Hybrid motor starter - ELR H5-IES-SC- 24DC/500AC-0,6 - 2900582

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Hybrid motor starter for reversing 3~ AC motors up to 500 V AC and 0.6 A output current, with 24 V DC control voltage, adjustable overload shutdown, emergency stop function to SIL 3/PL e, and screw connection.

Why buy this product

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



Key Commercial Data

Packing unit	1 STK
GTIN	4 046356 526289
GTIN	4046356526289

Technical data

Device 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
Type of protection	Surge protection
	Reverse polarity protection

Input data

Input name	Control input right/left
Rated actuating voltage U_C	24 V DC

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Technical data

Input data

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)
Switching level	< 5 V DC (For EMERGENCY STOP)
Typical turn-off time	< 30 ms
Type of protection	Reverse polarity protection

Output data load output

Output name	AC output
Rated operating voltage U_e	500 V AC
Operating voltage range	42 V AC ... 550 V AC
Rated operating current I_e	0.6 A (AC-51)
	0.6 A (AC-53a)
Mains frequency	50/60 Hz
Load current range	75 mA ... 600 mA (see to derating)
Trigger characteristic in acc. with IEC 60947-4-2	Class 10A
Cooling time	20 min. (for auto reset)
Leakage current	0 mA
Type of protection	Surge protection

Output data reply output

Output name	Acknowledge output
Note	Confirmation: floating change-over contact, signal contact
Contact type	1 PDT
Switching capacity according to IEC 60947-5-1	3 A (230 V, AC15)
	2 A (24 V, DC13)

General

Switching frequency	≤ 2 Hz (Load-dependent)
Mounting position	vertical (horizontal DIN rail, motor output below)
Mounting type	DIN rail mounting
Assembly instructions	alignable, for spacing see derating
Operating mode	100% operating factor
Maximum power dissipation	2.5 W
Minimum power dissipation	0.88 W
Operating voltage display	Green LED
Status display	Yellow LED
Indication	Red LED

Connection data, input side

Connection name	Control circuits
Connection method	Screw connection

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Connection data, input side

Stripping length	8 mm
Screw thread	M3
Conductor cross section solid	0.2 mm² ... 2.5 mm²
Conductor cross section flexible	0.2 mm² ... 2.5 mm²
Conductor cross section AWG	24 ... 14
Torque	0.5 Nm ... 0.6 Nm

Connection data, output side

Connection name	Load circuit
Connection method	Screw connection
Stripping length	8 mm
Screw thread	M3
Conductor cross section solid	0.2 mm² ... 2.5 mm²
Conductor cross section flexible	0.2 mm² ... 2.5 mm²
Conductor cross section AWG	24 ... 14
Torque	0.5 Nm ... 0.6 Nm

Ambient conditions

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

Dimensions

Width	22.5 mm
Height	106.6 mm
Depth	113.7 mm

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	0.6 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

Insulation characteristics

Rated insulation voltage	500 V
Rated surge voltage	6 kV
Overvoltage category	III
Degree of pollution	2
Designation	Insulation characteristics between the control input and control supply voltage, and auxiliary circuit to the main circuit
Insulation	Safe isolation (IEC 60947-1/EN 50178) at operating voltage ≤ 300 V AC

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Technical data

Insulation characteristics

	Basic isolation (IEC 60947-1) at operating voltage 300 ... 500 V AC
	Safe isolation (EN 50178) at operating voltage 300 ... 500 V AC
Designation	Isolation characteristics between the control input and control supply voltage to auxiliary circuit
Insulation	Safe isolation (IEC 60947-1) in the auxiliary circuit ≤ 300 V AC
	Safe isolation (EN 50178) in the auxiliary circuit ≤ 300 V AC

Standards and Regulations

Designation	Standards/regulations
Standards/regulations	IEC 60947-1
	IEC 60947-4-2
	IEC 61508
	ISO 13849
ATEX	# II (2) G [Ex e] [Ex d] [Ex px]
	# II (2) D [Ex t] [Ex p]

Approvals/conformities

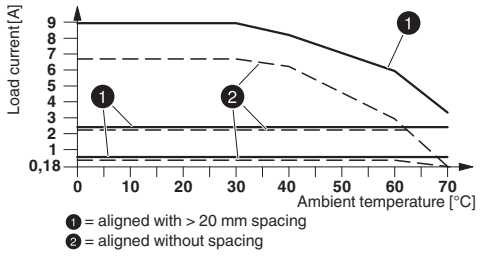
Safety Integrity Level according to IEC 61508	≤ 3 (Safe shutdown)
	2 (Motor protection)
Category acc. to EN ISO 13849	≤ 3 (Safe shutdown)
Performance level according to ISO 13849	≤ e (Safe shutdown)
ATEX	# II (2) G [Ex e] [Ex d] [Ex px]
	# II (2) D [Ex t] [Ex p]
EU-type examination certificate	PTB 07 ATEX 3145
UL certificate	NLDX.E228652

