

MACX MCR-SL-RPSS-2I-2I - Repeater power supply



2904089

<https://www.phoenixcontact.com/us/products/2904089>

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.



2-channel repeater power supply for operating 2-conductor measuring transducers, input: 4 ... 20 mA (supplying), output: 4 ... 20 mA (active), bidirectional transmission with digital HART transparency, screw connection, SIL, PL.

Commercial data

| | |
|--------------------------------------|---------------------|
| Item number | 2904089 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | C402 |
| Product key | CK1111 |
| Catalog page | Page 123 (C-5-2019) |
| GTIN | 4046356772792 |
| Weight per piece (including packing) | 250.1 g |
| Weight per piece (excluding packing) | 140 g |
| Customs tariff number | 85437090 |
| Country of origin | DE |

MACX MCR-SL-RPSS-2I-2I - Repeater power supply



2904089

<https://www.phoenixcontact.com/us/products/2904089>

Technical data

Product properties

| | |
|-----------------|---|
| Product type | Repeater power supplies |
| Product family | MACX Analog |
| Application | Analog IN |
| No. of channels | 2 |
| Type | Signal conditioners with SIL and PL Functional Safety |

Electrical properties

| | |
|---------------------------------|------------------------------------|
| No. of channels | 2 |
| Signal transmission behavior | In = Out |
| Step response (10-90%) | < 1.3 ms (for 4 mA ... 20 mA step) |
| Maximum temperature coefficient | < 0.01 %/K |
| Maximum transmission error | < 0.1 % (of final value) |
| Transmission error, typical | < 0.05 % (of final value) |

Electrical isolation

| | |
|----------------------|----|
| Overvoltage category | II |
| Pollution degree | 2 |

Electrical isolation Input/output, power supply IEC/EN 61010-1

| | |
|--------------------------|-------------------------|
| Standards/regulations | IEC/EN 61010-1 |
| Rated insulation voltage | 300 V _{rms} |
| Test voltage | 2.5 kV AC (50 Hz, 60 s) |
| Insulation | Safe isolation |

Electrical isolation Output 1/output 2/ power supply

| | |
|--------------|-------------------------|
| Test voltage | 1.5 kV AC (50 Hz, 60 s) |
|--------------|-------------------------|

Supply

| | |
|--------------------------|----------------------------|
| Nominal supply voltage | 24 V DC -20 % ... +25 % |
| Supply voltage range | 19.2 V DC ... 30 V DC |
| Max. current consumption | < 100 mA (24 V DC / 20 mA) |
| Power dissipation | < 1.4 W (24 V DC / 20 mA) |
| Power consumption | ≤ 2.4 W |

Input data

Signal: Current

| | |
|---------------------------------|----------------|
| Number of inputs | 2 |
| Current input signal | 4 mA ... 20 mA |
| Transmitter supply voltage | > 16 V (20 mA) |
| Underload/overload signal range | 0 mA ... 24 mA |

Output data

MACX MCR-SL-RPSS-2I-2I - Repeater power supply



2904089

<https://www.phoenixcontact.com/us/products/2904089>

Signal

| | |
|--|---|
| Output description | Current output |
| Number of outputs | 2 |
| Current output signal | 4 mA ... 20 mA (active) |
| Load/output load current output | $\leq 450 \Omega$ (20 mA) $\leq 375 \Omega$ (24 mA) |
| Output behavior in the event of an error | < 3.6 mA (In the event of cable break at the input (as per NE 43)) > 22.5 mA (In the event of cable short circuit at the input (as per NE 43)) |
| Underload/overload signal range | 0 mA ... 24 mA |

Connection data

| | |
|----------------------------------|---|
| Connection method | Screw connection |
| Stripping length | 7 mm |
| Screw thread | M3 |
| Conductor cross section rigid | 0.2 mm ² ... 2.5 mm ² |
| Conductor cross section flexible | 0.2 mm ² ... 2.5 mm ² |
| Conductor cross section AWG | 24 ... 14 |
| Tightening torque | 0.5 Nm ... 0.6 Nm |

Ex data

| | |
|-----------------------|--------|
| Ex installation (EPL) | Gc |
| | Div. 2 |

Interfaces

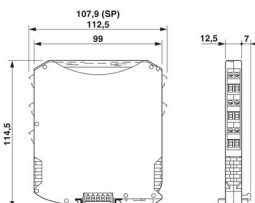
Data communication (bypass)

| | |
|---------------------|------------------|
| HART function | Yes |
| Protocols supported | HART-transparent |

