

# Solid-state reversing contactor - ELR W3-230AC/500AC-2I - 2297044

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"4 in 1" three-phase semiconductor reversing contactor with 230 V AC input, 2 A output current, emergency stop function, and adjustable overload shutdown.

The figure shows 2297031 ELR W3- 24DC/500AC-2I

## Product Features

- 22.5 mm wide
- Safety level according to IEC 61508-1: SIL 3, ISO 13849: PL e
- Long service life
- Space saving
- Reduction in wiring
- 3-phase loop bridges
- Bimetal function can be set up to 9 A



## Key commercial data

package_quantity	1
GTIN	4046356170574

## Technical data

### Dimensions

Width	22.5 mm
Height	99 mm
Depth	114.5 mm

### Ambient conditions

Ambient temperature (operation)	-25 °C ... 70 °C
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Degree of protection	IP20

### Input data

Input name	Device supply
Mains frequency	40 Hz
Mains frequency	100 Hz

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## Technical data

### Input data

Rated control supply voltage $U_s$	230 V AC
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
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
Input name	Control input right/left

### Output data

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)
Rated operating current at AC-51	2.4 A
Rated operating current at 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. 253 V AC 0% ... 100% (300 V DC)
Continuous load current	2 A
Residual voltage	< 0.5 V

### 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>

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## Technical data

### Connection data

<b>Conductor cross section stranded max.</b>	2.5 mm <sup>2</sup>
<b>Conductor cross section AWG/kcmil min.</b>	26
<b>Conductor cross section AWG/kcmil max</b>	14

### General

<b>Test voltage input/output</b>	4 kV <sub>rms</sub>
<b>Mounting position</b>	Vertical (horizontal DIN rail)
<b>Assembly instructions</b>	Can be aligned with spacing = 20 mm
<b>Operating mode</b>	100% operating factor
<b>Name</b>	Standards/regulations
<b>Standards/regulations</b>	DIN EN 50178
<b>Standards/regulations</b>	EN 60947
<b>Name</b>	Power station requirements
<b>Standards/regulations</b>	DWR 1300 / ZXX01/DD/7080.8d
<b>Name</b>	Air and creepage distances between the power circuits
<b>Standards/regulations</b>	DIN EN 50178
<b>Rated surge voltage / insulation</b>	6 kV/safe isolation
<b>Rated insulation voltage</b>	500 V
<b>Pollution degree</b>	2
<b>Surge voltage category</b>	III
<b>Category in acc. with EN 954-1</b>	3

## classifications

### eCl@ss

<b>eCl@ss 4.0</b>	27371102
<b>eCl@ss 4.1</b>	27371102
<b>eCl@ss 5.0</b>	27371601
<b>eCl@ss 5.1</b>	27371601
<b>eCl@ss 6.0</b>	27371601
<b>eCl@ss 7.0</b>	27371601
<b>eCl@ss 8.0</b>	27371601

### ETIM

<b>ETIM 2.0</b>	EC000066
<b>ETIM 3.0</b>	EC000066
<b>ETIM 4.0</b>	EC000066
<b>ETIM 5.0</b>	EC000066

### UNSPSC

<b>UNSPSC 6.01</b>	30211915
<b>UNSPSC 7.0901</b>	39121514

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## classifications

### UNSPSC

UNSPSC 11	39121514
UNSPSC 12.01	39121514
UNSPSC 13.2	39121514

## approvals

ATEX / UL Listed / cUL Listed / LR / GL / BV / GL-SW / IEC EE CB Scheme / UL Listed / cUL Listed / IEC EE CB Scheme / GL / cULus Listed /

### Approval details

ATEX	
Nominal voltage UN	
Nominal current IN	
mm <sup>2</sup> /AWG/kcmil	

UL Listed
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cUL Listed
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LR
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GL
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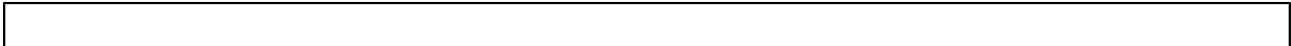
BV
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GL-SW
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IECEE CB Scheme
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## approvals



