Frequency transducer - MCR-F-UI-DC - 2814605

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MCR frequency measuring transducer, programmable, for converting frequencies into analog signals, with 3-way isolation and configurable output

Your advantages

- Replacement product MINI MCR-2-F-UI(-PT) 2902056 (2902058, Push-in version) in combination with MINI MCR-2-SPS-24-15(-PT) 1033202 (1033201, Push-in version)
- Can be programmed via membrane keypad or software
- Display of the input or output signal
- 3-way isolation
- Analog and switching output
- For NAMUR sensors, floating contacts, frequency generators, and NPN/PNP transistor outputs
- Frequencies up to 120 kHz

RoHS

Key Commercial Data

Packing unit	1 pc
GTIN	4 017918 168827
GTIN	4017918168827
Weight per Piece (excluding packing)	234.900 g
Custom tariff number	85437090
Country of origin	Germany
Note	Made to Order (non-returnable)

Technical data

Note

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

Dimensions

Width	45 mm
Height	75 mm

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Dimensions

Depth	110 mm

Ambient conditions

Ambient temperature (operation)	-20 °C ... 65 °C (for specified data)

Input data

Frequency input	Frequency input
Configurable/programmable	Yes
Frequency measuring range	0.1 Hz ... 120 kHz
Available input sources	NPN/PNP transistor outputs
	NAMUR initiators
	Floating relay contact (dry contact)
	Frequency generator
Encoder supply voltage	approx. 15 V DC
Encoder supply current	max. 25 mA (constant)
Signal level	2 V_{PP} (In case of rectangle 0.1 Hz ... 120 kHz)
	2 V_{PP} (In case of sine 8 Hz ... 120 kHz)
	13 V_{PP} (In case of sine 1 Hz ... 120 kHz)
Max. input amplitude	30 V (incl. DC voltage)
Impulse form	any
Pulse time	≥ 1 µs
Measured value resolution	> 12 bit
A/D conversion time	≤ 32 ms
Signal input	Current input (isolating amplifier function)
Configurable/programmable	Yes
Current input signal	0 mA ... 20 mA (freely adjustable)
Input resistance current input	200 Ω
Measured value resolution	14 bit (full-scale)
Step response (10-90%)	< 25 ms
Signal input	Voltage input (isolating amplifier function)
Configurable/programmable	Yes
Voltage input signal	0 V ... 10 V (freely adjustable)
Input resistance of voltage input	95 kΩ
Measured value resolution	14 bit (full-scale)
Step response (10-90%)	< 25 ms

Output data

Output name	Voltage output
Number of outputs	1
Configurable/programmable	Yes
Voltage output signal	0 V ... 10 V
	0 V ... 5 V

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Output data

	10 V ... 0 V
	5 V ... 0 V
Max. output voltage	12.5 V
Load/output load voltage output	≥ 500 Ω
Ripple	< 20 mV_{PP}
Output name	Current output
Configurable/programmable	Yes
Current output signal	0 mA ... 20 mA
	4 mA ... 20 mA
	20 mA ... 0 mA
	20 mA ... 4 mA
Max. output current	25 mA
Load/output load current output	≤ 500 Ω
Ripple	< 20 mV_{PP}

Switching output

Output name	Transistor output, pnp
Output description	Switches supply voltage to terminal block SW, can carry a load of 100 mA, not protected against short-circuit

Frequency output

Step response (10-90%)	< 25 ms

Power supply

Supply voltage range	20 V DC ... 30 V DC
Max. current consumption	< 60 mA (without load, without switching output)

General

Maximum transmission error	≤ 0.15 % (of measured value)
Transmission error, typical	0.1 %
Maximum temperature coefficient	0.015 %/K
Temperature coefficient, typical	0.01 %/K
Alignment zero	± 25 %
Alignment span	± 25 %
Step response (10-90%)	< 25 ms
Status display	LC display
Operating elements	Membrane keypad with 3 keys and LCD display
Protective circuit	Transient protection
	Reverse polarity protection
Test voltage, input/output/supply	1.5 kV (50 Hz, 1 min.)
Color	green
Housing material	ASA-PC (V0)
Mounting position	any

