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With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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**ELR H3-ES-SC-230AC/500AC-9**

Order No.: 2900555

<http://eshop.phoenixcontact.de/phoenix/treeViewClick.do?UID=2900555>

"2 in 1" hybrid motor starter for starting 3~ AC motors up to 550 V AC,  
with 230 V AC input, 9 A output current, and emergency stop function.



Commercial data	
GTIN (EAN)	 4 046356 527798
Note	Made-to-order
sales group	G411
Pack	1 pcs.
Customs tariff	85364900

## Product notes

WEEE/RoHS-compliant since:  
03/01/2010

[http://  
www.download.phoenixcontact.com](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  
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## Technical data

## Input data

Mains frequency	40 Hz
	100 Hz
Rated control supply voltage $U_s$	230 V AC

Rated control supply voltage range with reference to $U_s$	0.4 ... 1.1
Rated control supply current $I_s$	3.5 mA
Rated actuating voltage $U_c$	230 V AC
Rated actuating voltage range with reference to $U_c$	0.4 ... 1.1
Rated actuating current $I_c$	7 mA
Switching threshold "0" signal, voltage	44 V AC
Switching threshold "1" signal voltage	85 V AC
Protective circuit	Surge protection
Typical response time	< 35 ms
Typical turn-off time	< 80 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. 9 A (see derating curve)
Leakage current	0 mA
Residual voltage	< 0.5 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>
Conductor cross section AWG/kcmil min.	26
Conductor cross section AWG/kcmil max	12

**General data**

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	4 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

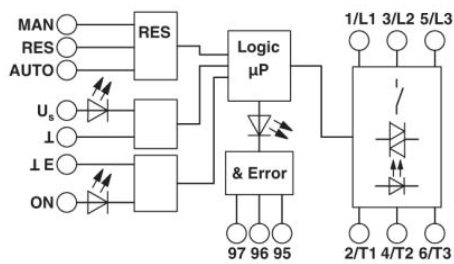
CB, CUL Listed, UL Listed

Certification Ex:

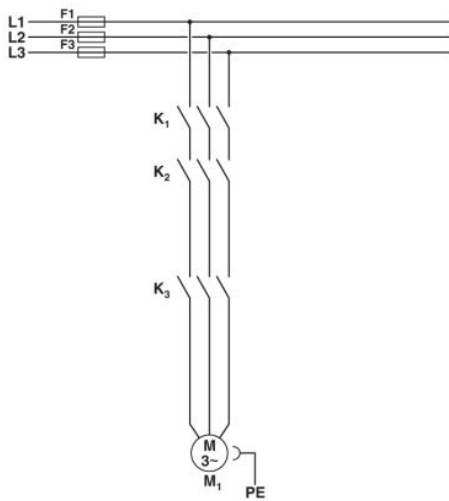
PTB

## Diagrams/Drawings

### Block diagram

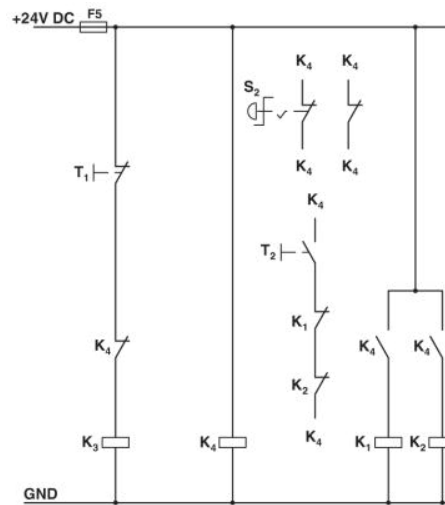


### Circuit diagram



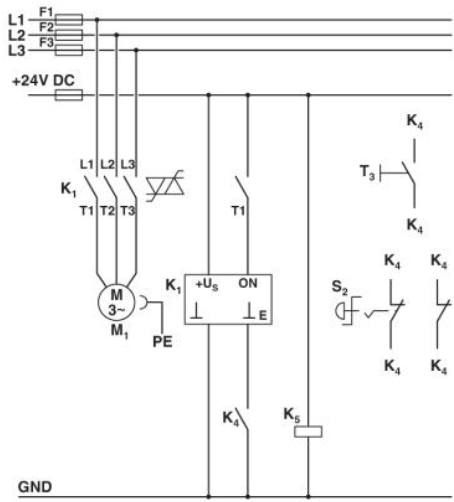
#### Conventional structure

Main current path for contactor according to category 3  
 K1 + K2 = Emergency stop contactor  
 K3 = Right contactor



#### Conventional structure

Control current path for contactor according to category 3  
 K1 + K2 = Emergency stop contactor  
 K3 = Right contactor  
 K4 = PSR SCP-24DC.../safety relay  
 T1 = Right, T3 = Reset  
 S2 = Emergency stop



**Structure with CONTACTRON**

Main and control current path for "2 in 1" hybrid motor starter according to category 3

K1 = "2 in 1" hybrid motor starter

K4 = PSR SCP-24DC.../safety relay

T1 = Right, T3 = Reset

S2 = Emergency stop

**Address**

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