

2903937

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Networkable hybrid motor starter for starting 3~ AC motors up to 500 V AC and 3 A output current, with adjustable overload shutdown, emergency stop function up to SIL 3/PL e, and Push-in connection. Connection to the SmartWire-DT system.

Commercial data

Item number	2903937
Packing unit	1 pc
Note	Made to order (non-returnable)
Sales key	C470
Product key	CK7431
Catalog page	Page 28 (C-5-2017)
GTIN	4046356771887
Weight per piece (including packing)	304 g
Weight per piece (excluding packing)	297 g
Customs tariff number	85371098
Country of origin	DE

Technical data

Product properties

Product type	Hybrid motor starters
Operating mode	100% operating factor

Electrical properties

Number of phases	3
Maximum power dissipation for nominal condition	2.5 W
Switching frequency	≤ 2 Hz (Load-dependent)
Maximum power dissipation	4.1 W
Minimum power dissipation	0.88 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	60 mA
Protective circuit	Surge protection Reverse polarity protection; Parallel polarity protection diode

Insulation characteristics

Rated insulation voltage	550 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)
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 Safe isolation (EN 50178) in the auxiliary circuit ≤ 300 V AC

Emergency tripping

Operate threshold	> 33 A
Response time	< 0.5 s

Input data

Control

Input name	Enable input
Rated actuating voltage U_C	24 V DC
Triggering voltage range	19.2 V DC ... 30 V DC
Rated actuating current I_C	7 mA
Switching threshold	9.6 V ("0" signal) 19.2 V ("1" signal)
Switching level	< 5 V DC (For EMERGENCY STOP)
Typical turn-off time	< 30 ms

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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	3 A (AC-51)
	3 A (AC-53a)
Mains frequency	50/60 Hz
Load current range	180 mA ... 3 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; Varistor

Connection data

Control circuits

Connection method	Push-in connection
Stripping length	10 mm
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

Load circuit

Connection method	Push-in connection
Stripping length	10 mm
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

Signaling

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

Dimensions

Width	22.5 mm
Height	107.5 mm
Depth	114 mm

Material specifications

Flammability rating according to UL 94	V0 (Housing)
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Environmental and real-life conditions

Ambient conditions

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Degree of protection	IP20
Ambient temperature (operation)	-5 °C ... 55 °C (observe derating)
Ambient temperature (storage/transport)	-40 °C ... 80 °C

Approvals

ATEX

Identification	⚡ II (2) G [Ex eb] [Ex db] [Ex pxb]
	⚡ II (2) D [Ex tb] [Ex pb]
Certificate	PTB 15 ATEX 3001

UL approval

Certificate	NLDX.E228652
	NRNT.E172140

Safety Integrity Level (SIL, IEC 61508)

Identification	≤ 3
Note	Safe shutdown

Safety Integrity Level (SIL, IEC 61508)

Identification	2
Note	Motor protection

Performance Level (ISO 13849)

Identification	e
Note	Safe shutdown

Category (ISO 13849)

Identification	≤ 3
Note	Safe shutdown

UL data

SCCR	100 kA (480 V AC (fuse: 30 A class CC/30 A class J (high fault)))
	5 kA (480 V AC (fuse: 20 A RK5 (standard fault)))
FLA	3 A (480 V AC)
Group installation	20 A (class RK5, SCCR 5kA (480 V AC), #24 - 14 AWG max. solid and stranded)
	30 A (class CC or J, SCCR 100kA (480 V AC), #24 - 14 AWG max. solid and stranded)
Category code	NLDX / NRNT
Horsepower ratings	0.5 hp (120 V AC / 208 V AC)
	1.5 hp (277 V AC / 480 V AC)

Standards and regulations

Standards/regulations

Standards/regulations	IEC 60947-1
	EN 60947-4-2
	IEC 61508

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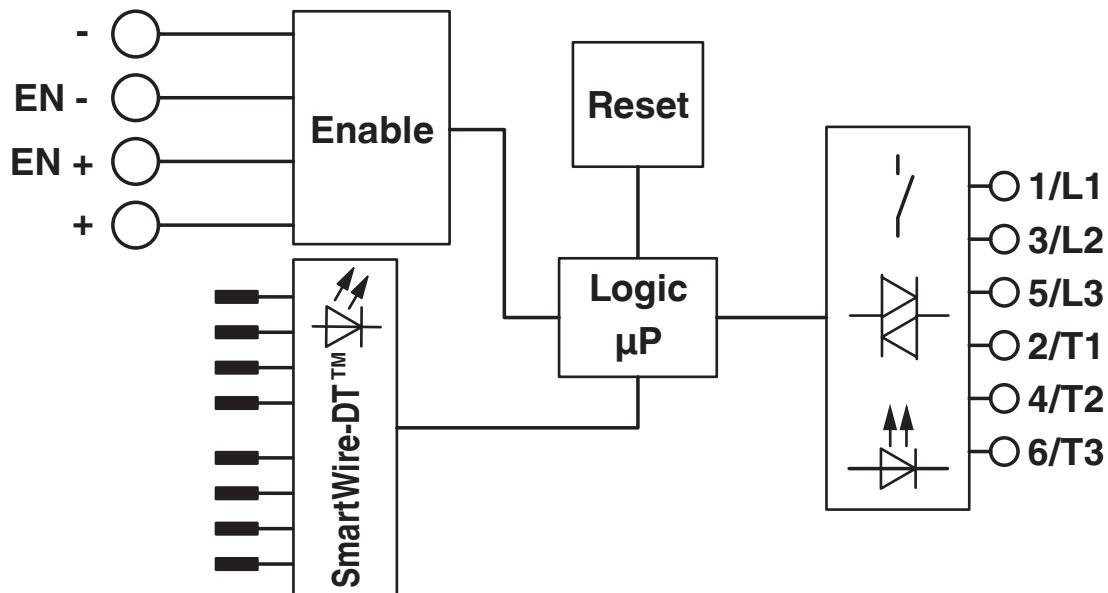
	ISO 13849
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Mounting

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

Drawings

Block diagram



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Classifications

ECLASS

ECLASS-11.0	27370905
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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)

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Accessories

BRIDGE-PT 2 - Bridge

2904490

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



BRIDGE-PT 3 - Bridge

2904491

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



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BRIDGE-PT 4 - Bridge

2904492

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



BRIDGE-PT 5 - Bridge

2904493

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



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BRIDGE-PT 6 - Bridge

2904494

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



BRIDGE-PT 7 - Bridge

2904495

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



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BRIDGE-PT 8 - Bridge

2904496

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



BRIDGE-PT 9 - Bridge

2904497

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



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BRIDGE-PT 10 - Bridge

2904498

<https://www.phoenixcontact.com/us/products/2904498>

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



BRIDGE COVER - Covering hood

2906240

<https://www.phoenixcontact.com/us/products/2906240>

The BRIDGE COVER covering hood is used to cover unused plugs on the CONTACTRON bridge that may subsequently be used to extend the system. The hood can be used with the screw and Push-in version of the bridge.



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US-EMLP (15X5) - Plastic label

0828790

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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

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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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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 mm², 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

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