

Hybrid motor starter - ELR H5-ES-SC- 24DC/500AC-9 - 2900561

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"3 in 1" hybrid motor starter for reversing 3~ AC motors up to 550 V AC, with 24 V DC input, 9 A output current, and emergency stop function.

Why buy this product

- 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
- Bimetal function can be set up to 9 A
- 3-phase loop bridges



Key commercial data

Packing unit	1 pc
GTIN	 4 046356 527842
Weight per Piece (excluding packing)	217.18 g
Custom tariff number	85371099
Country of origin	Germany

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

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Technical data

Input data

Input name	Device supply
Rated control 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
Switching threshold "0" signal, voltage	9.6 V
Switching threshold "1" signal voltage	19.2 V
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

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. 9 A (see derating curve)
Rated operating current at AC-51	9 A
Rated operating current at AC-53a	6.5 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. 250 V AC
Continuous load current	6 A

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 ²
Conductor cross section solid max.	2.5 mm ²
Conductor cross section stranded min.	0.14 mm ²

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Technical data

Connection data

Conductor cross section stranded max.	2.5 mm ²
Conductor cross section AWG/kcmil min.	26
Conductor cross section AWG/kcmil max	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
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	6 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)
Category as per ISO 13849-1	3
Performance Level as per ISO 13849-1	e
Category in acc. with EN 954-1	3

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	27371601

ETIM

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

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Classifications

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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UL Listed / cUL Listed / IECEE CB Scheme / UL Listed / cUL Listed / IECEE CB Scheme / cULus Listed

Ex Approvals

ATEX

Approvals submitted

Approval details

UL Listed

cUL Listed

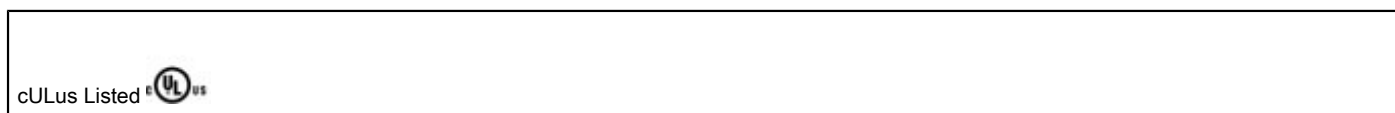
IECEE CB Scheme

UL Listed

cUL Listed

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Approvals



Accessories

Accessories

Loop bridge

Jumper - BRIDGE- 2 - 2900746



3-phase loop bridge for 2 modules from the CONTACTRON family with screw connection and 22.5 mm housing width.

Jumper - BRIDGE- 3 - 2900747



3-phase loop bridge for 3 modules from the CONTACTRON family with screw connection and 22.5 mm housing width.

Jumper - BRIDGE- 4 - 2900748



3-phase loop bridge for 4 modules from the CONTACTRON family with screw connection and 22.5 mm housing width.

Jumper - BRIDGE- 5 - 2900749



3-phase loop bridge for 5 modules from the CONTACTRON family with screw connection and 22.5 mm housing width.

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Accessories

Jumper - BRIDGE- 6 - 2900750



3-phase loop bridge for 6 modules from the CONTACTRON family with screw connection and 22.5 mm housing width.

Jumper - BRIDGE- 7 - 2900751



3-phase loop bridge for 7 modules from the CONTACTRON family with screw connection and 22.5 mm housing width.

Jumper - BRIDGE- 8 - 2900752



3-phase loop bridge for 8 modules from the CONTACTRON family with screw connection and 22.5 mm housing width.

Jumper - BRIDGE- 9 - 2900753



3-phase loop bridge for 9 modules from the CONTACTRON family with screw connection and 22.5 mm housing width.

Jumper - BRIDGE-10 - 2900754



3-phase loop bridge for 10 modules from the CONTACTRON family with screw connection and 22.5 mm housing width.

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Accessories

Jumper - BRIDGE- 2-3M - 2901543



3-phase loop bridge for 2 modules from the CONTACTRON family with screw connection and 22.5 mm housing width, 3 m long connecting cable, and included ferrules.

Jumper - BRIDGE- 3-3M - 2901656



3-phase loop bridge for 3 modules from the CONTACTRON family with screw connection and 22.5 mm housing width, 3 m long connecting cable, and included ferrules.

Jumper - BRIDGE- 4-3M - 2901659



3-phase loop bridge for 4 modules from the CONTACTRON family with screw connection and 22.5 mm housing width, 3 m long connecting cable, and included ferrules.

Jumper - BRIDGE- 5-3M - 2901545



3-phase loop bridge for 5 modules in the CONTACTRON family with 22.5 mm housing width, 3 m long connecting cable, and provided ferrules

Jumper - BRIDGE- 6-3M - 2901697



3-phase loop bridge for 6 modules from the CONTACTRON family with screw connection and 22.5 mm housing width, 3 m long connecting cable, and included ferrules.

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Accessories

Jumper - BRIDGE- 7-3M - 2901698



3-phase loop bridge for 7 modules from the CONTACTRON family with screw connection and 22.5 mm housing width, 3 m long connecting cable, and included ferrules.

