

Digital display - FA MCR-EX-FD-TUI-UI-2REL-UP - 2907781

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Multifunctional Ex i process indicator in field housing for monitoring and displaying analog measurement data. Universal inputs permit connection of current, voltage, RTDs, and TCs. Two relay change-over contact outputs and one analog output.

Product Description

Multifunctional Ex i process indicator in field housing for monitoring, displaying, and transmitting analog measurement data from the Ex area to the safe area.

Dual-conductor sensors can be powered with the integrated measuring transducer supply. Universal inputs permit connection of current, voltage, RTDs, and TCs. Limit values can be monitored and relays can be switched. The analog output allows you to transmit process signals. A color change in the event of a fault supports the detection of alarm conditions. 5-digit, 7-segment LC display, with backlight, 1 universal input, 2 relays, min./max. value memory, linearization table, digital status output (open collector)

RoHS

Key Commercial Data

Packing unit	1 pc
GTIN	 4 055626 232157
GTIN	4055626232157
Custom tariff number	90328900
Country of origin	Germany

Technical data

Dimensions

Width	199 mm
Height	160 mm
Depth	96 mm

Ambient conditions

Ambient temperature (operation)	-40 °C ... 50 °C (The readability of the display is no longer guaranteed at temperatures below -30 °C (-22 °F).)
Ambient temperature (storage/transport)	-40 °C ... 85 °C

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Technical data

Ambient conditions

Maximum altitude	< 2000 m (Above sea level)
Permissible humidity (operation)	condensation permitted
Degree of protection	IP67
Noise immunity	IEC 61326 / NAMUR NE 21

Input data

Description of the input	Universal input
Number of inputs	1
Current input signal	0 mA ... 20 mA +10 %
	4 mA ... 20 mA +10 %
Max. input current	< 150 mA
Input signal	Current
Input resistance current input	10 Ω
Transmitter supply voltage	> 16 V (22 mA)
Transmitter supply voltage range	22.8 V ... 27.6 V (No-load)
Transmitter supply current	< 30 mA (Short-circuit and overload protection)
Available input sources	Resistance thermometers
Sensor types (RTD) that can be used	Pt, Ni, Cu sensors
Connection technology	2, 3, 4-wire
Description of the input	Universal input
Voltage input signal	0 V ... 10 V
	2 V ... 10 V
	0 V ... 5 V
	0 V ... 1 V
	1 V ... 5 V
	-1 V ... 1 V
	-10 V ... 10 V
	-30 V ... 30 V
	-100 mV ... 100 mV
max. input voltage	± 35 V (≥ 1 V)
Input signal	Voltage
Input resistance of voltage input	> 1 M Ω
Available input sources	Thermocouples
Sensor types that can be used (TC)	J, K, T, N, B, S, R, U, L, C, D

Output data

Output name	Current output
Number of outputs	1

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Output data

Configurable/programmable	Yes
Current output signal	0 mA ... 20 mA
	4 mA ... 20 mA
Max. output current	< 22 mA
Load/output load current output	$\leq 500 \Omega$ (22 mA)
Ripple	< 10 mV _{PP} (500 Ω)
D/A converter resolution	13 bit
Output name	Voltage output
Voltage output signal	0 V ... 10 V
	2 V ... 10 V
	0 V ... 5 V
	1 V ... 5 V
Max. output voltage	< 11 V
Ripple	< 10 mV _{PP} (1000 Ω)
D/A converter resolution	13 bit

Switching output

Output name	Relay output
Contact type	2 PDT
Minimum switching voltage	12 V
Maximum switching voltage	30 V DC (3 A)
	230 V AC (3 A)
Min. switching current	10 mA
Output name	Transistor output, active
Output description	Open collector output
Number of outputs	1
Contact type	Transistor
Maximum switching voltage	28 V
Max. switching current	3 A
	200 mA

Power supply

Supply voltage range	24 V AC/DC ... 230 V AC/DC (-20 % ... +10 %, 50 Hz ... 60 Hz)
Power consumption	≤ 6.9 W

Connection data

Connection name	Input, output, status, relay
Connection method	Spring-cage connection
Stripping length	10 mm

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Connection data

Conductor cross section solid	0.2 mm² ... 2.5 mm²
Conductor cross section flexible	0.2 mm² ... 2.5 mm²
Conductor cross section AWG	24 ... 14

General

Test voltage	2500 V
Test voltage input/output	500 V
Test voltage input/power supply	2500 V
Test voltage output/power supply	2500 V
Noise emission	IEC 61326, class A
Noise immunity	IEC 61326 / NAMUR NE 21
Housing material	PBT GF30
Mounting position	Max. viewing angle range +/- 45° from the centre line of the display in every direction