Signaling

| | |
|----------------|----------------------------|
| Status display | Green LED (supply voltage) |
|----------------|----------------------------|

Dimensions

| | |
|---------------------|--|
| Dimensional drawing |  |
| Width | 12.5 mm |
| Height | 112.5 mm |
| Depth | 113.7 mm |

MACX MCR-SL-RPSS-2I-2I - Repeater power supply



2904089

<https://www.phoenixcontact.com/us/products/2904089>

| | |
|-----------------|--|
| 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) |
| Housing material | PA 6.6-FR |

Environmental and real-life conditions

Ambient conditions

| | |
|---|--|
| Degree of protection | IP20 (not assessed by UL) |
| Ambient temperature (operation) | -40 °C ... 60 °C (Any mounting position) |
| | -40 °C ... 70 °C (Derating) |
| Ambient temperature (storage/transport) | -40 °C ... 80 °C |
| Permissible humidity (operation) | 10 % ... 95 % (non-condensing) |

Altitude range (≤ 2000 m)

| | |
|---------------------------------|--|
| Altitude | ≤ 2000 m (The technical data refers to altitudes ≤2000 m above mean sea level. For altitudes >2000 m above mean sea level, refer to the data sheet.) |
| Ambient temperature (operation) | -40 °C ... 60 °C |
| | -40 °C ... 70 °C (Derating) |
| Rated insulation voltage | 375 V _{PP} (Power supply, input / output) |

Altitude range (≤ 3000 m)

| | |
|---------------------------------|---|
| Height range | > 2000 m ... 3000 m |
| Ambient temperature (operation) | -40 °C ... 54 °C |
| | -40 °C ... 63 °C (Derating) |
| Rated insulation voltage | 190 V AC (Power supply, input / output) |
| | 110 V DC (Power supply, input / output) |

Altitude range (≤ 4000 m)

| | |
|---------------------------------|---|
| Height range | > 3000 m ... 4000 m |
| Ambient temperature (operation) | -40 °C ... 48 °C |
| | -40 °C ... 56 °C (Derating) |
| Rated insulation voltage | 60 V AC/DC (Power supply, input / output) |

Altitude range (≤ 5000 m)

| | |
|---------------------------------|---|
| Height range | > 4000 m ... 5000 m |
| Ambient temperature (operation) | -40 °C ... 42 °C |
| | -40 °C ... 49 °C (Derating) |
| Rated insulation voltage | 60 V AC/DC (Power supply, input / output) |

Approvals

CE

| | |
|-------------|--------------|
| Certificate | CE-compliant |
| Note | and EN 61326 |

MACX MCR-SL-RPSS-2I-2I - Repeater power supply



2904089

<https://www.phoenixcontact.com/us/products/2904089>

ATEX

| | |
|----------------|--------------------------|
| Identification | II 3 G Ex ec IIC T4 Gc X |
| Certificate | BVS 10 ATEX E 143 X |

UKCA Ex (UKEX)

| | |
|----------------|------------------------|
| Identification | II 3 G Ex nA IIC T4 Gc |
| Certificate | PxCIF21UKEX2904089X |

IECEX

| | |
|----------------|--------------------|
| Identification | Ex ec IIC T4 Gc |
| Certificate | IECEX BVS 10.0097X |

CCC / China-Ex

| | |
|----------------|------------------|
| Identification | Ex ec IIC T4 Gc |
| Certificate | 2022122316115972 |

UL, USA/Canada

| | |
|----------------|--|
| Identification | UL 508 Listed |
| | UL 61010 Listed |
| | Class I, Div. 2, Groups A, B, C, D T4 |
| | Class I, Zone 2, Groups IIC, IIB, IIA T4 |

UL, USA/Canada

| | |
|----------------|---------------------------------------|
| Identification | UL 61010 Listed |
| | Class I, Div. 2, Groups A, B, C, D T4 |
| | Class I, Zone 2, Group IIC T4 |

Shipbuilding approval

| | |
|-------------|-------------------|
| Certificate | DNV GL TAA000020C |
|-------------|-------------------|

Safety Integrity Level (SIL, IEC 61508)

| | |
|----------------|--------------|
| Identification | 3 |
| Certificate | BVS PB 04-13 |

