

Hybrid motor starter - ELR H5-ES-SC- 24DC/500AC-2 - 2900559

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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, 2.4 A output current, and emergency stop function.

The figure shows the 9 A version

Product Features

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



Key commercial data

package_quantity	1
GTIN	4046356527828

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
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

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Technical data

Input data

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
Protective circuit	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. 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. 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
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}
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Technical data

General

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
Standards/regulations	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

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

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

Approval details

ATEX	
Nominal voltage UN	
Nominal current IN	
mm ² /AWG/kcmil	

UL Listed

cUL Listed

IECEE CB Scheme

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cULus Listed

accessories

Loop bridge

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accessories

BRIDGE- 2 - 2900746



BRIDGE- 3 - 2900747



BRIDGE- 4 - 2900748



BRIDGE- 5 - 2900749



BRIDGE- 6 - 2900750



BRIDGE- 7 - 2900751



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accessories

BRIDGE- 8 - 2900752



BRIDGE- 9 - 2900753



BRIDGE-10 - 2900754



BRIDGE- 2-3M - 2901543



BRIDGE- 3-3M - 2901656



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accessories

BRIDGE- 4-3M - 2901659



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



BRIDGE- 2-1M - 2901542



BRIDGE- 3-1M - 2901655



BRIDGE- 4-1M - 2901658



BRIDGE- 5-1M - 2901544



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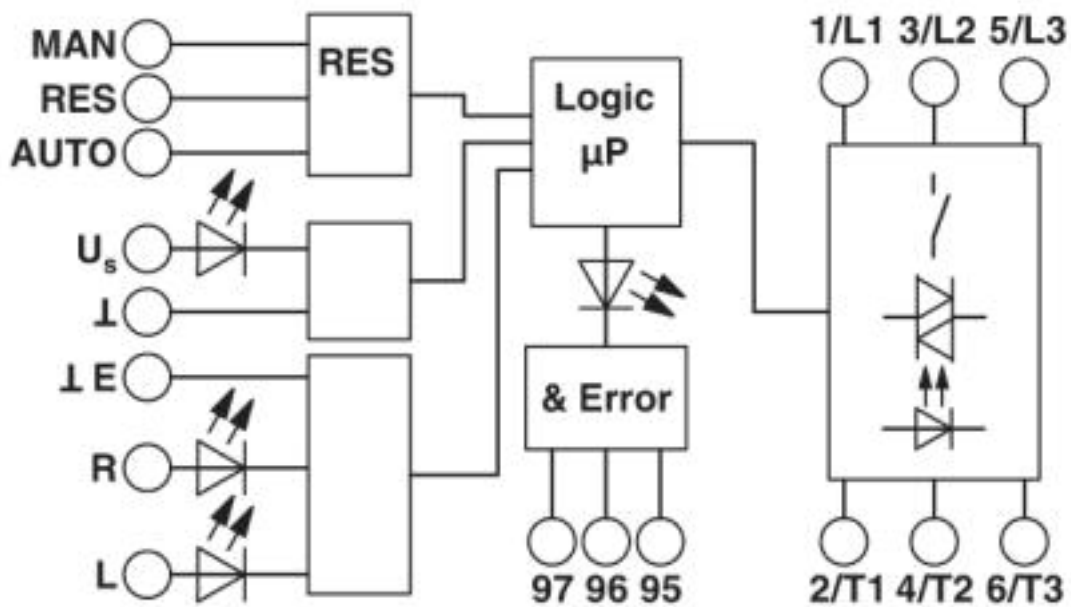
accessories

