

MACX MCR-EX-AP-2SD-25-35-LP-SP - Solenoid driver



1291186
<https://www.phoenixcontact.com/in/products/1291186>

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Ex i-Solenoid driver for intrinsically safe activation of Ex i solenoid valves, alarm transmitters, or displays installed in potentially explosive areas. number of channels: 2, Standard configuration, Loop-powered, 4-way isolation, Safety Integrity Level (SIL, IEC 61508): 3, Push-in connection

Commercial data

Item number	1291186
Packing unit	1 pc
Minimum order quantity	1 pc
Product key	DK121W
GTIN	4063151523756
Weight per piece (including packing)	196.3 g
Weight per piece (excluding packing)	160 g
Country of origin	DE

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Technical data

Notes

Notes on operation	Installation conditions influence the ambient temperature. Please refer to the "Control cabinet installation instructions".
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Product properties

Product type	Solenoid driver
Product family	MACX Analog
No. of channels	2

Electrical properties

Electrical isolation	4-way isolation
Reverse polarity protection	yes

Electrical isolation Input/output IEC/EN 60079-11

Standards/regulations	IEC/EN 60079-11
Rated insulation voltage	375 V _{PP}

Electrical isolation Output 1/output 2

Test voltage	500 V (50 Hz, 60 s)
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Electrical isolation Input 1 / input 2

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

Supply voltage range	loop-powered, no external supply necessary
Power consumption	0.5 W (+ (I _A × 37 mW/mA))

Input data

Signal: Digital

Switching level "0" signal	0 V ... 5 V
Switching level "1" signal	18 V ... 31.2 V

Output data

Switching: Digital

Output description	intrinsically safe
Typical response time	≤ 18 ms
Typical turn-off time	≤ 50 ms
Switching frequency	≤ 10 Hz

Connection data

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

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Conductor cross section flexible	0.2 mm² ... 1.5 mm²
Conductor cross section AWG	24 ... 16

Ex data

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

Safety data: Highest values per output

Max. internal inductance L_i	negligible
Max. internal capacitance C_i	1.1 nF
Max. output voltage U_o	27.6 V
Max. output current I_o	110 mA (Ex ia)
	50 mA (Ex ib)
Max. output power P_o	760 mW
Safety-related maximum voltage U_m	253 V AC
I/A (simple circuit): Max. external inductivity L_o / Max. external capacitance C_o	100 mH / 2.22 μ F
I/B (simple circuit): Max. external inductivity L_o / Max. external capacitance C_o	9 mH / 667 nF
I/C (simple circuit): Max. external inductivity L_o / Max. external capacitance C_o	1.2 mH / 85 nF
I (simple circuit): Max. external inductivity L_o / Max. external capacitance C_o	100 mH / 3.5 μ F

Safety data: Highest values with two outputs connected in parallel

Max. internal inductance L_i	negligible
Max. internal capacitance C_i	2.2 nF
Max. output voltage U_o	27.6 V
Max. output current I_o	220 mA (Ex ia)
	100 mA (Ex ib)
Max. output power P_o	1520 mW
Safety-related maximum voltage U_m	253 V AC
I/A (simple circuit): Max. external inductivity L_o / Max. external capacitance C_o	25 mH / 2.22 μ F
I/B/I/C (simple circuit): Max. external inductivity L_o / Max. external capacitance C_o	1.8 mH / 665 nF
I (simple circuit): Max. external inductivity L_o / Max. external capacitance C_o	40 mH / 3.5 μ F

Signaling

Status display	Yellow LED/per channel
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Dimensions

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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 ... 50 °C (Group assembly: vertical DIN rail without circulating air) -20 °C ... 60 °C (Group assembly: vertical DIN rail with circulating air) -20 °C ... 60 °C (Group assembly: horizontal DIN rail without circulating air) -20 °C ... 65 °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
	Ex nA [ia Ga] IIC T4 Gc