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Standards and Regulations

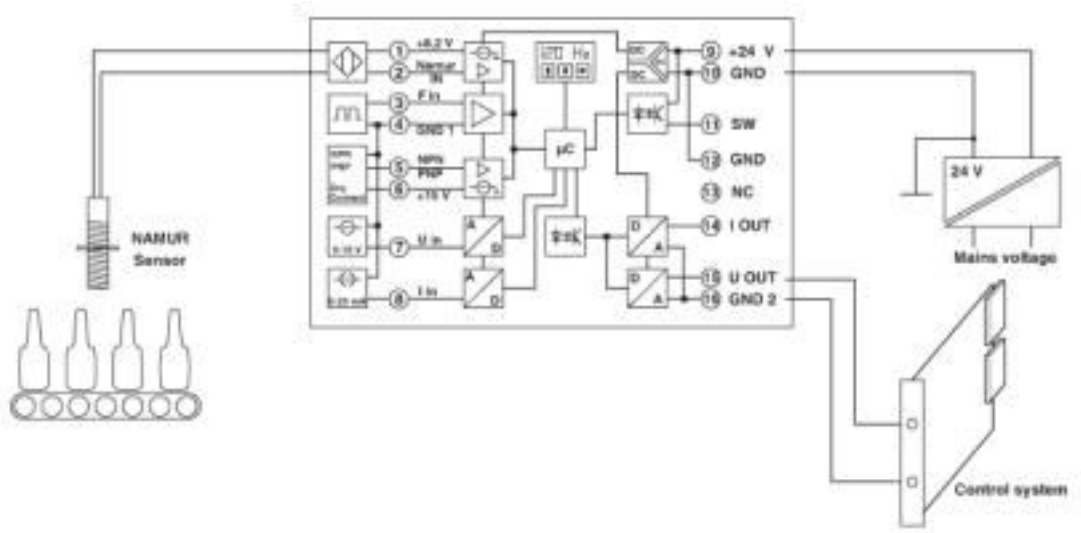
Connection in acc. with standard	CUL
Conformance	CE-compliant
UL, USA/Canada	Class I, Div. 2, Groups A, B, C, D or Non-Hazardous Locations
GL	DNV GL

Environmental Product Compliance

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

Drawings

Connection diagram



Application example: Flow measurement

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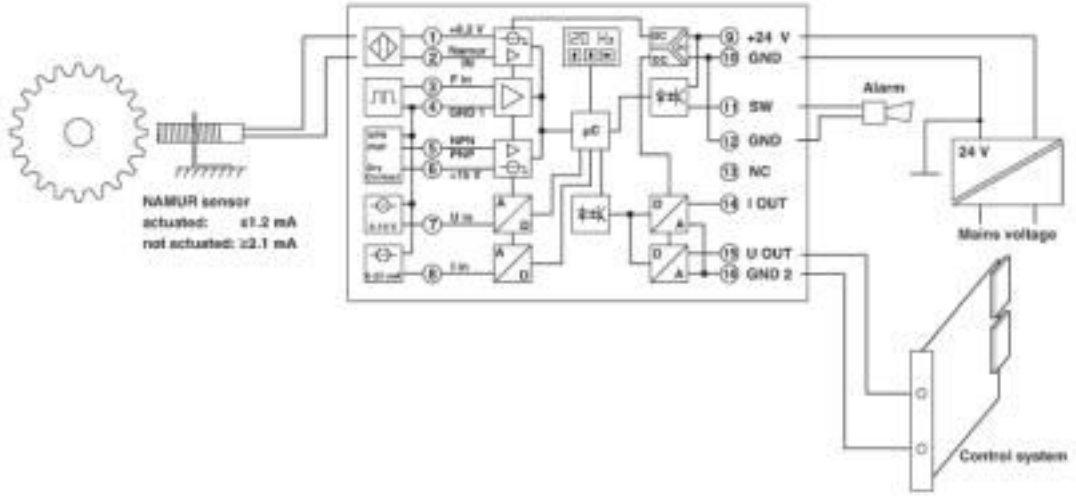
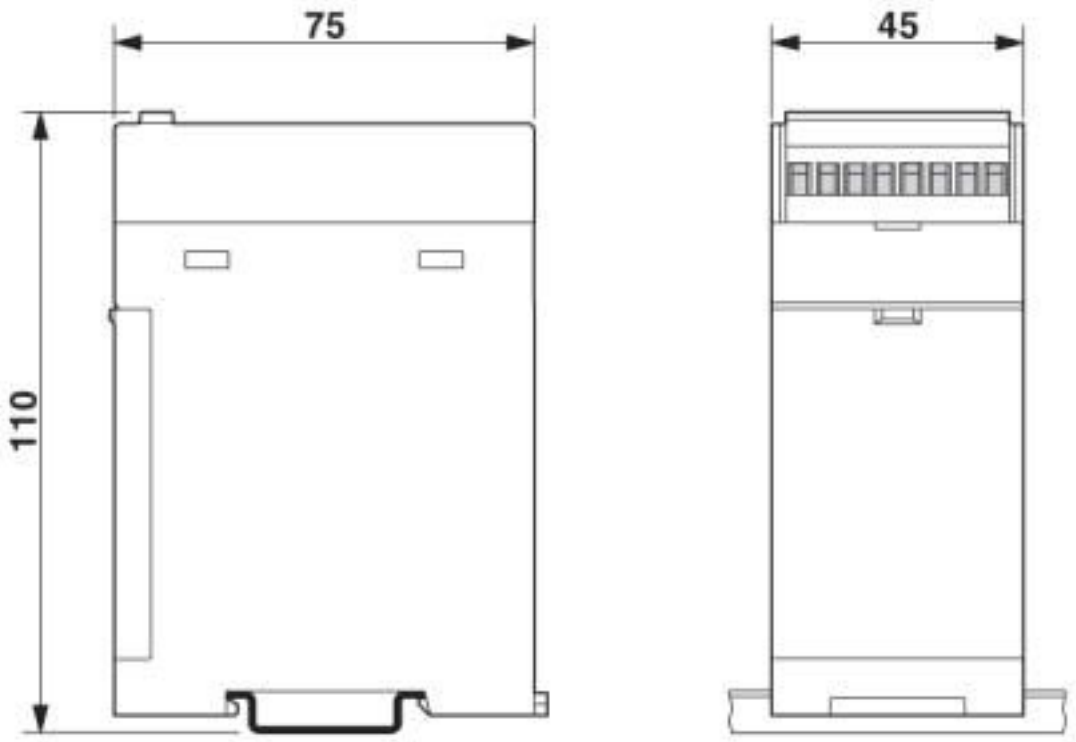
Connection diagram



