

Frequency transducer - MINI MCR-SL-UI-F - 2864082

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Analog frequency transducers for converting analog standard signals into frequency signals or PWM signals, configurable via DIP switch, with screw connection

Product Description

The 6.2 mm wide configurable analog frequency transducer MINI MCR-SL-UI-F... is used for converting analog standard signals into frequency signals or into pulse width modulated (PWM) signals. On the input side, there are the analog signals 0...20 mA, 4...20 mA, 0...10 mA, 2...10 mA, 0...10 V, 2...10 V, 0...5 V or 1...5 V. The DIP switches are accessible on the side of the housing and allow the following parameters to be configured: - Input signal, - Output signal, - Output behavior in case the measuring range is exceeded or undershot and - Filter type (for eliminating malfunctions in the input signal). Voltage (19.2 V DC to 30 V DC) can be supplied through connection terminal blocks on the modules or in conjunction with the DIN rail connector.

Product Features

- Power supply possible via the foot element (T-connector)
- Error indication via diagnostic LED and analog signal
- PWM output of 5 ... 95 %
- Highly-compact analog-to-frequency transducer for electrical isolation, amplification, conversion, and filtering of standard signals to create frequencies or PWM signals
- Input and output signals can be configured via DIP switches
- Configurable interference filter
- 3-way isolation



Key commercial data

package_quantity	1
GTIN	4046356046435

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

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Ambient conditions

Ambient temperature (operation)	-20 °C ... 65 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Degree of protection	IP20

Input data

Configurable/programmable	Yes
Current input signal	0 mA ... 20 mA
Current input signal	4 mA ... 20 mA
Current input signal	0 mA ... 10 mA
Current input signal	2 mA ... 10 mA
Input resistance current input	approx. 50 Ω
Voltage input signal	0 V ... 5 V
Voltage input signal	1 V ... 5 V
Voltage input signal	0 V ... 10 V
Voltage input signal	2 V ... 10 V
Input resistance of voltage input	approx. 110 kΩ

Output data

Frequency output	0 Hz ... 10 kHz
Frequency output	0 Hz ... 5 kHz
Frequency output	0 Hz ... 2.5 kHz
Frequency output	0 Hz ... 1 kHz
Frequency output	0 Hz ... 500 Hz
Frequency output	0 Hz ... 250 Hz
Frequency output	0 Hz ... 100 Hz
Frequency output	0 Hz ... 50 Hz
Load min.	4 mA ≤ (U _L / R _L) ≤ 20 mA
Output signal PWM	7.8 kHz (10 bit)
Output signal PWM	3.9 kHz (10 bit)
Output signal PWM	1.9 kHz (12 bit)
Output signal PWM	977 Hz (12 bit)
Output signal PWM	488 Hz (14 bit)
Output signal PWM	244 Hz (14 bit)
Output signal PWM	122 Hz (16 bit)
Output signal PWM	61 Hz (16 bit)
Load min.	12 mA ≤ (U _L / R _L) ≤ 20 mA
Maximum switching voltage	30 V
Load current maximum	20 mA
Overrange/underrange	Can be set (via DIP switch)
Type of protection	Short-circuit protection, polarity reversal protection
Step response (0–99%)	< 15 ms (+ (1/f) smallest filter)
Step response (0–99%)	< 1 s (+ (1/f) largest filter)

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Power supply

Nominal supply voltage	24 V DC
Supply voltage range	19.2 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))
Max. current consumption	< 10 mA (at 24 V DC)
Power consumption	< 200 mW

Connection data

Connection method	Screw connection
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	2.5 mm ²
Conductor cross section AWG/kcmil min.	26
Conductor cross section AWG/kcmil max	12
Conductor cross section stranded min.	0.2 mm ²
Conductor cross section stranded max.	2.5 mm ²
Stripping length	12 mm
Screw thread	M3

General

Maximum transmission error	≤ 0.1 % (> 7 kHz ≤ 0.2 %)
Maximum temperature coefficient	< 0.02 %/K
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
Conformance	CE-compliant
ATEX	# II 3 G Ex nA IIC T4 Gc X
UL, USA / Canada	UL 508 Recognized
UL, USA / Canada	Class I, Div. 2, Groups A, B, C, D T5 applied for
GL	GL EMC 2 D

