

## Excellent Integrated System Limited

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Extract from the online catalog

## ELR H5-ES-SC- 24DC/500AC-0,6

Order No.: 2900558


The figure shows the 9 A version



<http://eshop.phoenixcontact.de/phoenix/treeViewClick.do?UID=2900558>

"3 in 1" hybrid motor starter for reversing 3~ AC motors up to 550 V AC, with 24 V DC input, 0.6 A output current, and emergency stop function.



Commercial data	
GTIN (EAN)	 4 046356 527781
sales group	G420
Pack	1 pcs.
Customs tariff	85364900

### Product notes

WEEE/RoHS-compliant since:  
02/09/2010



<http://www.download.phoenixcontact.com>  
 Please note that the data given here has been taken from the online catalog. For comprehensive information and data, please refer to the user documentation. The General Terms and Conditions of Use apply to Internet downloads.

### Technical data

#### Input data

Rated control supply voltage $U_s$	24 V DC
Rated control supply voltage range with reference to $U_s$	0.8 ... 1.25
Rated control supply current $I_s$	35 mA

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Rated actuating voltage $U_c$	24 V DC
Rated actuating voltage range with reference to $U_c$	0.8 ... 1.25
Rated actuating current $I_c$	3 mA
Switching threshold "0" signal, voltage	9.6 V
Switching threshold "1" signal voltage	19.2 V
Protective circuit	Protection against polarity reversal Parallel polarity protection diode
	Surge protection
Typical response time	< 35 ms
Typical turn-off time	< 40 ms
Operating voltage display	Green LED
Status display	Yellow LED
Indication	Red LED

#### Output data, load relay

Output name	AC output
Nominal output voltage	500 V AC
Nominal output voltage range	48 V AC ... 550 V AC
Load current	max. 600 mA (see derating curve)
Leakage current	0 mA
Residual voltage	< 0.3 V
Surge current	100 A (t = 10 ms)
Type of protection	Surge protection
Output name	Acknowledge output
Note	Confirmation 01: Floating PDT contact
Nominal output voltage	max. 253 V AC 0% ... 100% (300 V DC)
Continuous load current	2 A

#### Output data, signaling contact

Measuring via	Current transformer for line current on L1 and L3
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#### Connection data

Connection method	Screw connection
Conductor cross section solid min.	0.14 mm <sup>2</sup>
Conductor cross section solid max.	2.5 mm <sup>2</sup>
Conductor cross section stranded min.	0.14 mm <sup>2</sup>
Conductor cross section stranded max.	2.5 mm <sup>2</sup>

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Conductor cross section AWG/kcmil min.	26
Conductor cross section AWG/kcmil max	12
<b>General data</b>	
Width	22.5 mm
Height	99 mm
Depth	114.5 mm
Test voltage input/output	4 kV <sub>rms</sub>
Ambient temperature (operation)	-25 °C ... 70 °C
Ambient temperature (storage/transport)	-25 °C ... 70 °C
Mounting position	Vertical (horizontal DIN rail)
Assembly instructions	Can be aligned with spacing = 20 mm
Operating mode	100% operating factor
Degree of protection	IP20
Name	Standards/regulations
Standards/regulations	DIN EN 50178
	EN 60947
Name	Power station requirements
Standards/regulations	DWR 1300 / ZXX01/DD/7080.8d
Name	Air and creepage distances between the power circuits
Standards/regulations	DIN EN 50178
Rated surge voltage / insulation	6 kV/safe isolation
Rated insulation voltage	500 V
Pollution degree	2
Surge voltage category	III
Safety integrity level according to IEC 61508-1	SIL 3 (safe shutdown)
Category as per ISO 13849-1	3
Performance Level as per ISO 13849-1	e
Category in acc. with EN 954-1	3

**Certificates / Approvals**



Certification

CB, CUL Listed, UL Listed

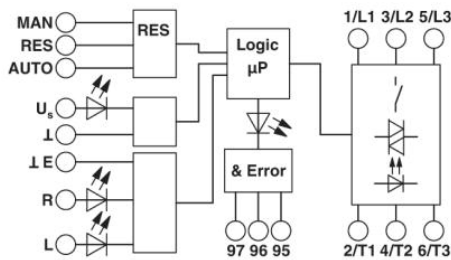
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Certification Ex:

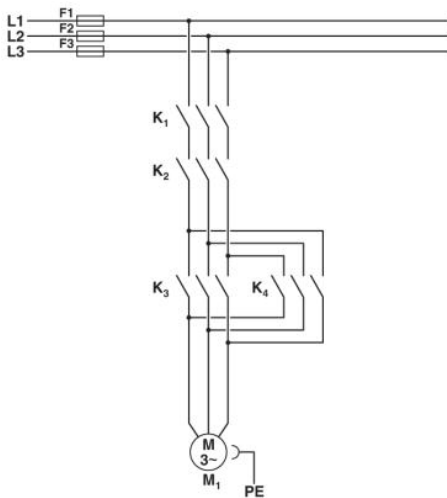
PTB

**Diagrams/Drawings**

Block diagram



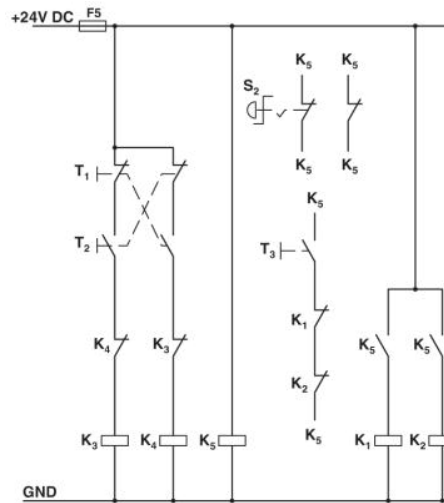
Circuit diagram



**Conventional structure**

Main current path for contactor according to category 3

- K1 + K2 = Emergency stop contactor
- K3 = Left contactor
- K4 = Right contactor



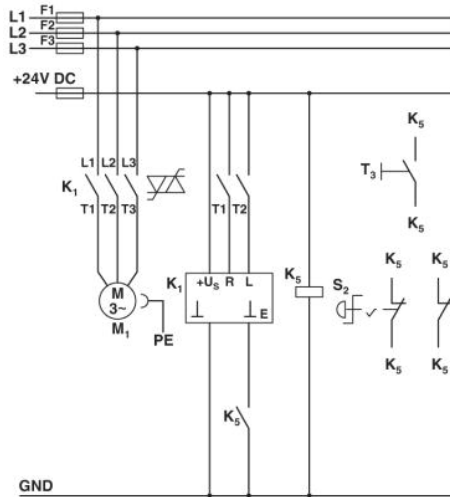
**Conventional structure**

Control current path for contactor according to category 3

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

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**Structure with CONTACTRON**

Main and control current path for "3 in 1" hybrid motor starter with reversing function according to category 3

K1 = "3 in 1" hybrid motor starter with reversing function

K5 = PSR SCP-24DC.../safety relay

T1 = Left, T2 = Right, T3 = Reset

S2 = Emergency stop

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