ELR H5-I-SC-24DC/500AC-2-L - Hybrid motor starter

2905513

https://www.phoenixcontact.com/us/products/2905513

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Hybrid motor starter, for reversing 3~ AC motors up to 550 V AC/2.4 A, 24 V DC input, class 10 tripping characteristic, overload function, without symmetry monitoring, and without phase failure and underload detection. 1-phase motors can be switched.

Commercial data

Item number	2905513
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	C470
Product key	CK7422
GTIN	4046356964715
Weight per piece (including packing)	300.1 g
Weight per piece (excluding packing)	217.18 g
Customs tariff number	85371098
Country of origin	DE

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Technical data

Product properties

Product type	Hybrid motor starters
Product family	CONTACTRON
Operating mode	100% operating factor

Electrical properties

Number of phases	3
Motor starter type	Reversing starter
Maximum power dissipation for nominal condition	2.2 W
Switching frequency	≤ 2 Hz (Load-dependent)
Maximum power dissipation	3.3 W
Minimum power dissipation	1.1 W
Coordination type	1

Supply

Rated control circuit supply voltage U_S	24 V DC
Control supply voltage range	19.2 V DC ... 30 V DC
Rated control supply current I_S	40 mA
Protective circuit	Surge protection
	Reverse polarity protection

Insulation characteristics

Rated insulation voltage	500 V
Rated surge voltage	6 kV
Overvoltage category	III
Degree of pollution	2
Insulation characteristics between the control input and control supply voltage, and auxiliary circuit to the main circuit	Safe isolation (IEC 60947-1) at operating voltage ≤ 300 V AC
	Basic insulation (IEC 60947-1) at operating voltage 300 V AC ... 500 V AC
Isolation characteristics between the control input and control supply voltage to auxiliary circuit	Safe isolation (IEC 60947-1) in the auxiliary circuit ≤ 300 V AC

Input data

Control

Input name	Control input right/left
Rated actuating voltage U_C	24 V DC
Triggering voltage range	19.2 V DC ... 30 V DC
Rated actuating current I_C	5 mA (Input type 1)
Switching threshold	9.6 V ("0" signal)
	19.2 V ("1" signal)
Typical turn-off time	< 30 ms
Protective circuit	Reverse polarity protection

Output data

AC output

Rated operating voltage U_e	500 V AC
Operating voltage range	42 V AC ... 550 V AC
Rated operating current I_e	2.4 A (AC-51)
	2.4 A (AC-53a)
Mains frequency	50/60 Hz
Load current range	180 mA ... 2.4 A (see to derating)
Trigger characteristic in acc. with IEC 60947-4-2	Class 10
Cooling time	20 min. (for auto reset)
Leakage current	0 mA
Protective circuit	Surge protection

Acknowledge output

Note	Confirmation: floating change-over contact, signal contact
Switching capacity in accordance with IEC 60947-5-1	3 A (230 V, AC15)
	2 A (24 V, DC13)

Connection data

Control circuits

Connection method	Screw connection
Stripping length	8 mm
Screw thread	M3
Conductor cross section rigid	0.2 mm² ... 2.5 mm²
Conductor cross section flexible	0.2 mm² ... 2.5 mm²
Conductor cross section AWG	24 ... 14
Tightening torque	0.5 Nm ... 0.6 Nm
	5 lb$_f$-in. ... 7 lb$_f$-in.

Load circuit

Connection method	Screw connection
Stripping length	8 mm
Screw thread	M3
Conductor cross section rigid	0.2 mm² ... 2.5 mm²
Conductor cross section flexible	0.2 mm² ... 2.5 mm²
Conductor cross section AWG	24 ... 14
Tightening torque	0.5 Nm ... 0.6 Nm
	5 lb$_f$-in. ... 7 lb$_f$-in.