## accessories

### Loop bridge

BRIDGE- 2 - 2900746



BRIDGE- 3 - 2900747



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## accessories

BRIDGE- 4 - 2900748



BRIDGE- 5 - 2900749



BRIDGE- 6 - 2900750



BRIDGE- 7 - 2900751



BRIDGE- 8 - 2900752



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## accessories

BRIDGE- 9 - 2900753



BRIDGE-10 - 2900754



BRIDGE- 2-3M - 2901543



BRIDGE- 3-3M - 2901656



BRIDGE- 4-3M - 2901659



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## accessories

BRIDGE- 5-3M - 2901545



BRIDGE- 6-3M - 2901697



BRIDGE- 7-3M - 2901698



BRIDGE- 8-3M - 2901700



BRIDGE- 9-3M - 2901701





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## accessories

BRIDGE-10-3M - 2901702



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BRIDGE- 2-1M - 2901542



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BRIDGE- 3-1M - 2901655



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BRIDGE- 4-1M - 2901658



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BRIDGE- 5-1M - 2901544



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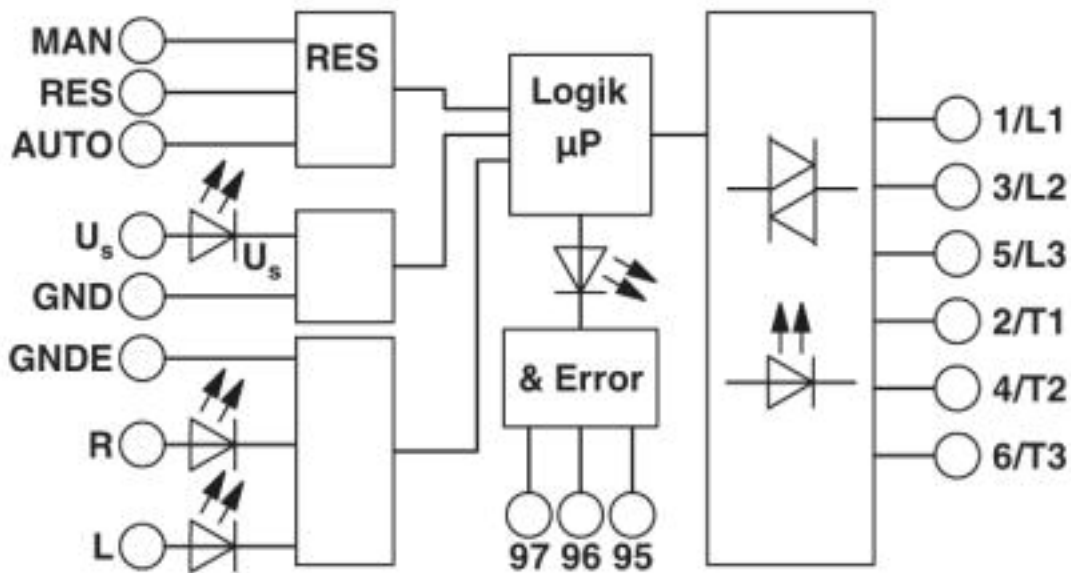
accessories