Performance Level (ISO 13849)

| | |
|----------------|---|
| Identification | d |
|----------------|---|

DNV GL data

| | |
|-------------|---|
| Temperature | B |
| Humidity | B |
| Vibration | A |
| EMC | A |
| Enclosure | Required protection according to the Rules shall be provided upon installation on board |

EMC data

| | |
|----------------|--|
| Noise immunity | EN 61000-6-2 |
| Note | When being exposed to interference, there may be minimal |

MACX MCR-SL-RPSS-2I-2I - Repeater power supply



2904089

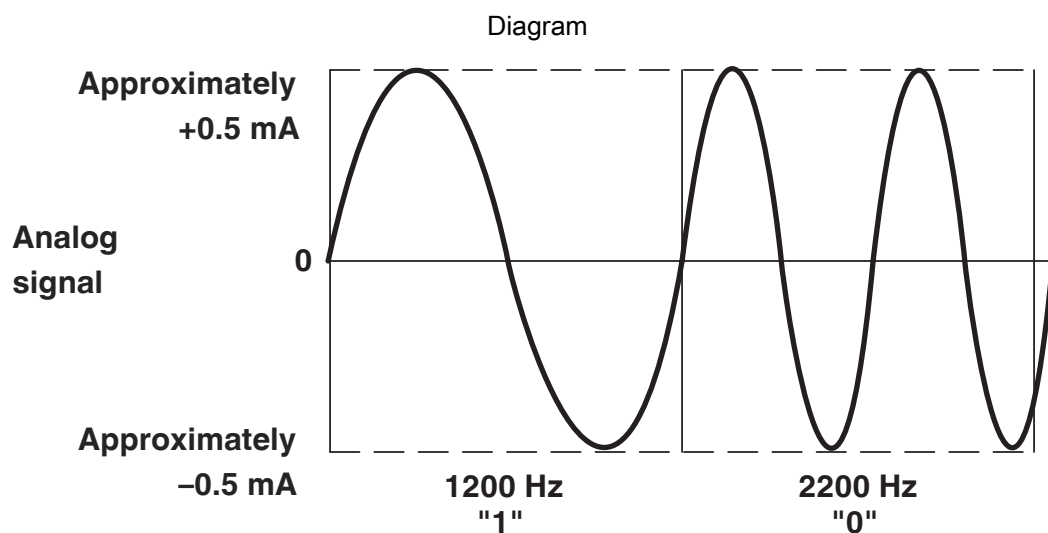
<https://www.phoenixcontact.com/us/products/2904089>

| | |
|-------------------------------|--------------------------------|
| | deviations. |
| Electromagnetic compatibility | Conformance with EMC directive |
| Noise emission | EN 61000-6-4 |

