

MACX MCR-EX-SL-NAM-2T - Isolation amplifier



2865463

<https://www.phoenixcontact.com/us/products/2865463>

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 NAMUR isolating amplifier For operating proximity sensors and switches in Ex areas. The signals are transmitted via 2 transistor outputs (passive) to the safe area. Line fault detection (LFD), 3-way isolation, SIL 2.

Your advantages

- Power supply and error indication possible via DIN rail connector
- Up to SIL 2 in accordance with EN 61508
- Installation in zone 2, protection type "n" (EN 60079-15) permitted
- Signal output 2 can also be used as an error signaling output
- Line fault detection (LFD), can be activated/deactivated, error indicated by flashing red LED with disabling of transistor output
- LED indicators for supply voltage, switching state, and malfunction in accordance with NAMUR NE 44
- 4-way electrical isolation
- Direction of operation can be selected (operating or closed circuit current behavior)
- 2 transistor signal outputs (passive); up to 5 kHz
- Input for NAMUR proximity sensors (EN 60947-5-6), floating contacts or contacts with resistance circuit, [Ex ia] IIC

Commercial data

Item number	2865463
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	C430
Product key	CK3141
Catalog page	Page 158 (C-5-2019)
GTIN	4046356160483
Weight per piece (including packing)	187.28 g
Weight per piece (excluding packing)	130.8 g
Customs tariff number	85365019
Country of origin	DE

Technical data

Notes

Utilization restriction

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

Product properties

Product type	Isolating switch transf.
Product family	MACX Analog
Application	Digital IN
No. of channels	1
Type	Ex i signal conditioners with SIL functional safety
Configuration	DIP switches

Insulation characteristics: GB Standard

Overvoltage category	II
Pollution degree	2

System properties

Functionality

Configuration	DIP switches
---------------	--------------

Electrical properties

Electrical isolation	3-way isolation
Electrical isolation between input and output	yes

Electrical isolation Input/output

Electrical isolation	375 V (Peak value in accordance with IEC/EN 60079-11)
----------------------	---

Electrical isolation Input/output/supply, DIN rail connector

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

Electrical isolation Input/supply, DIN rail connector

Electrical isolation	375 V (Peak value in accordance with IEC/EN 60079-11)
----------------------	---

Electrical isolation Output 1/output 2

Rated insulation voltage	50 V _{rms}
Test voltage	1 kV AC (50 Hz, 60 s)
Insulation	Basic insulation in accordance with IEC/EN 61010-1

Supply

Nominal supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC (24 V DC, -20 % ... +25 %)

MACX MCR-EX-SL-NAM-2T - Isolation amplifier



2865463

<https://www.phoenixcontact.com/us/products/2865463>

Max. current consumption	< 28 mA (24 V DC)
Power dissipation	≤ 800 mW
Power consumption	≤ 800 mW

Input data

Signal: NAMUR

Description of the input	Intrinsically safe
Number of inputs	1
Available input sources	NAMUR proximity sensors (IEC/EN 60947-5-6)
	Floating switch contacts
	Switch contacts with resistance circuit
Switching threshold "0" signal current	< 1.2 mA (blocking)
Switching threshold "1" signal, current	> 2.1 mA (conductive)
Short-circuit current	8 mA
Switching hysteresis	< 0.2 mA
Line fault detection	< 0.05 mA ... 0.35 mA (Line break)
	< 100 Ω ... 360 Ω (Short circuit)
	Activated /deactivated via DIP switch
Non-load voltage	8 V DC

Output data

Switching: Transistor

Output description	passive
Minimum switching voltage	3 V DC
Maximum switching voltage	30 V DC
Drop (ΔU)	< 1.4 V
Max. switching current	50 mA (short-circuit-proof)
Min. switching current	5 mA (short-circuit-proof)
Switching frequency	≤ 5 kHz

