

MACX MCR-EX-AP-IDS-2I-2I-LP-SP - Output signal conditioner



1291983

<https://www.phoenixcontact.com/in/products/1291983>

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.



Ex i-Output isolator isolates and transmits 0 mA / 4 mA ... 20 mA signals with intrinsic safety in potentially explosive areas. Suitable for fire and gas detectors. number of channels: 2, HART-transparent, no-load voltage: 25 V, Standard configuration, Loop-powered, 4-way isolation, Safety Integrity Level (SIL, IEC 61508): 3, Push-in connection

Commercial data

Item number	1291983
Packing unit	1 pc
Minimum order quantity	1 pc
Product key	DK121W
GTIN	4063151524937
Weight per piece (including packing)	188.2 g
Weight per piece (excluding packing)	160 g
Country of origin	DE

MACX MCR-EX-AP-IDS-2I-2I-LP-SP - Output signal conditioner



1291983

<https://www.phoenixcontact.com/in/products/1291983>

Technical data

Notes

Note on application	Accuracy, typically specified as a percentage of the measuring span (20 mA) at U_N , 23°C
Notes on operation	Installation conditions influence the ambient temperature. Please refer to the operating instructions.

Product properties

Product type	Output signal conditioner
Product family	MACX Analog
No. of channels	2

Electrical properties

Electrical isolation	4-way isolation
Linearity error	$\leq 0.25\%$ (at load = 0 Ω)
Signal transmission behavior	In = Out
Temperature coefficient, typical	$\leq 0.1\%$ (10 K)
Reverse polarity protection	yes

Electrical isolation Input/output

Rated insulation voltage	375 V _{PP}
--------------------------	---------------------

Electrical isolation Output 1/output 2

Test voltage	350 V (50 Hz, 60 s)
--------------	---------------------

Electrical isolation Input 1 / input 2

Test voltage	500 V (50 Hz, 60 s)
--------------	---------------------

Supply

Supply voltage range	loop-powered, no external supply necessary
Power dissipation	≤ 0.2 W (at 20 mA, per channel)
	≤ 0.6 W (at 40 mA, per channel)

Input data

Signal: Current

Number of inputs	2
Current input signal	0 mA ... 20 mA
	4 mA ... 20 mA (with HART)
	0 mA ... 40 mA (Function area)
Voltage drop	1 V (constant)

Output data

Signal: Current

MACX MCR-EX-AP-IDS-2I-2I-LP-SP - Output signal conditioner



1291983

<https://www.phoenixcontact.com/in/products/1291983>

Output description	intrinsically safe
Number of outputs	2
Current output signal	0 mA ... 20 mA
	4 mA ... 20 mA (with HART)
	0 mA ... 40 mA (Function area)
Load/output load current output	$\leq 800 \Omega$ (20 mA)
Non-load voltage	25 V
Line fault detection	0 mA (Line break)
	≤ 1 mA (Input current behavior)

Connection data

Connection method	Push-in connection
Stripping length	8 mm
Conductor cross section rigid	0.2 mm ² ... 1.5 mm ²
Conductor cross section flexible	0.2 mm ² ... 1.5 mm ²
Conductor cross section AWG	24 ... 16

Ex data

Ex installation (EPL)	Gc
Ex i circuits (EPL)	Ga
	Da
	Ma

Safety data

Max. internal inductance L_i	negligible
Max. internal capacitance C_i	negligible
Max. output voltage U_o	25 V
Max. output current I_o	99 mA
Max. output power P_o	613 mW
Safety-related maximum voltage U_m	253 V AC
IIA (simple circuit): Max. external inductivity L_o / Max. external capacitance C_o	28 mH / 2.97 μ F
IIB (simple circuit): Max. external inductivity L_o / Max. external capacitance C_o	11 mH / 840 nF
IIC (simple circuit): Max. external inductivity L_o / Max. external capacitance C_o	2.5 mH / 110 nF
I (simple circuit): Max. external inductivity L_o / Max. external capacitance C_o	46 mH / 4.87 μ F

Interfaces

Data communication (bypass)

Protocols supported	HART-transparent
---------------------	------------------

Dimensions

MACX MCR-EX-AP-IDS-2I-2I-LP-SP - Output signal conditioner



1291983

<https://www.phoenixcontact.com/in/products/1291983>

Dimensional drawing	
Width	17.5 mm
Height	107.8 mm
Depth	113.7 mm
Depth NS 35/7,5	114.5 mm (Snapped onto DIN rail NS 35/7,5 in accordance with EN 60715)