BRIDGE- 6-1M - 2901649



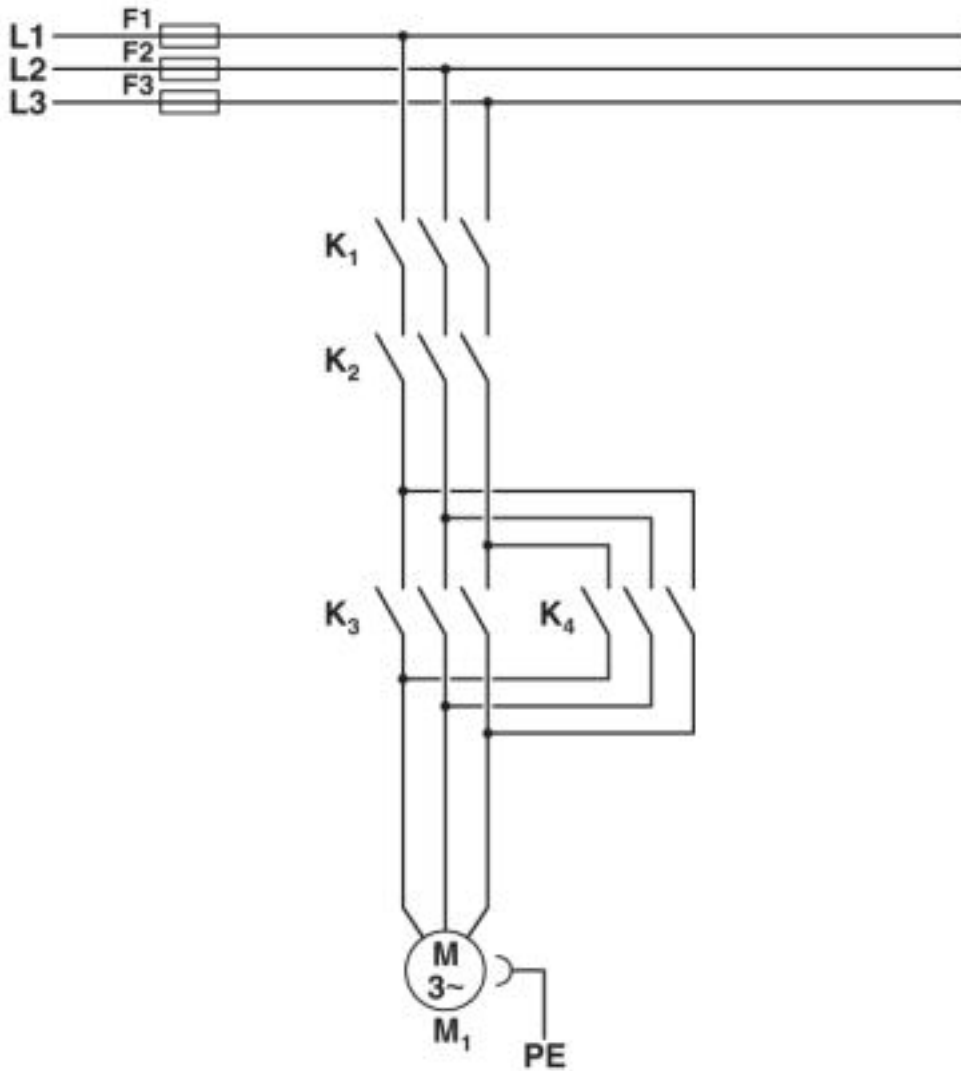
Drawings

Block diagram



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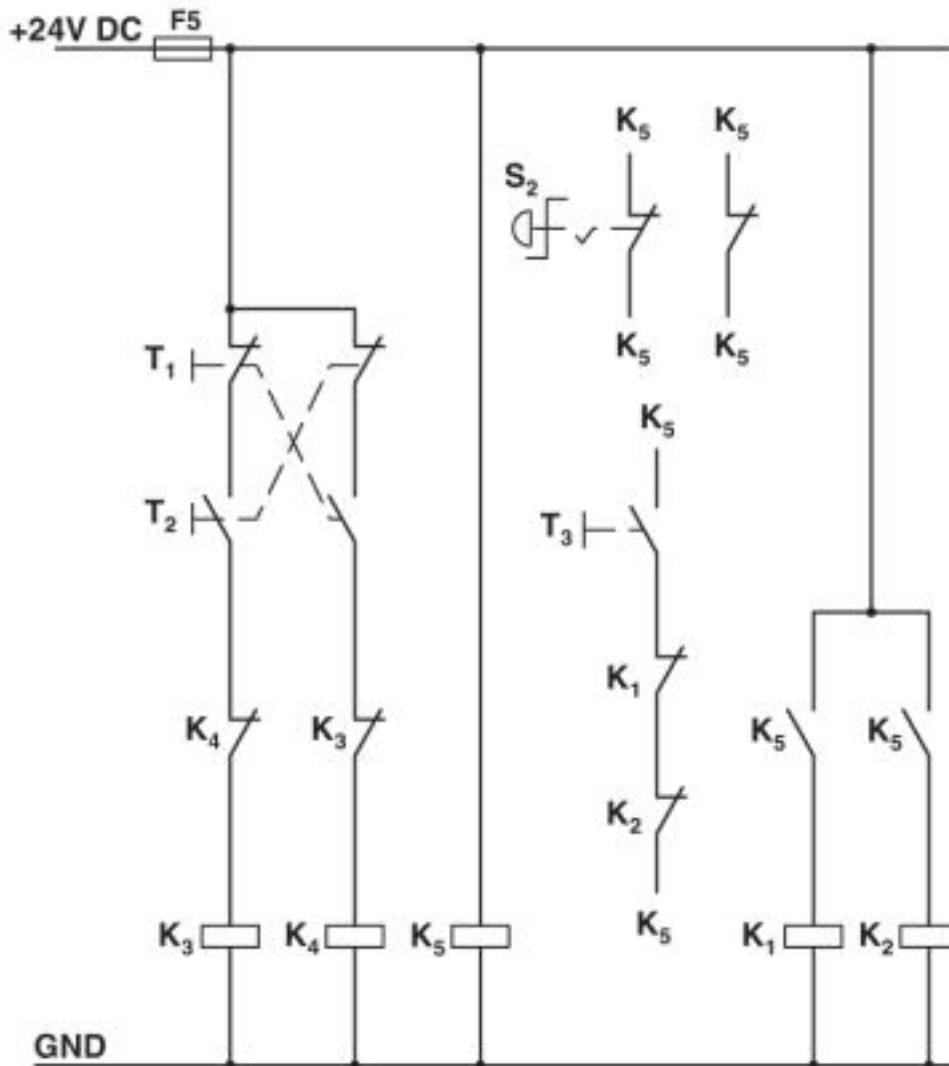
Circuit diagram