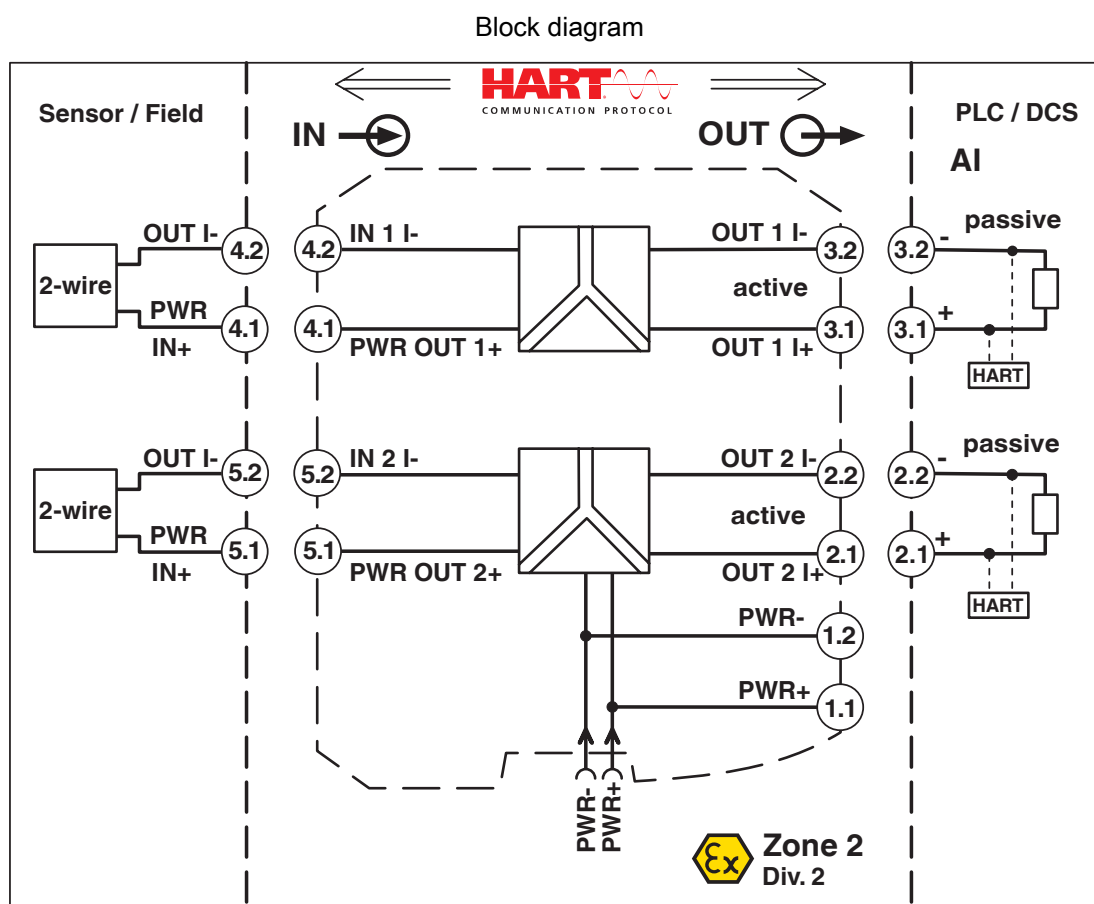
Mounting

| | |
|---------------|-------------------|
| Mounting type | DIN rail mounting |
|---------------|-------------------|

Drawings



Signal transmission analog and digital at the same time



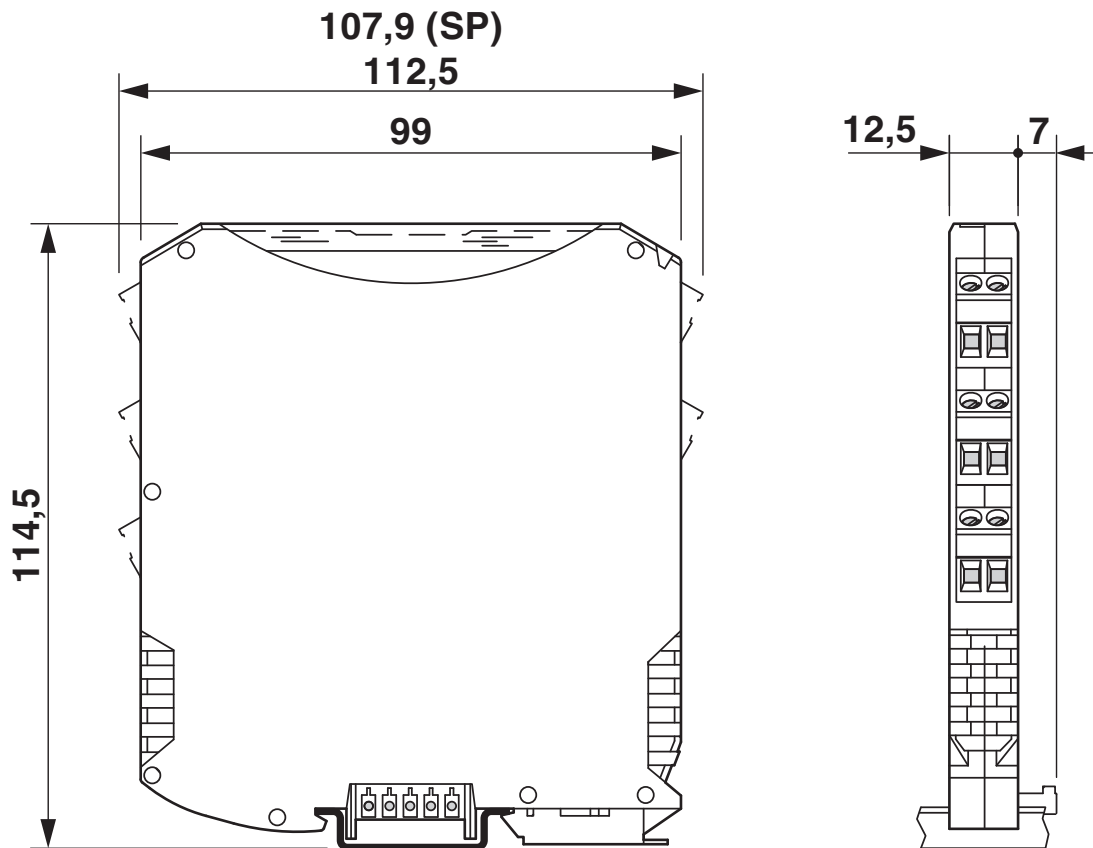
MACX MCR-SL-RPSS-2I-2I - Repeater power supply