Material specifications

Flammability rating according to UL 94	V0
Housing material	PA 6.6

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20 (Terminal blocks) IP30 (Housing)
Ambient temperature (operation)	-20 °C ... 70 °C (Stand-alone device: any mounting position) -20 °C ... 70 °C (Group assembly: vertical DIN rail without circulating air) -20 °C ... 70 °C (Group assembly: vertical DIN rail with circulating air) -20 °C ... 70 °C (Group assembly: horizontal DIN rail without circulating air) -20 °C ... 70 °C (Group assembly: horizontal DIN rail with circulating air)
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Altitude	≤ 2000 m
Permissible humidity (operation)	≤ 95 % (non-condensing)

Approvals

ATEX

Identification	⊕ II (1) G [Ex ia Ga] IIC ⊕ II (1) D [Ex ia Da] IIIC ⊕ II 3 (1) G Ex nA [ia Ga] IIC T4 Gc ⊕ I (M1) [Ex ia Ma] I
----------------	--

IECEx

Identification	[Ex ia Ga] IIC [Ex ia Da] IIIC
----------------	-----------------------------------

MACX MCR-EX-AP-IDS-2I-2I-LP-SP - Output signal conditioner



1291983

<https://www.phoenixcontact.com/in/products/1291983>

	Ex nA [ia Ga] IIC T4 Gc
	[Ex ia Ma] I

Safety Integrity Level (SIL, IEC 61508)

Identification	3
----------------	---

EMC data

Electromagnetic compatibility	Tested in accordance with the following standards and regulations: EN 61326-1 For industrial use, NAMUR NE 21
-------------------------------	---

Standards and regulations

Electrical isolation	4-way isolation
----------------------	-----------------

Mounting

Mounting type	NS 35/15, NS 35/7,5
Mounting position	vertical, horizontal

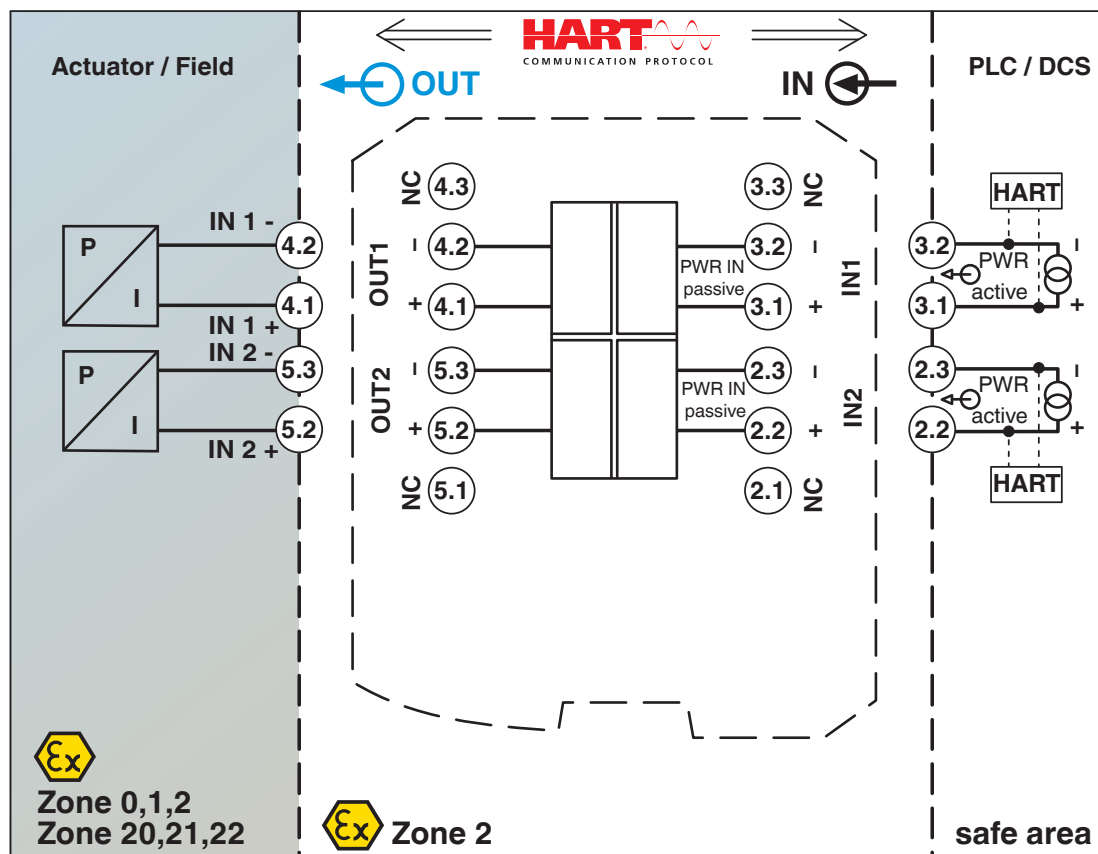
MACX MCR-EX-AP-IDS-2I-2I-LP-SP - Output signal conditioner

