

# MINI MCR-2-U-I4 - Input signal conditioner



2902029

<https://www.phoenixcontact.com/us/products/2902029>

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 documentation. Our general terms of use for downloads are valid.



3-way signal conditioner with plug-in connection technology for the electrical isolation of analog signals. Input signal: 0 V ... 10 V, output signal: 4 mA ... 20 mA, screw connection technology

## Product description

Standard signal 3-way signal conditioner with plug-in connection technology for the electrical isolation, conversion, amplification, and filtering of standard signals. The measuring transducer supports fault monitoring and NFC communication.

## Commercial data

Item number	2902029
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	C404
Product key	DK1121
GTIN	4046356649704
Weight per piece (including packing)	120 g
Weight per piece (excluding packing)	97 g
Customs tariff number	85437090
Country of origin	DE

# MINI MCR-2-U-I4 - Input signal conditioner



2902029

<https://www.phoenixcontact.com/us/products/2902029>

## Technical data

### Notes



#### Utilization restriction

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

### Product properties

Product type	Input signal conditioner
Product family	MINI Analog Pro
No. of channels	1

### Electrical properties

Electrical isolation	3-way isolation
Electrical isolation between input and output	yes
Limit frequency (3 dB)	≈  Hz
Protective circuit	Transient protection
Step response (10-90%)	≈  ms
Maximum temperature coefficient	0.01 %/K
Temperature coefficient, typical	0.01 %/K
Maximum transmission error	0.05 % (of final value)

#### Electrical isolation

Overvoltage category	II
Pollution degree	2

#### Electrical isolation Input/output/power supply IEC/EN 61010-1

Standards/regulations	IEC/EN 61010-1
Rated insulation voltage	300 V <sub>rms</sub>
Test voltage	3 kV AC (50 Hz, 60 s)
Insulation	Reinforced insulation

#### Supply

Nominal supply voltage	24 V DC
Supply voltage range	9.6 V DC ... 30 V DC (The DIN rail connector (ME 6,2 TBUS-2 1,5/5-ST-3,81 GN, item no. 2869728) can be used to bridge the supply voltage. It can be snapped onto a 35 mm DIN rail in accordance with EN 60715)
Typical current consumption	25 mA (24 V DC) 54 mA (12 V DC)
Power consumption	≤ 800 mW (9.6 V DC)

### Input data

#### Signal: Voltage


Number of inputs	1
------------------	---

# MINI MCR-2-U-I4 - Input signal conditioner



2902029

<https://www.phoenixcontact.com/us/products/2902029>

Configurable/programmable	no
Voltage input signal	0 V ... 10 V
Input resistance of voltage input	≈  MΩ

## Output data

Signal: Current

Number of outputs	1
Configurable/programmable	no
Open-circuit voltage	< 17 V
Current output signal	4 mA ... 20 mA
Max. current output signal	22 mA
Load/output load current output	≤ 600 Ω (20 mA)
Ripple	< 20 mV <sub>PP</sub> (600 Ω)

## Connection data

Connection method	Screw connection
Stripping length	10 mm
Screw thread	M3
Conductor cross-section rigid	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> (with ferrule) 0.14 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> (without ferrule)
Conductor cross-section flexible	0.14 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross-section AWG	24 ... 12 (flexible)
Tightening torque	0.5 Nm ... 0.6 Nm

## Ex data

Ex installation (EPL)	Gc
	Div. 2

## Signaling

Status display	Green LED (supply voltage)
----------------	----------------------------

## Dimensions

Width	6.2 mm
Height	109.81 mm
Depth	119.2 mm

## Material specifications

Color	gray (RAL 7042)
Housing material	PBT
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

## Environmental and real-life conditions

# MINI MCR-2-U-I4 - Input signal conditioner



2902029

<https://www.phoenixcontact.com/us/products/2902029>

## Ambient conditions

Degree of protection	IP20 (not assessed by UL)
Ambient temperature (operation)	-40 °C ... 70 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Altitude	≤ 2000 m
Permissible humidity (operation)	5 % ... 95 % (non-condensing)