Signal

Number of outputs	2
-------------------	---

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

Test socket

Max. diameter	2 mm
---------------	------

MACX MCR-EX-SL-NAM-2T - Isolation amplifier



2865463

<https://www.phoenixcontact.com/us/products/2865463>

Ex data

Ex installation (EPL)	Gc
	Div. 2
Ex i circuits (EPL)	Ga
	Da
	Ma
	Div. 1

Safety data

Max. internal inductance L_i	negligible
Max. internal capacitance C_i	1.1 nF
Max. output voltage U_o	9.6 V
Max. output current I_o	10 mA
Max. output power P_o	25 mW
Safety-related maximum voltage U_m	253 V AC
	125 V DC
IIA (simple circuit): Max. external inductivity L_o / Max. external capacitance C_o	1000 mH / 210 μ F
IIB/IIIC (simple circuit): Max. external inductivity L_o / Max. external capacitance C_o	1000 mH / 26 μ F
IIC (simple circuit): Max. external inductivity L_o / Max. external capacitance C_o	300 mH / 3.6 μ F
IIC (mixed circuit): Max. external inductivity L_o / Max. external capacitance C_o	100 mH / 510 nF, 50 mH / 580 nF, 5 mH / 600 nF, 1 mH / 600 nF, 10 μ H / 600 nF
IIB/IIA/IIIC (mixed circuit): Max. external inductivity L_o / Max. external capacitance C_o	100 mH / 1 μ F, 5 mH / 1 μ F, 1 mH / 1 μ F, 10 μ H / 1 μ F

Interfaces

Data

No. of channels	0
-----------------	---

Signaling

Status display	Green LED (supply voltage)
	LED yellow (switching state)
	Red LED (line errors)

Dimensions

Dimensional drawing	
Width	12.5 mm

MACX MCR-EX-SL-NAM-2T - Isolation amplifier



2865463

<https://www.phoenixcontact.com/us/products/2865463>

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

Color	gray (RAL 7042)
Flammability rating according to UL 94	V0 (Housing)
Housing material	PA 6.6-FR

Characteristics

Safety data

Safety Integrity Level (SIL)	2
------------------------------	---

Safety data

Safety Integrity Level (SIL)	2
------------------------------	---

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20 (not assessed by UL)
Ambient temperature (operation)	-40 °C ... 70 °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	265 V AC/DC ($U_{\text{Isolation "ec"}}$: 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)
Safety-related maximum voltage U_m	190 V AC 110 V DC
Rated insulation voltage	190 V AC/DC ($U_{\text{Isolation "ec"}}$: 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)
Safety-related maximum voltage U_m	60 V

MACX MCR-EX-SL-NAM-2T - Isolation amplifier



2865463

<https://www.phoenixcontact.com/us/products/2865463>

Rated insulation voltage	60 V AC/DC (U _{Isolation "ec"} : 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)
Safety-related maximum voltage U _m	60 V
Rated insulation voltage	60 V AC/DC (U _{Isolation "ec"} : Supply, input / output)

Approvals

CE

Certificate	CE-compliant
Note	and EN 61326

ATEX

Identification	⊕ II (1) G [Ex ia Ga] IIC
	⊕ II (1) D [Ex ia Da] IIIC
	⊕ II 3(1) G Ex ec [ia Ga] IIC T4 Gc
	⊕ I (M1) [Ex ia Ma] I
Certificate	IBExU 08 ATEX 1100 X

UKCA Ex (UKEX)

Identification	⊕ I (M1) [Ex ia Ma] I
	⊕ II (1) G [Ex ia Ga] IIC
	⊕ II (1) D [Ex ia Da] IIIC
	⊕ II 3 (1) G Ex ec [ia Ga] IIC T4 Gc
Certificate	CML 22UKEX3527X

IECEX

Identification	[Ex ia Ga] IIC
	[Ex ia Da] IIIC
	Ex ec [ia Ga] IIC T4 Gc
	[Ex ia Ma] I
Certificate	IECEX IBE 08.0005X

CCC / China-Ex

Identification	[Ex ia Ga] IIC
	[Ex iaD]
	Ex nA [ia Ga] IIC T4 Gc
Certificate	NEPSI GYJ20.1313X

UL, USA/Canada

Identification	Class I Div 2; IS for Class I, II, III Div 1
Certificate	Ⓢ C.D.-No 83104549

Shipbuilding approval

Certificate	DNV GL TAA00000AG
-------------	-------------------

MACX MCR-EX-SL-NAM-2T - Isolation amplifier



2865463

<https://www.phoenixcontact.com/us/products/2865463>

Safety Integrity Level (SIL, IEC 61508)

Identification	2
----------------	---

INMETRO

Identification	[Ex ia Ga] IIC
	[Ex ia Da] IIIC
	Ex ec [ia Ga] IIC T4 Gc
	[Ex ia Ma] I
Certificate	DNV 18.0141 X

DNV GL data

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

EMC data

Noise immunity	EN 61000-6-2
Electromagnetic compatibility	Conformance with EMC directive
Noise emission	EN 61000-6-4

