

Frequency transducer - MINI MCR-2-UI-FRO - 2902031

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Analog frequency transducer with limit value functionality and plug-in connection technology for converting standard signals into frequency or PWM signals. Configurable via DIP switch or software. Screw connection technology, standard configuration.

The figure shows the MINI MCR-2-UI-FRO-PT version

Article description

Configurable, freely adjustable analog frequency transducer with additional switching output, limit value functionality, and plug-in connection technology for converting standard analog signals to frequency signals or to pulse width modulated signals (PWM signals). Current signals between 0 mA ... 24 mA and voltage signals between 0 V ... 12 V can be processed on the input side. Frequency signals between 0 ... 11 kHz and PWM signals between 0% ... 100% are possible on the output side. In addition, the output can also be operated as a switching output, which means that two switching thresholds can be set independently of one another. The minimum measuring span is 1 mA and 0.5 V. Full accuracy is maintained with a measuring span greater than 10 mA and 5 V. You can configure the device using one of the free software solutions. Default settings can also be made directly on the device by simply using the DIP switches (see configuration table). The measuring transducer supports fault monitoring and NFC communication.



Key commercial data

| | |
|------------------|---------------|
| package_quantity | 1 |
| GTIN | 4046356652032 |

Technical data

Note

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

Dimensions

| | |
|--------|----------|
| Width | 6.2 mm |
| Height | 110.5 mm |
| Depth | 120.5 mm |

Ambient conditions

| | |
|---|------------------|
| Ambient temperature (operation) | -40 °C ... 70 °C |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C |

Input data

| | |
|---------------------------|-------------------------------|
| Configurable/programmable | Yes |
| Voltage input signal | 0 V ... 10 V (via DIP switch) |

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Input data

| | |
|-----------------------------------|--|
| Voltage input signal | 2 V ... 10 V (via DIP switch) |
| Voltage input signal | 0 V ... 5 V (via DIP switch) |
| Voltage input signal | 1 V ... 5 V (via DIP switch) |
| Voltage input signal | 10 V ... 0 V (via DIP switch) |
| Voltage input signal | 10 V ... 2 V (via DIP switch) |
| Voltage input signal | 5 V ... 0 V (via DIP switch) |
| Voltage input signal | 5 V ... 1 V (via DIP switch) |
| Voltage input signal | 0 V ... 12 V (Can be set via software) |
| Current input signal | 0 mA ... 20 mA (via DIP switch) |
| Current input signal | 4 mA ... 20 mA (via DIP switch) |
| Current input signal | 0 mA ... 10 mA (via DIP switch) |
| Current input signal | 2 mA ... 10 mA (via DIP switch) |
| Current input signal | 20 mA ... 0 mA (via DIP switch) |
| Current input signal | 20 mA ... 4 mA (via DIP switch) |
| Current input signal | 10 mA ... 0 mA (via DIP switch) |
| Current input signal | 10 mA ... 2 mA (via DIP switch) |
| Current input signal | 0 mA ... 24 mA (Can be set via software) |
| Max. input voltage | 12 V |
| Max. input current | 24 mA |
| Input resistance of voltage input | > 120 kΩ |
| Input resistance current input | approx. 50 Ω (+ 0.7 V for test diode) |

Switching output

| | |
|---------------------------|------------------|
| Output name | Switching output |
| Number of outputs | 1 |
| Contact type | 1 N/O contact |
| Minimum switching voltage | 1 V |
| Maximum switching voltage | 30 V DC |
| Min. switching current | 100 μA |
| Max. switching current | 100 mA (at 30 V) |

Power supply

| | |
|-----------------------------|--|
| Nominal supply voltage | 24 V DC |
| Supply voltage range | 9.6 V DC ... 30 V DC (The DIN rail bus 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)) |
| Typical current consumption | 27 mA (12 V DC) |
| Typical current consumption | 13.5 mA (24 V DC) |
| Power consumption | ≤ 350 mW (9.6 V DC) |

Connection data

| | |
|--|---------------------|
| Connection method | Screw connection |
| Single conductor/terminal point, solid, with ferrule, min. | 0.2 mm ² |

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Connection data

| | |
|---|---------------------|
| Single conductor/terminal point, solid, with ferrule, max. | 1.5 mm ² |
| Single conductor/terminal point, solid, without ferrule, min. | 0.2 mm ² |
| Single conductor/terminal point, solid, without ferrule, max. | 2.5 mm ² |
| Conductor cross section flexible min. | 0.2 mm ² |
| Conductor cross section flexible max. | 1.5 mm ² |
| Min. AWG conductor cross section, flexible | 24 |
| Max. AWG conductor cross section, flexible | 12 |
| Stripping length | 10 mm |
| Screw thread | M3 |

