

## Hybrid motor starter - ELR H5-IES-SC-230AC/500AC-0,6 - 2900692

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Hybrid motor starter for reversing 3~ AC motors up to 500 V AC and 0.6 A output current, with 230 V AC control voltage, adjustable overload shutdown and emergency stop function to SIL 3/PL e

### Your advantages

- 22.5 mm wide
- Safety level according to IEC 61508-1: SIL 3, ISO 13849: PL e
- Reduction in wiring
- Space saving
- Long service life
- 3-phase loop bridges
- Adjustable current for bimetal function
- Low-wear switching



### Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 526296
GTIN	4046356526296
Weight per Piece (excluding packing)	284.200 g
Custom tariff number	85371098
Country of origin	Germany

### Technical data

#### Device supply

Rated control circuit supply voltage $U_s$	230 V AC
Control supply voltage range	85 V AC ... 253 V AC

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### Technical data

#### Device supply

Rated control supply current $I_S$	4 mA
Mains frequency	50/60 Hz
Type of protection	Surge protection

#### Input data

Input name	Control input right/left
Rated actuating voltage $U_C$	230 V AC
Triggering voltage range	85 V AC ... 253 V AC
Rated actuating current $I_C$	7 mA (Input type 1)
Mains frequency	50/60 Hz
Switching threshold	44 V AC ("0" signal)
	85 V AC ("1" signal)
Switching level	< 5 V AC (For EMERGENCY STOP)
Typical turn-off time	< 70 ms

#### Output data load output

Output name	AC output
Rated operating voltage $U_e$	500 V AC
Operating voltage range	42 V AC ... 550 V AC
Rated operating current $I_e$	0.6 A (AC-51)
	0.6 A (AC-53a)
Mains frequency	50/60 Hz
Load current range	75 mA ... 600 mA (see to derating)
Trigger characteristic in acc. with IEC 60947-4-2	Class 10A
Cooling time	20 min. (for auto reset)
Leakage current	0 mA
Type of protection	Surge protection

#### Output data reply output

Output name	Acknowledge output
Note	Confirmation: floating change-over contact, signal contact
Contact type	1 PDT
Switching capacity according to IEC 60947-5-1	3 A (230 V, AC15)
	2 A (24 V, DC13)

#### General

Switching frequency	$\leq 2$ Hz (Load-dependent)
Mounting position	vertical (horizontal DIN rail, motor output below)
Mounting type	DIN rail mounting

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### Technical data

#### General

Assembly instructions	alignable, for spacing see derating
Operating mode	100% operating factor
Maximum power dissipation	2.9 W
Minimum power dissipation	2.6 W
Operating voltage display	Green LED
Status display	Yellow LED
Indication	Red LED

#### Connection data, input side

Connection name	Control circuits
Connection method	Screw connection
Stripping length	8 mm
Screw thread	M3
Conductor cross section solid	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section flexible	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section AWG	24 ... 14
Torque	0.5 Nm ... 0.6 Nm
	5 lb <sub>f</sub> -in. ... 7 lb <sub>f</sub> -in.

#### Connection data, output side

Connection name	Load circuit
Connection method	Screw connection
Stripping length	8 mm
Screw thread	M3
Conductor cross section solid	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section flexible	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section AWG	24 ... 14
Torque	0.5 Nm ... 0.6 Nm
	5 lb <sub>f</sub> -in. ... 7 lb <sub>f</sub> -in.

#### Ambient conditions

Ambient temperature (operation)	-25 °C ... 70 °C (observe derating)
Ambient temperature (storage/transport)	-40 °C ... 80 °C

#### Dimensions

Width	22.5 mm
Height	107 mm
Depth	114 mm

#### Insulation characteristics

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### Technical data

#### Insulation characteristics

Rated insulation voltage	500 V
Rated surge voltage	4 kV
Overvoltage category	III
Degree of pollution	2
Designation	Insulation characteristics between the control input and control supply voltage, and auxiliary circuit to the main circuit
Insulation	Safe isolation (IEC 60947-1/EN 50178) at operating voltage $\leq 300$ V AC
	Basic isolation (IEC 60947-1) at operating voltage 300 ... 500 V AC
	Safe isolation (EN 50178) at operating voltage 300 ... 500 V AC
Designation	Isolation characteristics between the control input and control supply voltage to auxiliary circuit
Insulation	Safe isolation (IEC 60947-1) in the auxiliary circuit $\leq 300$ V AC
	Safe isolation (EN 50178) in the auxiliary circuit $\leq 300$ V AC

#### Standards and Regulations

Designation	Standards/regulations
Standards/regulations	IEC 60947-1
	IEC 60947-4-2
	IEC 61508
	ISO 13849

