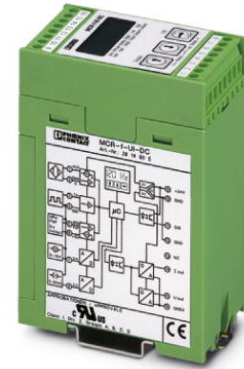


MCR-F-UI-DC

Order No.: 2814605



<http://eshop.phoenixcontact.de/phoenix/treeViewClick.do?UID=2814605>

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

Commercial data	
EAN	4017918168827
Pack	1 pcs.
Customs tariff	85437090
Weight/Piece	0.2349 KG
Catalog page information	Page 378 (IF-2009)

Product notes

WEEE/RoHS-compliant since:
03/28/2007



<http://www.download.phoenixcontact.com>
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. The General Terms and Conditions of Use apply to Internet downloads.

Technical data

Input data	
Frequency input	Frequency input
Number of inputs	3
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
Connection method	2, 3, 4-wire
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	
Range of supply voltages	20 V DC ... 30 V DC
Max. current consumption	< 60 mA (without load, without switching output)
Connection data	
Type of connection	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	110 mm
Depth	75 mm
Transmission error, max.	$\leq 0.15 \%$ (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 %
Status display	LC display
Operating elements	Membrane keypad with 3 keys and LCD display
Protective circuitry	Transient protection
	Polarity protection
Ambient temperature (operation)	-20 °C ... 65 °C (for specified data)
Color	green
Housing material	ASA-PC (V0)
Mounting position	Any
Conformity	CE compliant
UL, USA / Canada	Class I, Div. 2, Groups A, B, C, D or non-hazardous locations
GL	Germanischer Lloyd

Certificates / Approvals



Certification CUL, GL, GOST, UL

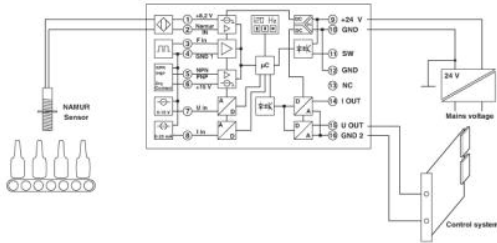
Certification Ex: CUL-EX LIS, UL-EX LIS

Accessories

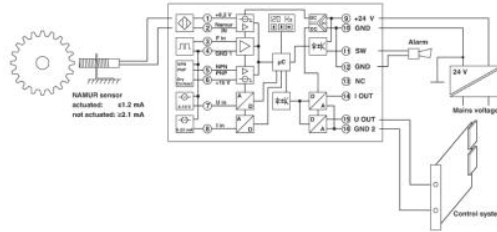
Item	Designation	Description
Cable/conductor		
2881078	CM-KBL-RS232/USB	Connecting cable D-9-SUB to USB, with adapter D-9-SUB to D-25-SUB.
2814388	MCR-TTL-RS232-E	Software adapter cable (Stereo jack connector/SUB-D 25-pos.), 1.2 m length, for programming MCR-T-..., MCR-S-... and MCR-f-... modules
General		
2814799	MCR/PI-CONF-WIN	PI/MCR configuration software, for programming the PI/Ex-RTD..., PI/Ex-THC..., MCR-T-..., MCR-PSP-..., MCR-f... and MCR-s...modules

Diagrams/Drawings

Connection diagram

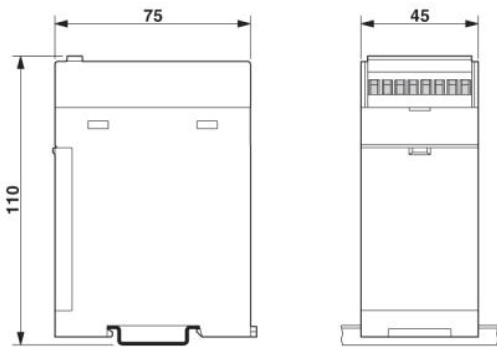


Application example: Flow measurement

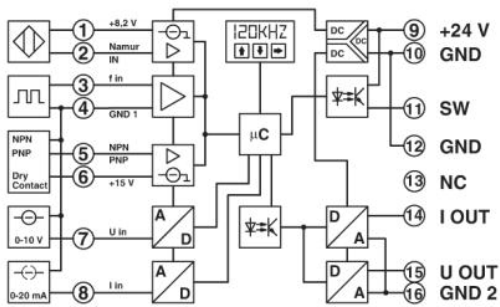


Application example: Measurement of revolutions of a drive

Dimensioned drawing



Circuit diagram



Approbationslogos (EX-Bereich)



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