

# 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)



## Key Commercial Data

Packing unit	1 STK
GTIN	 4 055626 232157
GTIN	4055626232157

## 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
Maximum altitude	< 2000 m (Above sea level)
Degree of protection	IP67

### Input data

Description of the input	Universal input
Number of inputs	1

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## Technical data

### Input data

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 MΩ
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
Configurable/programmable	Yes
Current output signal	0 mA ... 20 mA
	4 mA ... 20 mA
Max. output current	< 22 mA
Load/output load current output	≤ 500 Ω (22 mA)
Ripple	< 10 mV <sub>PP</sub> (500 Ω)
D/A resolution	13 bit
Output name	Voltage output
Voltage output signal	0 V ... 10 V
	2 V ... 10 V
	0 V ... 5 V

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## Technical data

### Output data

	1 V ... 5 V
Max. output voltage	< 11 V
Ripple	< 10 mV <sub>PP</sub> (1000 Ω)
D/A 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

### General

Test voltage	2500 V
Protection class	II
Overvoltage category	II
Degree of pollution	2
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
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
CSA	Associated Apparatus

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## Technical data

### Standards and Regulations

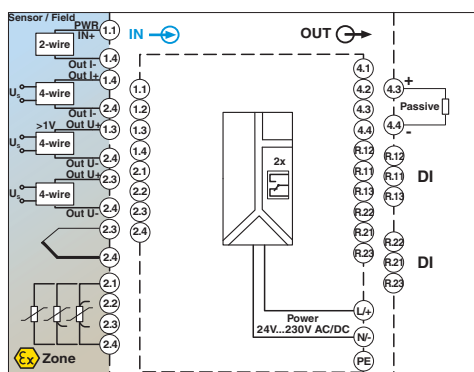
Noise emission	IEC 61326, class A
Noise immunity	IEC 61326 / NAMUR NE 21
Conformance	CE-compliant
ATEX	# II (1) G [Ex ia Ga] IIC
	# II (1) D [Ex ia Da] IIIC
UL, USA/Canada	UL 61010 Recognized
FM approval	AIS / I / 1 / ABCDEFG
	[I/0] AEx [ia] IIC
	ANI / I, II, III / 2 / ABCDEFG
CSA	Associated Apparatus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

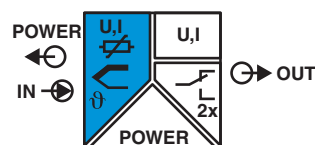
China RoHS	Environmentally Friendly Use Period = 50
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

## Drawings

Block diagram



Pictogram



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

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## Approvals

### Approvals

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#### Approvals

CSA / UL Recognized / cUL Recognized / cULus Recognized





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#### Ex Approvals

CSA

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### Approval details

CSA		<a href="http://www.csagroup.org/services-industries/product-listing/">http://www.csagroup.org/services-industries/product-listing/</a>	2879105
UL Recognized		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 198586
cUL Recognized		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 198586
cULus Recognized		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	

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