Signaling

Status display	Yellow LED
Operating voltage display	Green LED
Error indication	Red LED

Dimensions

Width	22.5 mm
Height	107 mm
Depth	114 mm

Material specifications

Flammability rating according to UL 94	V0 (Housing)

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-25 °C ... 70 °C (observe derating)
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Altitude	≤ 2000 m

Approvals

UKCA

Certificate	UKCA-compliant

UL approval

Certificate	NLDX.E228652

UL data

SCCR	100 kA (500 V AC (fuse: 30 A class CC/30 A class J (high fault)))
	5 kA (500 V AC (fuse: 20 A RK5 (standard fault)))
FLA	2.4 A (500 V AC)
Group installation	20 A (class RK5, SCCR 5kA, #24 - 14 AWG max. solid and stranded)
	30 A (class CC or J, SCCR 100kA, #24 - 14 AWG max, solid and stranded)
Category code	NLDX / NRNT

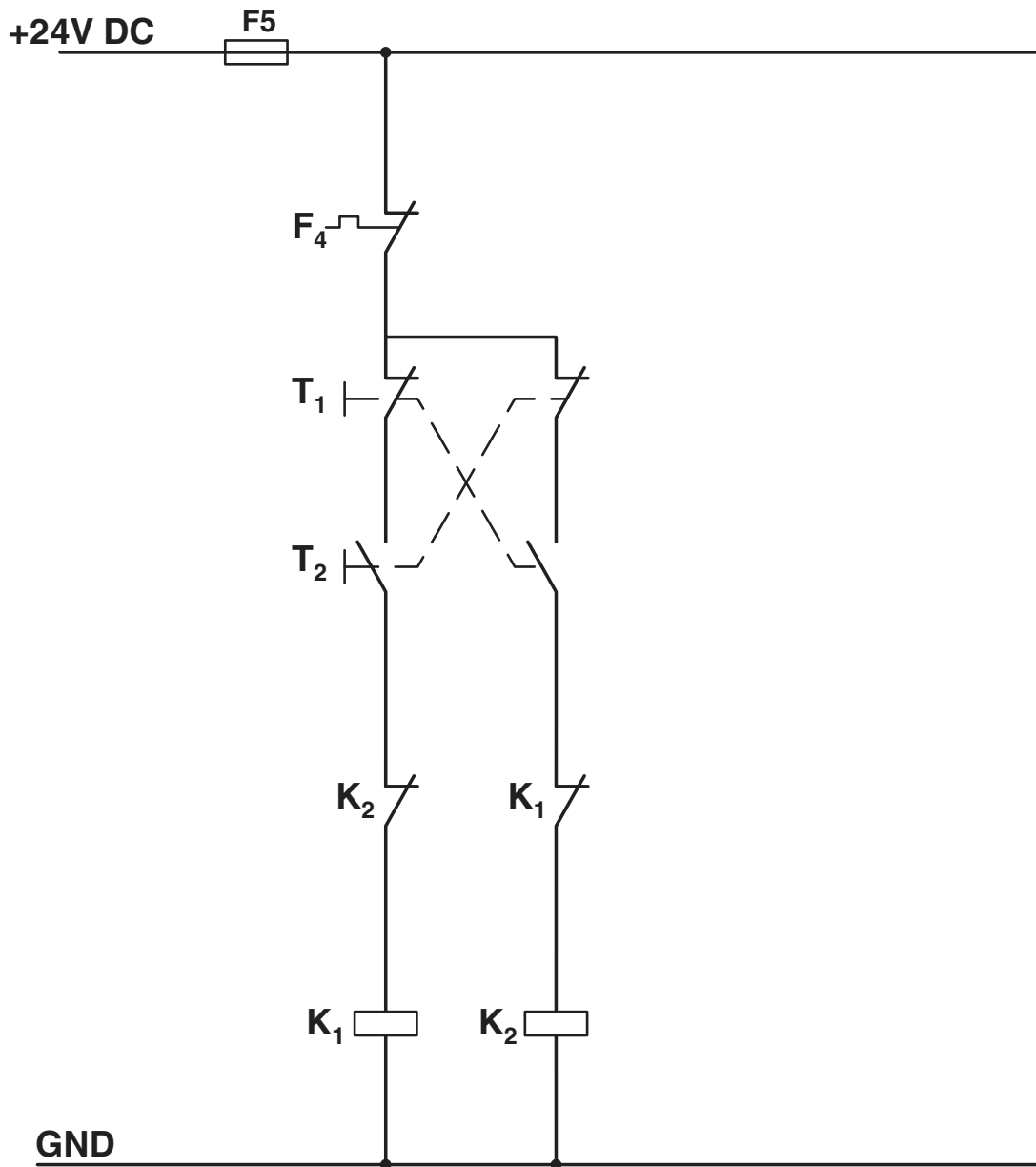## Standards and regulations

Standards/regulations

Standards/regulations	IEC 60947-1
	IEC 60947-4-2
	IEC 61508
	ISO 13849

Mounting

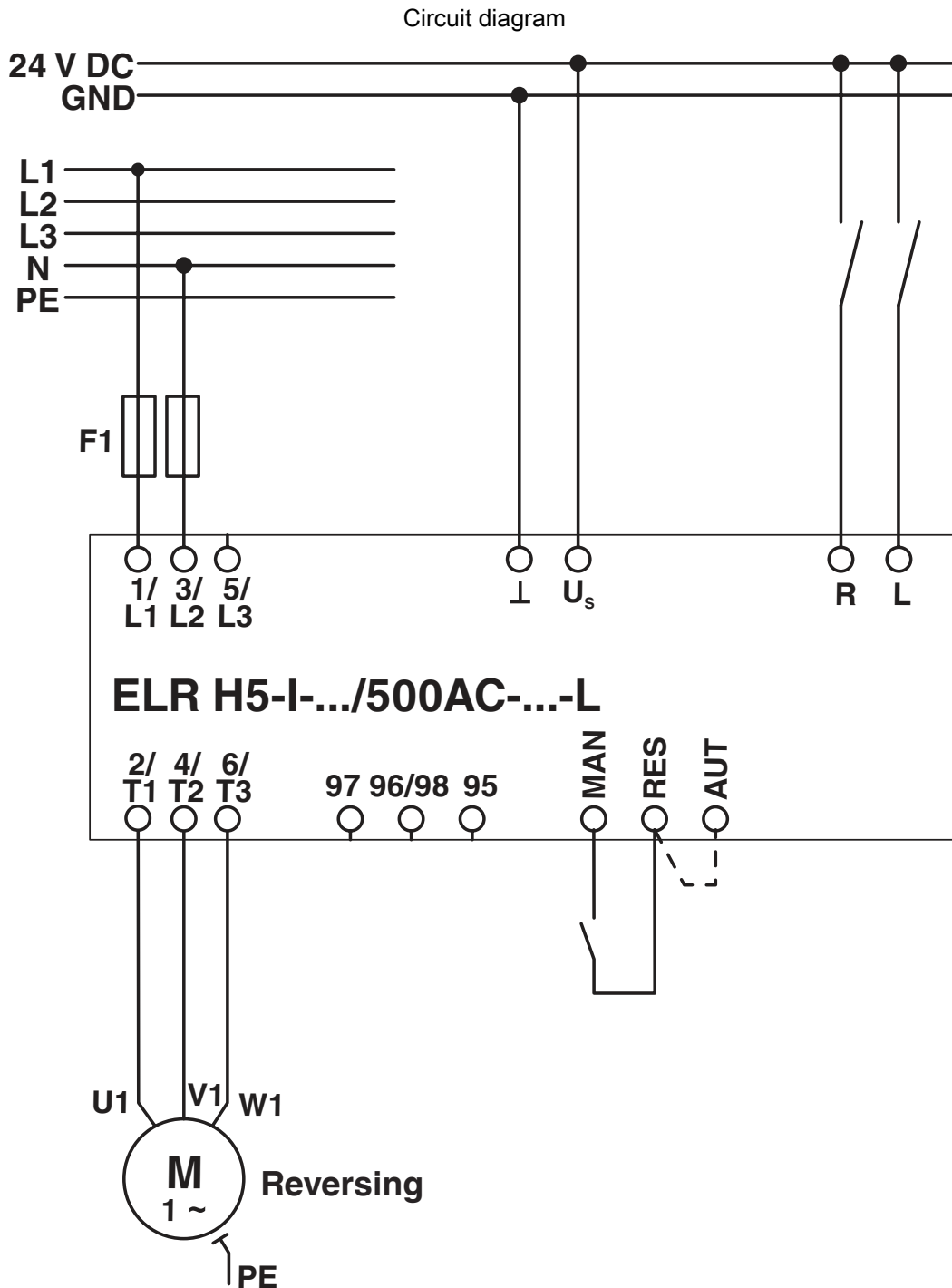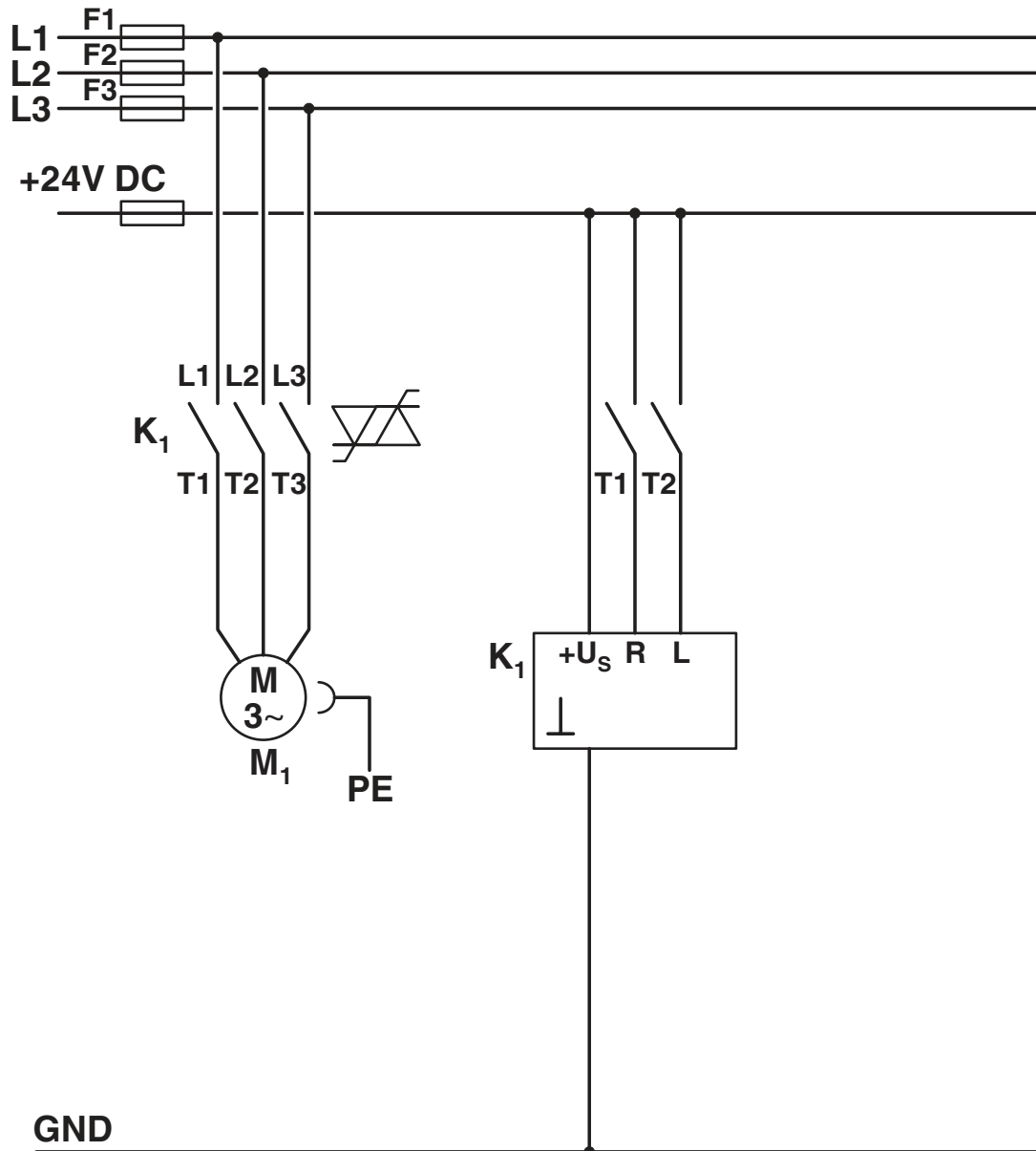|	
Mounting type	DIN rail mounting
Assembly instructions	alignable, for spacing see derating
Mounting position	vertical (horizontal DIN rail, motor output below)

