

Repeater power supply - MINI MCR-2-RPSS-I-2I-PT



2905629

<https://www.phoenixcontact.com/de/produkte/2905629>

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4-way power supply doubler with plug-in connection technology. HART-transparent, 0(4) mA ... 20 mA input signal, 0(4) mA ... 20 mA output signals. The device can be used in both signal and power supply doubler modes. Push-in connection technology.

Product Description

The power supply duplicator with plug-in connection technology supplies the transmitter in the field and electrically isolates the input signal transmitted to two loads. HART data protocols can be transmitted bi-directionally via both outputs. You can use the device in signal and power supply duplicator mode with a transmitter supply voltage of >19.5 V. On the output side, the module can be connected to passive input cards. For a maximum load of $\leq 500 \Omega$ per channel, electrically isolated analog standard signals 0 mA ... 20 mA or 4 mA ... 20 mA are available. The measuring transducer supports fault monitoring and NFC communication.

Commercial Data

Item number	2905629
Packing unit	1 pc
Minimum order quantity	1 pc
Sales Key	J1 - MSR-Technik
Product Key	CK1411
Catalog Page	Page 78 (C-5-2019)
GTIN	4046356999441
Weight per Piece (including packing)	120,6 g
Weight per Piece (excluding packing)	120 g
Customs tariff number	85437090
Country of origin	DE

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Technical Data

Notes

Utilization restriction

EMC note	EMC: class A product, see manufacturer's declaration in the download area
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Product properties

Product type	Repeater power supplies
No. of channels	2
Type	Signal conditioner
Configuration	DIP switches

Insulation characteristics

Overvoltage category	II
Pollution degree	2

Electrical properties

No. of channels	2
Electrical isolation	4-way isolation
Limit frequency (3 dB)	> 1 kHz
Signal transmission behavior	In = Out
Step response (10-90%)	< 400 μ s
Maximum temperature coefficient	0.0075 %/K
Maximum transmission error	0.05 % (of final value)

Electrical isolation Input/output/power supply

Rated insulation voltage	300 V _{rms}
Test voltage	3 kV AC (50 Hz, 60 s)
Insulation	Reinforced insulation according to IEC/EN 61010-1

Supply

Nominal supply voltage	24 V DC
Supply voltage range	9.6 V DC ... 30 V DC (The DIN rail connector (ME 6,2 TBUS-2 1,5/5-ST-3,81 GN, item no. 2869728) can be used to bridge the supply voltage. It can be snapped onto a 35 mm DIN rail in accordance with EN 60715)
Typical current consumption	40 mA (For 24 V DC and in signal duplicator mode)
	65 mA (For 24 V DC and in power supply duplicator mode)
	75 mA (For 12 V DC and in signal duplicator mode)
	130 mA (For 12 V DC and in power supply duplicator mode)
Power consumption	1.6 W (at I _{OUT} = 20 mA, 500 Ω load)

Input data

Signal: Current

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Description of the input	Sensor circuit
Number of inputs	1
Current input signal	0 mA ... 20 mA (Signal duplicator mode) 4 mA ... 20 mA (Power supply and signal duplicator mode)
Input resistance current input	90 Ω (+1.6 V)
Transmitter supply voltage	> 19.5 V

Output data

Signal: Current

Number of outputs	2
Non-load voltage	< 20 V
Current output signal	0 mA ... 20 mA (Signal duplicator mode) 4 mA ... 20 mA (Power supply and signal duplicator mode)
Max. current output signal	25 mA
Load/output load current output	\leq 500 Ω (per channel)
Ripple	< 20 mV _{PP} (500 Ω)

Connection data

Connection method	Push-in connection
Stripping length	10 mm
Conductor cross section solid	0.2 mm ² ... 2.5 mm ² (with ferrule) 0.14 mm ² ... 2.5 mm ² (without ferrule)
Conductor cross section flexible	0.14 mm ² ... 2.5 mm ²
Conductor cross section AWG	24 ... 12 (flexible)

