

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

Please be informed that the data shown in this PDF Document is generated from our Online Catalog. Please find the complete data in the user's documentation. Our General Terms of Use for Downloads are valid (<http://phoenixcontact.com/download>)



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



### Key Commercial Data

Packing unit	1 pc
GTIN	 4 017918 168827
GTIN	4017918168827
Weight per Piece (excluding packing)	238.900 g
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
-------------------------	---

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

### Technical data

#### Dimensions

Width	45 mm
Height	75 mm
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 <sub>PP</sub> (In case of rectangle 0.1 Hz ... 120 kHz)
	2 V <sub>PP</sub> (In case of sine 8 Hz ... 120 kHz)
	13 V <sub>PP</sub> (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

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

### Technical data

#### Output data

Output name	Voltage output
Number of outputs	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	$\geq 500 \Omega$
Ripple	$< 20 \text{ mV}_{PP}$
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	$\leq 500 \Omega$
Ripple	$< 20 \text{ mV}_{PP}$

#### 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

#### Output data

Step response (10-90%)	$< 25 \text{ ms}$
------------------------	-------------------

#### Power supply

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

#### General

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	$\pm 25 \%$
Alignment span	$\pm 25 \%$
Step response (10-90%)	$< 25 \text{ ms}$

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

### Technical data

#### General

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

#### 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

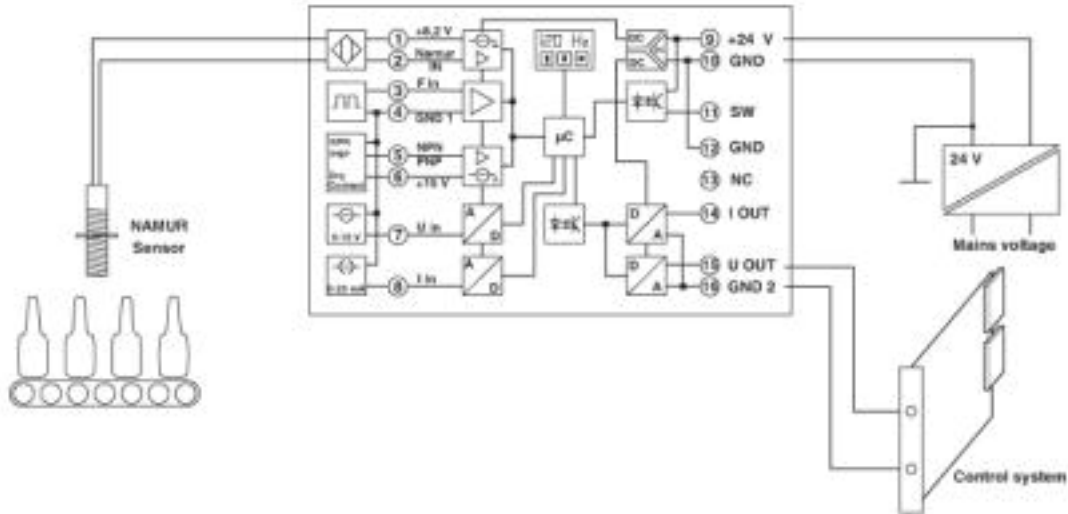
#### Environmental Product Compliance

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

### Drawings

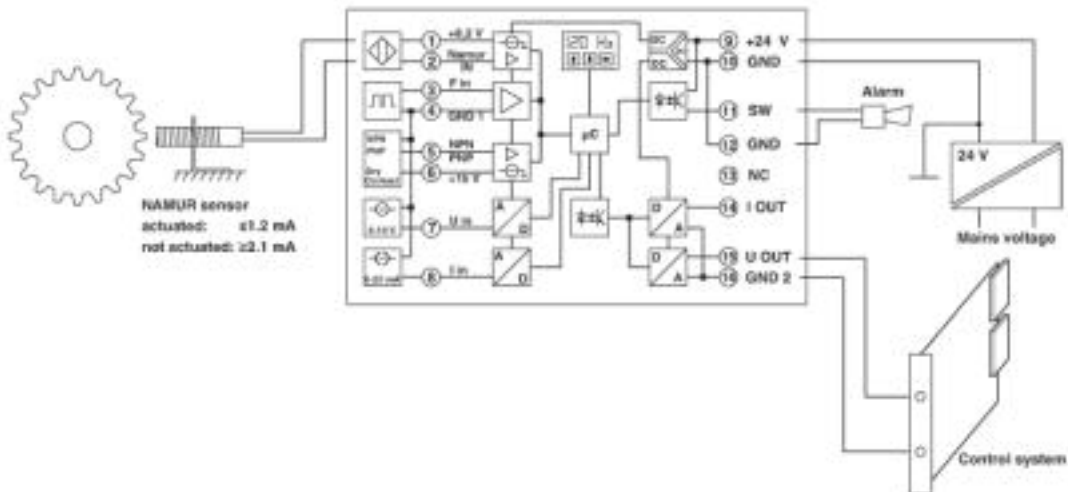
# Frequency transducer - MCR-F-UI-DC - 2814605