ELR H5-I-SC-24DC/500AC-2-L - Hybrid motor starter

Drawings

Circuit diagram

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Circuit diagram

ELR H5-I-.../500AC-...-L

Reversing

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2905513

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Circuit diagram

Block diagram

Circuit diagram

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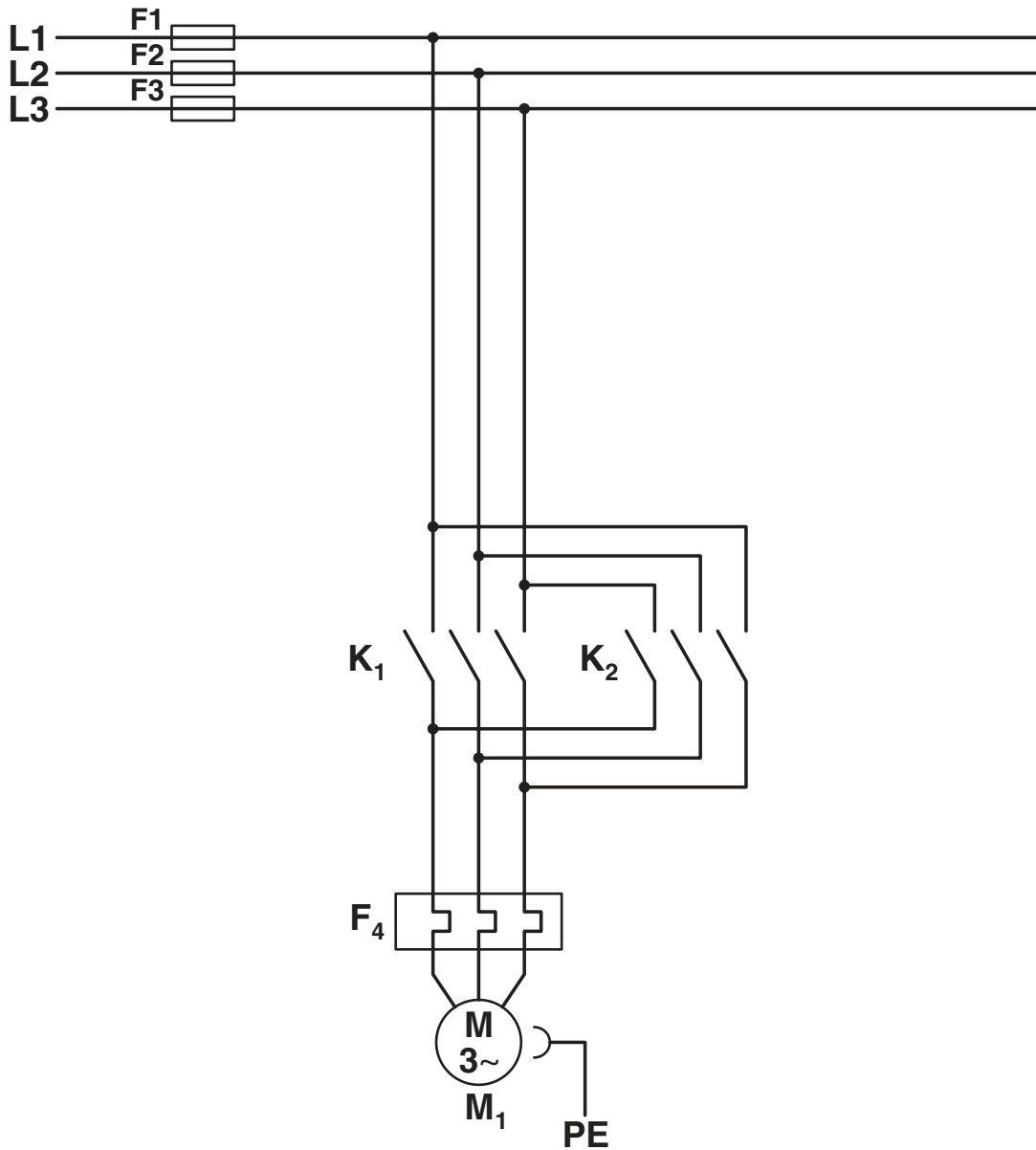
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Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/2905513

