

# MACX MCR-EX-AP-2REL-2DI-LP - Relay Module



1292331

<https://www.phoenixcontact.com/ie/products/1292331>

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Ex i-Relay module isolates binary Ex i and non Ex i signal and control circuits, and is used for intrinsically safe activation of Ex i field currents via one changeover contact relay per channel. Standard configuration, Loop-powered, 4-way isolation, Safety Integrity Level (SIL, IEC 61508): 2, Screw connection

## Commercial Data

Item number	1292331
Packing unit	1 pc
Minimum order quantity	1 pc
Sales Key	*****
Product Key	CK314V
GTIN	4063151525613
Weight per Piece (including packing)	178.5 g
Weight per Piece (excluding packing)	160 g
Country of origin	DE

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## Technical Data

### Notes

General	Installation conditions influence the ambient temperature. Please refer to the operating instructions.
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### Product properties

Product type	Relay Module
Product family	MACX Analog
No. of channels	2

### Electrical properties

No. of channels	2
Electrical isolation	4-way isolation

#### Electrical isolation Input/output IEC/EN 60079-11

Standards/regulations	IEC/EN 60079-11
Rated insulation voltage	375 V <sub>PP</sub>

#### 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 dissipation	≤ 0.4 W

### Input data

#### Control

Description of the input	Control input, not intrinsically safe
Voltage input signal	12 V ... 31.2 V (Switching signal)
Current consumption	< 25 mA (12 V) < 17 mA (24 V ... 31.2 V)

### Output data

#### Switching: Relay

Output description	intrinsically safe
Contact switching type	1 changeover contact per channel
Minimum switching voltage	1 V (1 mA)
Maximum switching voltage	45 V DC (0.25 A) 30 V DC (4 A) 45 V AC (4 A, cos φ >0.7)
Typical response time	≤ 10 ms
Typical turn-off time	≤ 10 ms
Switching frequency	≤ 15 Hz

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## Connection data

Connection method	Screw connection
Stripping length	7 mm
Screw thread	M3
Conductor cross section rigid	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section flexible	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section AWG	24 ... 14

## Ex data

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

## Safety data

Input voltage $U_i$	45 V AC
Input current $I_i$	4 A
Max. internal inductance $L_i$	negligible
Max. internal capacitance $C_i$	negligible
Safety-related maximum voltage $U_m$	253 V AC

## Safety data

Input voltage $U_i$	45 V DC
Input current $I_i$	0.25 A
Max. internal inductance $L_i$	negligible
Max. internal capacitance $C_i$	negligible
Safety-related maximum voltage $U_m$	253 V AC

## Safety data

Input voltage $U_i$	30 V DC
Input current $I_i$	4 A
Max. internal inductance $L_i$	negligible
Max. internal capacitance $C_i$	negligible
Safety-related maximum voltage $U_m$	253 V AC

## Dimensions

Width	17.5 mm
Height	112.5 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	Polyamide (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 ec nC [ia Ga] IIC T4 Gc
	⊕ I (M1) [Ex ia Ma] I

### IECEX

Identification	[Ex ia Ga] IIC
	[Ex ia Da] IIIC
	Ex ec nC [ia Ga] IIC T4 Gc
	[Ex ia Ma] I

### Safety Integrity Level (SIL, IEC 61508)

Identification	2
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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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## Classifications

### ECLASS

ECLASS-11.0	27210192
ECLASS-12.0	27210192
ECLASS-13.0	27210192

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## Environmental Product Compliance

REACH SVHC

Lead 7439-92-1

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## Accessories

### MCR-DP - Separating plate

1430594

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

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

1351974

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

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## MPS-IH WH - Insulating sleeve

0201663

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

Insulating sleeve, color: white





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## MPS-IH RD - Insulating sleeve

0201676

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

Insulating sleeve, color: red



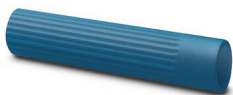
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## MPS-IH BU - Insulating sleeve

0201689

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

Insulating sleeve, color: blue



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## MPS-IH YE - Insulating sleeve

0201692

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

Insulating sleeve, color: yellow



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## MPS-IH GN - Insulating sleeve

0201702

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

Insulating sleeve, color: green



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## MPS-IH GY - Insulating sleeve

0201728

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

Insulating sleeve, color: gray



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## MPS-IH BK - Insulating sleeve

0201731

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

Insulating sleeve, color: black



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## MPS-MT - Test plugs

0201744

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



Test plugs, with solder connection up to 1 mm<sup>2</sup> conductor cross section, number of positions: 1, color: gray

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## UC-EMLP (11X9) - Plastic label

0819291

<https://www.phoenixcontact.com/ie/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, lettering field size: 11 x 9 mm, Number of individual labels: 10

# MACX MCR-EX-AP-2REL-2DI-LP - Relay Module



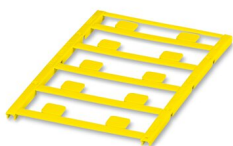
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<https://www.phoenixcontact.com/ie/products/1292331>

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

0822602

<https://www.phoenixcontact.com/ie/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, lettering field size: 11 x 9 mm, Number of individual labels: 10

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

0824547

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



Plastic label, can be ordered: by sheet, white, labeled according to customer specifications, mounting type: adhesive, lettering field size: 11 x 9 mm

# MACX MCR-EX-AP-2REL-2DI-LP - Relay Module



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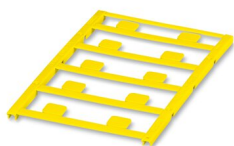
<https://www.phoenixcontact.com/ie/products/1292331>

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

0824548

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

Plastic label, can be ordered: by sheet, yellow, labeled according to customer specifications, mounting type: adhesive, lettering field size: 11 x 9 mm



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

0828094

<https://www.phoenixcontact.com/ie/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, lettering field size: 11 x 9 mm, Number of individual labels: 10



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

0828098

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



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

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## US-EMLP (11X9) - Plastic label

0828789

<https://www.phoenixcontact.com/ie/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, lettering field size: 11 x 9 mm, Number of individual labels: 135

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## US-EMLP (11X9) YE - Plastic label

0828871

<https://www.phoenixcontact.com/ie/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, lettering field size: 11 x 9 mm, Number of individual labels: 135

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## US-EMLP (11X9) SR - Plastic label

0828872

<https://www.phoenixcontact.com/ie/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, lettering field size: 11 x 9 mm, Number of individual labels: 135



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## LS-EMLP (11X9) WH - Device marker

0831678

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

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



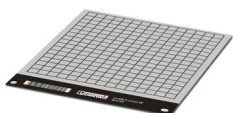
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## LS-EMLP (11X9) SR - Device marker

0831705

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

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



# MACX MCR-EX-AP-2REL-2DI-LP - Relay Module



1292331

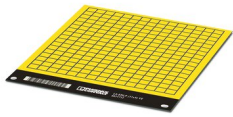
<https://www.phoenixcontact.com/ie/products/1292331>

## LS-EMLP (11X9) YE - Device marker

0831732

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

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



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