Solid-state reversing contactor - ELR W3- 24DC/500AC- 2I - 2297031

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"4 in 1" three-phase semiconductor reversing contactor with 24 V DC input, 2 A output current, emergency stop function, and adjustable overload shutdown.

Product Features

- 22.5 mm wide
- Safety level according to IEC 61508-1: SIL 3, ISO 13849: PL e
- Long service life
- Reduction in wiring
- Space saving
- 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)	275.2 g
Custom tariff number	85371099
Country of origin	Germany

Technical data

Input data

Input name	Device supply
Rated control circuit supply voltage U_S	24 V DC
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
Voltage range with reference to U_C	0.8 ... 1.25
Rated actuating current I_C	5 mA

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Technical data

Input data

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
Input name	Control input right/left
Switching threshold	9.6 V (“0” signal)
	19.2 V (“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

Measuring technology and signaling contact

Measuring via	Current transformer for line current on L1 and L3

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 mm² ... 2.5 mm²
Conductor cross section flexible	0.2 mm² ... 2.5 mm²
Conductor cross section AWG	24 ... 14

Connection data load circuit

Connection name	Load circuit
Connection method	Screw connection

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Connection data load circuit

Stripping length	8 mm
Screw thread	M3
Conductor cross section solid	0.2 mm² ... 2.5 mm²
Conductor cross section flexible	0.2 mm² ... 2.5 mm²
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
Pollution degree	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)))
	5 kA (480 V AC (fuse: 20 A RK5 (standard fault)))

Standards and Regulations

Designation	Standards/regulations
Standards/regulations	DIN EN 50178

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Standards and Regulations

	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
Pollution degree	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

Approvals

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Approvals

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

Ex Approvals

ATEX / ATEX

Approvals submitted

Approval details

UL Listed

cUL Listed

GL

GL-SW

IECEE CB Scheme

GL-SW

UL Listed

cUL Listed

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Approvals

IECEE CB Scheme

EAC

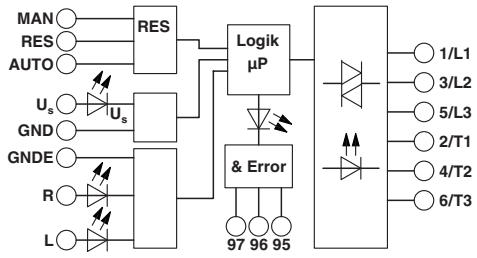
EAC

GL

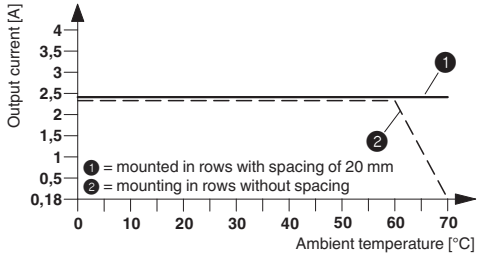
cULus Listed

Drawings

Block diagram

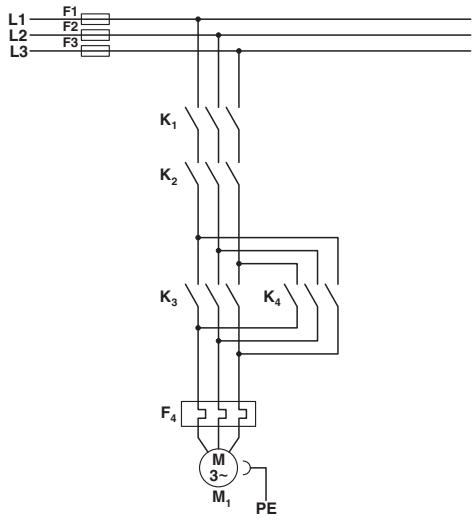


Diagram



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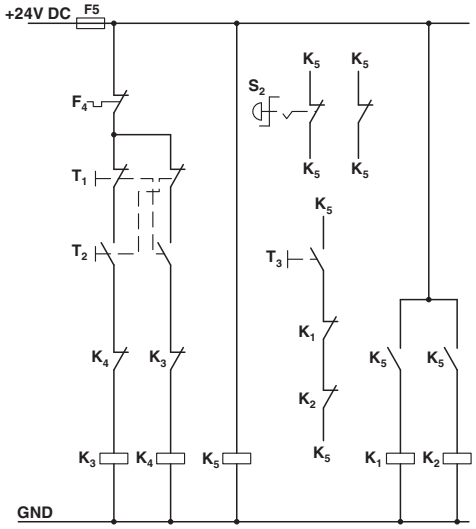
Circuit diagram



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

Circuit diagram

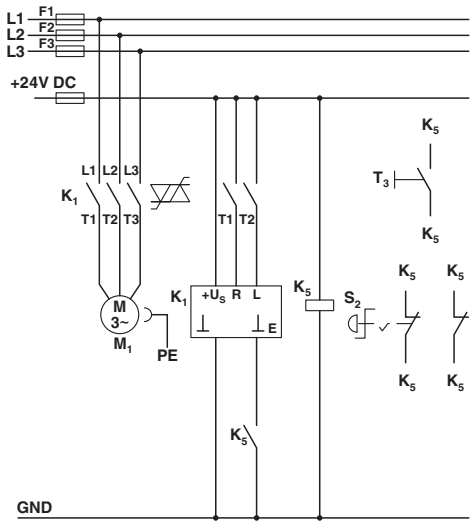


Conventional structure
Control current path reversing contactor according to category 3

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

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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

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