Conventional structure
Main current path for contactor according to category 3
K1 + K2 = Emergency stop contactor
K3 = Left contactor
K4 = Right contactor

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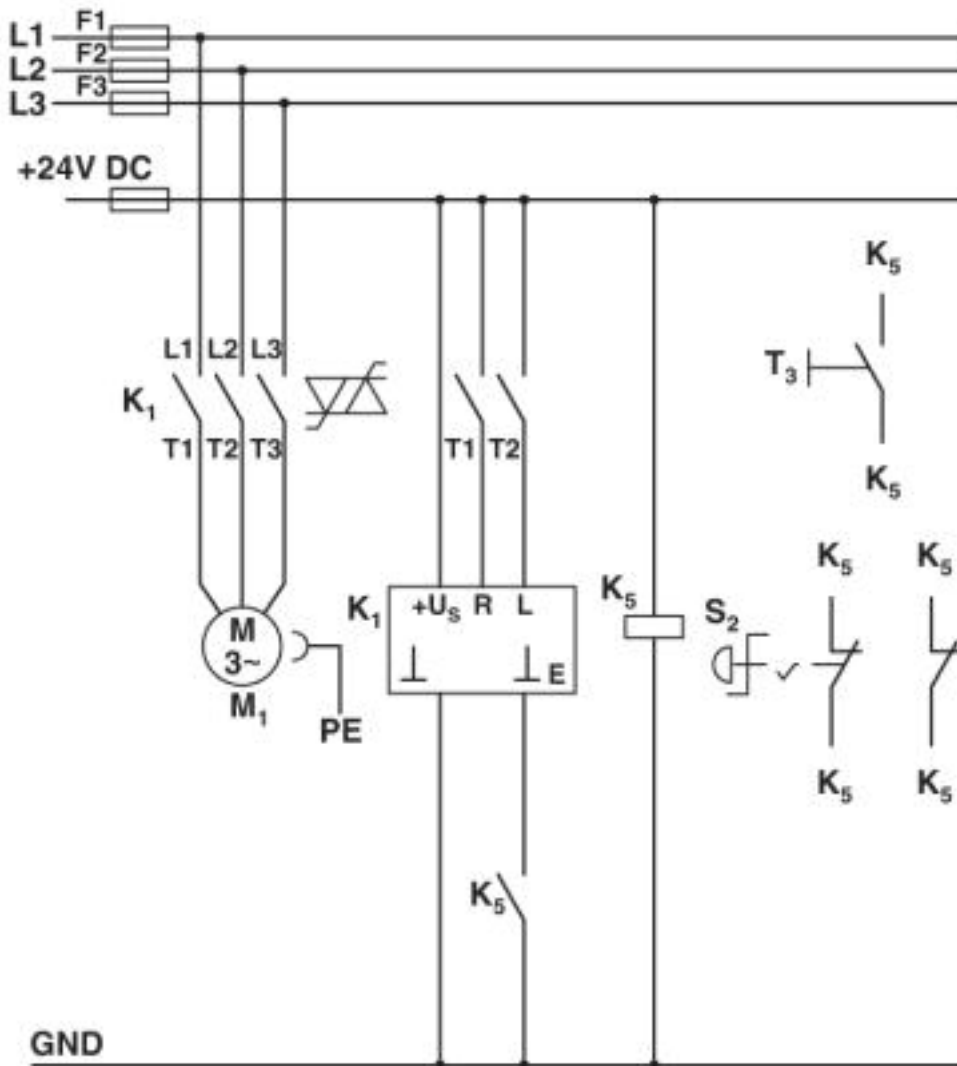
Circuit diagram



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
 S2 = Emergency stop

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Circuit diagram



Structure with CONTACTRONMain and control current path for "3 in 1" hybrid motor starter with reversing function according to category 3K1 = "3 in 1" hybrid motor starter with reversing functionK5 = PSR SCP-24DC.../Safety relayT1 = Right, T2 = Left, T3 = ResetS2 = Emergency stop

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