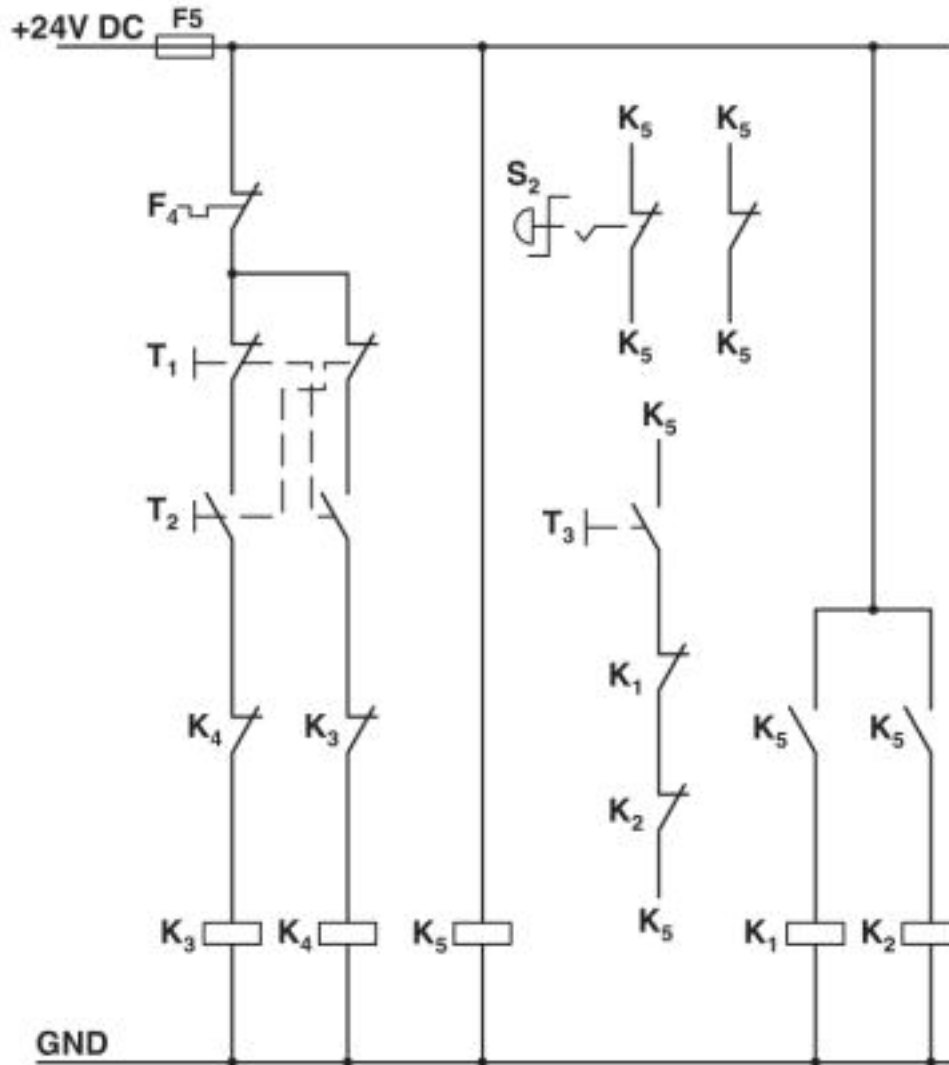
#### Environmental Product Compliance

China RoHS	Environmentally Friendly Use Period = 50
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