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	[Ex ia Ma] I
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Safety Integrity Level (SIL, IEC 61508)

Identification	3
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EMC data

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

Electrical isolation	4-way isolation
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Mounting

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

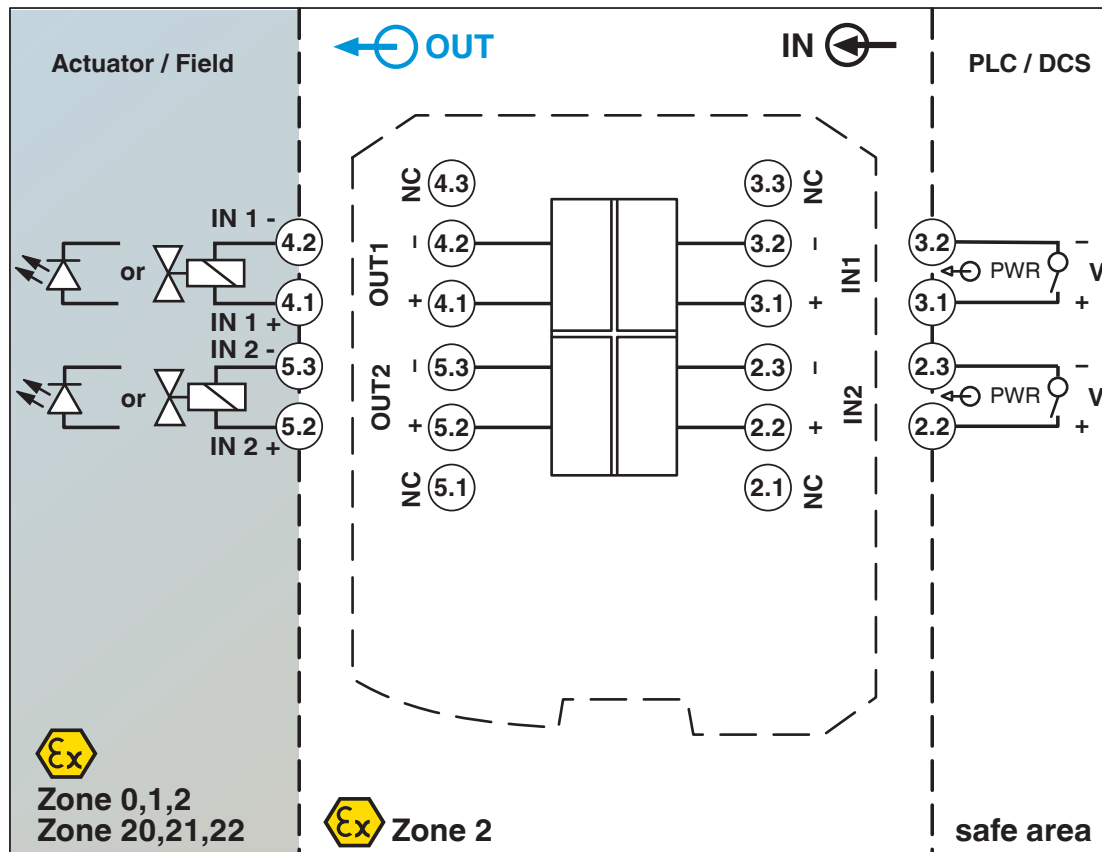
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Drawings