## Approvals

### CE

Certificate	CE-compliant
-------------	--------------

### ATEX

Identification	Ⓜ II 3 G Ex ec IIC T4 Gc
Certificate	BVS 19 ATEX E 047 X

### IECEX

Identification	Ex ec IIC T4 Gc
Certificate	IECEX BVS 19.0041X

### CCC / China-Ex

Identification	Ex ec IIC T4 Gc
----------------	-----------------

### UL, USA/Canada

Identification	UL 508 Listed
	Class I, Div. 2, Groups A, B, C, D T6
	Class I, Zone 2, Group IIC T6

### Shipbuilding approval

Certificate	DNV GL TAA00002UA
-------------	-------------------

### EAC Ex

Identification	Ⓜ Ex ec IIC T4 Gc
Certificate	BY/112 02.01 TP012 103.01 00079

### Shipbuilding data

Temperature	B
Humidity	B
Vibration	A
EMC	A
Enclosure	Required protection according to the Rules shall be provided upon installation on board

## EMC data

Electromagnetic compatibility	Conformance with EMC directive
Noise immunity	EN 61000-6-2
Note	When being exposed to interference, there may be minimal deviations.

# MINI MCR-2-U-I4 - Input signal conditioner



2902029

<https://www.phoenixcontact.com/us/products/2902029>

## Noise emission

Standards/regulations	EN 61000-6-4
-----------------------	--------------

## Electrostatic discharge

Standards/regulations	EN 61000-4-2
-----------------------	--------------

## Electrostatic discharge

Comments	Safety measures must be taken to prevent electrostatic discharge.
----------	---

## Electromagnetic HF field

Designation	Electromagnetic RF field
Standards/regulations	EN 61000-4-3

## Fast transients (burst)

Designation	Fast transients (burst)
Standards/regulations	EN 61000-4-4

## Surge current load (surge)

Standards/regulations	EN 61000-4-5
-----------------------	--------------

## Conducted interference

Designation	Conducted interferences
Standards/regulations	EN 61000-4-6

## Standards and regulations

Electrical isolation	3-way isolation
----------------------	-----------------

## GB Standard

Standards/regulations	GB/T 3836.1
	GB/T 3836.3
	GB/T 3836.4

## Mounting

Mounting type	DIN rail mounting
Assembly note	The DIN rail connector can be used for bridging the supply voltage. It can be snapped onto a 35 mm EN 60715 DIN rail.
Mounting position	any

# MINI MCR-2-U-I4 - Input signal conditioner

2902029

<https://www.phoenixcontact.com/us/products/2902029>

## Drawings

Block diagram



# MINI MCR-2-U-I4 - Input signal conditioner





2902029

<https://www.phoenixcontact.com/us/products/2902029>


## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2902029>

 **UL Listed**  
Approval ID: FILE E 238705


 **cUL Listed**  
Approval ID: FILE E 238705


**DNV**  
Approval ID: TAA00002UA


 **IECEx**  
Approval ID: IECEx BVS 19.0041X

 **cUL Listed**  
Approval ID: E196811

 **UL Listed**  
Approval ID: E196811

 **ATEX**  
Approval ID: BVS 19 ATEX E 047 X

 **EAC Ex**  
Approval ID: TP012 103.01 00079

 **CCC**  
Approval ID: 2022122310115961

# MINI MCR-2-U-I4 - Input signal conditioner



2902029

<https://www.phoenixcontact.com/us/products/2902029>

## Classifications

### ECLASS

ECLASS-13.0	27210120
ECLASS-15.0	27210120

### ETIM

ETIM 10.0	EC002653
-----------	----------

### UNSPSC

UNSPSC 21.0	39121000
-------------	----------

# MINI MCR-2-U-I4 - Input signal conditioner



2902029

<https://www.phoenixcontact.com/us/products/2902029>

## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	7(a), 7(c)-I

### China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

### EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
	2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol(CAS: 79-94-7)
SCIP	55b0e379-d042-4c1c-92d8-2015d8b612a8

Phoenix Contact 2026 © - all rights reserved  
<https://www.phoenixcontact.com>

Phoenix Contact USA  
586 Fulling Mill Road  
Middletown, PA 17057, United States  
(+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)