EMC data

Designation	Electromagnetic RF field
Standards/regulations	EN 61000-4-3
Typical deviation from the measuring range final value	2 %

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EMC data

Designation	Fast transients (burst)
Standards/regulations	EN 61000-4-4
Typical deviation from the measuring range final value	2 %
Designation	Conducted interferences
Standards/regulations	EN 61000-4-6
Typical deviation from the measuring range final value	2 %

classifications

eCl@ss

eCl@ss 4.0	27210120
eCl@ss 4.1	27210120
eCl@ss 5.0	27210120
eCl@ss 5.1	27210120
eCl@ss 6.0	27210120
eCl@ss 7.0	27210120
eCl@ss 8.0	27210120

ETIM

ETIM 2.0	EC001485
ETIM 3.0	EC001485
ETIM 4.0	EC001485
ETIM 5.0	EC002299

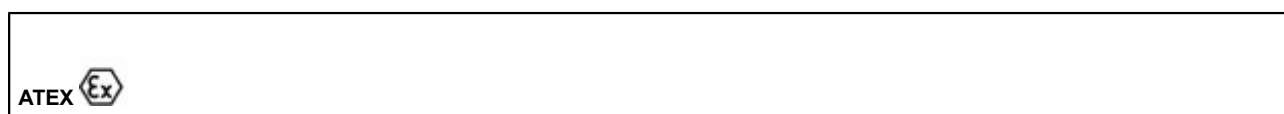
UNSPSC

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

approvals


ATEX / UL Recognized / cUL Recognized / GL / cULus Recognized /