Standards and Regulations

Noise emission	IEC 61326, class A
Noise immunity	IEC 61326 / NAMUR NE 21
Conformance	CE-compliant
ATEX	# II (1) G [Ex ia Ga] IIC
	# II (1) D [Ex ia Da] IIIC
UL, USA/Canada	UL 61010 Recognized
FM approval	AIS / I / 1 / ABCDEFG
	[I/0] AEx [ia] IIC
	ANI / I, II, III / 2 / ABCDEFG
CSA	Associated Apparatus
	Class I, Zone 0, IIC
	Class I, Groups A, B, C, D
	Class II, Groups E, F, G
	Class III
Group	Ex ia IIC
	Ex ia IIB
	Ex ia IIA
	Ex ia IIC
	Ex ia IIB
	Ex ia IIA

Environmental Product Compliance

China RoHS	Environmentally Friendly Use Period = 50 years
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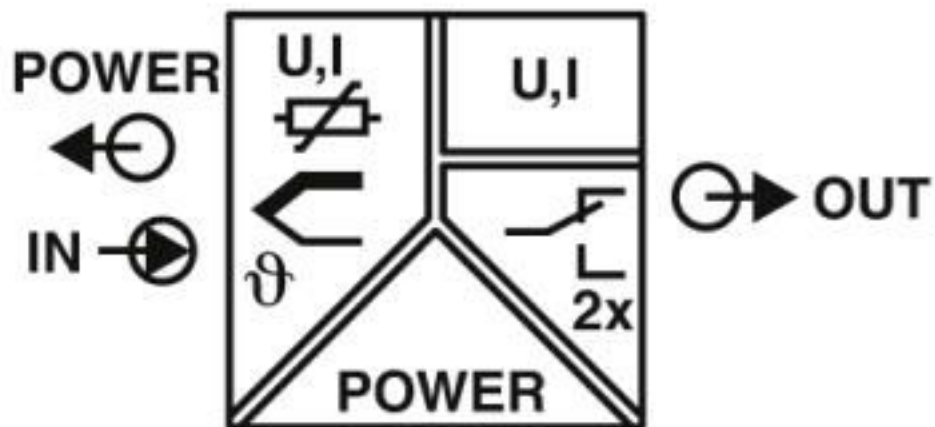
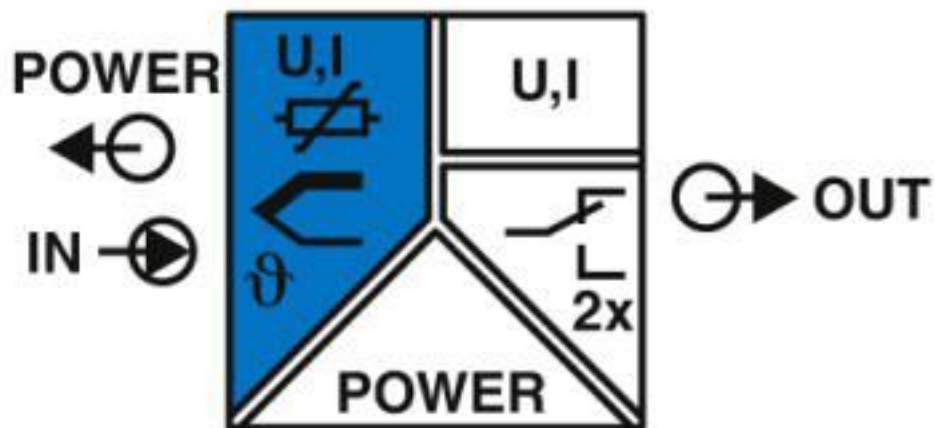
Technical data