Electromagnetic HF field

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

Fast transients (burst)

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

Conducted interference

Designation	Conducted interferences
Standards/regulations	EN 61000-4-6
Evaluation criterion	A

Standards and regulations

Electrical isolation	3-way isolation
----------------------	-----------------

GB Standard

Standards/regulations	GB 3626.20
	GB 3836.1
	GB 3836.4
	GB 3836.8
	GB 12476.1

MACX MCR-EX-SL-NAM-2T - Isolation amplifier



2865463

<https://www.phoenixcontact.com/us/products/2865463>

	GB 12476.4
--	------------

Mounting

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

MACX MCR-EX-SL-NAM-2T - Isolation amplifier

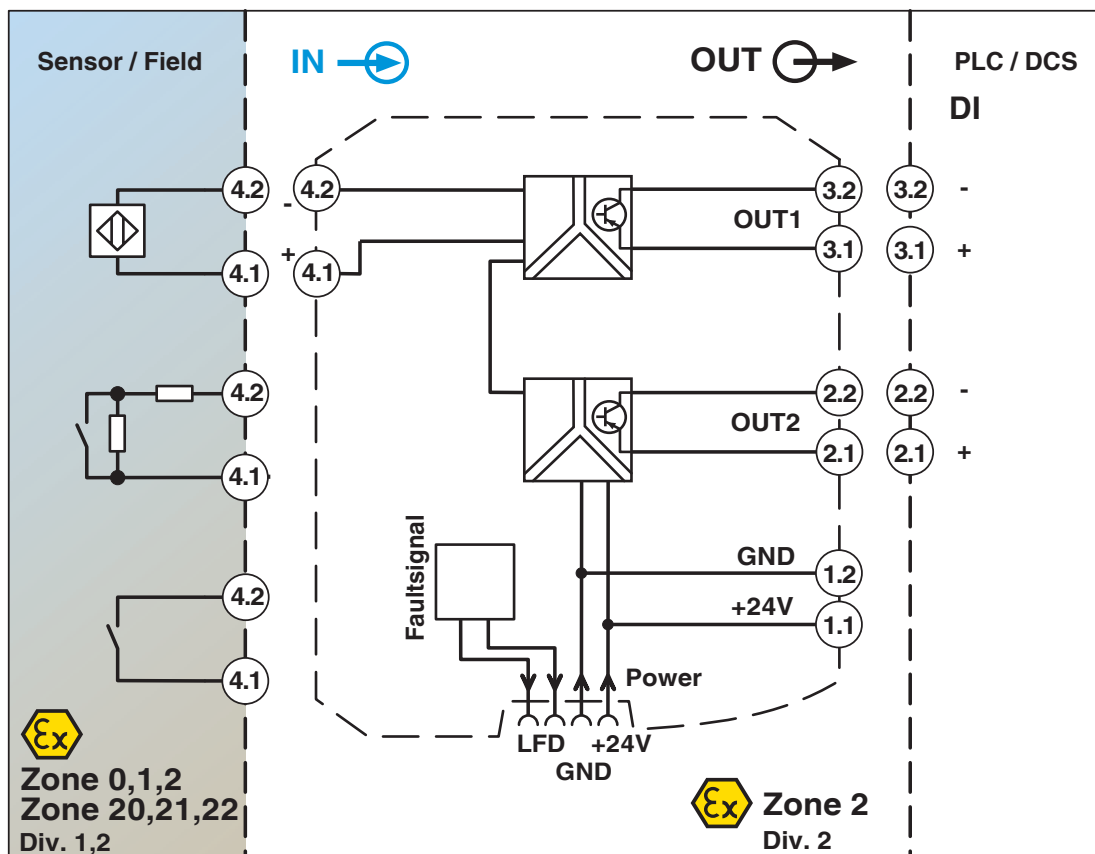


2865463

<https://www.phoenixcontact.com/us/products/2865463>

Drawings

Block diagram



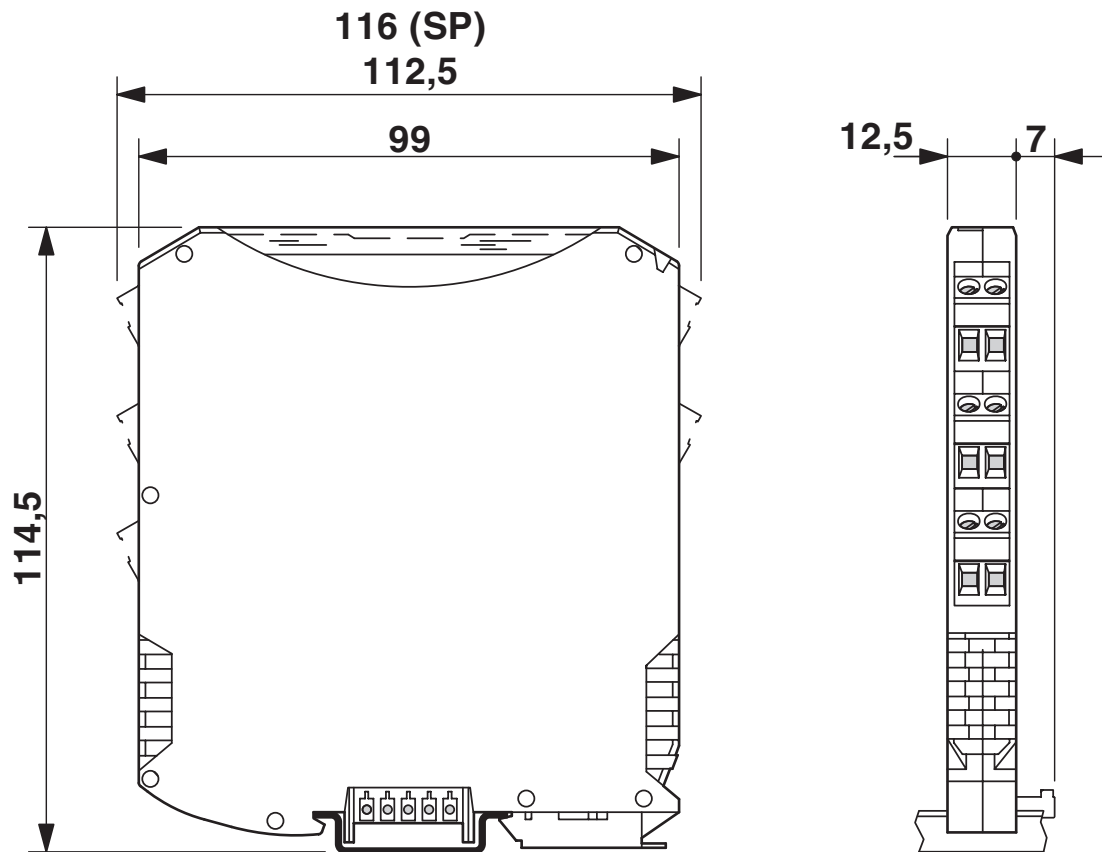
MACX MCR-EX-SL-NAM-2T - Isolation amplifier

2865463

<https://www.phoenixcontact.com/us/products/2865463>



Dimensional drawing



MACX MCR-EX-SL-NAM-2T - Isolation amplifier



2865463

<https://www.phoenixcontact.com/us/products/2865463>

Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2865463>



DNV GL

Approval ID: TAA00000AG



UL Listed

Approval ID: FILE E 330267



CCC

Approval ID: 2020322 316001514



cUL Listed

Approval ID: FILE E 330267

Functional Safety

Approval ID: 07-06-39 R006 V1R2