2904089

<https://www.phoenixcontact.com/us/products/2904089>



Dimensional drawing



MACX MCR-SL-RPSS-2I-2I - Repeater power supply



2904089

<https://www.phoenixcontact.com/us/products/2904089>

Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2904089>



DNV GL

Approval ID: TAA000020C



UL Listed

Approval ID: FILE E 330267

Functional Safety

Approval ID: BVS Pb 04/13



cUL Listed

Approval ID: FILE E 199827



UL Listed

Approval ID: FILE E 199827



EAC Ex

Approval ID: TP012 103.01 00078



IECEx

Approval ID: IECEx BVS 10.0097X

cULus Listed

MACX MCR-SL-RPSS-2I-2I - Repeater power supply

2904089

<https://www.phoenixcontact.com/us/products/2904089>



Classifications

ECLASS

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

ETIM

| | |
|----------|----------|
| ETIM 8.0 | EC002653 |
|----------|----------|

UNSPSC

| | |
|-------------|----------|
| UNSPSC 21.0 | 39121000 |
|-------------|----------|

Environmental product compliance

| | |
|------------|--|
| China RoHS | Environmentally Friendly Use Period = 50 years |
| | For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads" |

MACX MCR-SL-RPSS-2I-2I - Repeater power supply



2904089

<https://www.phoenixcontact.com/us/products/2904089>

Accessories

ME 6,2 TBUS-2 1,5/5-ST-3,81 GY - DIN rail bus connectors

2695439

<https://www.phoenixcontact.com/us/products/2695439>



DIN rail connector (TBUS), 5-pos., for bridging the supply voltage, can be snapped onto NS 35/... DIN rail in accordance with EN 60715

ME 6,2 TBUS-PR-ADAPTER - DIN rail bus connectors

1136500

<https://www.phoenixcontact.com/us/products/1136500>



Power rail adapter (ME 6,2 TBUS-PR-ADAPTER), 2-pos., enables MINI and MACX Analog modules to be adapted for supply via universal power rail UPR-03 and UPR-05.

MACX MCR-SL-RPSS-2I-2I - Repeater power supply



2904089

<https://www.phoenixcontact.com/us/products/2904089>

MCR-DP - Separating plate

1430594

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

GW HART USB MODEM - Cable adapter

1003824

<https://www.phoenixcontact.com/us/products/1003824>



USB HART modem cable for communication between a PC and HART devices, cable length: 1m.

MACX MCR-SL-RPSS-2I-2I - Repeater power supply



2904089

<https://www.phoenixcontact.com/us/products/2904089>

TC-2D37SUB-ADIO32-2EX-P-UNI - Module carrier

2904684

<https://www.phoenixcontact.com/us/products/2904684>



Universal Termination Carrier for connecting 16 two-channel MACX Analog Ex i signal conditioners to digital or analog I/O cards, via two D-SUB connectors, 37-pos. (1:1 connection)

EA-MSTB 2,5/ 5 - Accessories

1831016

<https://www.phoenixcontact.com/us/products/1831016>



Cover for screw shafts of the MSTB connector ranges with a pitch of 5.0 mm and 5.08 mm. These can be aligned and shortened for use with different numbers of positions.

