

Temperature measuring transducer - MACX PL-EX-T-UIREL-UP - 2904910


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Programmable temperature transducer with analog output and 3 limit value relays, intrinsically safe signal inputs, resistance thermometer in 2-, 3-, or 4-conductor technology, thermocouples, screw connection, PLd. Replacement part: 2865751 MACX MCR-EX-T-UIREL-UP.



Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 899789
GTIN	4046356899789
Weight per Piece (excluding packing)	180.000 g
Custom tariff number	85437090
Country of origin	Germany
Note	Made to Order (non-returnable)

Technical data

Dimensions

Width	35 mm
Height	99 mm
Depth	114.5 mm

Ambient conditions

Ambient temperature (operation)	-20 °C ... 65 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Maximum altitude	≤ 2000 m
Permissible humidity (operation)	typ. 5 % ... 95 % (non-condensing)
Noise immunity	EN 61000-6-2 When being exposed to interference, there may be minimal deviations.
Shock	15g, according to IEC 60068-2-27

Temperature measuring transducer - MACX PL-EX-T-UIREL-UP - 2904910

Technical data

Ambient conditions

Vibration (operation)	5g, accordance to IEC 60068-2-6
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Input data

Sensor types (RTD) that can be used	Pt, Ni, Cu sensors: 2, 3, 4-wire
Sensor types that can be used (TC)	B, E, J, K, N, R, S, T, L, U, CA, DA, A1G, A2G, A3G, MG, LG
Temperature measuring range	-200 °C ... 850 °C
Input signal range	0 Ω ... 50 kΩ
Potentiometer resistance range	0 Ω ... 50 kΩ
Input signal range	-1000 mV ... 1000 mV

Output data

Configurable/programmable	Yes
Current output signal	4 mA ... 20 mA (in the case of SIL; further free configuration without SIL)
Max. current output signal	22 mA
Load/output load current output	≤ 600 Ω (20 mA)
Behavior in the event of a sensor error	according to NE 43 or freely configurable
Output name	Relay output
Output description	1 SIL/PL
Configurable/programmable	Yes
Contact type	2 PDT
Contact material	AgSnO ₂ , hard gold-plated
Maximum switching voltage	250 V AC (250 V DC)
Maximum inrush current	2 A (250 V AC)
	2 A (28 V DC)
	0.2 A (120 V DC)
Mechanical service life	1x 10 ⁵ cycles

Power supply

Supply voltage range	24 V ... 230 V AC/DC (-20 %/+10 %, 50/60 Hz)
Typical current consumption	< 100 mA (24 V DC)
Power consumption	< 2.4 W

General

Maximum transmission error	0.1 % (e.g. for Pt 100, 300 K span, 4 ... 20 mA)
Maximum temperature coefficient	0.01 %/K
Step response (0–99%)	typ. 1000 ms (With SIL)
	typ. 700 ms (Without SIL)
Status display	Green LED (supply voltage, PWR)
	Red LED, flashing (line, sensor error, ERR)
	Red LED (module error, ERR)
	Yellow LED (switching output)

Temperature measuring transducer - MACX PL-EX-T-UIREL-UP - 2904910

Technical data

General

Degree of pollution	2
Overvoltage category	II
Electromagnetic compatibility	Conformance with EMC directive
Housing material	PA 6.6-FR
Color	yellow
Designation	Input/output/power supply
Electrical isolation	2.5 kV (50 Hz, 1 min., test voltage)
Designation	Input/output
Electrical isolation	375 V (Peak value in accordance with EN 60079-11)
Designation	Input/power supply
Electrical isolation	375 V (Peak value in accordance with EN 60079-11)
Designation	Input/switching output
Electrical isolation	375 V (Peak value in accordance with EN 60079-11)
Designation	Output/supply
Electrical isolation	300 V _{rms} (Rated insulation voltage (overvoltage category II; degree of pollution 2, safe isolation as per EN 61010-1))
Conformance	CE-compliant
ATEX	# II (1) G [Ex ia Ga] IIC
	# II (1) D [Ex ia Da] IIIC
	# II 3 G Ex nA nC ic IIC T4 Gc X
IECEX	[Ex ia Ga] IIC
	[Ex ia Da] IIIC
	Ex nA nC ic IIC T4 Gc X
UL, USA/Canada	UL 508 Listed
SIL	2