BRIDGE- 6-1M - 2901649



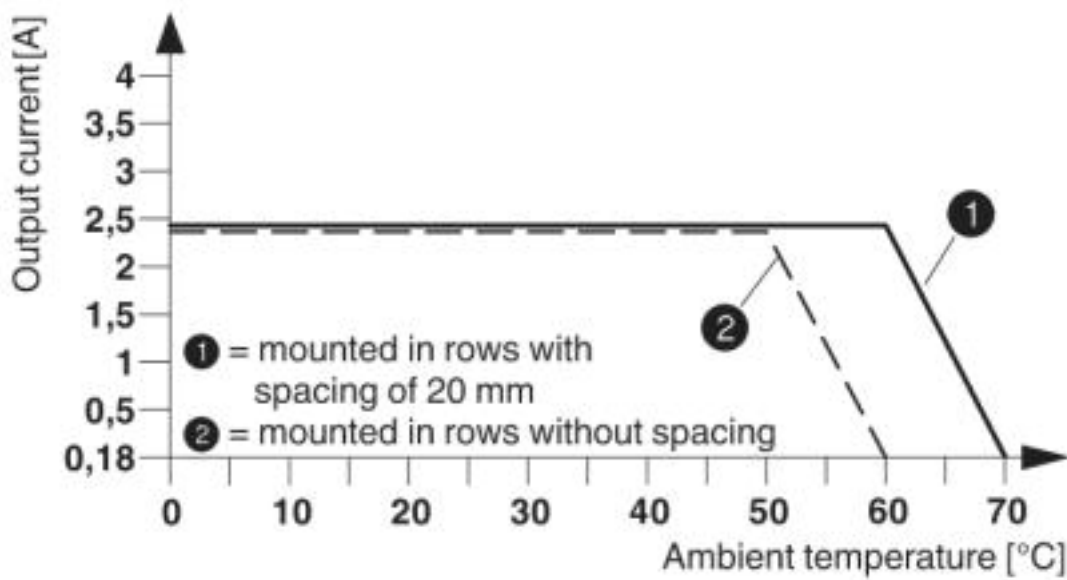
## Drawings

Block diagram



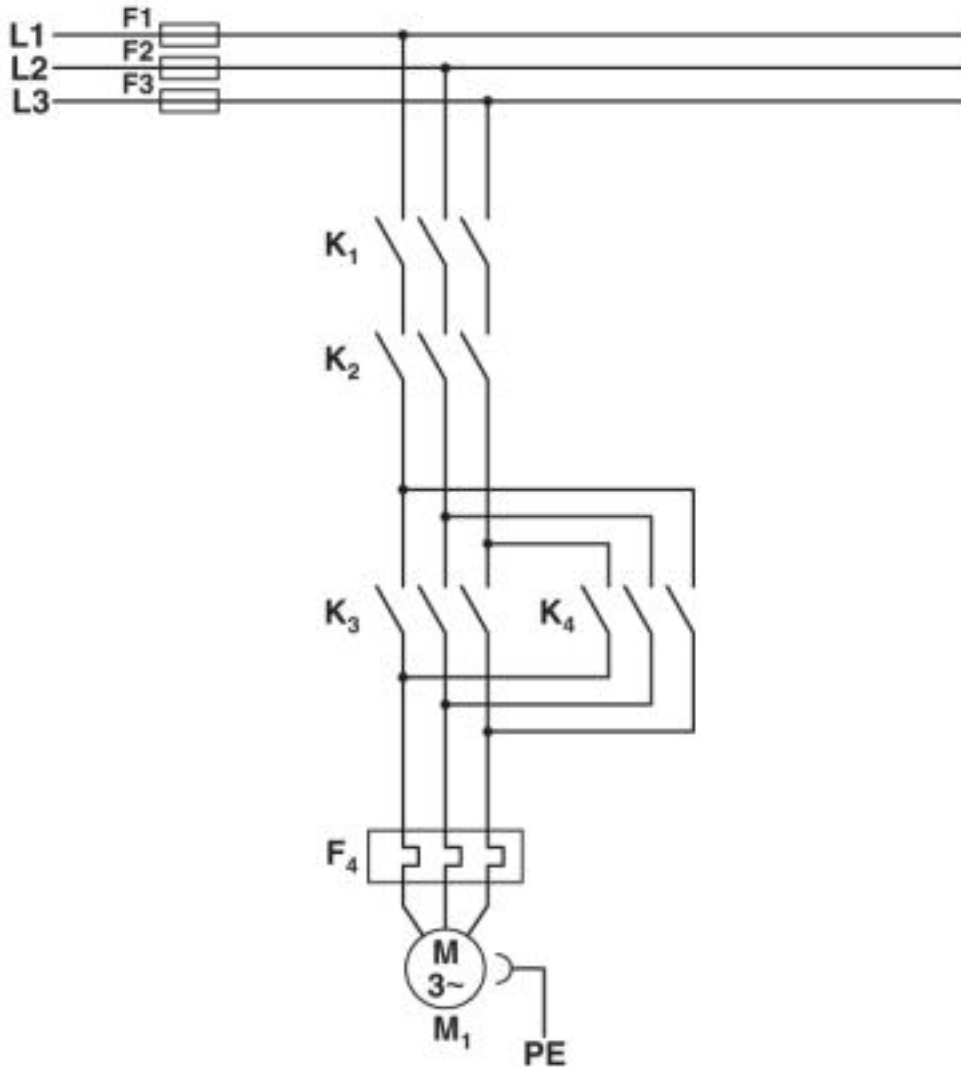
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Diagram