Block diagram

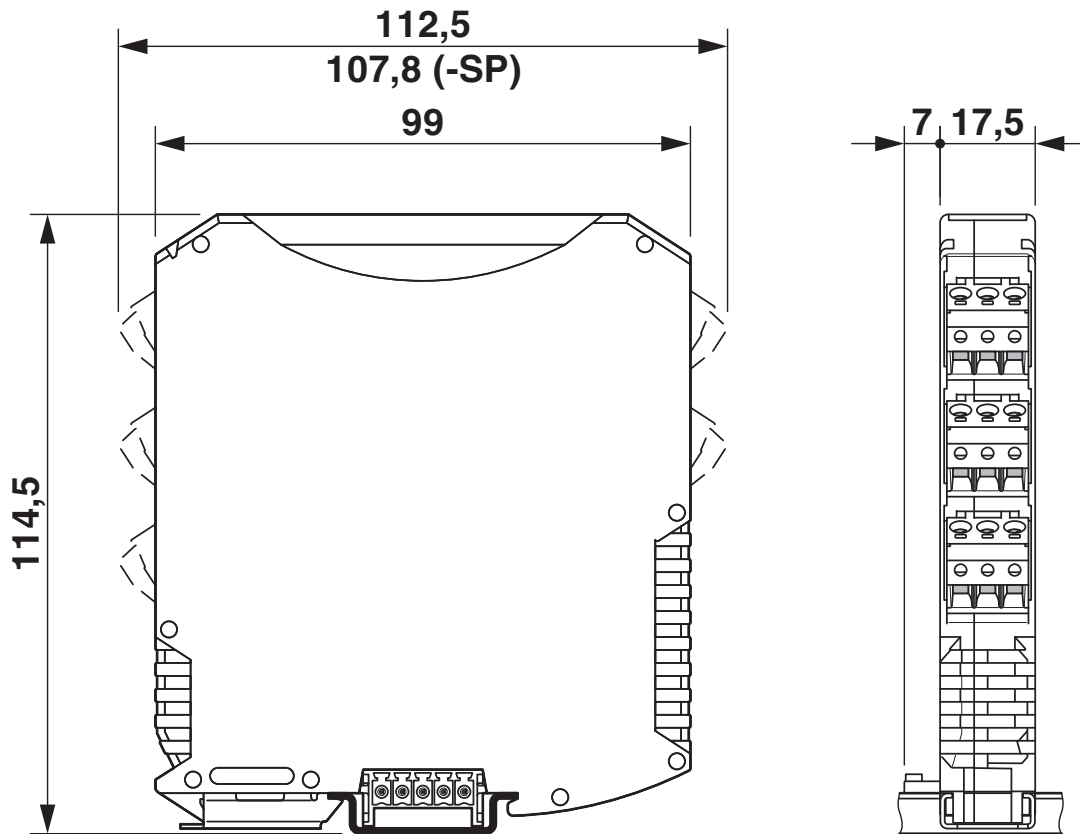


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Dimensional drawing



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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/in/products/1291186>

Functional Safety

Approval ID: 22/05-248 R033 V1R0



IECEx

Approval ID: IECEx BVS 21.0036X



ATEX

Approval ID: BVS 21 ATEX E 034X

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Classifications

ECLASS

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

ETIM

ETIM 9.0	EC002653
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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	7c5a8b1d-480d-4aed-bfbd-5186dba526ab

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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.

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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

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Insulating sleeve, color: white



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MPS-IH RD - Insulating sleeve

0201676

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

Insulating sleeve, color: red

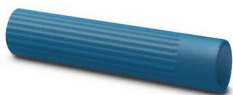


MPS-IH BU - Insulating sleeve

0201689

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

Insulating sleeve, color: blue



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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



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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



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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

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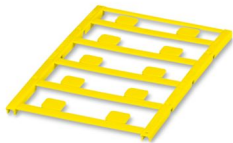
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UC-EMLP (11X9) YE - Plastic label

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

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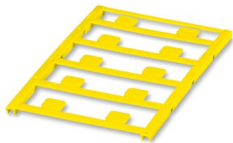
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UC-EMLP (11X9) YE CUS - Plastic label

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

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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



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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

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LS-EMLP (11X9) WH - Device marker

0831678

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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

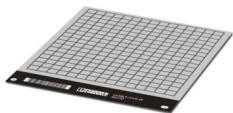


LS-EMLP (11X9) SR - Device marker

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



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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



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