Safety data

Max. internal inductance L_i	negligible
Max. internal capacitance C_i	44 nF
Max. output voltage U_o	6 V
Max. output current I_o	7.4 mA
Max. output power P_o	11 mW
Group	IIC
Max. external inductivity L_o	100 mH
Max. external capacitance C_o	1.3 μ F
Group	IIC
Max. external inductivity L_o	10 mH
Max. external capacitance C_o	1.7 μ F
Group	IIC
Max. external inductivity L_o	1 mH

Temperature measuring transducer - MACX PL-EX-T-UIREL-UP - 2904910

Technical data

Safety data

Max. external capacitance C_o	2.6 μ F
Group	IIC
Max. external inductivity L_o	0 mH
Max. external capacitance C_o	10 μ F
Group	IIB
Max. external inductivity L_o	100 mH
Max. external capacitance C_o	6.8 μ F
Group	IIB
Max. external inductivity L_o	10 mH
Max. external capacitance C_o	9.2 μ F
Group	IIB
Max. external inductivity L_o	1 mH
Max. external capacitance C_o	15 μ F
Safety-related maximum voltage U_m	253 V AC/DC

EMC data

Designation	Electromagnetic RF field
Standards/regulations	EN 61000-4-3
Typical deviation from the measuring range final value	2 %
Designation	Fast transients (burst)
Standards/regulations	EN 61000-4-4
Typical deviation from the measuring range final value	2 %
Designation	Conducted interferences
Standards/regulations	EN 61000-4-6
Typical deviation from the measuring range final value	2 %

Standards and Regulations

Electromagnetic compatibility	Conformance with EMC directive
Designation	Electromagnetic RF field
Standards/regulations	EN 61000-4-3
	EN 61000-4-4
Designation	Conducted interferences
Standards/regulations	EN 61000-4-6
Electrical isolation	4-way, between input/output/power supply/switching output
Shock	15g, according to IEC 60068-2-27
Vibration (operation)	5g, accordance to IEC 60068-2-6
Conformance	CE-compliant
ATEX	# II (1) G [Ex ia Ga] IIC
	# II (1) D [Ex ia Da] IIIC
	# II 3 G Ex nA nC ic IIC T4 Gc X

Temperature measuring transducer - MACX PL-EX-T-UIREL-UP - 2904910

Technical data

Standards and Regulations

IECEX	[Ex ia Ga] IIC
	[Ex ia Da] IIIC
	Ex nA nC ic IIC T4 Gc X
UL, USA/Canada	UL 508 Listed
Group	IIC
	IIC
	IIC
	IIC
	IIB
	IIB

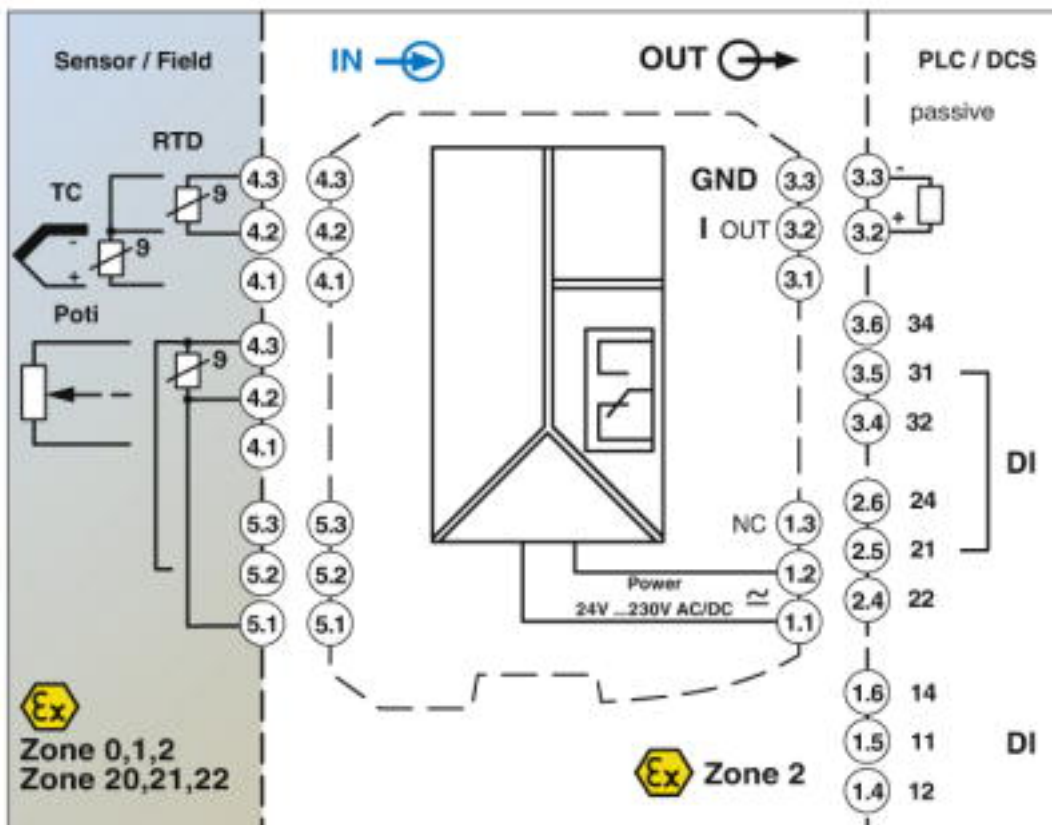
Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