1291983

<https://www.phoenixcontact.com/in/products/1291983>

Drawings

Block diagram



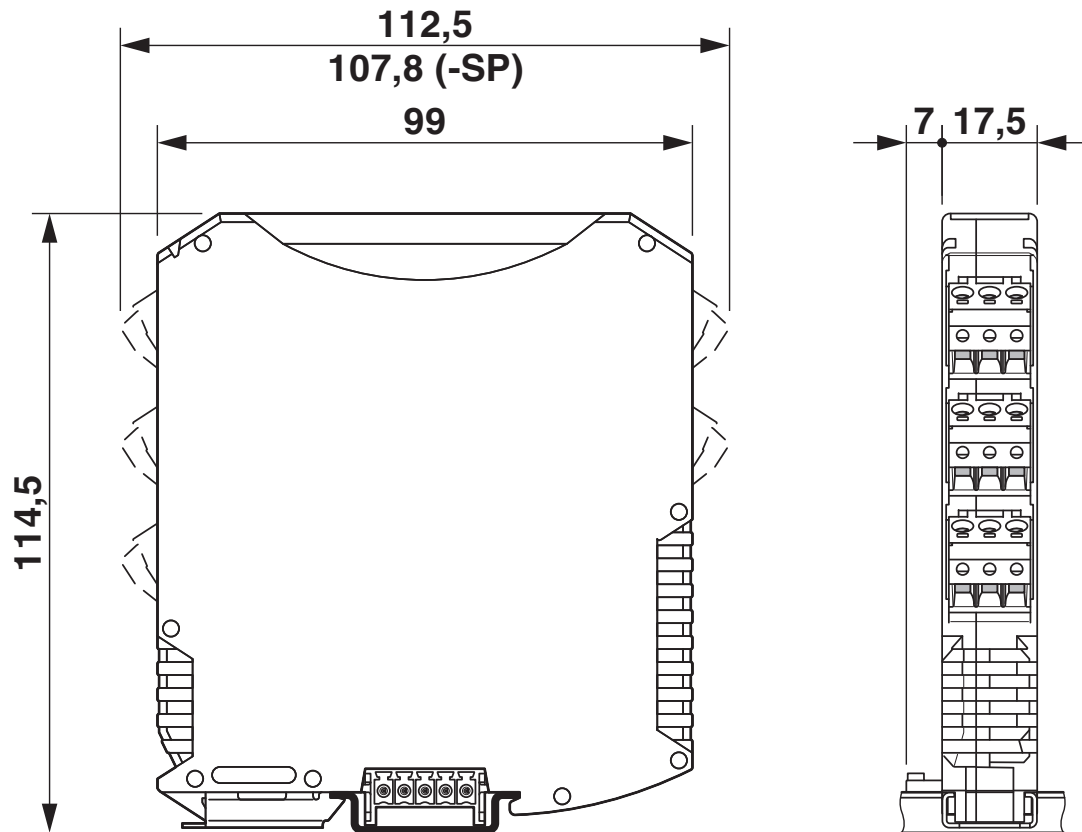
MACX MCR-EX-AP-IDS-2I-2I-LP-SP - Output signal conditioner



1291983

<https://www.phoenixcontact.com/in/products/1291983>

Dimensional drawing



MACX MCR-EX-AP-IDS-2I-2I-LP-SP - Output signal conditioner



1291983

<https://www.phoenixcontact.com/in/products/1291983>

Approvals

📄 To download certificates, visit the product detail page: <https://www.phoenixcontact.com/in/products/1291983>

