

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

Packing unit	1 pc
Weight per Piece (excluding packing)	283.1 g
Custom tariff number	85371099
Country of origin	Germany

Technical data

Input data

Input name	Device supply
Mains frequency	40 Hz
	100 Hz
Rated control circuit supply voltage U_s	230 V AC
Voltage range with reference to U_s	0.4 ... 1.1

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Technical data

Input data

Control supply voltage range	92 V AC ... 253 V AC
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
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
Switching threshold	44 V AC ("0" signal)
	85 V AC ("1" signal)

Output data load output

Nominal output voltage	500 V AC
Nominal output voltage range	42 V AC ... 550 V AC
Load current range	180 mA ... 2.4 A (see to derating)
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)
Protective circuit	Surge protection

Output data reply output

Note	Confirmation 01: Floating PDT contact
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Measuring technology and signaling contact

Measuring via	Current transformer for line current on L1 and L3
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Connection data, control circuit

Connection name	Control circuits
Connection method	Screw connection
Stripping length	8 mm
Screw thread	M3
Conductor cross section solid	0.2 mm ² ... 2.5 mm ²
Conductor cross section flexible	0.2 mm ² ... 2.5 mm ²

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Technical data

Connection data, control circuit

Conductor cross section AWG	24 ... 14
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Connection data load circuit

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Connection method	Screw connection
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Conductor cross section flexible	0.2 mm ² ... 2.5 mm ²
Conductor cross section AWG	24 ... 14

General

Test voltage input/output	4 kV _{rms}
Mounting position	Vertical (horizontal DIN rail)
Assembly instructions	Can be aligned with spacing = 20 mm
Operating mode	100% operating factor
Designation	Standards/regulations
Standards/regulations	DIN EN 50178
	EN 60947
Designation	Power station requirements
Standards/regulations	DWR 1300 / ZXX01/DD/7080.8d
Designation	Air clearances and creepage distances between the power circuits
Standards/regulations	DIN EN 50178
Insulation	safe isolation
Degree of pollution	2
Overvoltage category	III
Reversing frequency	≤ 2 Hz

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

UL data

SCCR	100 kA (480 V AC (fuse: 30 A class CC/30 A class J (high fault)))
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Technical data

UL data

	5 kA (480 V AC (fuse: 20 A RK5 (standard fault)))
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Standards and Regulations

Designation	Standards/regulations
Standards/regulations	DIN EN 50178
	EN 60947
Designation	Power station requirements
Standards/regulations	DWR 1300 / ZXX01/DD/7080.8d
Designation	Air clearances and creepage distances between the power circuits
Standards/regulations	DIN EN 50178
Insulation	safe isolation
Degree of pollution	2
Overvoltage category	III

Classifications

eCl@ss

eCl@ss 4.0	27371102
eCl@ss 4.1	27371102
eCl@ss 5.0	27371601
eCl@ss 5.1	27371601
eCl@ss 6.0	27371601
eCl@ss 7.0	27371601
eCl@ss 8.0	27371014

ETIM

ETIM 2.0	EC000066
ETIM 3.0	EC000066
ETIM 4.0	EC000066
ETIM 5.0	EC002055

UNSPSC

UNSPSC 6.01	30211915
UNSPSC 7.0901	39121514
UNSPSC 11	39121514
UNSPSC 12.01	39121514
UNSPSC 13.2	39121514

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Approvals

Approvals

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UL Listed / cUL Listed / GL / GL-SW / IECEE CB Scheme / UL Listed / cUL Listed / EAC / EAC / GL / cULus Listed

Ex Approvals

ATEX / ATEX

Approvals submitted

Approval details

UL Listed 

cUL Listed 

GL

GL-SW

IECEE CB Scheme 

UL Listed 

cUL Listed 

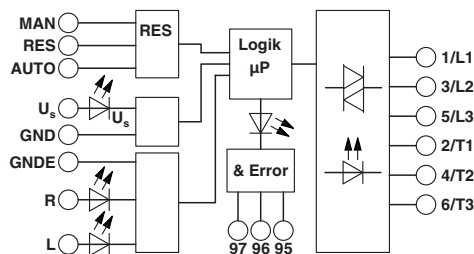
Solid-state reversing contactor - ELR W3-230AC/500AC- 2I - 2297044

Approvals

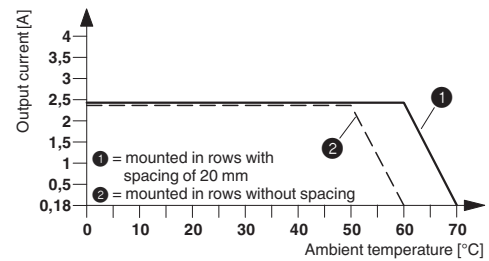
EAC
EAC
GL
cULus Listed 

Drawings

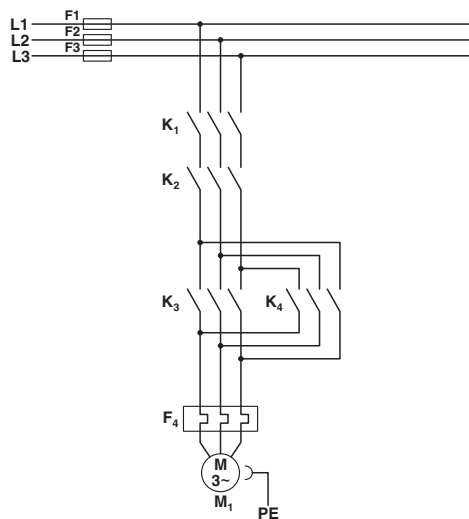
Block diagram



Diagram

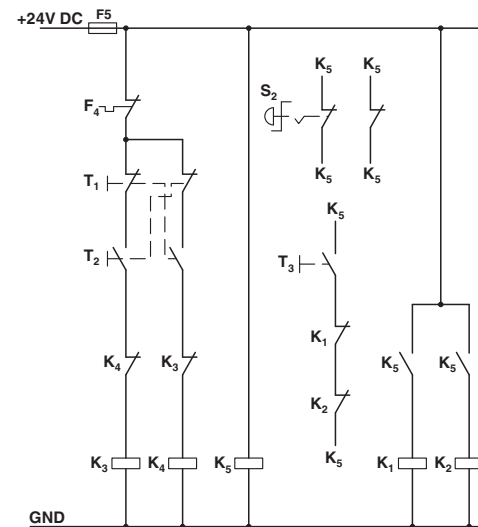


Circuit diagram



Conventional structure

Circuit diagram



Conventional structure

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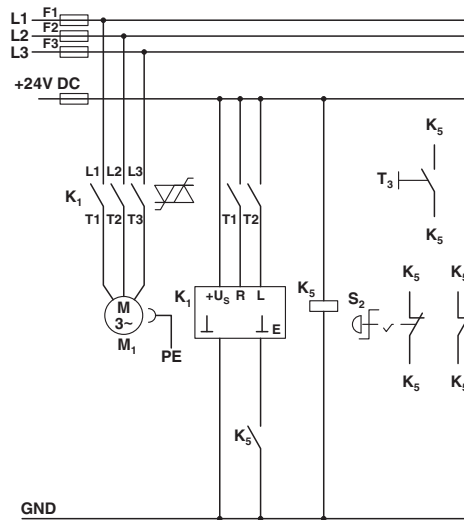
Main current path for reversing contactor according to category 3

K1 + K2 = Emergency stop contactor
K3 = Left contactor
K4 = Right contactor
F4 = Motor protection relay

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

Circuit diagram



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