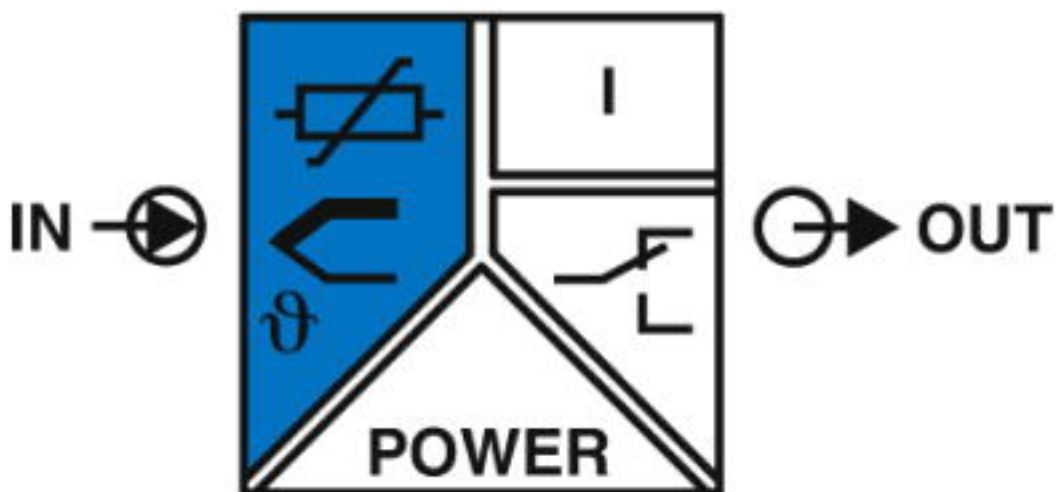
Drawings

Temperature measuring transducer - MACX PL-EX-T-UIREL-UP - 2904910

Block diagram



Pictogram



Temperature measuring transducer - MACX PL-EX-T-UIREL-UP - 2904910

Classifications

eCl@ss

eCl@ss 4.0	27200200
eCl@ss 4.1	27200200
eCl@ss 5.0	27200200
eCl@ss 5.1	27200200
eCl@ss 6.0	27200200
eCl@ss 7.0	27200206
eCl@ss 8.0	27200206
eCl@ss 9.0	27210129

ETIM

ETIM 2.0	EC001446
ETIM 3.0	EC001446
ETIM 4.0	EC001446
ETIM 5.0	EC001446
ETIM 6.0	EC002919
ETIM 7.0	EC002919

UNSPSC

UNSPSC 6.01	30211506
UNSPSC 7.0901	39121008
UNSPSC 11	39121008
UNSPSC 12.01	39121008
UNSPSC 13.2	41112105
UNSPSC 18.0	41112105
UNSPSC 19.0	41112105
UNSPSC 20.0	41112105
UNSPSC 21.0	41112105

Accessories

Accessories

Cradle unit

Adapter module - IFS-OP-CRADLE - 2811886



The adapter (IFS-OP-CRADLE) for the operator interface is ideal for use as a remote operator panel and display device for 17.5 mm / 35 mm modules. Can be mounted directly on the DIN rail. Replacement part: 2905872 IFS-BT-PROG-ADAPTER.

