening for FA MCR-HT-FH field housing	
Pipe fastening for FA MCR-HT-FH field housing	

Technical data		
Aluminum		
Ordering data		
Type	Order No.	Pcs./Pkt.
FA MCR-HT-FH	2908736	1
Accessories		
FA MCR-HT-FH-WM	2908737	1
FA MCR-HT-FH-PM	2908738	1

Accessories for head-mounted transducers

- For snapping onto the DIN rail
- For control cabinet installation of head-mounted transducers
- Display unit for plugging directly into FA MCR-... head-mounted transducers
- Separately configurable
- Direct process value readout



Display unit for plugging directly into head-mounted transducers



Adapter for DIN rail mounting of head-mounted transducers

Ordering data		
Type	Order No.	Pcs./Pkt.
FA MCR-HT-D	2908735	1

Ordering data		
Type	Order No.	Pcs./Pkt.
MCR-DIN-RAIL-ADAPTER HT	2864671	1

Accessories for displays

new

new

- HART® communication resistor, 250 Ω , in combination with digital display FA MCR-(EX)-(F)DS-I-I-OLP
 - DIN rail adapter for mounting on a 35 mm DIN rail in combination with digital display FA MCR-(EX)-D-TUI-UI-2REL-UP, FA MCR-(EX)-(F)DS-I-I-OLP
- See web site for more.



HART communication resistor



DIN rail adapter for displays

Description	Ordering data		
	Type	Order No.	Pcs./Pkt.
HART communication resistor	FA MCR-FDS-R250	2908802	1
DIN rail adapters for displays			

Ordering data		
Type	Order No.	Pcs./Pkt.
FA MCR-D-RM	1032996	1

Accessories

Programming adapters

- Programming adapters with USB and T port interface, 2.4 m for programming FA MCR-..., MCR-...-LP-..., and MCR-...-HT-... modules
- HART USB modem for configuring MACX MCR-TS-I-OLP-..., MACX MCR-EX-TS-I-OLP-..., FA MCR-HT-TS-I-OLP-... and FA MCR-EX-HT-TS-I-OLP-... using the HART protocol



Programming adapter



HART USB MODEM

Description	Ordering data		
	Type	Order No.	Pcs./Pkt.
Programming adapter for configuring modules with T-PORT interface	MCR-PAC-T-USB	2309000	1
HART USB modem, for configuring modules with HART communication			

Ordering data		
Type	Order No.	Pcs./Pkt.
GW HART USB MODEM	1003824	1