Interfaces

Data communication (bypass)

HART function	Yes
Limit frequency (3 dB)	<input type="checkbox"/> 1 kHz

LED signaling

Status display	Green LED (supply voltage)
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Dimensions

Width	6.2 mm
Height	109.81 mm
Depth	119.2 mm

Material specifications

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
Housing material	PBT

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20 (not assessed by UL)
Ambient temperature (operation)	-40 °C ... 70 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Altitude	≤ 2000 m
Permissible humidity (operation)	5 % ... 95 % (non-condensing)

Approval data

CE

Certificate	CE-compliant
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ATEX

Identification	<input type="checkbox"/> II 3 G Ex ec ic IIC T4 Gc
Certificate	BVS 19 ATEX E 047 X

UKCA Ex (UKEX)

Identification	<input type="checkbox"/> II 3 G Ex ec ic IIC T4 Gc
Certificate	PxCIF21UKEX2902000X

IECEX

Identification	Ex ec ic IIC T4 Gc
Certificate	IECEX BVS 19.0041X

CCC / China-Ex

Identification	Ex nA ic IIC T4 Gc
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UL, USA / Canada

Identification	UL 508 Listed
	Class I, Div. 2, Groups A, B, C, D T5
	Class I, Zone 2, Group IIC T5

Shipbuilding approval

Certificate	DNV GL TAA000021E Rev. 1
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EAC Ex

Identification	<input type="checkbox"/> 2Ex ec ic IIC T4 Gc
Certificate	BY/112 02.01 TP012 103.01 00081

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

Electromagnetic compatibility	Conformance with EMC directive
Noise emission	EN 61000-6-4
Noise immunity	EN 61000-6-2
Note	When being exposed to interference, there may be minimal deviations.

Electrostatic discharge

Standards/regulations	EN 61000-4-2
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Electrostatic discharge

Comments	Safety measures must be taken to prevent electrostatic discharge.
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Electromagnetic HF field

Designation	Electromagnetic RF field
Standards/regulations	EN 61000-4-3

Fast transients (burst)

Designation	Fast transients (burst)
Standards/regulations	EN 61000-4-4

Surge current load (surge)

Standards/regulations	EN 61000-4-5
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Conducted interference

Designation	Conducted interferences
Standards/regulations	EN 61000-4-6

Standards and regulations

Electrical isolation	4-way isolation
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GB Standard

Standards/regulations	GB 3836.1
	GB 3836.4
	GB 3836.8

Mounting

Mounting type	DIN rail mounting
Assembly instructions	The DIN rail connector can be used for bridging the supply voltage. It can be snapped onto a 35 mm EN 60715 DIN rail.
Mounting position	any

