

Loop-powered isolators - MINI MCR-2-UI-I-OLP - 2902061

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Output loop-powered 2-way isolator with plug-in connection technology for the electrical isolation of unipolar and bipolar analog signals. Input configurable via DIP switch. Screw connection technology, standard configuration.

Product Description

Output loop-powered 2-way isolator with plug-in connection technology for the electrical isolation, conversion, and filtering of analog signals. The output loop-powered isolator allows operation at an active analog input module. The device is supplied via the current loop of the controller. On the input side, standard analog signals and non-standard analog signals can be connected, ranging from 2 mA or 50 mV up to 40 mA or 30 V. These are converted to 4 mA ... 20 mA signals. You can configure the input signals via DIP switches. The measuring transducer supports NFC communication.



Key Commercial Data

Packing unit	1 STK
GTIN	
GTIN	4046356652100
Weight per Piece (excluding packing)	107.900 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
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Dimensions

Width	6.2 mm
Height	110.5 mm
Depth	120.5 mm

Ambient conditions

Ambient temperature (operation)	-40 °C ... 70 °C
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Loop-powered isolators - MINI MCR-2-UI-I-OLP - 2902061

Technical data

Ambient conditions

Ambient temperature (storage/transport)	-40 °C ... 85 °C
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Input data

Number of inputs	1
Configurable/programmable	Yes
Voltage input signal	0 mV ... 1000 mV
	0 mV ... 750 mV
	0 mV ... 500 mV
	0 mV ... 300 mV
	0 mV ... 250 mV
	0 mV ... 200 mV
	0 mV ... 125 mV
	0 mV ... 120 mV
	0 mV ... 150 mV
	0 mV ... 100 mV
	0 mV ... 75 mV
	0 mV ... 60 mV
	0 mV ... 50 mV
	0 V ... 10 V
	0 V ... 7.5 V
	0 V ... 5 V
	0 V ... 3 V
	0 V ... 2.5 V
	0 V ... 2 V
	0 V ... 1.5 V
	0 V ... 1.25 V
	0 V ... 1.2 V
	0 V ... 30 V
	0 V ... 25 V
	0 V ... 20 V
	0 V ... 12.5 V
	0 V ... 12 V
	0 V ... 15 V
	-1000 mV ... 1000 mV
	-750 mV ... 750 mV
	-500 mV ... 500 mV
	-300 mV ... 300 mV
	-250 mV ... 250 mV
	-200 mV ... 200 mV
	-125 mV ... 125 mV
	-120 mV ... 120 mV

Loop-powered isolators - MINI MCR-2-UI-I-OLP - 2902061

Technical data

Input data

	-150 mV ... 150 mV
	-100 mV ... 100 mV
	-75 mV ... 75 mV
	-60 mV ... 60 mV
	-50 mV ... 50 mV
	-10 V ... 10 V
	-7.5 V ... 7.5 V
	-5 V ... 5 V
	-3 V ... 3 V
	-2.5 V ... 2.5 V
	-2 V ... 2 V
	-1.25 V ... 1.25 V
	-1.2 V ... 1.2 V
	-1.5 V ... 1.5 V
	-30 V ... 30 V
	-25 V ... 25 V
	-20 V ... 20 V
	-12.5 V ... 12.5 V
	-12 V ... 12 V
	additional areas can be configured, see table
	1 V ... 5 V
	1 V ... 5 V
Current input signal	0 mA ... 40 mA
	0 mA ... 30 mA
	0 mA ... 20 mA
	0 mA ... 12 mA
	0 mA ... 10 mA
	0 mA ... 8 mA
	0 mA ... 7.5 mA
	0 mA ... 5 mA
	0 mA ... 6 mA
	0 mA ... 4 mA
	0 mA ... 3 mA
	0 mA ... 2.5 mA
	0 mA ... 2 mA
	4 mA ... 20 mA
	2 mA ... 10 mA
	1 mA ... 5 mA
max. input voltage	< 30 V
Max. input current	50 mA (Dielectric strength up to 30 V)

Loop-powered isolators - MINI MCR-2-UI-I-OLP - 2902061

Technical data

Input data

Input resistance of voltage input	approx. 100 kΩ (At ≤ 1 V, otherwise approximately 1 MΩ)
Input resistance current input	25 Ω (+ 0.7 V for test diode)

