

ELR H5-IES-SC- 24DC/500AC-2


Order No.: 2900414



<http://catalog.phoenixcontact.net/phoenix/treeViewClick.do?UID=2900414>

"4 in 1" hybrid motor starter for reversing 3~ AC motors up to 550 V AC, with 24 V DC input, 2.4 A output current, emergency stop function, and adjustable overload shutdown.



Commercial data	
EAN	4  046356 504058
sales group	G420
Pack	1 Pcs.
Customs tariff	85364900
Catalog page information	Page 172 (IF-2011)

Product notes

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



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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. 2.4 A (see derating curve)
Bemessungsbetriebsstrom bei AC-51	2.4 A
Bemessungsbetriebsstrom bei AC-53a	2.4 A
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. 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 ²
Conductor cross section solid max.	2.5 mm ²

Conductor cross section stranded min.	0.14 mm ²
Conductor cross section stranded max.	2.5 mm ²
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 _{rms}
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 / Approvals

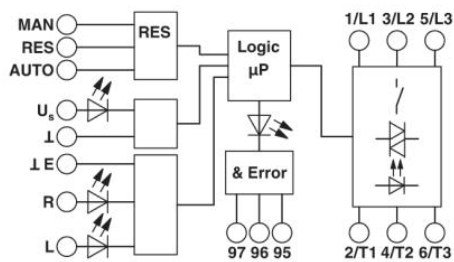
Certification	CB, CUL Listed, UL Listed
Certification Ex:	PTB

Accessories		
Item	Designation	Description
Bridges		
2900746	BRIDGE- 2	3-phase loop bridge for 2 modules of the CONTACTRON family with 22.5 mm housing width.
2901542	BRIDGE- 2-1M	3-phase loop bridge for 2 modules in the CONTACTRON family with 1 m long connecting cable without ferrules, 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 for 3 modules of the CONTACTRON family with 22.5 mm housing width.
2901655	BRIDGE- 3-1M	3-phase loop bridge for 3 modules in the CONTACTRON family with 1 m long connecting cable without ferrules, 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 for 4 modules of the CONTACTRON family with 22.5 mm housing width.
2901658	BRIDGE- 4-1M	3-phase loop bridge for 4 modules in the CONTACTRON family with 1 m long connecting cable without ferrules, 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 for 5 modules of the CONTACTRON family with 22.5 mm housing width.
2901544	BRIDGE- 5-1M	3-phase loop bridge for 5 modules in the CONTACTRON family with 1 m long connecting cable without ferrules, 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 for 6 modules of the CONTACTRON family with 22.5 mm housing width.
2901649	BRIDGE- 6-1M	3-phase loop bridge for 6 modules in the CONTACTRON family with 1 m long connecting cable without ferrules, 22.5 mm housing width.

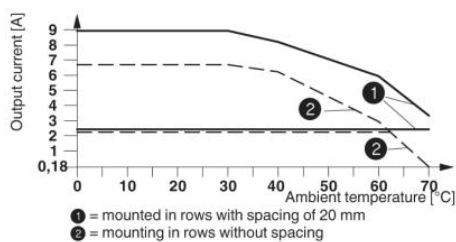
2901697	BRIDGE- 6-3M	3-phase loop bridge for 6 modules in the CONTACTRON family with 3 m long connecting cable without ferrules, 22.5 mm housing width.
2900751	BRIDGE- 7	3-phase loop bridge for 7 modules of the CONTACTRON family with 22.5 mm housing width.
2901698	BRIDGE- 7-3M	3-phase loop bridge for 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 for 8 modules 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 for 9 modules 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 for 10 modules 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

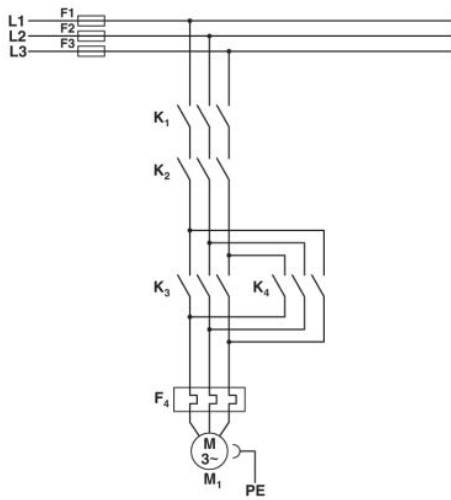


Diagram



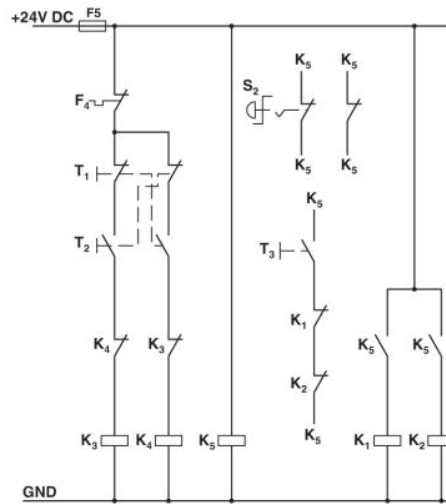
Derating curve ELR H5-IES-SC- 24DC/500AC-2 and ELR H5-IES-SC- 24DC/500AC-9

