

## ELR H5-IES-SC- 24DC/500AC-9


Order No.: 2900421



<http://eshop.phoenixcontact.hu/phoenix/treeViewClick.do?UID=2900421>

"4 in 1" hybrid motor starter for reversing 3~ AC motors up to 550 V AC, with 24 V DC input, 9 A output current, emergency stop function, and adjustable overload shutdown.



Commercial data	
EAN	 4 046356 504676
Pack	1
Customs tariff	85364900
Catalog page information	Page 173 (IF-2011)

### Product notes

WEEE/RoHS-compliant since:  
2010.02.09



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 at <http://www.download.phoenixcontact.com>. 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 $I_s$	40 mA
Rated actuating voltage $U_c$	24 V DC

Rated actuating voltage range with reference to $U_c$	0.8 ... 1.25
Rated actuating current $I_c$	5 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	42 V AC ... 550 V AC
Load current	max. 9 A (see derating curve)
Bemessungsbetriebsstrom bei AC-51	9 A
Bemessungsbetriebsstrom bei AC-53a	6.5 A
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. 250 V AC
Continuous load current	6 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	14

#### 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)	-40 °C ... 80 °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) SIL 2 (motor protection)
Category as per ISO 13849-1	3
Performance Level as per ISO 13849-1	e
Category in acc. with EN 954-1	3

#### Certificates

Certification	CB, CUL Listed, UL Listed
Certification Ex:	PTB

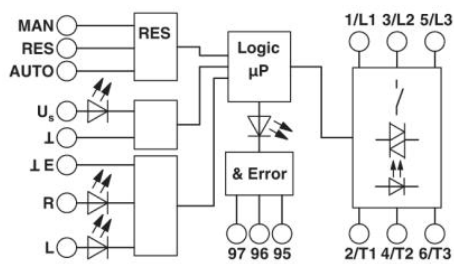
## Accessories

Item	Designation	Description
<b>Bridges</b>		
2900746	BRIDGE- 2	3-phase loop bridge <b>for 2 modules</b> of the CONTACTRON family with 22.5 mm housing width.
2901543	BRIDGE- 2-3M	3-phase loop bridge for 2 modules in the CONTACTRON family with 3 m long connecting cable without ferrules, 22.5 mm housing width.
2900747	BRIDGE- 3	3-phase loop bridge <b>for 3 modules</b> of the CONTACTRON family with 22.5 mm housing width.
2901656	BRIDGE- 3-3M	3-phase loop bridge for 3 modules in the CONTACTRON family with 3 m long connecting cable without ferrules, 22.5 mm housing width.
2900748	BRIDGE- 4	3-phase loop bridge <b>for 4 modules</b> of the CONTACTRON family with 22.5 mm housing width.
2901659	BRIDGE- 4-3M	3-phase loop bridge for 4 modules in the CONTACTRON family with 3 m long connecting cable without ferrules, 22.5 mm housing width.
2900749	BRIDGE- 5	3-phase loop bridge <b>for 5 modules</b> of the CONTACTRON family with 22.5 mm housing width.
2901545	BRIDGE- 5-3M	3-phase loop bridge for 5 modules in the CONTACTRON family with 3 m long connecting cable without ferrules, 22.5 mm housing width.
2900750	BRIDGE- 6	3-phase loop bridge <b>for 6 modules</b> of the CONTACTRON family with 22.5 mm housing width.
2901697	BRIDGE- 6-3M	3-phase loop bridge for 6 modules in the CONTACTRON family with 3 m long connecting cable without ferrules, 22.5 mm housing width.
2900751	BRIDGE- 7	3-phase loop bridge <b>for 7 modules</b> of the CONTACTRON family with 22.5 mm housing width.
2901698	BRIDGE- 7-3M	3-phase loop bridge for 7 modules in the CONTACTRON family with 3 m long connecting cable without ferrules, 22.5 mm housing width.
2900752	BRIDGE- 8	3-phase loop bridge <b>for 8 modules</b> of the CONTACTRON family with 22.5 mm housing width.
2901700	BRIDGE- 8-3M	3-phase loop bridge for 8 modules in the CONTACTRON family with 3 m long connecting cable without ferrules, 22.5 mm housing width.
2900753	BRIDGE- 9	3-phase loop bridge <b>for 9 modules</b> of the CONTACTRON family with 22.5 mm housing width.

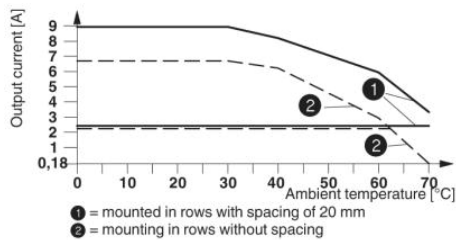
2901701	BRIDGE- 9-3M	3-phase loop bridge for 9 modules in the CONTACTRON family with 3 m long connecting cable without ferrules, 22.5 mm housing width.
2900754	BRIDGE-10	3-phase loop bridge <b>for 10 modules</b> of the CONTACTRON family with 22.5 mm housing width.
2901702	BRIDGE-10-3M	3-phase loop bridge for 10 modules in the CONTACTRON family with 3 m long connecting cable without ferrules, 22.5 mm housing width.