# Solid-state reversing contactor - ELR W3-230AC/500AC-2I - 2297044

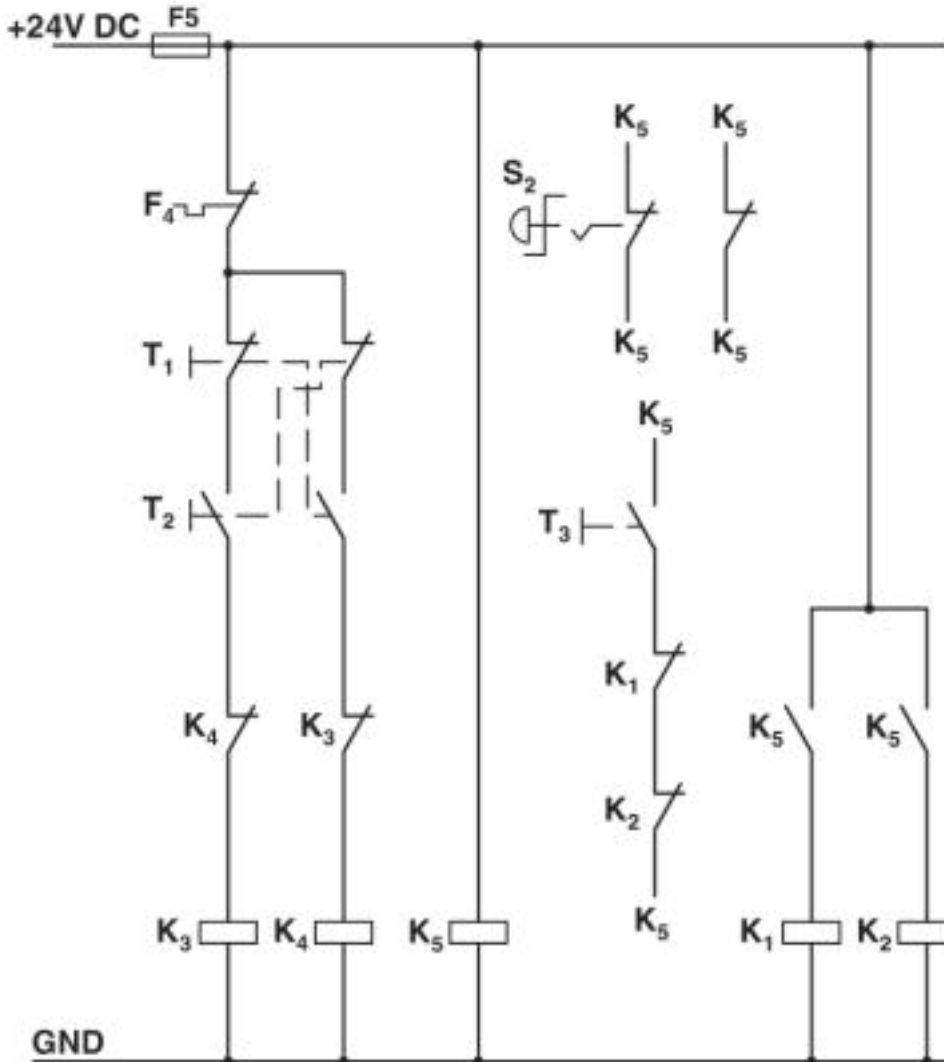
Circuit diagram



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

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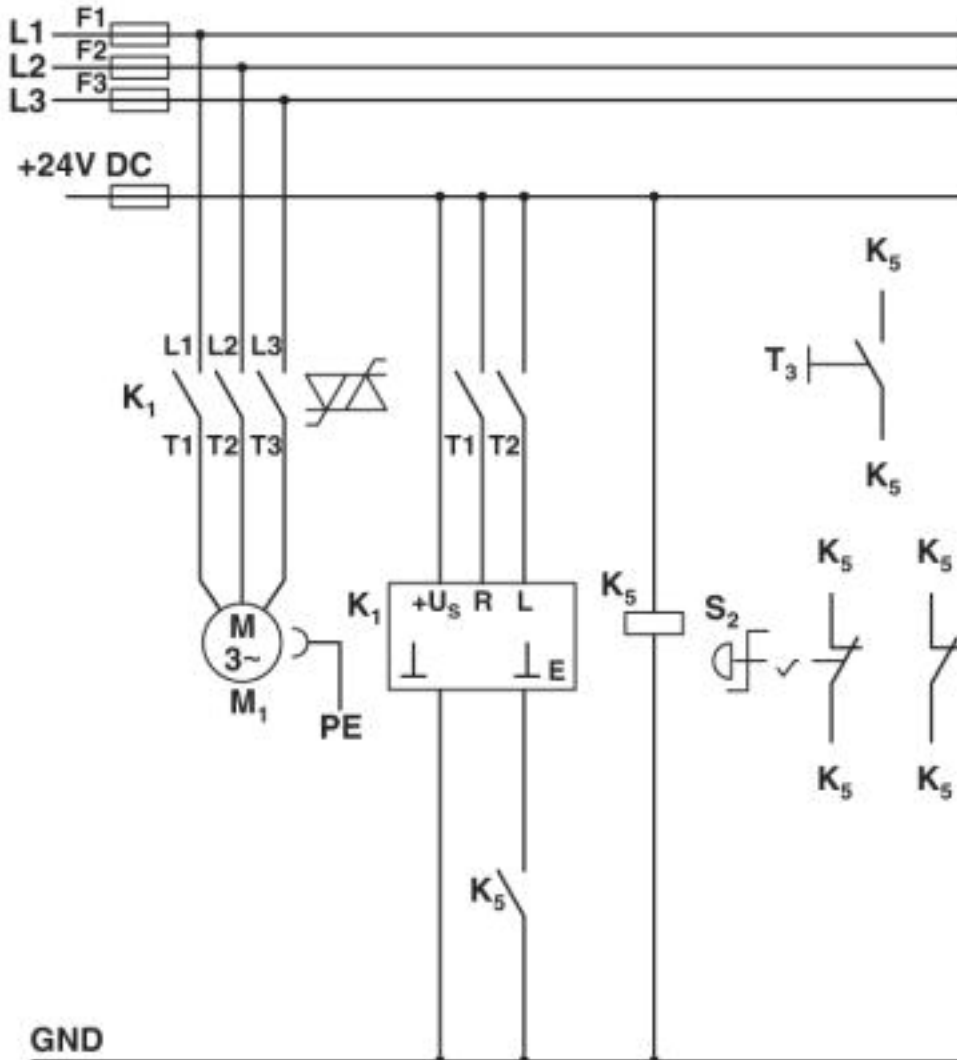
Circuit diagram



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

# Solid-state reversing contactor - ELR W3-230AC/500AC-2I - 2297044

Circuit diagram



Structure with CONTACTRONMain and control current path for "4 in 1" hybrid motor starter with reversing function according to category 3K1 = "4 in 1" hybrid motor starter with reversing function  
 K5 = PSR SCP-24DC.../Safety relay  
 T1 = Right, T2 = Left, T3 = Reset  
 S2 = Emergency stop

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