Output data

Number of outputs	1
Current output signal	4 mA ... 20 mA
Max. output current	32 mA
Load/output load current output	< 1000 Ω ((U _B - 8 V) / 22 mA)
Ripple	< 10 mV _{rms} (at 600 Ω)

Power supply

Supply voltage range	8 V DC ... 30 V DC (no separate supply voltage necessary)
Typical current consumption	≤ 20 mA
Power consumption	≤ 600 mW

Connection data

Connection method	Screw connection
Single conductor/terminal point, solid, with ferrule, min.	0.2 mm ²
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 transmission error	≤ 0.1 % (of final value)
Maximum temperature coefficient	0.01 %/K
Temperature coefficient, typical	0.005 %/K
Limit frequency (3 dB)	approx. 30 Hz
Step response (10-90%)	20 ms
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

Loop-powered isolators - MINI MCR-2-UI-I-OLP - 2902061

Technical data

General

Noise immunity	EN 61000-6-2 When being exposed to interference, there may be minimal deviations.
Color	gray
Housing material	PBT
Mounting position	any
Conformance	CE-compliant
ATEX	# II 3 G Ex nA IIC T4 Gc X
UL, USA/Canada	UL 508 Listed
	Class I, Div. 2, Groups A, B, C, D T5
	Class I, Zone 2, Group IIC T5
GL	GL applied for
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
Conformance	CE-compliant
ATEX	# II 3 G Ex nA IIC T4 Gc X
UL, USA/Canada	UL 508 Listed
	Class I, Div. 2, Groups A, B, C, D T5
	Class I, Zone 2, Group IIC T5
GL	GL applied for
Fire protection for rail vehicles (DIN EN 45545-2) R22	HL 1 - HL 2 HL 1 - HL 2 HL 1 - HL 2
Fire protection for rail vehicles (DIN EN 45545-2) R23	HL 1 - HL 2 HL 1 - HL 2 HL 1 - HL 2
Fire protection for rail vehicles (DIN EN 45545-2) R24	HL 1 - HL 2 HL 1 - HL 2 HL 1 - HL 2
Fire protection for rail vehicles (DIN EN 45545-2) R26	HL 1 - HL 2 HL 1 - HL 2 HL 1 - HL 2

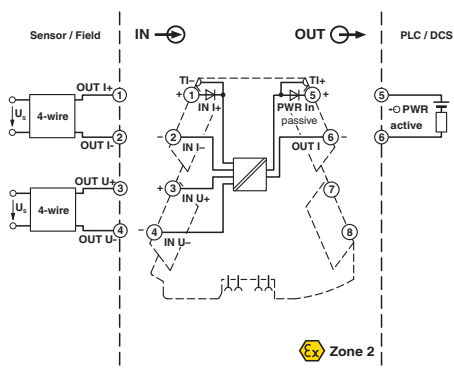
Environmental Product Compliance

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

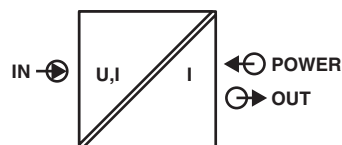
Drawings

Loop-powered isolators - MINI MCR-2-UI-I-OLP - 2902061

Block diagram



Pictogram



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

Approvals

Approvals

UL Listed / cUL Listed / cULus Listed

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Approvals

Ex Approvals

UL Listed / cUL Listed / ATEX / cULus Listed

Approval details

UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
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cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
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cULus Listed			
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Accessories

Accessories

Device marking

Marker for end clamp - UCT-EM (30X5) - 0801505



Marker for end clamp, Sheet, white, unlabeled, can be labeled with: THERMOMARK PRIME, THERMOMARK CARD, BLUEMARK CLED, BLUEMARK LED, TOPMARK LASER, mounting type: snapped into marker carrier, lettering field size: 30 x 5 mm

Marker for end clamp - UCT-EM (30X5) YE - 0830340



Marker for end clamp, Sheet, yellow, unlabeled, can be labeled with: THERMOMARK PRIME, THERMOMARK CARD, BLUEMARK CLED, BLUEMARK LED, TOPMARK LASER, mounting type: snapped into marker carrier, lettering field size: 30 x 5 mm