Functional Safety

Approval ID: 22/05-248 R031 V1R0



IECEx

Approval ID: IECEx BVS 21.0034X



ATEX

Approval ID: BVS 21 ATEX E 032X

MACX MCR-EX-AP-IDS-2I-2I-LP-SP - Output signal conditioner



1291983

<https://www.phoenixcontact.com/in/products/1291983>

Classifications

ECLASS

ECLASS-11.0	27210120
ECLASS-12.0	27210120
ECLASS-13.0	27210120

ETIM

ETIM 9.0	EC002653
----------	----------

MACX MCR-EX-AP-IDS-2I-2I-LP-SP - Output signal conditioner



1291983

<https://www.phoenixcontact.com/in/products/1291983>

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	6(c), 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	66d0bc47-7b83-4df2-b289-76d7f37655de

MACX MCR-EX-AP-IDS-2I-2I-LP-SP - Output signal conditioner



1291983

<https://www.phoenixcontact.com/in/products/1291983>

Accessories

MCR-DP - Separating plate

1430594

<https://www.phoenixcontact.com/in/products/1430594>



The partition plate is used to maintain Ex i isolating distances when Ex i and non-Ex i devices are mounted side by side on a DIN rail.

ME-TBUS-A MC 1,5-2 - DIN rail bus connectors

1351974

<https://www.phoenixcontact.com/in/products/1351974>



DIN rail connector adapter (2-pos.) for connection of MACX MCR-EX-AP ... devices on the right side to the MACX MCR-PTB(-SP) power module with DIN rail connector ME 17,5 TBUS 1,5/5-ST-3,81 GY for bridging the supply voltage.

MACX MCR-EX-AP-IDS-2I-2I-LP-SP - Output signal conditioner



1291983

<https://www.phoenixcontact.com/in/products/1291983>

ME-TBUS-A IMC1,5-2 - DIN rail bus connectors

1351982

<https://www.phoenixcontact.com/in/products/1351982>



DIN rail connector adapter (2-pos.) for connection of MACX MCR-EX-AP... devices on the left side to the MACX MCR-PTB(-SP) power module with DIN rail connector ME 17,5 TBUS 1,5/5-ST-3,81 GY for bridging the supply voltage.

MPS-IH WH - Insulating sleeve

0201663

<https://www.phoenixcontact.com/in/products/0201663>

Insulating sleeve, color: white



MACX MCR-EX-AP-IDS-2I-2I-LP-SP - Output signal conditioner



1291983

<https://www.phoenixcontact.com/in/products/1291983>

MPS-IH RD - Insulating sleeve

0201676

<https://www.phoenixcontact.com/in/products/0201676>

Insulating sleeve, color: red

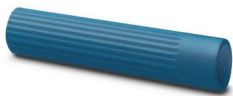


MPS-IH BU - Insulating sleeve

0201689

<https://www.phoenixcontact.com/in/products/0201689>

Insulating sleeve, color: blue



MACX MCR-EX-AP-IDS-2I-2I-LP-SP - Output signal conditioner



1291983

<https://www.phoenixcontact.com/in/products/1291983>

MPS-IH YE - Insulating sleeve

0201692

<https://www.phoenixcontact.com/in/products/0201692>

Insulating sleeve, color: yellow



MPS-IH GN - Insulating sleeve

0201702

<https://www.phoenixcontact.com/in/products/0201702>

Insulating sleeve, color: green



MACX MCR-EX-AP-IDS-2I-2I-LP-SP - Output signal conditioner



1291983

<https://www.phoenixcontact.com/in/products/1291983>

MPS-IH GY - Insulating sleeve

0201728

<https://www.phoenixcontact.com/in/products/0201728>

Insulating sleeve, color: gray



MPS-IH BK - Insulating sleeve

0201731

<https://www.phoenixcontact.com/in/products/0201731>

Insulating sleeve, color: black



MACX MCR-EX-AP-IDS-2I-2I-LP-SP - Output signal conditioner



1291983

<https://www.phoenixcontact.com/in/products/1291983>

MPS-MT - Test plug

0201744

<https://www.phoenixcontact.com/in/products/0201744>



Test plug, with solder connection up to 1 mm² conductor cross section, number of positions: 1, color: gray

UC-EMLP (11X9) - Plastic label

0819291

<https://www.phoenixcontact.com/in/products/0819291>



Plastic label, Sheet, white, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: adhesive, Number of individual labels: 10, text field height: 9 mm, text field width: 11 mm

MACX MCR-EX-AP-IDS-2I-2I-LP-SP - Output signal conditioner



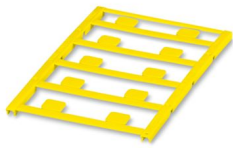
1291983

<https://www.phoenixcontact.com/in/products/1291983>

UC-EMLP (11X9) YE - Plastic label

0822602

<https://www.phoenixcontact.com/in/products/0822602>



Plastic label, Sheet, yellow, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: adhesive, Number of individual labels: 10, text field height: 9 mm, text field width: 11 mm