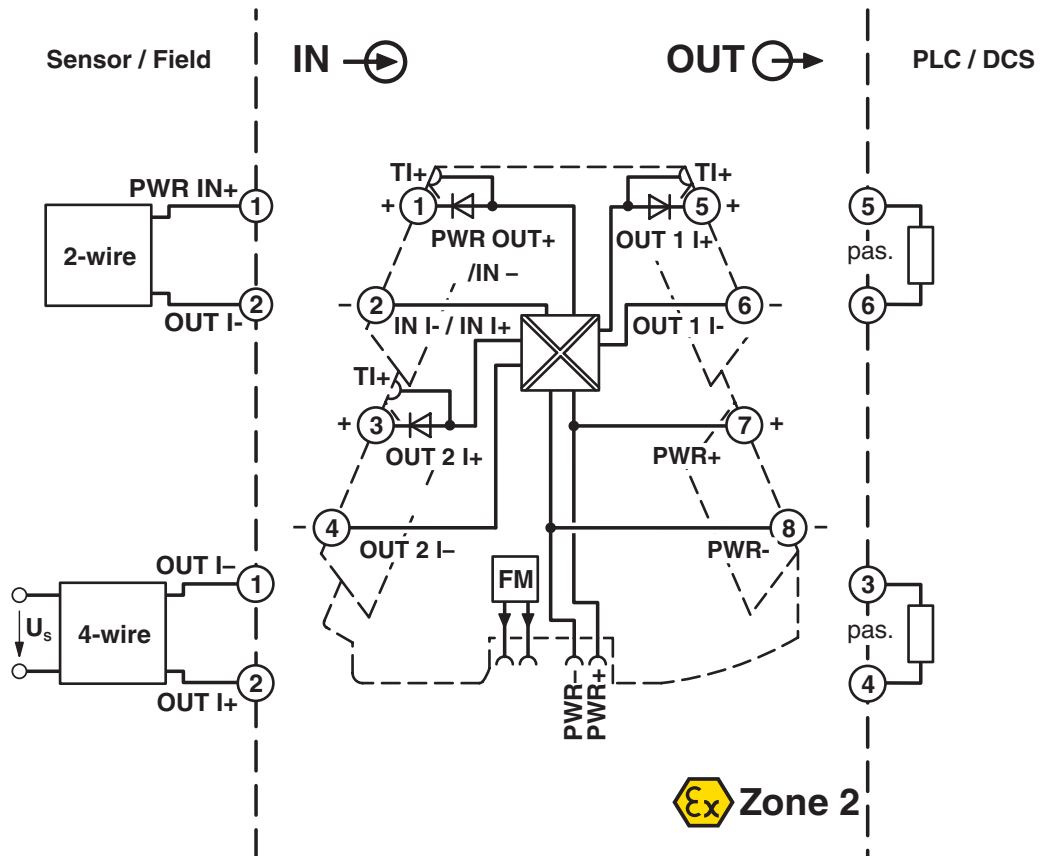
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Drawings

Block diagram



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Approvals



EAC

Approval ID: RU*DE.*08.B.01608/19



DNV GL

Approval ID: TAA000021E



UL Listed

Approval ID: FILE E 238705

Nominal Voltage U_N

Nominal Current I_N

Cross Section AWG

Cross Section mm^2

-

-



CCC

Approval ID: 2021322303003858



cUL Listed

Approval ID: FILE E 238705

Nominal Voltage U_N

Nominal Current I_N

Cross Section AWG

Cross Section mm^2

-

-



IECEX

Approval ID: IECEX BVS 19.0041X



cUL Listed

Approval ID: FILE E 196811

Nominal Voltage U_N

Nominal Current I_N

Cross Section AWG

Cross Section mm^2

-

-



UL Listed

Approval ID: FILE E 196811

Nominal Voltage U_N

Nominal Current I_N

Cross Section AWG

Cross Section mm^2

-

-



ATEX

Approval ID: BVS 19 ATEX E 047 X

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cULus Listed

cULus Listed

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Classifications

ECLASS

ECLASS-9.0	27210120
ECLASS-10.0.1	27210120
ECLASS-11.0	27210120

ETIM

ETIM 8.0	EC002653
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UNSPSC

UNSPSC 21.0	39121000
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Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

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Accessories

Cable adapter

Cable adapter - GW HART USB MODEM - 1003824

<https://www.phoenixcontact.com/de/produkte/1003824>



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

Module carrier

Module carrier - TC-D37SUB-AIO16-MP-PS-UNI - 2906640

<https://www.phoenixcontact.com/de/produkte/2906640>



Universal Termination Carrier for connecting 16 MINI Analog Pro signal conditioners to digital or analog I/O cards, via D-SUB connector, 37-pos. (1:1 connection), with HART multiplexer connection

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Module carrier

Module carrier - TC-D37SUB-ADIO16-MP-P-UNI - 2906639

<https://www.phoenixcontact.com/de/produkte/2906639>

Universal Termination Carrier for connecting 16 MINI Analog Pro signal conditioners to digital or analog I/O cards, via D-SUB connector, 37-pos. (1:1 connection)