EAC Ex

Approval ID: RU C-DE.AB72.B.00093



IECEx

Approval ID: IECEx IBE 08.0005X



cUL Listed

Approval ID: FILE E 199827



UL Listed

Approval ID: FILE E 199827



ATEX

Approval ID: IBExU 08 ATEX 1100

INMETRO

Approval ID: DNV 18.0141 X

MACX MCR-EX-SL-NAM-2T - Isolation amplifier



2865463

<https://www.phoenixcontact.com/us/products/2865463>

cULus Listed

cULus Listed

MACX MCR-EX-SL-NAM-2T - Isolation amplifier



2865463

<https://www.phoenixcontact.com/us/products/2865463>

Classifications

ECLASS

ECLASS-11.0	27210121
ECLASS-12.0	27210121
ECLASS-13.0	27210121

ETIM

ETIM 9.0	EC001485
----------	----------

UNSPSC

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

Environmental product compliance

EU RoHS	
Fulfills EU RoHS substance requirements	Yes
Exemption	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)
	2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol(CAS: 79-94-7)
SCIP	f3f751fe-1081-46ac-89ca-8e324e048610

MACX MCR-EX-SL-NAM-2T - Isolation amplifier



2865463

<https://www.phoenixcontact.com/us/products/2865463>

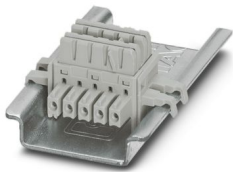
Accessories

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



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)



MACX MCR-EX-SL-NAM-2T - Isolation amplifier



2865463

<https://www.phoenixcontact.com/us/products/2865463>

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.