General

| | |
|--|--|
| No. of channels | 1 |
| Maximum temperature coefficient | < 0.01 %/K |
| Temperature coefficient, typical | 0.01 %/K |
| Electrical isolation | Reinforced insulation in accordance with IEC 61010-1 |
| Overvoltage category | II |
| Degree of pollution | 2 |
| Rated insulation voltage | 300 V (effective) |
| Test voltage, input/output/supply | 3 kV (50 Hz, 1 min.) |
| Electromagnetic compatibility | Conformance with EMC directive |
| Noise emission | EN 61000-6-4 |
| Noise immunity | EN 61000-6-2 When being exposed to interference, there may be minimal deviations. |
| Color | gray |
| Housing material | PBT |
| Mounting position | any |
| Assembly instructions | The T connector can be used to bridge the supply voltage. It can be snapped onto a 35 mm DIN rail according to EN 60715. |
| Fire protection for rail vehicles (DIN EN 45545-2) R22 | HL 1 - HL 2 |
| Fire protection for rail vehicles (DIN EN 45545-2) R23 | HL 1 - HL 2 |
| Fire protection for rail vehicles (DIN EN 45545-2) R24 | HL 1 - HL 2 |

Standards and Regulations

| | |
|-------------------------------|--|
| Electromagnetic compatibility | Conformance with EMC directive |
| Noise emission | EN 61000-6-4 |
| Electrical isolation | Reinforced insulation in accordance with IEC 61010-1 |

Environmental Product Compliance

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

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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 |
| 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 |

Approvals

UL Listed / cUL Listed / cULus Listed / UL Listed / cUL Listed / cULus Listed /

Approval details

UL Listed

cUL Listed

cULus Listed

Accessories

DIN rail connector

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Accessories

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



Power module

MINI MCR-2-PTB - 2902066



MINI MCR-2-PTB-PT - 2902067



Evaluation unit

MINI MCR-2-FM-RC - 2904504



MINI MCR-2-FM-RC-PT - 2904508



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



Programming adapter

IFS-BT-PROG-ADAPTER - 2905872



IFS-USB-PROG-ADAPTER - 2811271



NFC-USB-PROG-ADAPTER - 2900013



System adapter

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Accessories

MINI MCR-2-V8-FLK 16 - 2901993



Communication module

MINI MCR-2-V8-MOD-RTU - 2905634



MINI MCR-2-V8-MOD-TCP - 2905635



MINI MCR-2-V8-PB-DP - 2905636



Device marking

UCT-EM (30X5) - 0801505



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Accessories

UCT-EM (30X5) YE - 0830340



UC-EMLP (15X5) - 0819301



UC-EMLP (15X5) YE - 0822615



UC-EMLP (15X5) SR - 0828095



US-EMLP (15X5) - 0828790



US-EMLP (15X5) YE - 0828873



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Accessories

US-EMLP (15X5) SR - 0828874



Labeled device marker

UCT-EM (30X5) CUS - 0801589



UCT-EM (30X5) YE CUS - 0830348



UC-EMLP (15X5) CUS - 0824550



UC-EMLP (15X5) YE CUS - 0824551



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Accessories

UC-EMLP (15X5) SR CUS - 0828099



US-EMLP (15X5) CUS - 0830076



US-EMLP (15X5) YE CUS - 0830077



US-EMLP (15X5) SR CUS - 0830078



Terminal marking

SK 5,0 WH:REEL - 0805221



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Accessories

ME 6,2 TBUS-2 1,5/5-ST-3,81 GY - 2695439



UC-EMLP (15X5)L - 0820138



UC-EMLP (15X5)L CUS - 0824552

UC-EMLP (15X5)L YE - 0825325

UC-EMLP (15X5)L YE CUS - 0826680

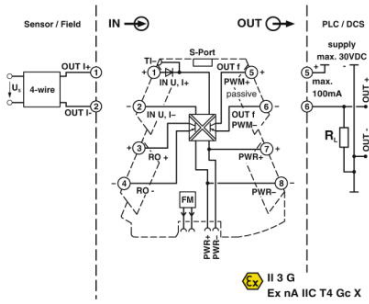
UC-EMLP (15X5)L SR - 0828103

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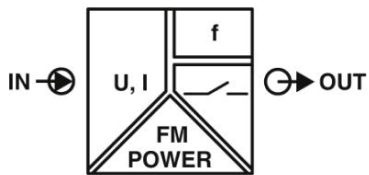
Accessories

Drawings

Block diagram



Pictogram



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