DIN rail bus connectors

DIN rail bus connectors - ME 6,2 TBUS-2 1,5/5-ST-3,81 GY - 2695439

<https://www.phoenixcontact.com/de/produkte/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



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Power supply unit

Power supply unit - QUINT4-SYS-PS/1AC/24DC/2.5/SC - 2904614

<https://www.phoenixcontact.com/de/produkte/2904614>



Primary-switched power supply unit, QUINT POWER, Screw connection, DIN rail mounting, input: 1-phase, output: 24 V DC / 2.5 A

DIN rail bus connectors

DIN rail bus connectors - ME 6,2 TBUS-2 1,5/5-ST-3,81 GN - 2869728

<https://www.phoenixcontact.com/de/produkte/2869728>



DIN rail connector for DIN rail mounting. Universal for TBUS housing. Gold-plated contacts, 5-pos.

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Power terminal block

Power terminal block - MINI MCR-2-PTB - 2902066

<https://www.phoenixcontact.com/de/produkte/2902066>



Power terminal with plug-in connection technology for delivering the supply voltage to the DIN rail connector. Monitoring of the supply voltages in combination with the fault monitoring module. Screw connection technology

Power terminal block

Power terminal block - MINI MCR-2-PTB-PT - 2902067

<https://www.phoenixcontact.com/de/produkte/2902067>



Power terminal with plug-in connection technology for delivering the supply voltage to the DIN rail connector. Monitoring of the supply voltages in combination with the fault monitoring module. Push-in connection technology

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Monitoring module

Monitoring module - MINI MCR-2-FM-RC - 2904504

<https://www.phoenixcontact.com/de/produkte/2904504>



Fault monitoring module with plug-in connection technology for evaluating and reporting group errors from the FM system and for monitoring the supply voltages. Error message via N/C contact. Screw connection technology, standard configuration

Monitoring module

Monitoring module - MINI MCR-2-FM-RC-PT - 2904508

<https://www.phoenixcontact.com/de/produkte/2904508>



Fault monitoring module with plug-in connection technology for evaluating and reporting group errors from the FM system and for monitoring the supply voltages. Error message via N/C contact. Push-in connection technology, standard configuration

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System adapter

System adapter - MINI MCR-2-V8-FLK 16 - 2901993

<https://www.phoenixcontact.com/de/produkte/2901993>



Eight MINI Analog Pro signal conditioners and measuring transducers can be connected to a controller with minimal cabling effort and without any errors using system adapters and system cabling.

Communication module

Communication module - MINI MCR-2-V8-MOD-RTU - 2905634

<https://www.phoenixcontact.com/de/produkte/2905634>



Eight MINI Analog Pro signal conditioners and measuring transducers are quickly and easily integrated into a Modbus/RTU network via a communication adapter.

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Communication module

Communication module - MINI MCR-2-V8-MOD-TCP - 2905635

<https://www.phoenixcontact.com/de/produkte/2905635>



Eight MINI Analog Pro signal conditioners and measuring transducers are quickly and easily integrated into a Modbus/TCP network via a communication adapter.

Communication module

Communication module - MINI MCR-2-V8-PB-DP - 2905636

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Eight MINI Analog Pro signal conditioners and measuring transducers are quickly and easily integrated into a PROFIBUS DP network via a communication adapter.

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Communication module

Communication module - MINI MCR-2-V8-PN - 2905637

<https://www.phoenixcontact.com/de/produkte/2905637>



Eight MINI Analog Pro signal conditioners and measuring transducers can be quickly and easily integrated into a PROFINET network via a communication adapter.

Connector set

Connector set - FASTCON PRO-SET - 2906227

<https://www.phoenixcontact.com/de/produkte/2906227>



FASTCON Pro plug set consisting of four plugs with screw connection, one for each position on the module. Suitable for all MINI Analog Pro modules.