UC-EMLP (11X9) CUS - Plastic label

0824547

<https://www.phoenixcontact.com/in/products/0824547>



Plastic label, can be ordered: by sheet, white, labeled according to customer specifications, mounting type: adhesive, text field height: 9 mm, text field width: 11 mm

MACX MCR-EX-AP-IDS-2I-2I-LP-SP - Output signal conditioner



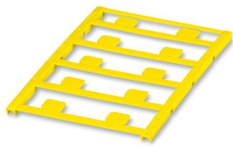
1291983

<https://www.phoenixcontact.com/in/products/1291983>

UC-EMLP (11X9) YE CUS - Plastic label

0824548

<https://www.phoenixcontact.com/in/products/0824548>



Plastic label, can be ordered: by sheet, yellow, labeled according to customer specifications, mounting type: adhesive, text field height: 9 mm, text field width: 11 mm

UC-EMLP (11X9) SR - Plastic label

0828094

<https://www.phoenixcontact.com/in/products/0828094>



Plastic label, Sheet, silver, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: adhesive, Number of individual labels: 10, text field height: 9 mm, text field width: 11 mm

MACX MCR-EX-AP-IDS-2I-2I-LP-SP - Output signal conditioner



1291983

<https://www.phoenixcontact.com/in/products/1291983>

UC-EMLP (11X9) SR CUS - Plastic label

0828098

<https://www.phoenixcontact.com/in/products/0828098>



Plastic label, can be ordered: by sheet, silver, labeled according to customer specifications, mounting type: adhesive, Number of individual labels: 10, text field height: 9 mm, text field width: 11 mm

US-EMLP (11X9) - Plastic label

0828789

<https://www.phoenixcontact.com/in/products/0828789>



Plastic label, Card, white, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: adhesive, Number of individual labels: 135, text field height: 9 mm, text field width: 11 mm

MACX MCR-EX-AP-IDS-2I-2I-LP-SP - Output signal conditioner



1291983

<https://www.phoenixcontact.com/in/products/1291983>

US-EMLP (11X9) YE - Plastic label

0828871

<https://www.phoenixcontact.com/in/products/0828871>



Plastic label, Card, yellow, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: adhesive, Number of individual labels: 135, text field height: 9 mm, text field width: 11 mm

US-EMLP (11X9) SR - Plastic label

0828872

<https://www.phoenixcontact.com/in/products/0828872>



Plastic label, Card, silver, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: adhesive, Number of individual labels: 135, text field height: 9 mm, text field width: 11 mm

MACX MCR-EX-AP-IDS-2I-2I-LP-SP - Output signal conditioner



1291983

<https://www.phoenixcontact.com/in/products/1291983>

LS-EMLP (11X9) WH - Device marker

0831678

<https://www.phoenixcontact.com/in/products/0831678>

Device marker, Sheet, white, unlabeled, can be labeled with: TOPMARK NEO, TOPMARK LASER, mounting type: adhesive, Number of individual labels: 255, text field height: 9 mm, text field width: 11 mm



LS-EMLP (11X9) SR - Device marker

0831705

<https://www.phoenixcontact.com/in/products/0831705>

Device marker, Sheet, silver, unlabeled, can be labeled with: TOPMARK NEO, TOPMARK LASER, mounting type: adhesive, Number of individual labels: 255, text field height: 9 mm, text field width: 11 mm



MACX MCR-EX-AP-IDS-2I-2I-LP-SP - Output signal conditioner



1291983

<https://www.phoenixcontact.com/in/products/1291983>

LS-EMLP (11X9) YE - Device marker

0831732

<https://www.phoenixcontact.com/in/products/0831732>

Device marker, Sheet, yellow, unlabeled, can be labeled with: TOPMARK NEO, TOPMARK LASER, mounting type: adhesive, Number of individual labels: 255, text field height: 9 mm, text field width: 11 mm



SZS 0,6X3,5 - Screwdriver

1205053

<https://www.phoenixcontact.com/in/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



Phoenix Contact 2025 © - all rights reserved

<https://www.phoenixcontact.com>

PHOENIX CONTACT (I) Pvt. Ltd.

A-58/2, Okhla Industrial Area, Phase - II, New Delhi-110 020

+91.1275.71420

info@phoenixcontact.co.in