

ELR H5-IES-SC-230AC/500AC-2


Order No.: 2900420

Illustration shows the 24 V design

<http://eshop.phoenixcontact.de/phoenix/treeViewClick.do?UID=2900420>

"4 in 1" hybrid motor starter for reversing 3~ AC motors up to 550 V AC, with 230 V AC input, 2.4 A output current, emergency stop function, and adjustable overload shutdown.



| Commercial data | |
|--------------------------|---|
| GTIN (EAN) |  |
| sales group | G420 |
| Pack | 1 pcs. |
| Customs tariff | 85364900 |
| Catalog page information | Page 230 (NTK-2010) |

Product notes

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



<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

| | |
|------------------------------------|----------|
| 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 | 4 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 | 42 V AC ... 550 V AC |
| Load current | max. 2.4 A (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 |
|---------------|---|

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 | 12 |

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) | -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) |
| | 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

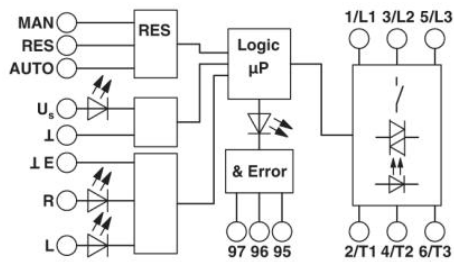


Certification CB, CUL Listed, UL Listed

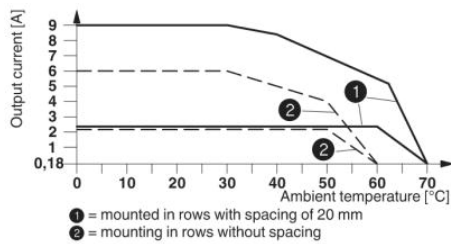
Certification Ex: PTB

Diagrams/Drawings

Block diagram

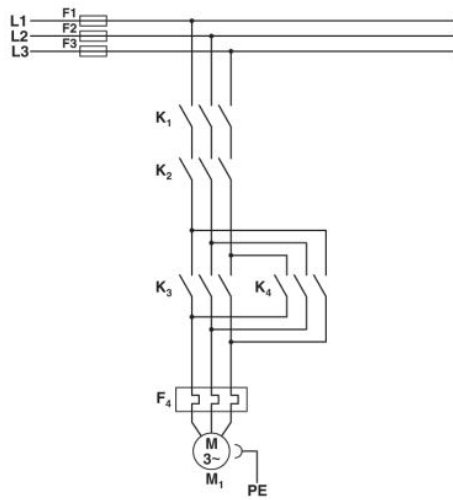


Diagram



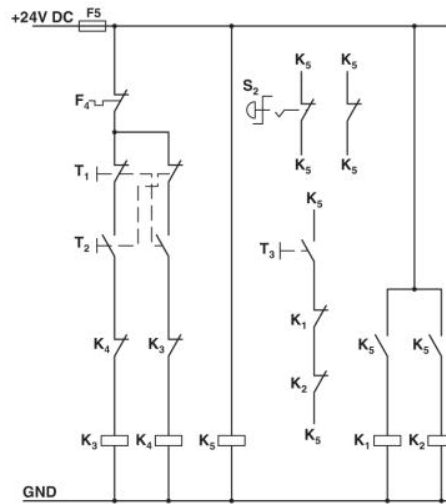
Derating curve ELR H5-IES-SC-230AC/500AC-2 and ELR H5-IES-SC-230AC/500AC-9

Circuit diagram



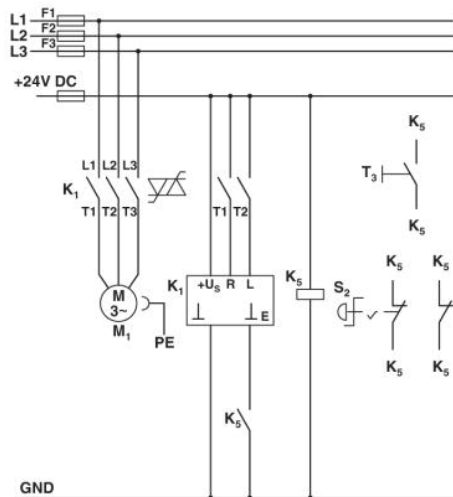
Conventional structure

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 for reversing 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
 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 = Left, T2 = Right, T3 = Reset
 S2 = Emergency stop

Address

PHOENIX CONTACT Inc., USA
586 Fulling Mill Road
Middletown, PA 17057, USA
Phone (800) 888-7388
Fax (717) 944-1625
<http://www.phoenixcon.com>



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