Approval details




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approvals

UL Recognized 

cUL Recognized 

GL

cULus Recognized 

accessories

DIN rail connector

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



Power module

MINI MCR-SL-PTB - 2864134



MINI MCR-SL-PTB-SP - 2864147



Power supply

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accessories

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



MINI-PS-100-240AC/24DC/1.5/EX - 2866653



System adapter

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



Marking material

MINI MCR DKL - 2308111



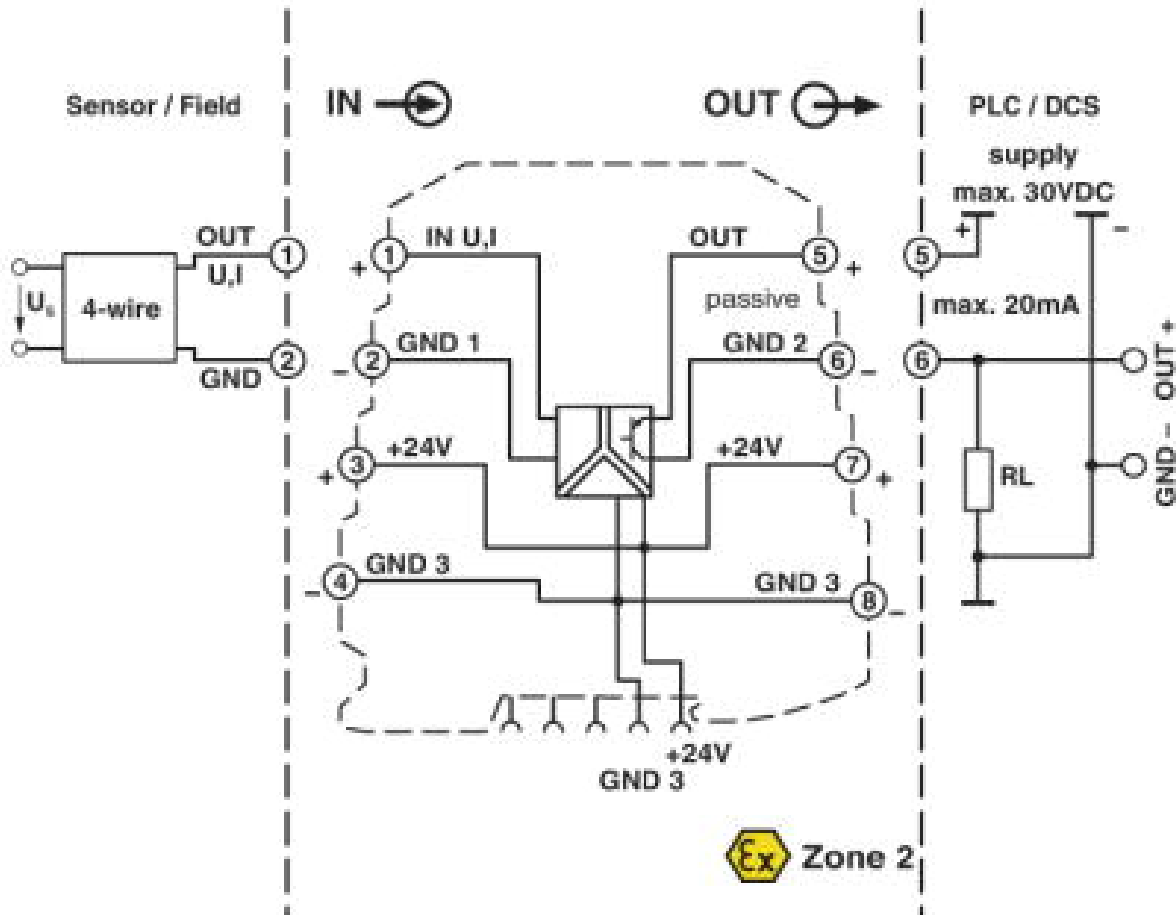
MINI MCR-DKL-LABEL - 2810272



Drawings

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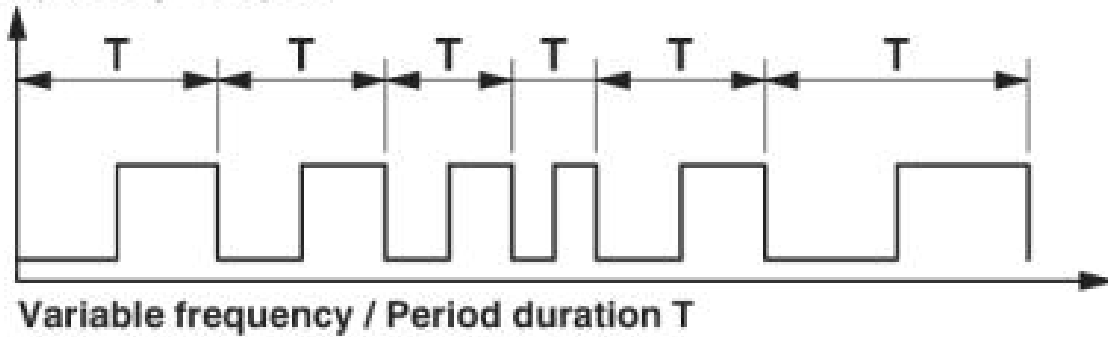
Block diagram



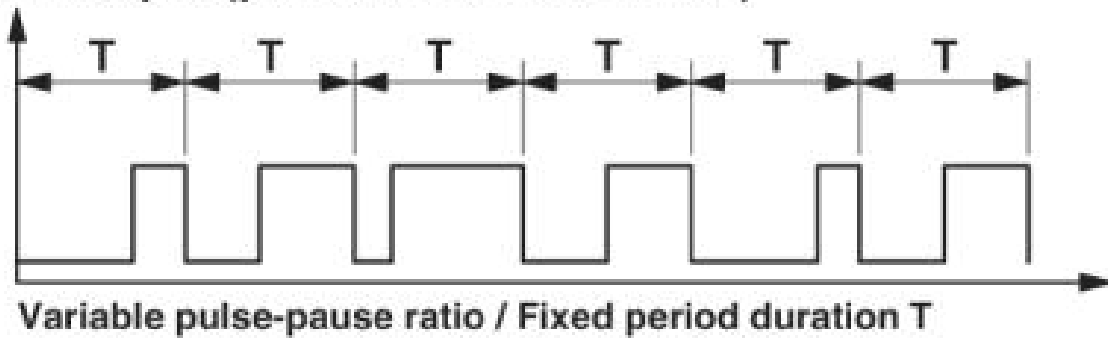
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Diagram