Circuit diagram



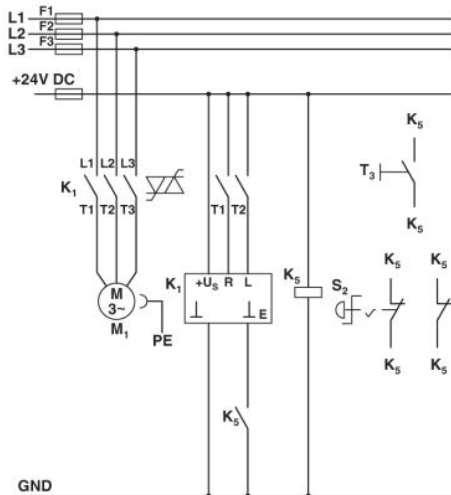
Conventional structure

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

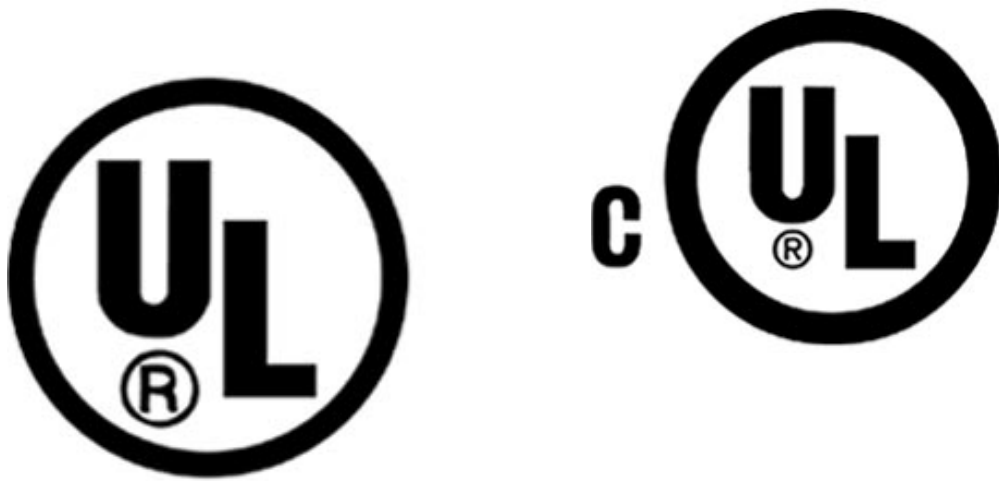
Control current path reversing contactor according to category 3
 K1 + K2 = Emergency stop contactor
 K3 = Left contactor
 K4 = Right contactor
 K5 = PSR SCP-24DC.../Safety relay
 T1 = Right, T2 = Left, T3 = Reset
 S2 = Emergency stop
 F4 = Motor protection relay

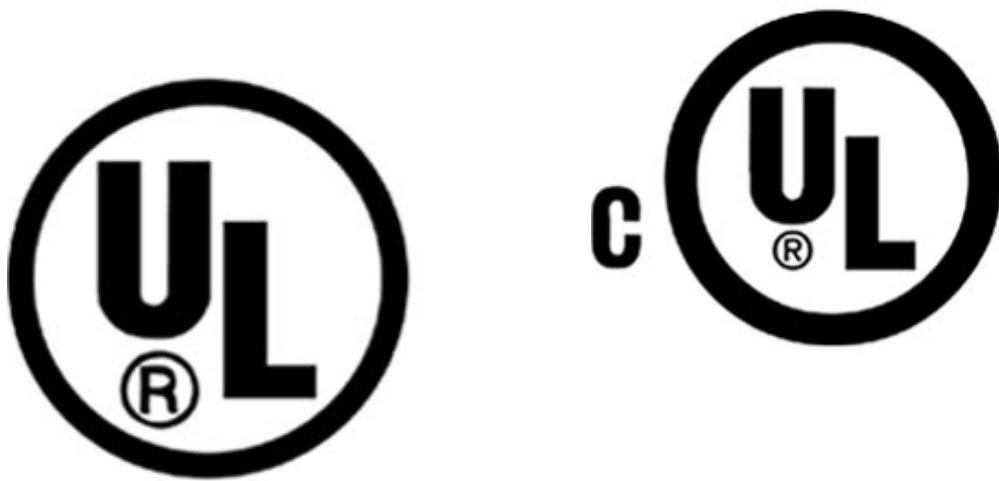


Structure with CONTACTRON

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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