

MINI MCR-2-I-I-ILP-PT - Passive separator



2901995

<https://www.phoenixcontact.com/pc/products/2901995>

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1-channel input loop-powered 2-way isolator with plug-in connection technology for the electrical isolation of analog signals. Input signal = output signal: 0(4) mA ... 20 mA. Push-in connection technology.

Product description

Single-channel input-loop-powered 2-way isolator with plug-in connection technology for the electrical isolation and filtering of analog signals. The input-loop-powered isolator allows operation with active sensor technology with a supply voltage of 9.6 V DC ... 30 V DC. The device is powered via the current loop of the sensor. Input signal = output signal: 0(4) mA ... 20 mA. The measuring transducer supports NFC communication.

Commercial data

Item number	2901995
Packing unit	1 pc
Minimum order quantity	1 pc
Product key	DK1121
GTIN	4046356649261
Weight per piece (including packing)	109 g
Weight per piece (excluding packing)	52.2 g
Customs tariff number	85437090
Country of origin	DE

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Technical data

Notes

Utilization restriction

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

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

Insulation characteristics: GB Standard

Overvoltage category	II
Pollution degree	2

Electrical properties

Electrical isolation	2-way isolation
Electrical isolation between input and output	yes
Limit frequency (3 dB)	100 Hz
Signal transmission behavior	In = Out
Maximum temperature coefficient	$\leq 0.002 \text{ \%}/\text{K}$ (of measured value / 100 Ω load)
Maximum transmission error	$\leq 0.1 \text{ \%}$ (of final value)
Additional error, load-dependent	$< 0.075 \text{ \%}$ (of measured value / 100 Ω load)

Electrical isolation Input/output

Rated insulation voltage	300 V _{rms}
Test voltage	3 kV AC (50 Hz, 60 s)
Insulation	Reinforced insulation according to IEC/EN 61010-1

Supply

Supply voltage range	9.6 V DC ... 30 V DC (loop-powered, no external supply necessary)
Power consumption	600 mW

Input data

Signal: Current

Number of inputs	1
Configurable/programmable	no
Current input signal	0 mA ... 20 mA 4 mA ... 20 mA
Response current	approx. 200 μA
Input voltage limitation	30 V
Voltage dissipation	3.1 V (I = 20 mA)

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Output data

Signal: Current

Number of outputs	1
Configurable/programmable	no
Current output signal	0 mA ... 20 mA 4 mA ... 20 mA
Load/output load current output	< 600 Ω (at I = 20 mA output signal)

Connection data

Connection method	Push-in connection
Stripping length	10 mm
Conductor cross-section rigid	0.2 mm ² ... 2.5 mm ² (with ferrule) 0.14 mm ² ... 2.5 mm ² (without ferrule)
Conductor cross-section flexible	0.14 mm ² ... 2.5 mm ²
Conductor cross-section AWG	24 ... 12 (flexible)

Ex data

Ex installation (EPL)	Gc Div. 2
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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

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

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Certificate	CE-compliant
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ATEX

Identification	II 3 G Ex ec IIC T4 Gc
Certificate	BVS 19 ATEX E 079 X

IECEX

Identification	Ex ec IIC T4 Gc
Certificate	IECEX BVS 19.0068X

CCC / China-Ex

Identification	Ex ec IIC T4 Gc
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UL, USA/Canada

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

EAC Ex

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

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.

Noise emission

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

Electrical isolation	2-way isolation
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GB Standard

Standards/regulations	GB/T 3836.1
	GB/T 3836.3

Mounting

Mounting type	DIN rail mounting
Mounting position	any

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Application drawing

$U_S \leq 30 \text{ V DC}$

$U_V = 3,1 \text{ V}$

U_E

I

R_B

MINI MCR-2-I-I-ILP

$U_S \geq U_E = 3,1 \text{ V} + 20 \text{ mA} \times R_B$

The diagram illustrates a 4-wire active transmitter connection. It is divided into three main sections by vertical dashed lines: **Sensor / Field**, **IN** (with a circle containing a right-pointing arrow), and **OUT** (with a circle containing a right-pointing arrow), and finally **PLC / DCS**.