Device marking

Temperature measuring transducer - MACX PL-EX-T-UIREL-UP - 2904910

Accessories

Plastic label - UC-EMLP (11X9) - 0819291



Plastic label, Sheet, white, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: adhesive, lettering field size: 11 x 9 mm, Number of individual labels: 10

Plastic label - UC-EMLP (11X9) YE - 0822602



Plastic label, Sheet, yellow, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: adhesive, lettering field size: 11 x 9 mm, Number of individual labels: 10

Plastic label - UC-EMLP (11X9) SR - 0828094



Plastic label, Sheet, silver, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: adhesive, lettering field size: 11 x 9 mm, Number of individual labels: 10

Plastic label - US-EMLP (11X9) - 0828789



Plastic label, Card, white, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: adhesive, lettering field size: 11 x 9 mm, Number of individual labels: 135

Plastic label - US-EMLP (11X9) YE - 0828871



Plastic label, Card, yellow, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: adhesive, lettering field size: 11 x 9 mm, Number of individual labels: 135

Temperature measuring transducer - MACX PL-EX-T-UIREL-UP - 2904910

Accessories

Plastic label - US-EMLP (11X9) SR - 0828872



Plastic label, Card, silver, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: adhesive, lettering field size: 11 x 9 mm, Number of individual labels: 135

Device marker - LS-EMLP (11X9) WH - 0831678



Device marker, Sheet, white, unlabeled, can be labeled with: TOPMARK NEO, TOPMARK LASER, mounting type: adhesive, lettering field size: 11 x 9 mm, Number of individual labels: 255

Device marker - LS-EMLP (11X9) YE - 0831732



Device marker, Sheet, yellow, unlabeled, can be labeled with: TOPMARK NEO, TOPMARK LASER, mounting type: adhesive, lettering field size: 11 x 9 mm, Number of individual labels: 255

Device marker - LS-EMLP (11X9) SR - 0831705



Device marker, Sheet, silver, unlabeled, can be labeled with: TOPMARK NEO, TOPMARK LASER, mounting type: adhesive, lettering field size: 11 x 9 mm, Number of individual labels: 255

Insulating sleeve

Insulating sleeve - MPS-IH BK - 0201731

Insulating sleeve, color: black



Temperature measuring transducer - MACX PL-EX-T-UIREL-UP - 2904910

Accessories

Insulating sleeve - MPS-IH GY - 0201728

Insulating sleeve, color: gray



Insulating sleeve - MPS-IH GN - 0201702

Insulating sleeve, color: green



Insulating sleeve - MPS-IH YE - 0201692

Insulating sleeve, color: yellow



Insulating sleeve - MPS-IH BU - 0201689

Insulating sleeve, color: blue



Insulating sleeve - MPS-IH RD - 0201676

Insulating sleeve, color: red



Temperature measuring transducer - MACX PL-EX-T-UIREL-UP - 2904910

Accessories

Insulating sleeve - MPS-IH WH - 0201663

Insulating sleeve, color: white



Labeled device marker

Plastic label - UC-EMLP (11X9) CUS - 0824547

Plastic label, can be ordered: by sheet, white, labeled according to customer specifications, mounting type: adhesive, lettering field size: 11 x 9 mm



Plastic label - UC-EMLP (11X9) YE CUS - 0824548

Plastic label, can be ordered: by sheet, yellow, labeled according to customer specifications, mounting type: adhesive, lettering field size: 11 x 9 mm



Plastic label - UC-EMLP (11X9) SR CUS - 0828098

Plastic label, can be ordered: by sheet, silver, labeled according to customer specifications, mounting type: adhesive, lettering field size: 11 x 9 mm, Number of individual labels: 10



Operator interface

Operator interface - IFS-OP-UNIT - 2811899



The operator interface facilitates straightforward parameterization and operation of the MACX MCR(-EX)-...-UI(REL) (-UP) on-site, even without software. Can be snapped onto the 35 mm module. Replacement part: 2905872 IFS-BT-PROG-ADAPTER.

Plug

Temperature measuring transducer - MACX PL-EX-T-UIREL-UP - 2904910

Accessories

Plug - MACX MCR-EX-I20 - 2905679



Connection terminal block for current signals +20 mA ...-20 mA for safe switching of limit values, in combination with MACX...EX-T-UI... temperature transducers.

Plug - MACX MCR-EX-CJC - 2925002



Plug for cold junction compensation for thermocouples, for safe switching of limit values, in combination with MACX ...EX-T-UI... temperature transducers.

Programming adapter

Programming adapter - IFS-USB-PROG-ADAPTER - 2811271



Programming adapter with USB interface, for programming with software. The USB driver is included in the software solutions for the products to be programmed, such as measuring transducers or motor managers.

Test plug terminal block

Test plugs - MPS-MT - 0201744



Test plugs, with solder connection up to 1 mm² conductor cross section, color: gray
