

Frequency transducer - MINI MCR-2-UI-FRO - 2902031

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Analog frequency transducer with limit value functionality and plug-in connection technology for converting standard signals into frequency or PWM signals. Configurable via DIP switch or software. Screw connection technology, standard configuration.

Product Description

Configurable, freely adjustable analog frequency transducer with additional switching output, limit value functionality, and plug-in connection technology for converting standard analog signals to frequency signals or to pulse width modulated signals (PWM signals). Current signals between 0 mA ... 24 mA and voltage signals between 0 V ... 12 V can be processed on the input side. Frequency signals between 0 ... 11 kHz and PWM signals between 0% ... 100% are possible on the output side. In addition, the output can also be operated as a switching output, which means that two switching thresholds can be set independently of one another. The minimum measuring span is 1 mA and 0.5 V. Full accuracy is maintained with a measuring span greater than 10 mA and 5 V. You can configure the device using one of the free software solutions. Default settings can also be made directly on the device by simply using the DIP switches (see configuration table). The measuring transducer supports fault monitoring and NFC communication.



Key Commercial Data

Packing unit	1 STK
GTIN	
GTIN	4046356652032

Technical data

Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
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Dimensions

Width	6.2 mm
Height	110.5 mm
Depth	120.5 mm

Ambient conditions

Ambient temperature (operation)	-40 °C ... 70 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C

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Input data

Number of inputs	1
Configurable/programmable	Yes
Voltage input signal	0 V ... 10 V (via DIP switch)
	2 V ... 10 V (via DIP switch)
	0 V ... 5 V (via DIP switch)
	1 V ... 5 V (via DIP switch)
	10 V ... 0 V (via DIP switch)
	10 V ... 2 V (via DIP switch)
	5 V ... 0 V (via DIP switch)
	5 V ... 1 V (via DIP switch)
	0 V ... 12 V (can be set via software)
Current input signal	0 mA ... 20 mA (via DIP switch)
	4 mA ... 20 mA (via DIP switch)
	0 mA ... 10 mA (via DIP switch)
	2 mA ... 10 mA (via DIP switch)
	20 mA ... 0 mA (via DIP switch)
	20 mA ... 4 mA (via DIP switch)
	10 mA ... 0 mA (via DIP switch)
	10 mA ... 2 mA (via DIP switch)
	0 mA ... 24 mA (can be set via software)
max. input voltage	12 V
Max. input current	24 mA
Input resistance of voltage input	> 120 kΩ
Input resistance current input	approx. 50 Ω (+ 0.7 V for test diode)

Output data

Number of outputs	1
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Switching output

Output name	Switching output
Number of outputs	1
Contact type	1 N/O contact
Minimum switching voltage	1 V
Maximum switching voltage	30 V DC
Min. switching current	100 µA
Max. switching current	100 mA (at 30 V)

Power supply

Nominal supply voltage	24 V DC
Supply voltage range	9.6 V DC ... 30 V DC (The DIN rail bus connector (ME 6,2 TBUS-2 1,5/5-ST-3,81 GN, Order No. 2869728) can be used to bridge the supply voltage. It can be snapped onto a 35 mm DIN rail according to EN 60715))

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Power supply

Typical current consumption	27 mA (12 V DC)
	13.5 mA (24 V DC)
Power consumption	≤ 350 mW (9.6 V DC)

Connection data

Connection method	Screw connection
Single conductor/terminal point, solid, with ferrule, min.	0.2 mm ²
Single conductor/terminal point, solid, with ferrule, max.	1.5 mm ²
Single conductor/terminal point, solid, without ferrule, min.	0.2 mm ²
Single conductor/terminal point, solid, without ferrule, max.	2.5 mm ²
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section flexible max.	1.5 mm ²
Min. AWG conductor cross section, flexible	24
Max. AWG conductor cross section, flexible	12
Stripping length	10 mm
Screw thread	M3

General

No. of channels	1
Maximum temperature coefficient	< 0.01 %/K
Temperature coefficient, typical	0.01 %/K
Electrical isolation	Reinforced insulation in accordance with IEC 61010-1
Overvoltage category	II
Degree of pollution	2
Rated insulation voltage	300 V (effective)
Test voltage, input/output/supply	3 kV (50 Hz, 1 min.)
Electromagnetic compatibility	Conformance with EMC directive
Noise emission	EN 61000-6-4
Noise immunity	EN 61000-6-2 When being exposed to interference, there may be minimal deviations.
Color	gray
Housing material	PBT
Mounting position	any
Assembly instructions	The T connector can be used to bridge the supply voltage. It can be snapped onto a 35 mm DIN rail according to EN 60715.
Conformance	CE-compliant
ATEX	# II 3 G Ex nA IIC T4 Gc X
UL, USA/Canada	UL 508 Listed
	Class I, Div. 2, Groups A, B, C, D T6
	Class I, Zone 2, Group IIC T6
GL	GL applied for
Fire protection for rail vehicles (DIN EN 45545-2) R22	HL 1 - HL 2

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General

Fire protection for rail vehicles (DIN EN 45545-2) R23	HL 1 - HL 2
Fire protection for rail vehicles (DIN EN 45545-2) R24	HL 1 - HL 2

Standards and Regulations

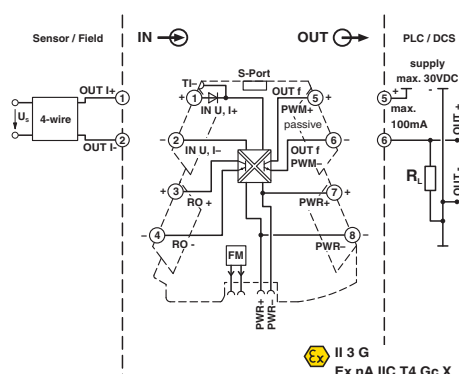
Electromagnetic compatibility	Conformance with EMC directive
Noise emission	EN 61000-6-4
Electrical isolation	Reinforced insulation in accordance with IEC 61010-1
Conformance	CE-compliant
ATEX	# II 3 G Ex nA IIC T4 Gc X
UL, USA/Canada	UL 508 Listed
	Class I, Div. 2, Groups A, B, C, D T6
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GL	GL applied for
Fire protection for rail vehicles (DIN EN 45545-2) R22	HL 1 - HL 2 HL 1 - HL 2 HL 1 - HL 2
Fire protection for rail vehicles (DIN EN 45545-2) R23	HL 1 - HL 2 HL 1 - HL 2 HL 1 - HL 2
Fire protection for rail vehicles (DIN EN 45545-2) R24	HL 1 - HL 2 HL 1 - HL 2 HL 1 - HL 2
Fire protection for rail vehicles (DIN EN 45545-2) R26	HL 1 - HL 2 HL 1 - HL 2 HL 1 - HL 2

Environmental Product Compliance

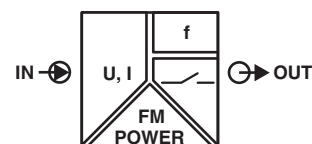
China RoHS	Environmentally Friendly Use Period = 50
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

Drawings

Block diagram



Pictogram



Approvals

Approvals

Frequency transducer - MINI MCR-2-UI-FRO - 2902031

Approvals

Approvals

UL Listed / cUL Listed / EAC / cULus Listed

Ex Approvals

UL Listed / cUL Listed / cULus Listed

Approval details

UL Listed



<http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm>

FILE E 238705

cUL Listed



<http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm>

FILE E 238705

EAC



RU C-
DE.A*30.B.01082

cULus Listed



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