Environmental Product Compliance

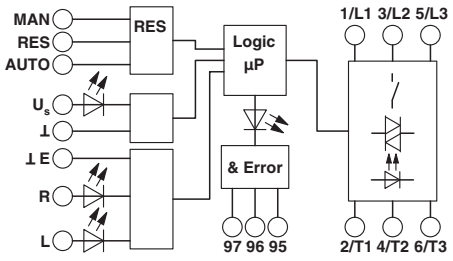
China RoHS	Environmentally Friendly Use Period = 50
	For details about hazardous substances go to tab “Downloads”, Category “Manufacturer's declaration”

Drawings

Diagram



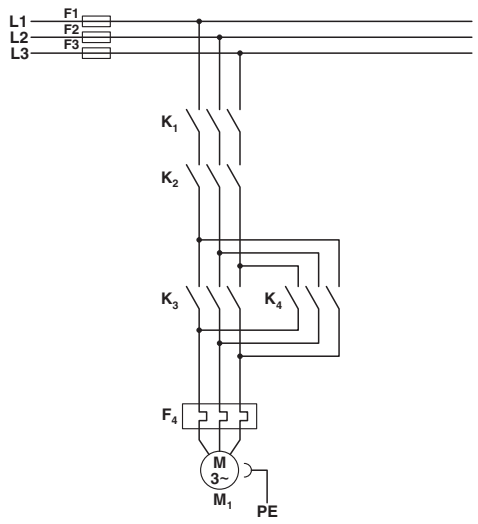
Block diagram



Derating diagram

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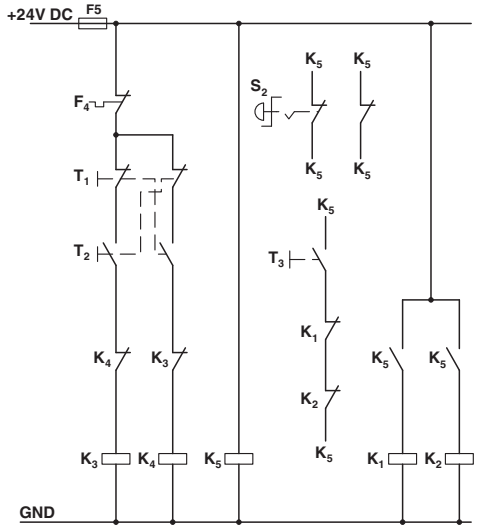
Circuit diagram



Conventional structure
Main current path for reversing contactor according to category 3

K1 + K2 = Emergency stop contactor
K3 = Left contactor
K4 = Right contactor
F4 = Motor protection relay

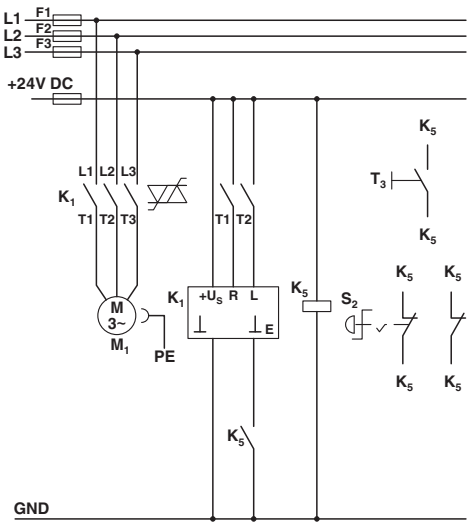
Circuit diagram



Conventional structure
Control current path reversing contactor according to category 3

K1 + K2 = Emergency stop contactor
K3 = Left contactor
K4 = Right contactor
K5 = PSR SCP-24DC.../Safety relay
T1 = Right, T2 = Left, T3 = Reset
S2 = Emergency stop
F4 = Motor protection relay

Circuit diagram



Structure with CONTACTRON
Main and control current path for '4 in 1' hybrid motor starter with reversing function according to category 3
K1 = '4 in 1' hybrid motor starter with reversing function

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K5 = PSR SCP-24DC.../Safety relay
T1 = Right, T2 = Left, T3 = Reset
S2 = Emergency stop

Approvals

Approvals

Approvals

UL Listed / cUL Listed / IECEE CB Scheme / GL / GL-SW / UL Listed / cUL Listed / EAC / CCC / cULus Listed / GL

Ex Approvals

ATEX

Approval details

UL Listed	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 228652
cUL Listed	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 323771
IECEE CB Scheme	http://www.iecee.org/	DE1-55728
GL	http://exchange.dnv.com/tari/	54757-08 HH
GL-SW		54757-08 HH
UL Listed	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 323771
cUL Listed	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 228652

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Approvals

EAC		RU C-DE.A*30.B.01082
CCC		2016010304871315
cULus Listed		

GL	http://www.gl-group.com/newbuilding/approvals/index.html

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