

ELR H3-IES-PT/500AC-3-IFS - Hybrid motor starter



2905142

<https://www.phoenixcontact.com/us/products/2905142>

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Networkable hybrid motor starter for starting 3~ AC motors up to 500 V AC, output current: 3 A, emergency stop function, adjustable overload shutdown, and Push-in connection, DIN rail connector provided.

Your advantages

- 22.5 mm wide
- Safety level in accordance with IEC 61508-1: SIL 3, ISO 13849: PL e
- Reduction in wiring
- Space saving
- Long service life
- 3-phase loop bridges
- Adjustable current for bimetal function
- Low-wear switching

Commercial data

Item number	2905142
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	C478
Product key	CK7431
Catalog page	Page 30 (C-5-2019)
GTIN	4046356920476
Weight per piece (including packing)	295.4 g
Weight per piece (excluding packing)	286.2 g
Customs tariff number	85371098
Country of origin	DE

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	Direct starter
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

Emergency tripping

Operate threshold	> 33 A
Response time	< 0.5 s

Input data

Control

Input name	Enable input
Note	The enable input is compatible with signals with blanking (semiconductor output signals with test pulse with max. 3 ms duration), unblanking pulses of max. 4 ms are tolerated without adversely affecting the safety function.
Rated actuating voltage U_C	24 V DC

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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
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	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

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Depth	114 mm
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Material specifications

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

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-5 °C ... 60 °C (observe derating)
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Altitude	≤ 2000 m

Approvals

UKCA

Certificate	UKCA-compliant
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ATEX

Identification	⊕ II (2) G [Ex eb] [Ex db] [Ex pxb] ⊕ II (2) D [Ex tb] [Ex pb]
Certificate	PTB 15 ATEX 3000

UL approval

Certificate	NLDX.E228652 NRNT.E172140
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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)

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	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 (208 V AC)
	0.5 hp (230 V AC)
	0.5 hp (240 V AC)
	1.5 hp (480 V AC)

Standards and regulations

Standards/regulations

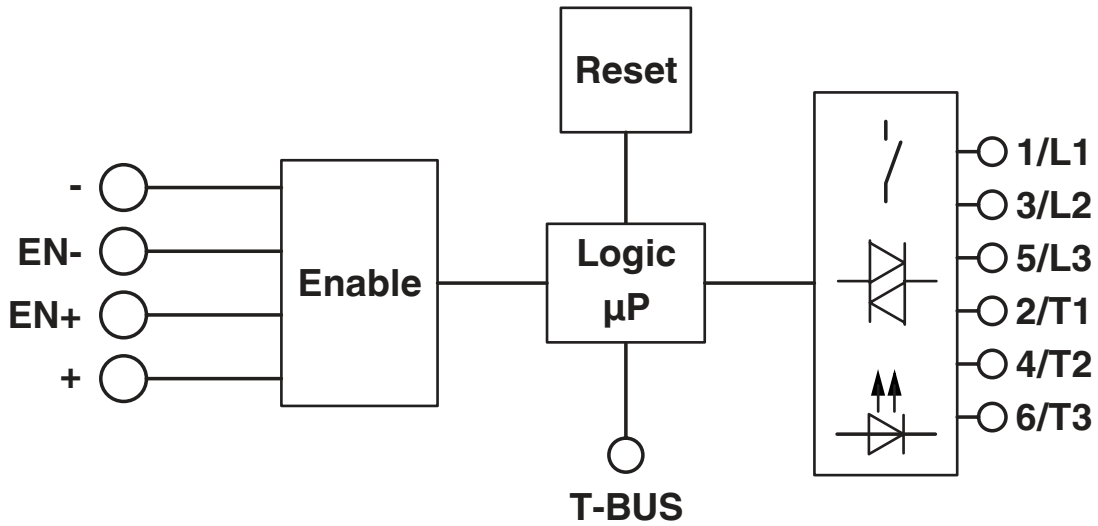
Standards/regulations	IEC 60947-1
	EN 60947-4-2
	IEC 61508
	ISO 13849

Mounting

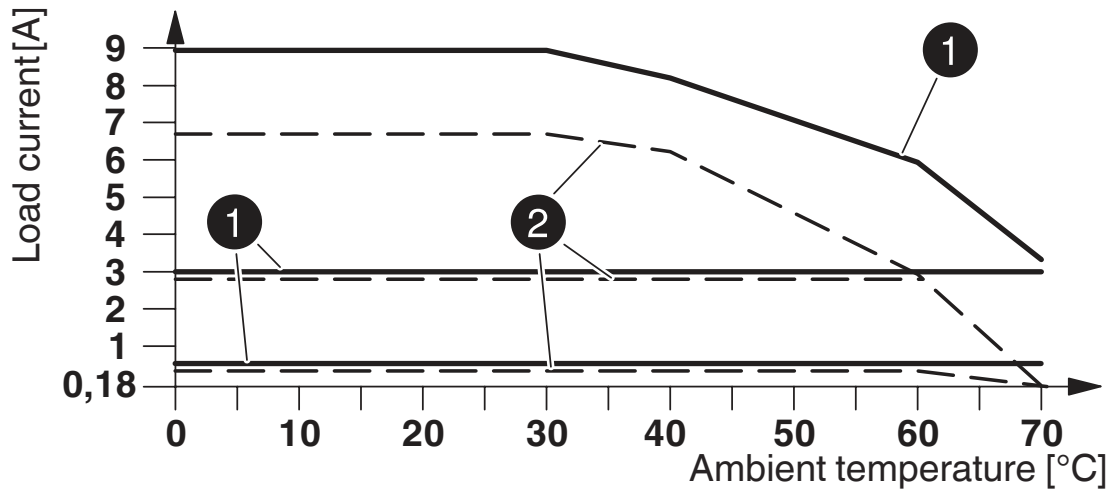
Mounting type	DIN rail mounting
Assembly instructions	alignable, for spacing see derating
Mounting position	vertical (horizontal DIN rail, motor output below)