Application example: Measurement of revolutions of a drive

Dimensional drawing



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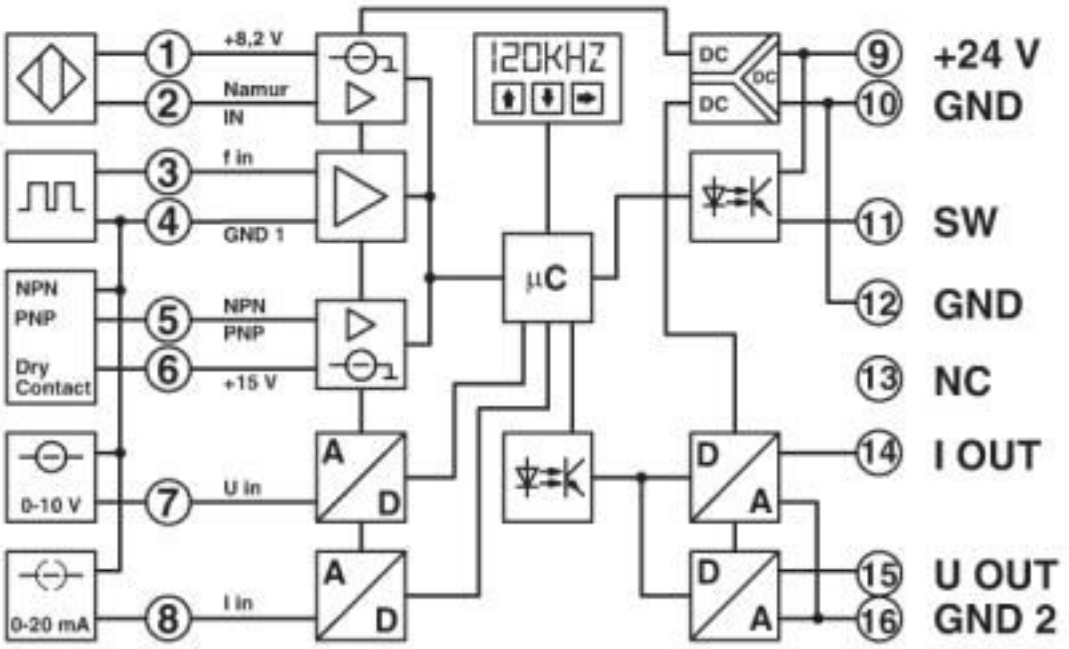
Circuit diagram



Classifications

eCl@ss

eCl@ss 10.0.1	27210120
eCl@ss 4.0	27210120
eCl@ss 4.1	27210120
eCl@ss 5.0	27210120
eCl@ss 5.1	27210100
eCl@ss 6.0	27210100
eCl@ss 7.0	27210120
eCl@ss 8.0	27210120
eCl@ss 9.0	27210120

ETIM

ETIM 4.0	EC002653
ETIM 5.0	EC002653
ETIM 6.0	EC002653

UNSPSC

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

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Classifications

UNSPSC

UNSPSC 19.0	39121008

Accessories

Accessories

Adapter cable

Data cable - PSM-KAD 9 SUB 25/BS - 2761295

Adapter cable, 9-pos. D-SUB socket to 25-pos. D-SUB male

Arrester test system

Cable - CM-KBL-RS232/USB - 2881078

Connecting cable D-9-SUB to USB, with adapter D-9-SUB to D-25-SUB.

Programming adapter

Adapter cable - MCR-TTL-RS232-E - 2814388

Software adapter cable (Stereo jack connector/D-SUB 25-pos.), 1.2 m length, for programming MCR-T-..., MCR-S-... and MCR-f-... modules