Sensor / Field Section: A 4-wire transmitter is shown. It has two input terminals on the left labeled U_s with a downward arrow. On the right, it has two output terminals labeled **OUT I+** (terminal 1) and **OUT I-** (terminal 2). A label **PWR max 30VDC** is positioned between the output terminals.

IN Section: This section contains the input side of the transmitter. It shows two terminals, **IN I+** (terminal 1) and **IN I-** (terminal 2). Terminal 1 is connected to a positive terminal **TI+** and terminal 2 to a negative terminal **TI-**. A diode symbol is shown between these terminals, indicating a polarity-sensitive connection.

OUT Section: This section contains the output side of the transmitter. It shows two terminals, **OUT I+** (terminal 5) and **OUT I-** (terminal 6). Terminal 5 is connected to a positive terminal **TI+** and terminal 6 to a negative terminal **TI-**. A diode symbol is shown between these terminals, indicating a polarity-sensitive connection. The label **active** is placed near the output terminals.

PLC / DCS Section: This section shows a **passive** load connected between terminals 5 and 6.

Wiring and Connections: The diagram shows the following connections:

- Terminal 1 (OUT I+) is connected to terminal 5 (OUT I+).
- Terminal 2 (OUT I-) is connected to terminal 6 (OUT I-).
- Terminal 3 is connected to terminal 4.
- Terminal 7 is connected to terminal 8.
- Terminal 4 is connected to terminal 7.
- Terminal 8 is connected to terminal 3.
- Terminal 5 is connected to terminal 6.
- Terminal 6 is connected to terminal 7.
- Terminal 7 is connected to terminal 8.
- Terminal 8 is connected to terminal 5.

 The connections between terminals 3, 4, 7, and 8 are shown as dashed lines, indicating they are not part of the main power loop.

Zone 2: A yellow hexagonal symbol with the text **Zone 2** is located at the bottom right of the diagram.

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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/pc/products/2901995>



EAC

Approval ID: RU C-DE.A*30.B.01082



UL Listed

Approval ID: E238705



cUL Listed

Approval ID: E238705



IECEx

Approval ID: IECEx BVS 19.0068X



cUL Listed

Approval ID: FILE E 196811



UL Listed

Approval ID: E196811



ATEX

Approval ID: BVS 19 ATEX E 079 X



EAC Ex

Approval ID: TP012 103.01 00079



CCC

Approval ID: 2021122310114155

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Classifications

ECLASS

ECLASS-13.0	27210120
ECLASS-15.0	27210120

ETIM

ETIM 9.0	EC002653
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UNSPSC

UNSPSC 21.0	39121000
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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)
SCIP	5ef8f069-1153-417a-b066-2c1d8720c22b

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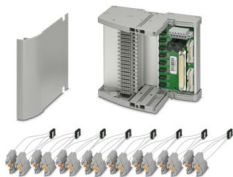
<https://www.phoenixcontact.com/pc/products/2901995>

Accessories

TC-D37SUB-AIO16-MP-PS-UNI - Module carrier

2906640

<https://www.phoenixcontact.com/pc/products/2906640>



Universal Termination Carrier for connecting 16 MINI Analog Pro signal conditioners to digital or analog I/O cards, via D-SUB connector, 37-pos. (1:1 connection), with HART multiplexer connection

TC-D37SUB-ADIO16-MP-P-UNI - Module carrier

2906639

<https://www.phoenixcontact.com/pc/products/2906639>



Universal Termination Carrier for connecting 16 MINI Analog Pro signal conditioners to digital or analog I/O cards, via D-SUB connector, 37-pos. (1:1 connection)

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MINI MCR-2-V8-FLK 16 - System adapter

2901993

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Eight MINI Analog Pro signal conditioners and measuring transducers can be connected to a controller with minimal cabling effort and without any errors using system adapters and system cabling.

