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Frequency transducer - MINI MCR-SL-F-UI-SP-NC - 2902833

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The configurable frequency transducer is suitable for the connection of NAMUR proximity sensors as well as for sensors with NPN and PNP outputs. Configurable via DIP switch and teach-in wheel. Spring-cage connection, standard configuration.

The figure shows a version with a screw connection

Product description

The configurable 3-way isolated frequency transducer is suitable for the connection of NAMUR proximity sensors (IEC 60947-5-6 and EN 50227) as well as for sensors with NPN and PNP outputs that generate a frequency signal. The measured values are converted into a linear current or voltage signal. The device is configured via DIP switches. Alternatively, the frequency range can be configured with extended options via the teach-in wheel. The measuring transducer supports fault monitoring.



Key commercial data

Packing unit	1 PCE
GTIN	 4 046356 685573
Custom tariff number	85437090
Country of origin	GERMANY

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	93.1 mm
Depth	102.5 mm

Ambient conditions

Ambient temperature (operation)	-20 °C ... 65 °C
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Frequency transducer - MINI MCR-SL-F-UI-SP-NC - 2902833

Technical data

Ambient conditions

Ambient temperature (storage/transport)	-40 °C ... 85 °C
Degree of protection	IP20

Input data

Frequency input	Frequency input
Configurable/programmable	Yes
Frequency measuring range	0.002 Hz ... 20 kHz (DIP switch)
Available input sources	NPN/PNP transistor outputs
	NAMUR initiators
	Floating relay contact (dry contact)
Max. input amplitude	30 V (incl. DC voltage)
A/D conversion time	10 ms (At f > 500 Hz)

Output data

Output name	Voltage output
Configurable/programmable	Yes
Voltage output signal	0 V ... 5 V
	1 V ... 5 V
	0 V ... 10 V
	10 V ... 0 V
Current output signal	0 mA ... 20 mA
	4 mA ... 20 mA
	20 mA ... 0 mA
	20 mA ... 4 mA
Max. output voltage	approx. 12.3 V
Max. output current	24.6 mA
Load/output load voltage output	≥ 10 kΩ
Load/output load current output	500 Ω (at 20 mA)

Power supply

Supply voltage range	9.6 V DC ... 30 V DC (The T 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))
Typical current consumption	< 28 mA (at I _{OUT} = 20 mA, 24 V DC, load 500 Ω)
Power consumption	< 800 mW (at I _{OUT} = 20 mA, 9.6 V DC, load 500 Ω)

Connection data

Connection method	Spring-cage conn.
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	2.5 mm ²

Frequency transducer - MINI MCR-SL-F-UI-SP-NC - 2902833

Technical data

Connection data

Conductor cross section stranded min.	0.2 mm ²
Conductor cross section stranded max.	2.5 mm ²
Conductor cross section AWG/kcmil min.	24
Conductor cross section AWG/kcmil max	12
Stripping length	8 mm

General

Maximum temperature coefficient	0.01 %/K
Status display	LED red
Operating elements	Press/slide button
Protective circuit	Transient protection
Electrical isolation	Basic insulation according to EN 61010
Surge voltage category	II
Pollution degree	2
Rated insulation voltage	50 V AC/DC
Test voltage, input/output/supply	1.5 kV (50 Hz, 1 min.)
Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC
Noise emission	EN 61000-6-4
Noise immunity	EN 61000-6-2 When being exposed to interference, there may be minimal deviations.
Color	green
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	508 listed
	Class I, Div. 2, Groups A, B, C, D T5 applied for
GL	GL applied for

EMC data

Name	Electromagnetic RF field
Standards/regulations	EN 61000-4-3
Typical deviation from the measuring range final value	0.1 %
Name	Fast transients (burst)
Standards/regulations	EN 61000-4-4
Typical deviation from the measuring range final value	2 %
Name	Conducted interferences

Frequency transducer - MINI MCR-SL-F-UI-SP-NC - 2902833

Technical data

EMC data

Standards/regulations	EN 61000-4-6
Typical deviation from the measuring range final value	0.3 %

Classifications

ETIM

ETIM 3.0	EC001446
ETIM 4.0	EC001485
ETIM 5.0	EC001485

UNSPSC

UNSPSC 11	39121008
UNSPSC 12.01	39121008
UNSPSC 13.2	39121008
UNSPSC 6.01	30211506
UNSPSC 7.0901	39121008

eCl@ss

eCl@ss 4.0	27200206
eCl@ss 4.1	27200206
eCl@ss 5.0	27200206
eCl@ss 5.1	27200206
eCl@ss 6.0	27200206
eCl@ss 7.0	27200206
eCl@ss 8.0	27200206

Approvals

Approvals

Approvals

UL Listed / cUL Listed / cULus Listed

Ex Approvals

Approvals submitted

Frequency transducer - MINI MCR-SL-F-UI-SP-NC - 2902833

Approvals

Approval details

UL Listed 

cUL Listed 

cULus Listed 

Accessories

Accessories

Power terminal block - MINI MCR-SL-PTB-FM - 2902958



The MINI MCR-SL-PTB-FM(-SP) power terminal block is used to supply the supply voltage to the T-connector. The FM power terminal block offers the additional function of monitoring in combination with the fault monitoring module. Screw connection.

Power terminal block - MINI MCR-SL-PTB-FM-SP - 2902959



The MINI MCR-SL-PTB-FM(-SP) power terminal block is used to supply the supply voltage to the T-connector. The FM power terminal block offers the additional function of monitoring in combination with the fault monitoring module. Spring-cage connection.

Monitoring module - MINI MCR-SL-FM-RC-NC - 2902961



The fault monitoring module is used to evaluate and report group errors from the fault monitoring system and to monitor the supply voltages. The error is reported via an N/O contact. Screw connection, standard configuration.

Frequency transducer - MINI MCR-SL-F-UI-SP-NC - 2902833

Accessories

Monitoring module - MINI MCR-SL-FM-RC-SP-NC - 2902962



The fault monitoring module is used to evaluate and report group errors from the fault monitoring system and to monitor the supply voltages. The error is reported via an N/O contact. Spring-cage connection, standard configuration.

Electronic housing - ME 6,2 TBUS-2 1,5/5-ST-3,81 GN - 2869728



DIN rail connector for DIN rail mounting. Universal for T-BUS housing. Gold-plated contacts, 5-pos.

Power supply unit - MINI-SYS-PS-100-240AC/24DC/1.5 - 2866983



DIN rail power supply unit, primary-switched mode, slim design, output: 24 V DC / 1.5 A

System adapter - MINI MCR-SL-V8-FLK 16-A - 2811268



Eight MINI analog signal converters with screw connection method can be connected to a control system using a system adapter and system cabling with a minimum of wiring and very low error risk.

Multiplexer - MINI MCR-SL-MUX-V8-FLK 16 - 2811815



MINI analog multiplexer, generates one analog output from 8 analog input signals, for MINI analog module with screw connection.

Drawings

Frequency transducer - MINI MCR-SL-F-UI-SP-NC - 2902833

Pictogram