MACX MCR-SL-RPSS-2I-2I - Repeater power supply

2904089

<https://www.phoenixcontact.com/us/products/2904089>



MPS-IH WH - Insulating sleeve

0201663

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

Insulating sleeve, color: white



MPS-IH RD - Insulating sleeve

0201676

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

Insulating sleeve, color: red



MACX MCR-SL-RPSS-2I-2I - Repeater power supply

2904089

<https://www.phoenixcontact.com/us/products/2904089>

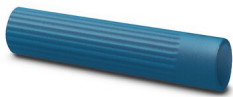


MPS-IH BU - Insulating sleeve

0201689

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

Insulating sleeve, color: blue



MPS-IH YE - Insulating sleeve

0201692

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

Insulating sleeve, color: yellow



MACX MCR-SL-RPSS-2I-2I - Repeater power supply

2904089

<https://www.phoenixcontact.com/us/products/2904089>



MPS-IH GN - Insulating sleeve

0201702

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

Insulating sleeve, color: green



MPS-IH GY - Insulating sleeve

0201728

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

Insulating sleeve, color: gray



MACX MCR-SL-RPSS-2I-2I - Repeater power supply

2904089

<https://www.phoenixcontact.com/us/products/2904089>



MPS-IH BK - Insulating sleeve

0201731

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

Insulating sleeve, color: black



MPS-MT - Test plugs

0201744

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

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



MACX MCR-SL-RPSS-2I-2I - Repeater power supply



2904089

<https://www.phoenixcontact.com/us/products/2904089>

UC-EMLP (11X9) - Plastic label

0819291

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

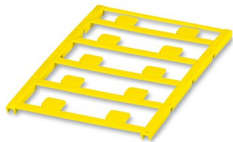


Plastic label, Sheet, white, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: adhesive, lettering field size: 11 x 9 mm, Number of individual labels: 10

UC-EMLP (11X9) YE - Plastic label

0822602

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

MACX MCR-SL-RPSS-2I-2I - Repeater power supply



2904089

<https://www.phoenixcontact.com/us/products/2904089>

UC-EMLP (11X9) CUS - Plastic label

0824547

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

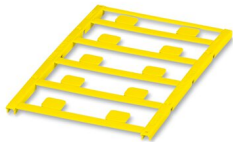


UC-EMLP (11X9) YE CUS - Plastic label

0824548

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



MACX MCR-SL-RPSS-2I-2I - Repeater power supply



2904089

<https://www.phoenixcontact.com/us/products/2904089>

UC-EMLP (11X9) SR - Plastic label

0828094

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

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

0828098

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

MACX MCR-SL-RPSS-2I-2I - Repeater power supply



2904089

<https://www.phoenixcontact.com/us/products/2904089>

US-EMLP (11X9) - Plastic label

0828789

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

US-EMLP (11X9) YE - Plastic label

0828871

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

MACX MCR-SL-RPSS-2I-2I - Repeater power supply



2904089

<https://www.phoenixcontact.com/us/products/2904089>

US-EMLP (11X9) SR - Plastic label

0828872

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

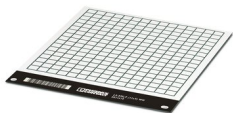


Plastic label, Card, silver, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: adhesive, lettering field size: 11 x 9 mm, Number of individual labels: 135

LS-EMLP (11X9) WH - Device marker

0831678

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

MACX MCR-SL-RPSS-2I-2I - Repeater power supply



2904089

<https://www.phoenixcontact.com/us/products/2904089>

LS-EMLP (11X9) SR - Device marker

0831705

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

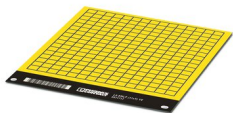


LS-EMLP (11X9) YE - Device marker

0831732

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



MACX MCR-SL-RPSS-2I-2I - Repeater power supply



2904089

<https://www.phoenixcontact.com/us/products/2904089>

MACX MCR-PTB - Power and error message module

2865625

<https://www.phoenixcontact.com/us/products/2865625>



Power and fault signaling module with screw connection, including corresponding ME 17,5 TBUS 1,5/ 5-ST-3,81 GY DIN rail connector

MACX MCR-PTB-SP - Power and error message module

2924184

<https://www.phoenixcontact.com/us/products/2924184>



Power and fault signaling module with Push-in connection, including corresponding ME 17,5 TBUS 1,5/ 5-ST-3,81 GY DIN rail connector

MACX MCR-SL-RPSS-2I-2I - Repeater power supply

2904089

<https://www.phoenixcontact.com/us/products/2904089>



QUINT4-SYS-PS/1AC/24DC/2.5/SC - Power supply unit

2904614

<https://www.phoenixcontact.com/us/products/2904614>



Primary-switched power supply, QUINT POWER, screw connection, DIN rail mounting, supply of devices possible via the TBUS DIN rail connector, protective coating, input: single-phase, output: 24 V DC/2.5 A

SZS 0,6X3,5 - Screwdriver

1205053

<https://www.phoenixcontact.com/us/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 2023 © - all rights reserved
<https://www.phoenixcontact.com>

Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com