MINI MCR-2-V8-MOD-RTU - Communication module

2905634

<https://www.phoenixcontact.com/pc/products/2905634>



Eight MINI Analog Pro signal conditioners and measuring transducers are quickly and easily integrated into a Modbus/RTU network via a communication adapter.

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MINI MCR-2-V8-MOD-TCP - Communication module

2905635

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Eight MINI Analog Pro signal conditioners and measuring transducers are quickly and easily integrated into a Modbus/TCP network via a communication adapter.

MINI MCR-2-V8-PB-DP - Communication module

2905636

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Eight MINI Analog Pro signal conditioners and measuring transducers are quickly and easily integrated into a PROFIBUS DP network via a communication adapter.

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MINI MCR-2-V8-PN - Communication module

2905637

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Eight MINI Analog Pro signal conditioners and measuring transducers can be quickly and easily integrated into a PROFINET network via a communication adapter.

FASTCON PRO-SET - Connector set

2906227

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FASTCON Pro plug set consisting of four plugs with screw connection, one for each position on the module. Suitable for all MINI Analog Pro modules.

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FASTCON PRO-SET-PT - Connector set

2906228

<https://www.phoenixcontact.com/pc/products/2906228>



FASTCON Pro plug set consisting of four plugs with push-in connection, one for each position on the module. Suitable for all MINI Analog Pro modules.

UCT-EM (30X5) - Marker for end clamp

0801505

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Marker for end clamp, Sheet, white, unmarked, can be labeled with: BLUEMARK E.CARD, BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, THERMOMARK PRIME 2.0, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, TOPMARK NEO, TOPMARK LASER, mounting type: latching, Number of individual labels: 24, text field height: 5 mm, text field width: 30 mm

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UCT-EM (30X5) CUS - Marker for end clamp

0801589

<https://www.phoenixcontact.com/pc/products/0801589>



Marker for end clamp, can be ordered: by sheet, white, labeled according to customer specifications, mounting type: snapped into marker carrier, Number of individual labels: 24, text field height: 5 mm, text field width: 30 mm

SK 5,0 WH:REEL - Marker strip

0805221

<https://www.phoenixcontact.com/pc/products/0805221>



Marker strip, Roll, white, unmarked, can be labeled with: THERMOMARK E.300 (D)/600 (D), THERMOMARK ROLL 2.0, THERMOMARK ROLL, THERMOMARK ROLL X1, THERMOMARK ROLLMASTER 300/600, THERMOMARK X1.2, mounting type: adhesive, Number of individual labels: 10, text field height: 5 mm, text field width: 90000 mm

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UC-EMLP (15X5) - Plastic label

0819301

<https://www.phoenixcontact.com/pc/products/0819301>

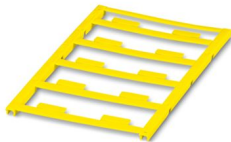


Plastic label, Sheet, white, unmarked, can be labeled with: BLUEMARK E. CARD, BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: adhesive, Number of individual labels: 10, text field height: 5 mm, text field width: 15 mm

UC-EMLP (15X5) YE - Plastic label

0822615

<https://www.phoenixcontact.com/pc/products/0822615>



Plastic label, Sheet, yellow, unmarked, can be labeled with: BLUEMARK E. CARD, BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: adhesive, Number of individual labels: 10, text field height: 5 mm, text field width: 15 mm

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UC-EMLP (15X5) CUS - Plastic label

0824550

<https://www.phoenixcontact.com/pc/products/0824550>

Plastic label, can be ordered: by sheet, white, labeled according to customer specifications, mounting type: adhesive, text field height: 5 mm, text field width: 15 mm

