

ELR H5-IES-PT-24DC/500AC-2-T - Hybrid motor starter



2906059

<https://www.phoenixcontact.com/us/products/2906059>

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Hybrid motor starter; functions: Start motor, Reverse motor, Motor protection, Emergency stop, Higher resistance to transient voltages; input: 24 V DC; output: 3~, 500 V AC, 2.4 A; connection method: Push-in connection

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	2906059
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	C470
Product key	CK7412
GTIN	4055626024608
Weight per piece (including packing)	298.7 g
Weight per piece (excluding packing)	284.3 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/EN 50178) at operating voltage ≤ 300 V AC
	Basic insulation (IEC 60947-1) at operating voltage 300 V AC ... 500 V AC
	Safe isolation (EN 50178) at operating voltage 300 ... 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
	Safe isolation (EN 50178) 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
Switching threshold	9.6 V ("0" signal)
	19.2 V ("1" signal)

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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	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 10A
Cooling time	20 min.
Leakage current	0 mA
Protective circuit	Surge protection

Acknowledge output

Note	Confirmation: floating change-over contact, signal contact
Contact switching type	1 changeover 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	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

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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

Degree of protection	IP20
Ambient temperature (operation)	5 °C ... 70 °C (observe derating)
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Altitude	≤ 2000 m

Approvals

ATEX

Identification	⊕ II (2) G [Ex e] [Ex d] [Ex px]
	⊕ II (2) D [Ex t] [Ex p]
Certificate	PTB 07 ATEX 3145

UL approval

Certificate	NLDX.E228652
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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 (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)

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Category code	NLDX / NRNT
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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)

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Classifications

ECLASS

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

ETIM

ETIM 9.0	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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