EAC
Approval ID: RU*C-DE.*08.B.00520*

UL Listed
Approval ID: FILE E 323771

CCC
Approval ID: 2016010304871315

cUL Listed
Approval ID: FILE E 323771

cUL Listed
Approval ID: FILE E 228652

UL Listed
Approval ID: FILE E 228652

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Classifications

ECLASS

ECLASS-11.0	27370905
ECLASS-12.0	27370905
ECLASS-13.0	27370905

ETIM

ETIM 8.0	EC001037

UNSPSC

UNSPSC 21.0	25173900

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

BRIDGE- 2 - Bridge

2900746

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3-phase loop bridge for CONTACTRON modules, with screw connection and 22.
5 mm housing width, connecting cable: 0.3 m, with ferrules.

BRIDGE- 3 - Bridge

2900747

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3-phase loop bridge for 3 CONTACTRON modules, with screw connection and
22.5 mm housing width, connecting cable: 0.3 m, with ferrules.

ELR H5-I-SC-24DC/500AC-2-L - Hybrid motor starter

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BRIDGE- 4 - Bridge

2900748

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3-phase loop bridge for 4 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 0.3 m, with ferrules.

BRIDGE- 5 - Bridge

2900749

https://www.phoenixcontact.com/us/products/2900749

3-phase loop bridge for 5 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 0.3 m, with ferrules.

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BRIDGE- 6 - Bridge

2900750

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3-phase loop bridge for 6 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 0.3 m, with ferrules.

BRIDGE- 7 - Bridge

2900751

https://www.phoenixcontact.com/us/products/2900751

3-phase loop bridge for 7 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 0.3 m, with ferrules.

BRIDGE- 8 - Bridge

2900752

https://www.phoenixcontact.com/us/products/2900752

3-phase loop bridge for 8 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 0.3 m, with ferrules.

BRIDGE- 9 - Bridge

2900753

https://www.phoenixcontact.com/us/products/2900753

3-phase loop bridge for 9 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 0.3 m, with ferrules.

ELR H5-I-SC-24DC/500AC-2-L - Hybrid motor starter

BRIDGE-10 - Bridge

2900754

https://www.phoenixcontact.com/us/products/2900754

3-phase loop bridge for 10 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 0.3 m, with ferrules.