## Drawings

### Block diagram

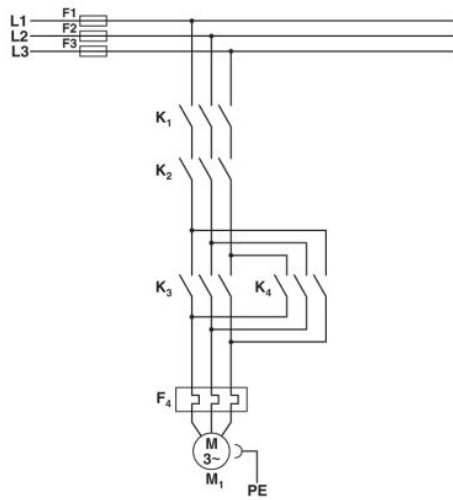


### Diagram



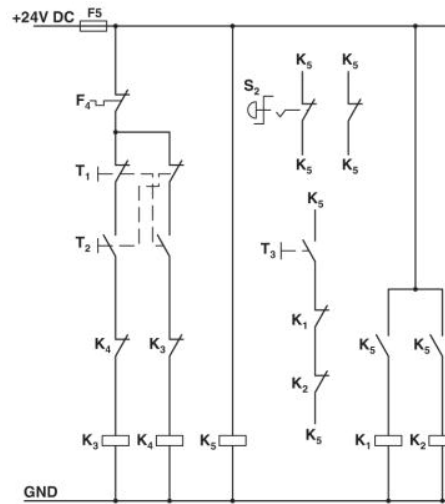
Derating curve ELR H5-IES-SC- 24DC/500AC-2 and ELR H5-IES-SC- 24DC/500AC-9

Circuit diagram



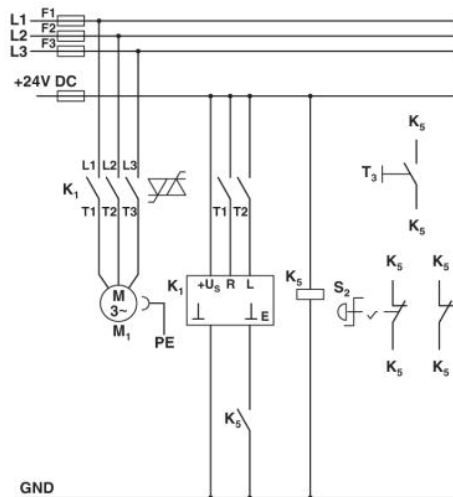
**Conventional structure**

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



**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

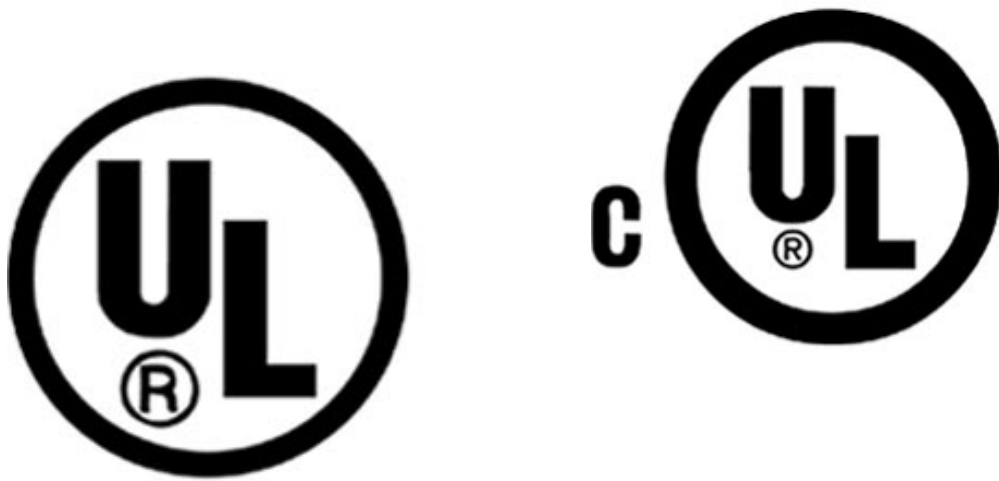


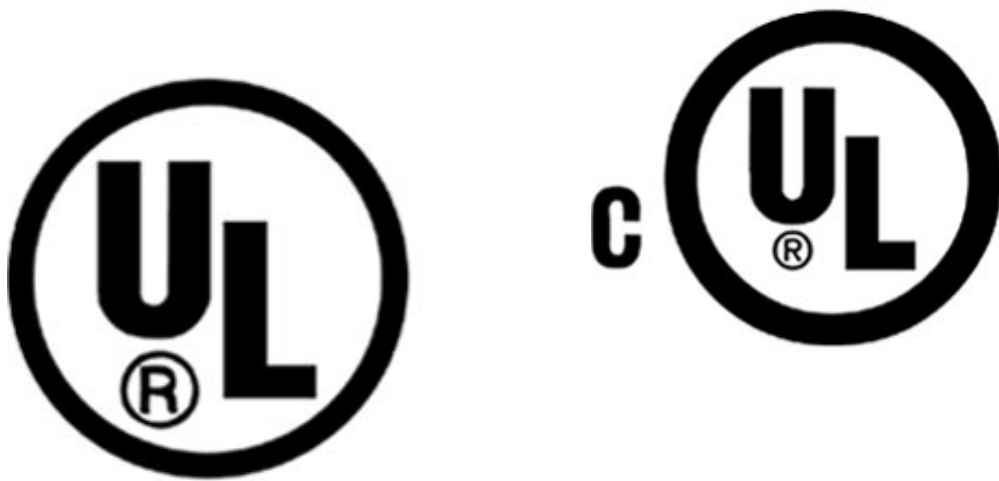
**Structure with CONTACTRON**

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

Connection data incl. use groups

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