Loop-powered isolators - MINI MCR-2-UI-I-OLP - 2902061

Accessories

Plastic label - UC-EMLP (15X5) - 0819301



Plastic label, Sheet, white, unlabeled, can be labeled with: BLUEMARK CLED, BLUEMARK LED, CMS-P1-PLOTTER, PLOTMARK, mounting type: adhesive, lettering field size: 15 x 5 mm

Plastic label - UC-EMLP (15X5) YE - 0822615



Plastic label, Sheet, yellow, unlabeled, can be labeled with: BLUEMARK CLED, BLUEMARK LED, CMS-P1-PLOTTER, PLOTMARK, mounting type: adhesive, lettering field size: 15 x 5 mm

Plastic label - UC-EMLP (15X5) SR - 0828095



Plastic label, Sheet, silver, unlabeled, can be labeled with: BLUEMARK CLED, BLUEMARK LED, CMS-P1-PLOTTER, PLOTMARK, mounting type: adhesive, lettering field size: 15 x 5 mm

Plastic label - US-EMLP (15X5) - 0828790



Plastic label, Card, white, unlabeled, can be labeled with: THERMOMARK PRIME, THERMOMARK CARD, mounting type: adhesive, lettering field size: 15 x 5 mm

Plastic label - US-EMLP (15X5) YE - 0828873



Plastic label, Card, yellow, unlabeled, can be labeled with: THERMOMARK PRIME, THERMOMARK CARD, mounting type: adhesive, lettering field size: 15 x 5 mm

Loop-powered isolators - MINI MCR-2-UI-I-OLP - 2902061

Accessories

Plastic label - US-EMLP (15X5) SR - 0828874



Plastic label, Card, silver, unlabeled, can be labeled with: THERMOMARK PRIME, THERMOMARK CARD, mounting type: adhesive, lettering field size: 15 x 5 mm

Labeled device marker

Marker for end clamp - UCT-EM (30X5) CUS - 0801589



Marker for end clamp, can be ordered: by sheet, white, labeled according to customer specifications, mounting type: snapped into marker carrier, lettering field size: 30 x 5 mm

Marker for end clamp - UCT-EM (30X5) YE CUS - 0830348



Marker for end clamp, can be ordered: by sheet, yellow, labeled according to customer specifications, mounting type: snapped into marker carrier, lettering field size: 30 x 5 mm

Plastic label - UC-EMLP (15X5) CUS - 0824550



Plastic label, can be ordered: by sheet, white, labeled according to customer specifications, mounting type: adhesive, lettering field size: 15 x 5 mm

Plastic label - UC-EMLP (15X5) YE CUS - 0824551



Plastic label, can be ordered: by sheet, yellow, labeled according to customer specifications, mounting type: adhesive, lettering field size: 15 x 5 mm

Loop-powered isolators - MINI MCR-2-UI-I-OLP - 2902061

Accessories

Plastic label - UC-EMLP (15X5) SR CUS - 0828099



Plastic label, can be ordered: by sheet, silver, labeled according to customer specifications, mounting type: adhesive, lettering field size: 15 x 5 mm

Plastic label - US-EMLP (15X5) CUS - 0830076



Plastic label, can be ordered: By card, white, labeled according to customer specifications, mounting type: adhesive, lettering field size: 15 x 5 mm

Plastic label - US-EMLP (15X5) YE CUS - 0830077



Plastic label, can be ordered: By card, yellow, labeled according to customer specifications, mounting type: adhesive, lettering field size: 15 x 5 mm

Plastic label - US-EMLP (15X5) SR CUS - 0830078



Plastic label, can be ordered: By card, silver, labeled according to customer specifications, mounting type: adhesive, lettering field size: 15 x 5 mm

Terminal marking

Marker strip - SK 5,0 WH:REEL - 0805221



Marker strip, Roll, white, unlabeled, can be labeled with: THERMOMARK ROLL, THERMOMARK ROLL X1, THERMOMARK ROLLMASTER 300/600, THERMOMARK X1.2, THERMOMARK S1.1, mounting type: adhesive, for terminal block width: 5 mm, lettering field size: continuous x 5 mm