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<https://www.phoenixcontact.com/de/produkte/2905629>

Connector set

Connector set - FASTCON PRO-SET-PT - 2906228

<https://www.phoenixcontact.com/de/produkte/2906228>



FASTCON Pro plug set consisting of four plugs with push-in connection, one for each position on the module. Suitable for all MINI Analog Pro modules.

Marker for end clamp

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

<https://www.phoenixcontact.com/de/produkte/0801505>



Marker for end clamp, Sheet, white, unlabeled, can be labeled with: TOPMARK NEO, TOPMARK LASER, BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: snapped, lettering field size: 30 x 5 mm, Number of individual labels: 24

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Marker for end clamp

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

<https://www.phoenixcontact.com/de/produkte/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, Number of individual labels: 24

Marker strip

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

<https://www.phoenixcontact.com/de/produkte/0805221>



Marker strip, Roll, white, unlabeled, can be labeled with: THERMOMARK E.300 (D)/600 (D), THERMOMARK ROLL 2.0, THERMOMARK ROLL, THERMOMARK ROLL X1, THERMOMARK ROLLMASTER 300/600, THERMOMARK X1.2, mounting type: adhesive, for terminal block width: 5 mm, lettering field size: continuous x 5 mm, Number of individual labels: 90000

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Plastic label

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

<https://www.phoenixcontact.com/de/produkte/0819301>



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: 15 x 5 mm, Number of individual labels: 10

Plastic label

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

<https://www.phoenixcontact.com/de/produkte/0822615>



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: 15 x 5 mm, Number of individual labels: 10

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Plastic label

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

<https://www.phoenixcontact.com/de/produkte/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

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

<https://www.phoenixcontact.com/de/produkte/0824551>

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



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Plastic label

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

<https://www.phoenixcontact.com/de/produkte/0828095>



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: 15 x 5 mm, Number of individual labels: 10

Plastic label

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

<https://www.phoenixcontact.com/de/produkte/0828099>



Plastic label, can be ordered: by sheet, silver, labeled according to customer specifications, mounting type: adhesive, lettering field size: 15 x 5 mm, Number of individual labels: 10

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Plastic label

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

<https://www.phoenixcontact.com/de/produkte/0828790>



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: 15 x 5 mm, Number of individual labels: 189

Plastic label

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

<https://www.phoenixcontact.com/de/produkte/0828873>



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: 15 x 5 mm, Number of individual labels: 189

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Plastic label

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

<https://www.phoenixcontact.com/de/produkte/0828874>



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: 15 x 5 mm, Number of individual labels: 189

Plastic label

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

<https://www.phoenixcontact.com/de/produkte/0830076>



Plastic label, can be ordered: by card, white, labeled according to customer specifications, mounting type: adhesive, lettering field size: 15 x 5 mm, Number of individual labels: 189

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Plastic label

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

<https://www.phoenixcontact.com/de/produkte/0830077>

Plastic label, can be ordered: by card, yellow, labeled according to customer specifications, mounting type: adhesive, lettering field size: 15 x 5 mm, Number of individual labels: 189



Plastic label

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

<https://www.phoenixcontact.com/de/produkte/0830078>

Plastic label, can be ordered: by card, silver, labeled according to customer specifications, mounting type: adhesive, lettering field size: 15 x 5 mm, Number of individual labels: 189



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Marker for end clamp

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

<https://www.phoenixcontact.com/de/produkte/0830340>



Marker for end clamp, Sheet, yellow, unlabeled, can be labeled with: TOPMARK NEO, TOPMARK LASER, BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: snapped, lettering field size: 30 x 5 mm, Number of individual labels: 24

Marker for end clamp

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

<https://www.phoenixcontact.com/de/produkte/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, Number of individual labels: 24

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