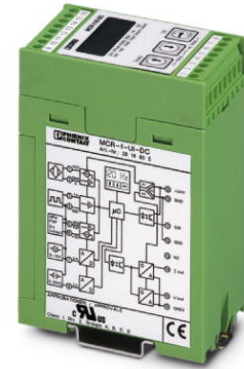



MCR-F-UI-DC

Order No.: 2814605



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



Commercial data	
EAN	 4 017918 168827
Pack	1
Customs tariff	85437090
Gross weight in pieces	234.90 g
Country of Origin	DE
Catalog page information	Page 420 (IF-2011)

Product notes

WEEE/RoHS-compliant since:
15/11/2006



Please note that the data given here has been taken from the online catalog. For comprehensive information and data, please refer to the user documentation at <http://www.download.phoenixcontact.com>. The General Terms and Conditions of Use apply to Internet downloads.

Technical 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 inputs	1
Configurable/programmable	Yes
Voltage output signal	0 V ... 10 V
	0 V ... 5 V
	10 V ... 0 V
	5 V ... 0 V
Max. output voltage	12.5 V

Load/output load voltage output	$\geq 500 \Omega$
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	$\leq 500 \Omega$

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

Power supply

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

Connection data

Connection method	Pluggable screw connection
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	2.5 mm ²
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	14
Stripping length	8 mm
Screw thread	M3

General data

Width	45 mm
Height	75 mm
Depth	110 mm
Maximum transmission error	$\leq 0.15 \%$ (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
	Protection against polarity reversal
Ambient temperature (operation)	-20 °C ... 65 °C (for specified data)
Test voltage, input/output/supply	1.5 kV (50 Hz, 1 min.)
Color	green
Housing material	ASA-PC (V0)
Mounting position	Any
Conformance	CE-compliant
UL, USA / Canada	Class I, Div. 2, Groups A, B, C, D or non-hazardous locations
GL	Germanischer Lloyd

Certificates



Certification cULus Recognized, GOST, GL

Certification Ex: cULus Listed

Certifications applied for:

Accessories

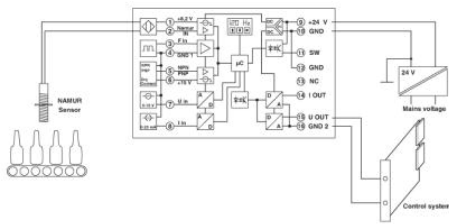
Item	Designation	Description
Cable/conductor		
2881078	CM-KBL-RS232/USB	Connecting cable D-9-SUB to USB, with adapter D-9-SUB to D-25-SUB.
2814388	MCR-TTL-RS232-E	Software adapter cable (Stereo jack connector/D-SUB 25-pos.), 1.2 m length, for programming MCR-T-..., MCR-S-... and MCR-f-... modules

General

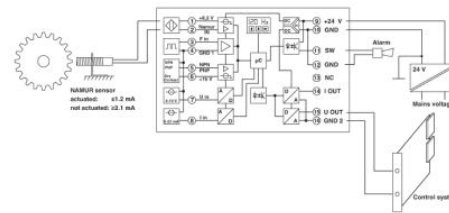
2814799	MCR/PI-CONF-WIN	PI/MCR configuration software for programming PI-EX-RTD..., PI-EX-TC..., MCR-T..., MCR-PSP..., MCR-f..., and MCR-S... modules. This software is available to download free of charge at - www.phoenixcontact.com .
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Drawings

Connection diagram

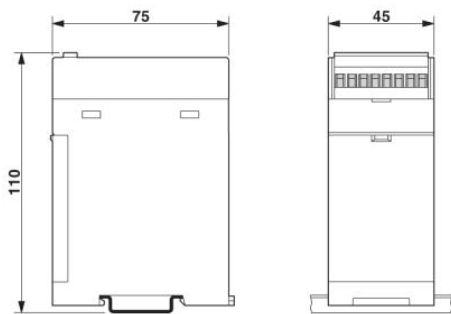


Application example: Flow measurement

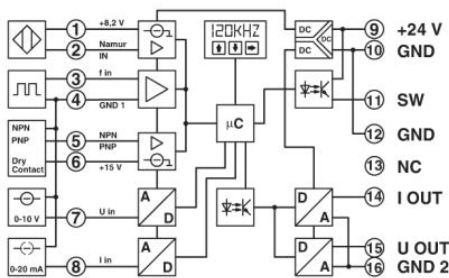


Application example: Measurement of revolutions of a drive

Dimensioned drawing



Circuit diagram



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