

ELR H5-IS-SC- 24DC/500AC-3-P - Hybrid motor starter



2908699

<https://www.phoenixcontact.com/us/products/2908699>

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Hybrid motor starter as an alternative to a conventional reversing contactor. Reverses 3~ AC motors up to 3 A, provides motor protection and emergency stop up to SIL 3/PL e. Group shut-down, supply, and relay extension possible via DIN rail connector.

Product description

The modular 3-phase hybrid motor starter with reversing function and current monitoring provides the following functions: - Forward running - Reverse running - Motor overload protection - Emergency stop to performance level PLe (TÜV certified) Additional advantages are provided by using the DIN rail connector adapter (Item No. 2203861): - Emergency stop of the enable signal is also possible via the DIN rail connector, e.g. via a safety relay (PSR DC38...) - Power can also be supplied via the DIN rail connector by a system power supply (e. g., QUINT4-SYS...) or via the PCB connector IMC 1,5/ 5-ST-3,81, Item No. 1857919 - Optional relay module (e. g., EM-2RSC/21AU-R/L-P, Item No. 2908701) provides additional status information Thanks to the internal interlocking circuit and load wiring, wiring expense is reduced to a minimum.

Commercial data

Item number	2908699
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	C470
Product key	CK7472
Catalog page	Page 27 (C-5-2019)
GTIN	4055626323169
Weight per piece (including packing)	329.2 g
Weight per piece (excluding packing)	306 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

Data management status

Article revision	02
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Electrical properties

Number of phases	3
Motor starter type	Reversing starter
Switching frequency	≤ 2 Hz (Load-dependent)
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

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	Control input: right/left and enable input
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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
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
Trigger characteristic in acc. with IEC 60947-4-2	Class 10
Cooling time	20 min (for auto reset)
Leakage current	0 mA

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	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 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
	5 lb _F ·in. ... 7 lb _F ·in.

Load circuit

Connection method	Screw connection
Stripping length	8 mm

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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	LED (yellow)
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)
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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

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)

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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 (208 V AC)
	0.5 hp (230 V AC)
	0.5 hp (240 V AC)
	1.5 hp (480 V AC)
Ambient temperature (operation)	-25 °C ... 55 °C

Standards and regulations

Standards/regulations

Standards/regulations	EN 60947-1
	EN 60947-4-2
	EN ISO 13849
	IEC 62061
	IEC 61508

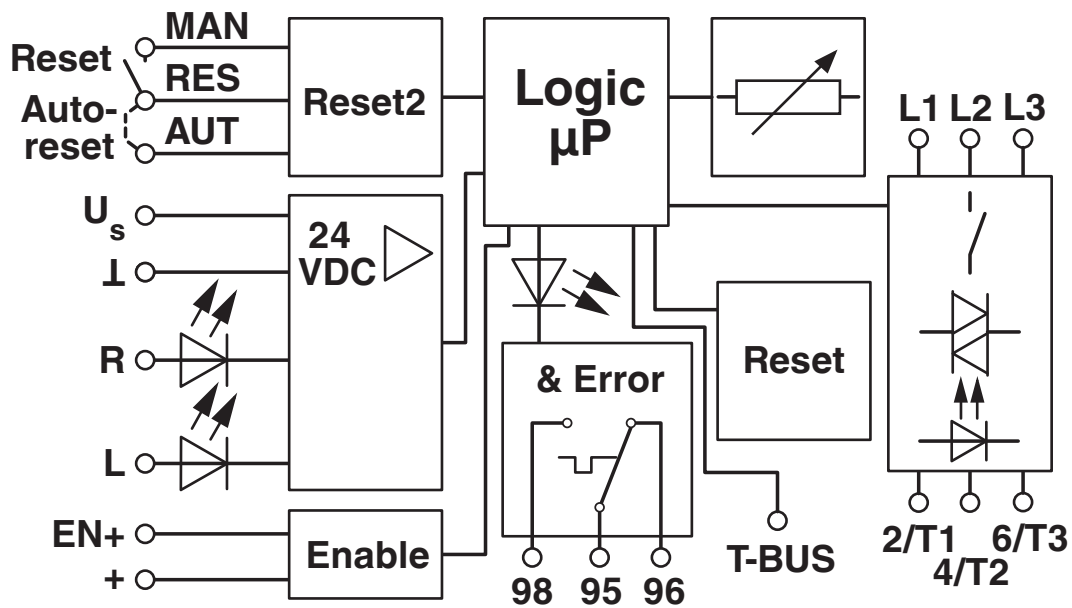
Mounting

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

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Drawings

Block diagram



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Approvals

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IECEE CB Scheme

Approval ID: DE1-60807



EAC

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



UL Listed

Approval ID: FILE E 172140



cUL Listed

Approval ID: FILE E 172140



cUL Listed

Approval ID: E228652



UL Listed

Approval ID: E228652



Functional Safety

Approval ID: 968/FSP 1746.01/19

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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

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)
SCIP	857136ef-32e5-4cea-83b0-426e73cfa300

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