Jumper - BRIDGE- 8-3M - 2901700



3-phase loop bridge for 8 modules from the CONTACTRON family with screw connection and 22.5 mm housing width, 3 m long connecting cable, and included ferrules.

Jumper - BRIDGE- 9-3M - 2901701



3-phase loop bridge for 9 modules from the CONTACTRON family with screw connection and 22.5 mm housing width, 3 m long connecting cable, and included ferrules.

Jumper - BRIDGE-10-3M - 2901702



3-phase loop bridge for 10 modules from the CONTACTRON family with screw connection and 22.5 mm housing width, 3 m long connecting cable, and included ferrules.

Jumper - BRIDGE- 2-1M - 2901542



3-phase loop bridge for 2 modules from the CONTACTRON family with screw connection and 22.5 mm housing width, 1 m long connecting cable, without ferrules.

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Accessories

Jumper - BRIDGE- 3-1M - 2901655



3-phase loop bridge for 3 modules from the CONTACTRON family with screw connection and 22.5 mm housing width, 1 m long connecting cable, without ferrules.

Jumper - BRIDGE- 4-1M - 2901658



3-phase loop bridge for 4 modules from the CONTACTRON family with screw connection and 22.5 mm housing width, 1 m long connecting cable, without ferrules.

Jumper - BRIDGE- 5-1M - 2901544



3-phase loop bridge for 5 modules from the CONTACTRON family with screw connection and 22.5 mm housing width, 1 m long connecting cable, without ferrules.

Jumper - BRIDGE- 6-1M - 2901649

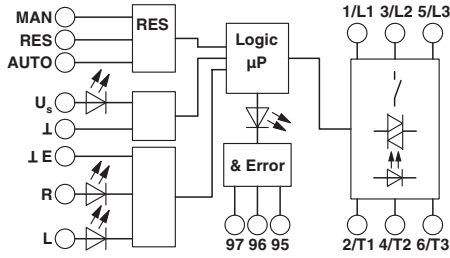


3-phase loop bridge for 6 modules in the CONTACTRON family with 1 m long connecting cable without ferrules, 22.5 mm housing width.

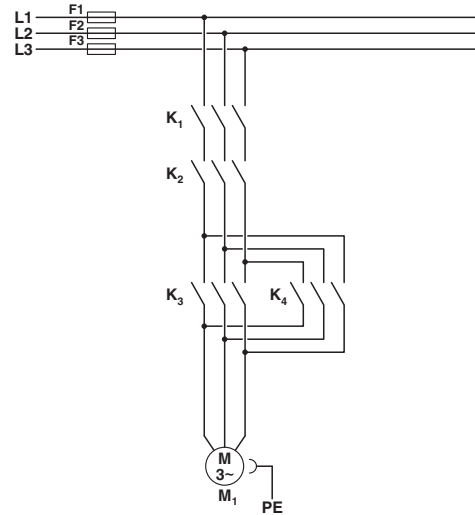
Drawings

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Block diagram



Circuit diagram

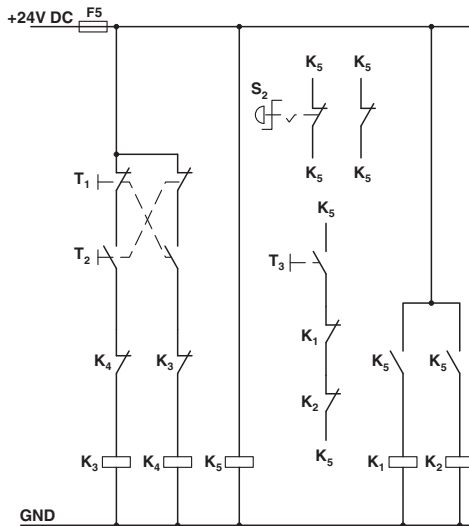


Conventional structure

Main current path for contactor according to category 3

- K1 + K2 = Emergency stop contactor
- K3 = Left contactor
- K4 = Right contactor

Circuit diagram

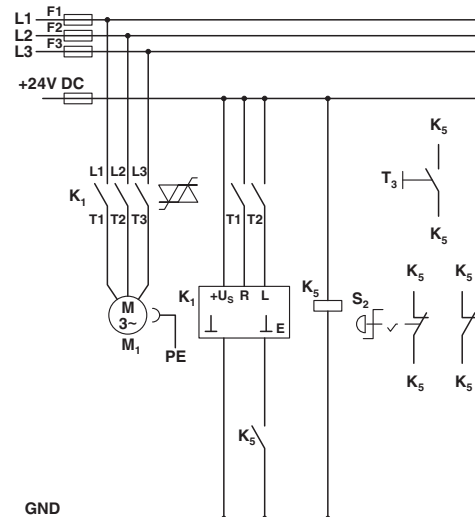


Conventional structure

Control current path protection 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

Circuit diagram



Structure with CONTACTRON

Main and control current path for '3 in 1' hybrid motor starter with reversing function according to category 3

- K1 = '3 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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S2 = Emergency stop

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