Drawings

Block diagram



Diagram



- ① = aligned with > 20 mm spacing
- ② = aligned without spacing

Derating diagram

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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2905142>



IECEE CB Scheme

Approval ID: DE1-60807



EAC

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



UL Listed

Approval ID: FILE E 172140



CCC

Approval ID: 2016010304900298



cUL Listed

Approval ID: FILE E 172140



cUL Listed

Approval ID: FILE E 228652



UL Listed

Approval ID: FILE E 228652



ATEX

Approval ID: PTB 15 ATEX 3000

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Classifications

ECLASS

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

ETIM

ETIM 8.0	EC001037
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UNSPSC

UNSPSC 21.0	25173900
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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

BRIDGE-PT 1 - Bridge

1161777

<https://www.phoenixcontact.com/us/products/1161777>

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



BRIDGE-PT 2 - Bridge

2904490

<https://www.phoenixcontact.com/us/products/2904490>

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



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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



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



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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



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



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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



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



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BRIDGE-PT 9 - Bridge

2904497

<https://www.phoenixcontact.com/us/products/2904497>

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



BRIDGE-PT 10 - Bridge

2904498

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



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BRIDGE-PT 1-1M - Bridge

1161778

<https://www.phoenixcontact.com/us/products/1161778>

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



BRIDGE-PT-2-1M - Bridge

1049407

<https://www.phoenixcontact.com/us/products/1049407>

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



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BRIDGE-PT-3-1M - Bridge

1049408

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



BRIDGE-PT-4-1M - Bridge

1049409

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



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BRIDGE-PT-5-1M - Bridge

1049413

<https://www.phoenixcontact.com/us/products/1049413>

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



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

1107649

<https://www.phoenixcontact.com/us/products/1107649>

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



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

1107650

<https://www.phoenixcontact.com/us/products/1107650>



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

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

1107644

<https://www.phoenixcontact.com/us/products/1107644>



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

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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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ME 22,5 TBUS 1,5/ 5-ST-3,81 GY - DIN rail bus connectors

2201937

<https://www.phoenixcontact.com/us/products/2201937>



DIN rail connector, color: gray, nominal current: 8 A (parallel contacts), rated voltage (III/2): 125 V, number of positions: 5, pitch: 3.81 mm, mounting: DIN rail mounting, locking: without, mounting: without, type of packaging: packed in cardboard, Item with gold-plated contacts, bus connectors for connecting with electronics housings, 5 parallel contacts

EM-PB-GATEWAY-IFS - Data interface

2297620

<https://www.phoenixcontact.com/us/products/2297620>



Gateway for the connection of up to 32 INTERFACE system devices to a higher-level controller via PROFIBUS DP. The INTERFACE system devices are connected to the Gateway via DIN rail connectors, the DIN rail connectors are provided.

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EM-CAN-GATEWAY-IFS - Data interface

2901504

<https://www.phoenixcontact.com/us/products/2901504>



Gateway for the connection of up to 32 INTERFACE system devices to a higher-level controller via CANopen[®]. The INTERFACE system devices are connected to the Gateway via DIN rail connectors, the DIN rail connectors are provided.

EM-MODBUS-GATEWAY-IFS - Data interface

2901528

<https://www.phoenixcontact.com/us/products/2901528>



Gateway for the connection of up to 32 INTERFACE system devices via Modbus/TCP to a higher-level controller. The INTERFACE system devices are connected to the Gateway via DIN rail connectors, the DIN rail connectors are provided.

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EM-PNET-GATEWAY-IFS - Data interface

2904472

<https://www.phoenixcontact.com/us/products/2904472>



Gateway for the connection of up to 32 INTERFACE system devices via PROFINET to a higher-level controller. The INTERFACE system devices are connected to the Gateway via DIN rail connectors, the DIN rail connectors are provided.

EM-ETH-GATEWAY-IFS - Data interface

2901988

<https://www.phoenixcontact.com/us/products/2901988>



Gateway for the connection of up to 32 INTERFACE system devices to a higher-level controller via EtherNet/IP™. The INTERFACE system devices are connected to the Gateway via DIN rail connectors, the DIN rail connectors are provided.

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EM-D-8/4-24DC-IFS - Extension module

2904473

<https://www.phoenixcontact.com/us/products/2904473>



For more complex applications with Interface system devices (IFS), the extension module offers digital inputs and outputs for processing additional signals in the field. Easy connection to IFS gateway via the DIN rail connector as the slave.

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

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ME 22,5 TBUS ADAPTER KMGY - DIN rail bus connectors

2201756

<https://www.phoenixcontact.com/us/products/2201756>

DIN rail bus adapter for ME and ME-MAX, design width: 22.5 mm, 5 parallel positions, color: light gray (similar to RAL 7035)



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