BRIDGE- 2-1M - Bridge

2901542

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3-phase loop bridge for 2 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 1 m

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BRIDGE- 3-1M - Bridge

2901655

https://www.phoenixcontact.com/us/products/2901655

3-phase loop bridge for 3 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 1 m

BRIDGE- 4-1M - Bridge

2901658

https://www.phoenixcontact.com/us/products/2901658

3-phase loop bridge for 4 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 1 m

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BRIDGE- 5-1M - Bridge

2901544

https://www.phoenixcontact.com/us/products/2901544

3-phase loop bridge for 5 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 1 m

BRIDGE- 6-1M - Bridge

2901649

https://www.phoenixcontact.com/us/products/2901649

3-phase loop bridge for 6 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 1 m

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BRIDGE- 2-3M - Bridge

2901543

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3-phase loop bridge for 2 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 3 m

BRIDGE- 3-3M - Bridge

2901656

https://www.phoenixcontact.com/us/products/2901656

3-phase loop bridge for 3 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 3 m

BRIDGE- 4-3M - Bridge

2901659

https://www.phoenixcontact.com/us/products/2901659

3-phase loop bridge for 4 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 3 m

BRIDGE- 5-3M - Bridge

2901545

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3-phase loop bridge for 5 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 3 m

ELR H5-I-SC-24DC/500AC-2-L - Hybrid motor starter

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BRIDGE- 6-3M - Bridge

2901697

https://www.phoenixcontact.com/us/products/2901697

3-phase loop bridge for 6 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 3 m

BRIDGE- 7-3M - Bridge

2901698

https://www.phoenixcontact.com/us/products/2901698

3-phase loop bridge for 7 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 3 m

BRIDGE- 8-3M - Bridge

2901700

https://www.phoenixcontact.com/us/products/2901700

3-phase loop bridge for 8 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 3 m

BRIDGE- 9-3M - Bridge

2901701

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3-phase loop bridge for 9 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 3 m

ELR H5-I-SC-24DC/500AC-2-L - Hybrid motor starter

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BRIDGE-10-3M - Bridge

2901702

https://www.phoenixcontact.com/us/products/2901702

3-phase loop bridge for 10 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 3 m

BRIDGE- 2- 2M/0,3M - Bridge

2909897

https://www.phoenixcontact.com/us/products/2909897

3-phase loop bridge for 2 CONTACTRON modules, with screw connection and 22.5 mm housing width, cable length between the modules: 0.3 m, connecting cable: 2 m

BRIDGE- 3- 2M/0,3M - Bridge

2909898

https://www.phoenixcontact.com/us/products/2909898

3-phase loop bridge for 3 CONTACTRON modules, with screw connection and 22.5 mm housing width, cable length between the modules: 0.3 m, connecting cable: 2 m

BRIDGE- 4- 2M/0,3M - Bridge

2909899

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3-phase loop bridge for 4 CONTACTRON modules, with screw connection and 22.5 mm housing width, cable length between the modules: 0.3 m, connecting cable: 2 m

ELR H5-I-SC-24DC/500AC-2-L - Hybrid motor starter

2905513

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US-EMLP (15X5) - Plastic label

0828790

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

UC-EMLP (15X5) - Plastic label

0819301

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

ELR H5-I-SC-24DC/500AC-2-L - Hybrid motor starter

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EM-CPS-225 - Power distribution board

1002634

https://www.phoenixcontact.com/us/products/1002634

Modular power distribution board with CrossLink$^{®}$ interface, 125 A, 3-pos., touch-proof and protection against polarity reversal, width: 225 mm

EM-CPS-405 - Power distribution board

1002635

https://www.phoenixcontact.com/us/products/1002635

Modular power distribution board with CrossLink$^{®}$ interface, 125 A, 3-pos., touch-proof and protection against polarity reversal, width: 405 mm

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https://www.phoenixcontact.com/us/products/2905513

EM-CPS-TB3/63A - Connection module

1002633

https://www.phoenixcontact.com/us/products/1002633

Connection module with integrated spring-loaded terminals for cables from 1.5 to 16 mm^2, 3-pos., maximum 63 A

EM-CPS-DA-22,5F/16A - Adapter

1002668

https://www.phoenixcontact.com/us/products/1002668

Device adapter with fuse holder for 16 A fuse (10x38/Class CC), CrossLink$^®$ interface and fixed DIN rail