Frequency output

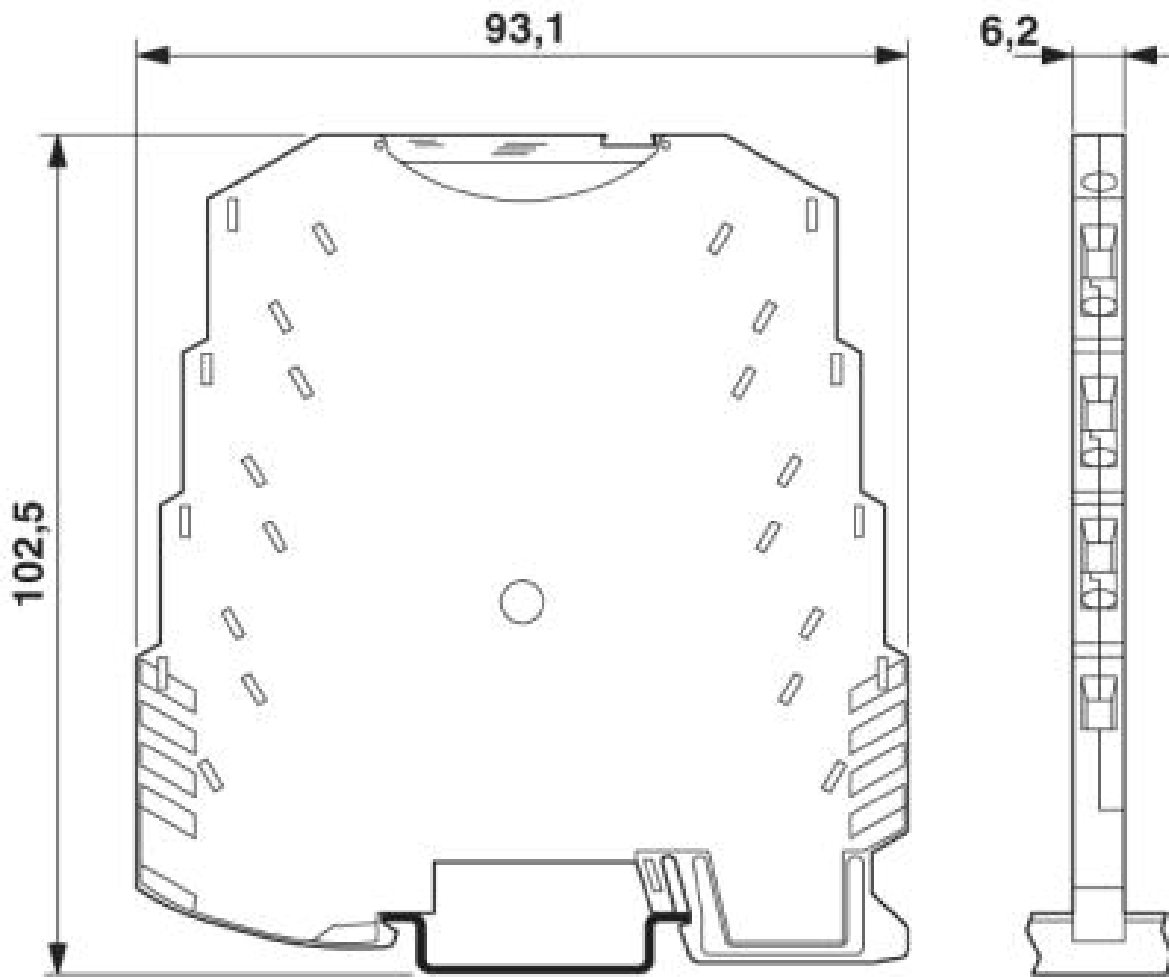


PWM output (pulse width modulation)



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Dimensioned drawing



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