MPS-IH WH - Insulating sleeve

0201663

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

Insulating sleeve, color: white



MACX MCR-EX-SL-NAM-2T - Isolation amplifier



2865463

<https://www.phoenixcontact.com/us/products/2865463>

MPS-IH RD - Insulating sleeve

0201676

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

Insulating sleeve, color: red

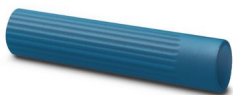


MPS-IH BU - Insulating sleeve

0201689

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

Insulating sleeve, color: blue



MACX MCR-EX-SL-NAM-2T - Isolation amplifier

2865463

<https://www.phoenixcontact.com/us/products/2865463>



MPS-IH YE - Insulating sleeve

0201692

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

Insulating sleeve, color: yellow



MPS-IH GN - Insulating sleeve

0201702

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

Insulating sleeve, color: green



MACX MCR-EX-SL-NAM-2T - Isolation amplifier

2865463

<https://www.phoenixcontact.com/us/products/2865463>



MPS-IH GY - Insulating sleeve

0201728

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

Insulating sleeve, color: gray



MPS-IH BK - Insulating sleeve

0201731

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

Insulating sleeve, color: black



MACX MCR-EX-SL-NAM-2T - Isolation amplifier



2865463

<https://www.phoenixcontact.com/us/products/2865463>

MPS-MT - Test plug

0201744

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

MACX MCR-EX-SL-NAM-2T - Isolation amplifier



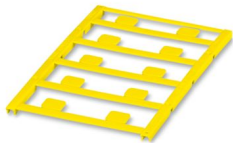
2865463

<https://www.phoenixcontact.com/us/products/2865463>

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

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

MACX MCR-EX-SL-NAM-2T - Isolation amplifier



2865463

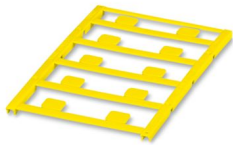
<https://www.phoenixcontact.com/us/products/2865463>

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



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



MACX MCR-EX-SL-NAM-2T - Isolation amplifier



2865463

<https://www.phoenixcontact.com/us/products/2865463>

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



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



MACX MCR-EX-SL-NAM-2T - Isolation amplifier



2865463

<https://www.phoenixcontact.com/us/products/2865463>

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

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

MACX MCR-EX-SL-NAM-2T - Isolation amplifier



2865463

<https://www.phoenixcontact.com/us/products/2865463>

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

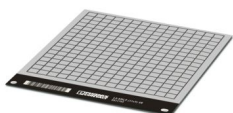


LS-EMLP (11X9) SR - Device marker

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



MACX MCR-EX-SL-NAM-2T - Isolation amplifier



2865463

<https://www.phoenixcontact.com/us/products/2865463>

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-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-EX-SL-NAM-2T - Isolation amplifier



2865463

<https://www.phoenixcontact.com/us/products/2865463>

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

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

MACX MCR-EX-SL-NAM-2T - Isolation amplifier



2865463

<https://www.phoenixcontact.com/us/products/2865463>

D-UKK 3/5 - End cover

2770024

<https://www.phoenixcontact.com/us/products/2770024>

End cover, depth: 52 mm, width: 2.5 mm, height: 56 mm, color: gray



D-UKK 3/5 BU - End cover

2770105

<https://www.phoenixcontact.com/us/products/2770105>

End cover, depth: 62 mm, width: 2.5 mm, height: 56 mm, color: blue



MACX MCR-EX-SL-NAM-2T - Isolation amplifier

2865463

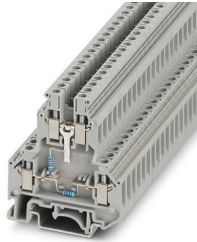
<https://www.phoenixcontact.com/us/products/2865463>



UKK 5-2R/NAMUR - Component terminal block

2941662

<https://www.phoenixcontact.com/us/products/2941662>



Double-level terminal block, with preassembled resistors

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 2024 © - 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