Environmental Product Compliance

	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"
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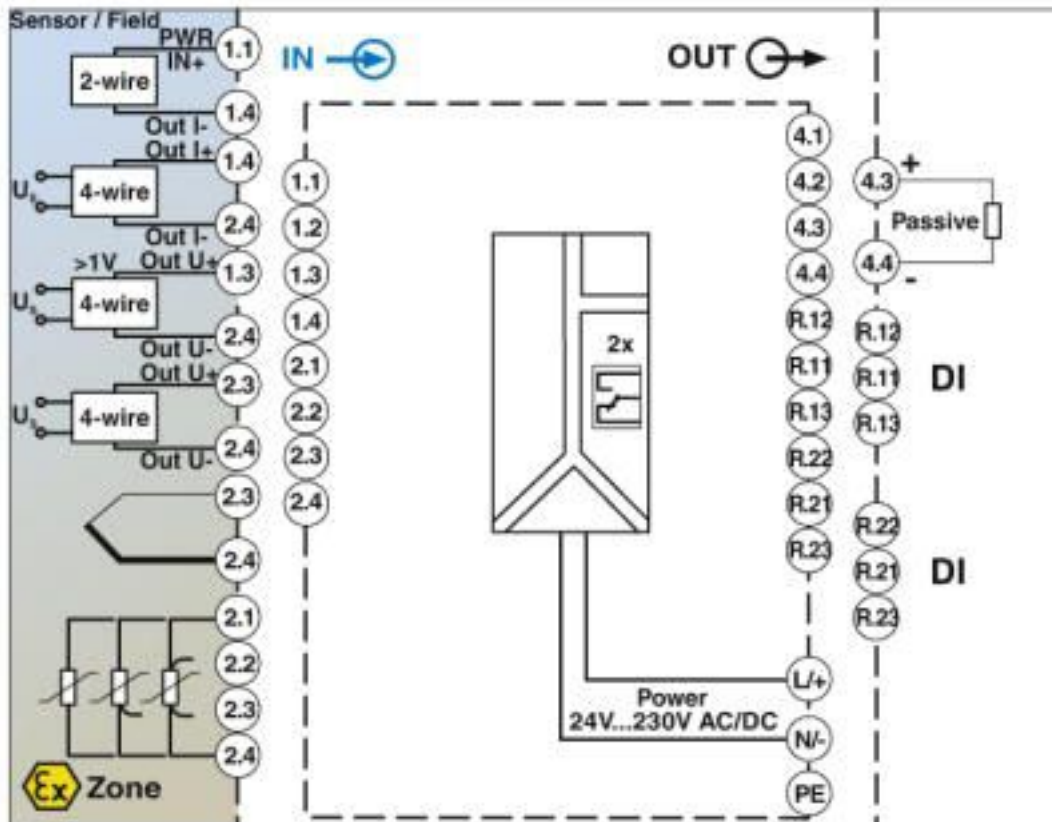
Drawings

Pictogram



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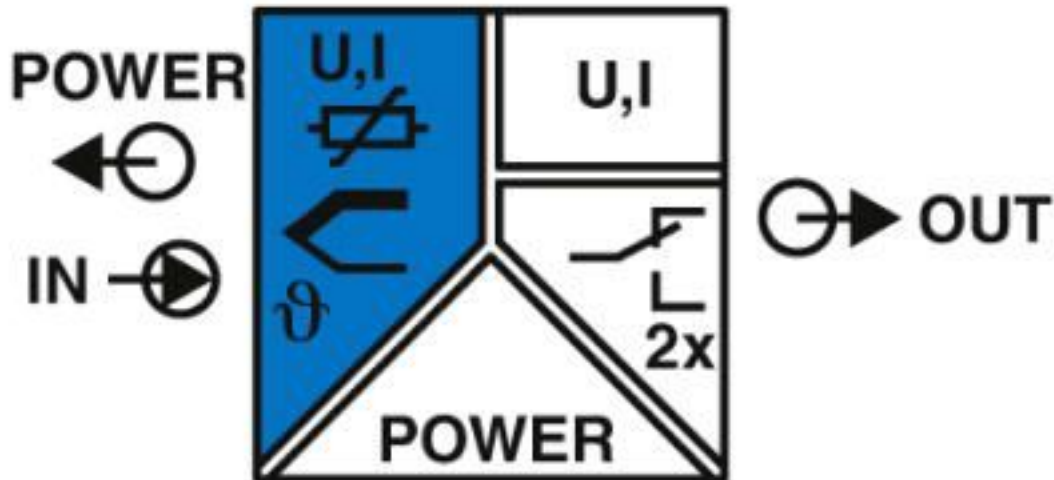
Block diagram



Block diagram FA MCR-EX-FD-TUI-UI-2REL-UP

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Pictogram



Classifications

eCl@ss

eCl@ss 4.0	27210300
eCl@ss 4.1	27210300
eCl@ss 5.0	27210300
eCl@ss 5.1	27210300
eCl@ss 6.0	27210300
eCl@ss 7.0	27210301
eCl@ss 8.0	27210301
eCl@ss 9.0	27210301

ETIM

ETIM 2.0	EC001426
ETIM 3.0	EC001426
ETIM 4.0	EC001426
ETIM 5.0	EC001426
ETIM 6.0	EC001426
ETIM 7.0	EC001426

UNSPSC

UNSPSC 13.2	39121522
UNSPSC 18.0	39121008
UNSPSC 19.0	39121008
UNSPSC 20.0	39121008

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Classifications

UNSPSC

UNSPSC 21.0	39121008
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Approvals

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CSA / UL Recognized / cUL Recognized / EAC / cULus Recognized

Ex Approvals

CSA / ATEX / FM approved

Approval details

CSA		http://www.csagroup.org/services-industries/product-listing/	2879105
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UL Recognized		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 198586
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cUL Recognized		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 198586
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EAC			RU*DE.*08.B.01861/19
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cULus Recognized			
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Accessories

Accessories

Mounting material

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Accessories

Mounting kit - FA MCR-FD-PM - 2908739



Tube mounting set for FA MCR-FD-TUI-UI-2REL-UP (2907780) and FA MCR-EX-FD-TUI-UI-2REL-UP (2907781) multifunctional process displays. Can also be used for simplified wall mounting.

Programming adapter

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



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