Connection diagram



Application example: Flow measurement

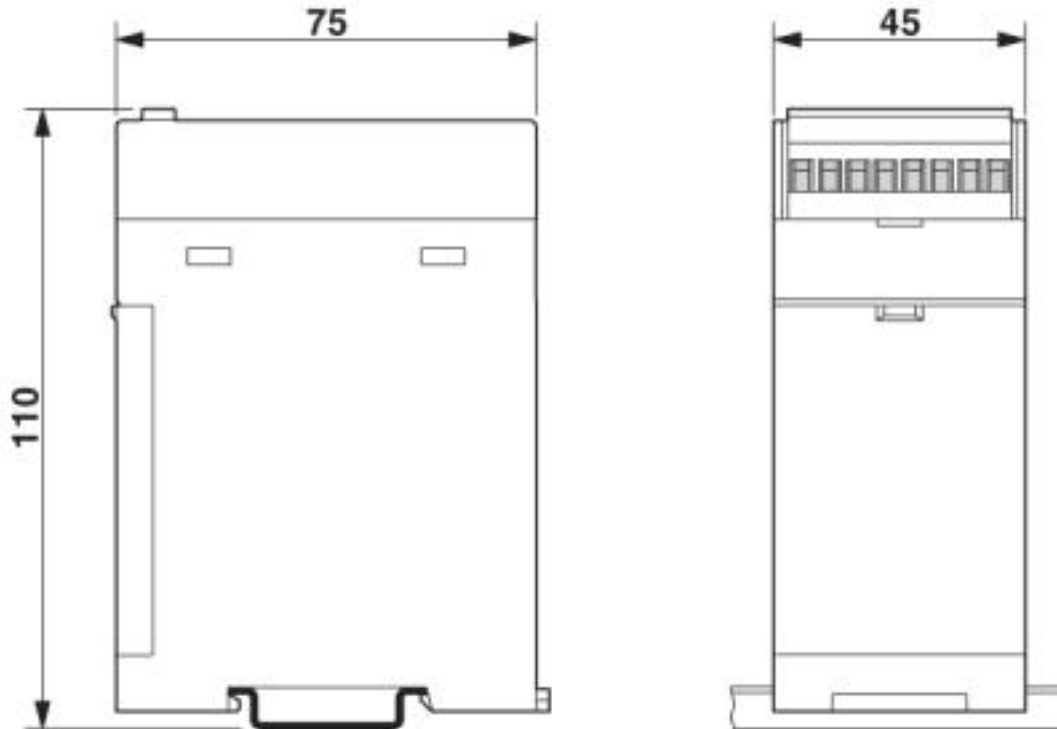
Connection diagram



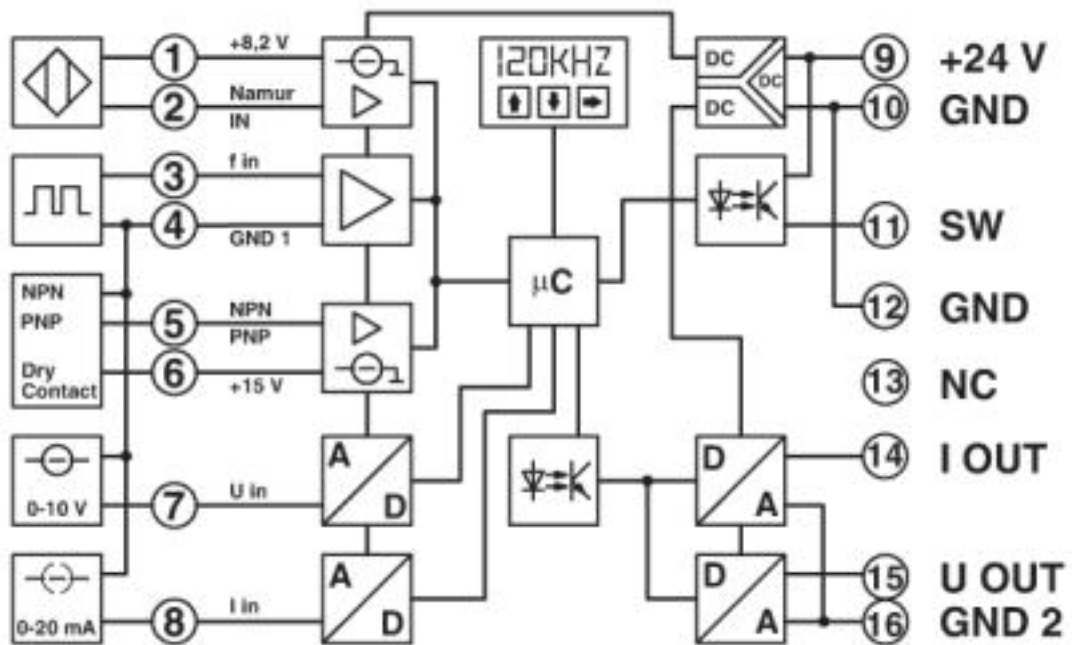
Application example: Measurement of revolutions of a drive

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

Dimensional drawing



Circuit diagram



<https://www.phoenixcontact.com/us/products/2814605>

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

### Classifications

#### eCl@ss

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

Phoenix Contact 2019 © - all rights reserved  
<http://www.phoenixcontact.com>



# SCATTERGOOD & JOHNSON LTD

ELECTRICAL ENGINEERING & FLUID CONTROL DISTRIBUTORS

Est.1899

At Scattergood & Johnson Ltd, we pride ourselves on being a technical distributor to specialist industries.

Working with a range of quality product suppliers across a number of specialist markets, we are not your average 'box shifter' - we are your technical and supply chain partner.

We fully support every product we sell - for free! Our internal team and external sales engineers can answer any product or application question, no matter the complexity.

Backing up this technical ability is a range of 50,000+ products available from stock for nationwide next day delivery (same day if required!), or you can collect what you need from any of our trade counters around the UK.

Select your specialist interest below to learn more about how we can help.



Online, In Branch and On the Road - Scattergood & Johnson Ltd, there when you need us.

# [www.scatts.co.uk](http://www.scatts.co.uk)