


**ELR W3-230AC/500AC- 9I**

Order No.: 2297060

<http://eshop.phoenixcontact.de/phoenix/treeViewClick.do?UID=2297060>

"4 in 1" three-phase solid-state reversing contactor with 230 V AC input, 9 A output current and adjustable overload switching



| Commercial data          |  |
|--------------------------|--|
| GTIN (EAN)               | <br>4 046356 170598 |
| sales group              | G421   |
| Pack                     | 1 pcs.   |
| Customs tariff           | 85371099   |
| Catalog page information | Page 164 (IF-2009)   |

## Product notes

WEEE/RoHS-compliant since:  
10/29/2007

<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 $I_s$                         | 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)  |
| Residual voltage             | < 0.5 V                               |

**Output data, signaling contact**

|               |   |
|---------------|---|
| Measuring via | Current transformer for line current on L1 and L3 |
| Current range | 1 A ... 45 A                                      |

**Connection data**

|                                    |                      |
|------------------------------------|----------------------|
| Type of connection                 | 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   |
| Category in acc. with EN 954-1          | 3   |

#### Certificates / Approvals



Certification

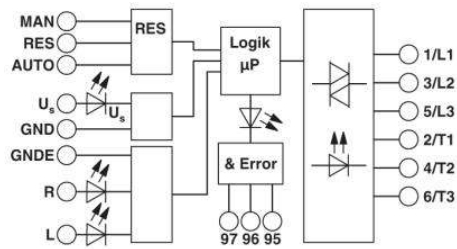
BV, CB, CUL Listed, GL, LR, UL Listed

Certification Ex: PTB

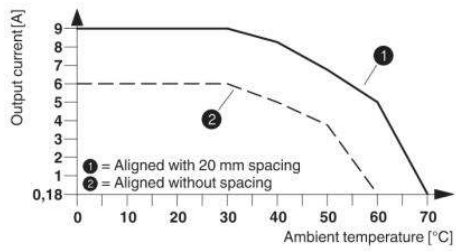
Certifications applied for: UL-EX LIS / CUL-EX LIS

## Diagrams/Drawings

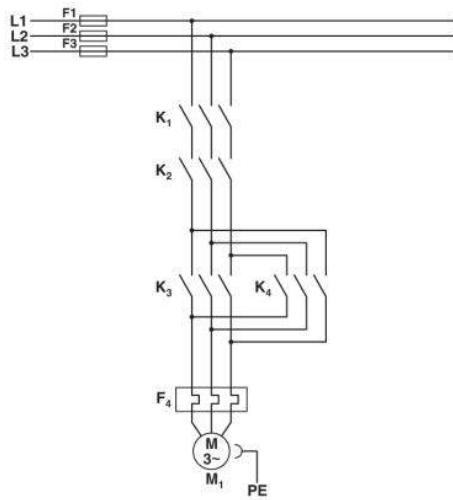
### Block diagram



### Diagram

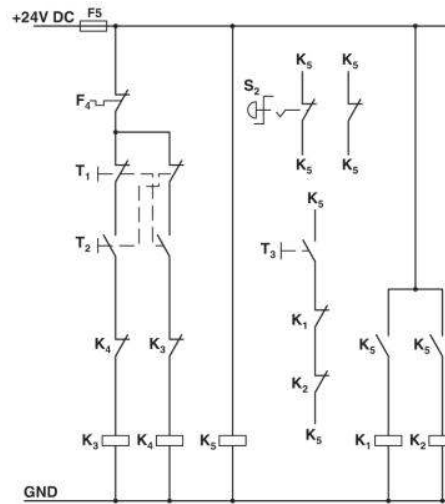


Circuit diagram



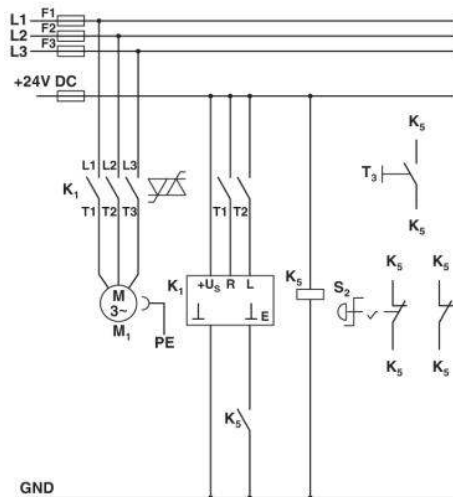
**Conventional structure**

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

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