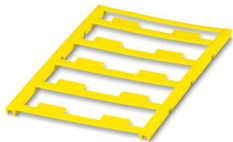


UC-EMLP (15X5) YE CUS - Plastic label

0824551

<https://www.phoenixcontact.com/pc/products/0824551>

Plastic label, can be ordered: by sheet, yellow, labeled according to customer specifications, mounting type: adhesive, text field height: 5 mm, text field width: 15 mm



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UC-EMLP (15X5) SR - Plastic label

0828095

<https://www.phoenixcontact.com/pc/products/0828095>



Plastic label, Sheet, silver, unmarked, can be labeled with: BLUEMARK E. CARD, BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: adhesive, Number of individual labels: 10, text field height: 5 mm, text field width: 15 mm

UC-EMLP (15X5) SR CUS - Plastic label

0828099

<https://www.phoenixcontact.com/pc/products/0828099>



Plastic label, can be ordered: by sheet, silver, labeled according to customer specifications, mounting type: adhesive, Number of individual labels: 10, text field height: 5 mm, text field width: 15 mm

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US-EMLP (15X5) - Plastic label

0828790

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Plastic label, Card, white, unmarked, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, THERMOMARK PRIME 2.0, mounting type: adhesive, Number of individual labels: 189, text field height: 5 mm, text field width: 15 mm

US-EMLP (15X5) YE - Plastic label

0828873

<https://www.phoenixcontact.com/pc/products/0828873>



Plastic label, Card, yellow, unmarked, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, THERMOMARK PRIME 2.0, mounting type: adhesive, Number of individual labels: 189, text field height: 5 mm, text field width: 15 mm

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US-EMLP (15X5) SR - Plastic label

0828874

<https://www.phoenixcontact.com/pc/products/0828874>



Plastic label, Card, silver, unmarked, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, THERMOMARK PRIME 2.0, mounting type: adhesive, Number of individual labels: 189, text field height: 5 mm, text field width: 15 mm

US-EMLP (15X5) CUS - Plastic label

0830076

<https://www.phoenixcontact.com/pc/products/0830076>



Plastic label, Card, can be ordered: by card, white, labeled according to customer specifications, mounting type: adhesive, Number of individual labels: 189, text field height: 5 mm, text field width: 15 mm

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US-EMLP (15X5) YE CUS - Plastic label

0830077

<https://www.phoenixcontact.com/pc/products/0830077>

Plastic label, Card, can be ordered: by card, yellow, labeled according to customer specifications, mounting type: adhesive, Number of individual labels: 189, text field height: 5 mm, text field width: 15 mm



US-EMLP (15X5) SR CUS - Plastic label

0830078

<https://www.phoenixcontact.com/pc/products/0830078>

Plastic label, Card, can be ordered: by card, silver, labeled according to customer specifications, mounting type: adhesive, Number of individual labels: 189, text field height: 5 mm, text field width: 15 mm



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UCT-EM (30X5) YE - Marker for end clamp

0830340

<https://www.phoenixcontact.com/pc/products/0830340>



Marker for end clamp, Sheet, yellow, unmarked, can be labeled with: BLUEMARK E.CARD, BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, THERMOMARK PRIME 2.0, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, TOPMARK NEO, TOPMARK LASER, mounting type: latching, Number of individual labels: 24, text field height: 5 mm, text field width: 30 mm

UCT-EM (30X5) YE CUS - Marker for end clamp

0830348

<https://www.phoenixcontact.com/pc/products/0830348>



Marker for end clamp, can be ordered: by sheet, yellow, labeled according to customer specifications, mounting type: snapped into marker carrier, Number of individual labels: 24, text field height: 5 mm, text field width: 30 mm

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SZS 0,6X3,5 - Screwdriver

1205053

<https://www.phoenixcontact.com/pc/products/1205053>



Actuation tool, for ST terminal blocks, insulated, also suitable for use as a bladed screwdriver, size: 0.6 x 3.5 x 100 mm, 2-component grip, with non-slip grip

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