### Drawings

## Hybrid motor starter - ELR H5-IES-SC-230AC/500AC-0,6 - 2900692

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

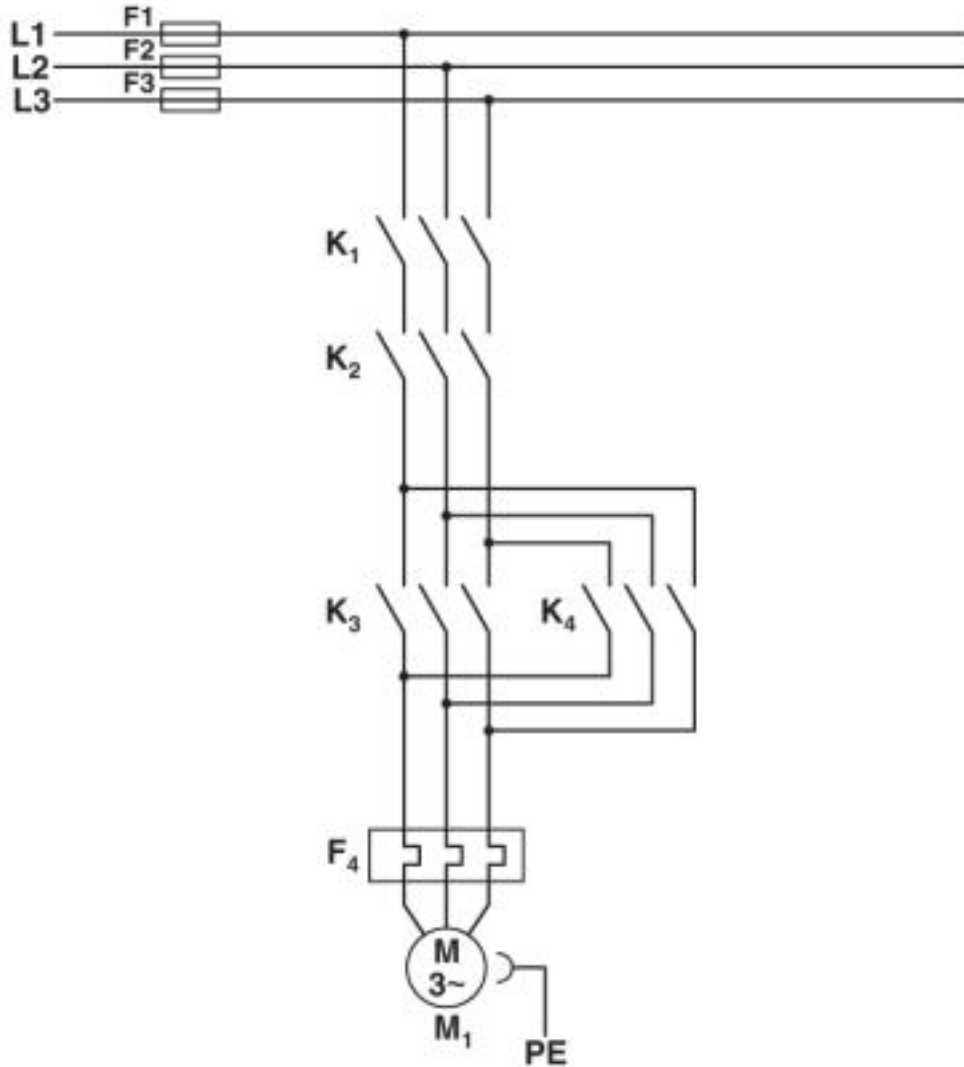
S2 = Emergency stop

F4 = Motor protection relay



## Hybrid motor starter - ELR H5-IES-SC-230AC/500AC-0,6 - 2900692

Circuit diagram



Conventional structure

Main current path for reversing contactor according to category 3

K1 + K2 = Emergency stop contactor

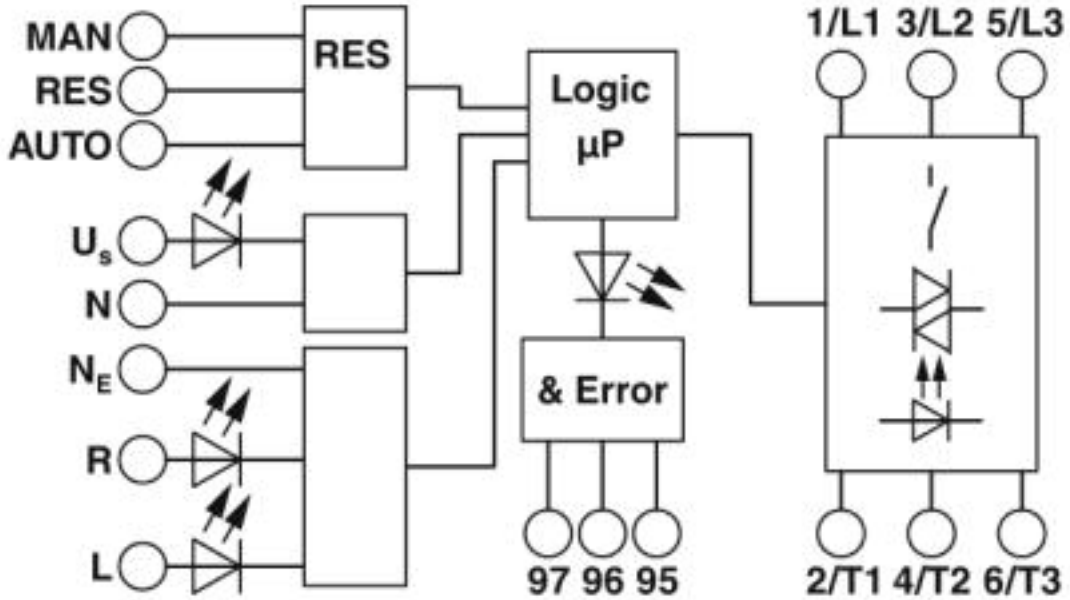
K3 = Left contactor

K4 = Right contactor

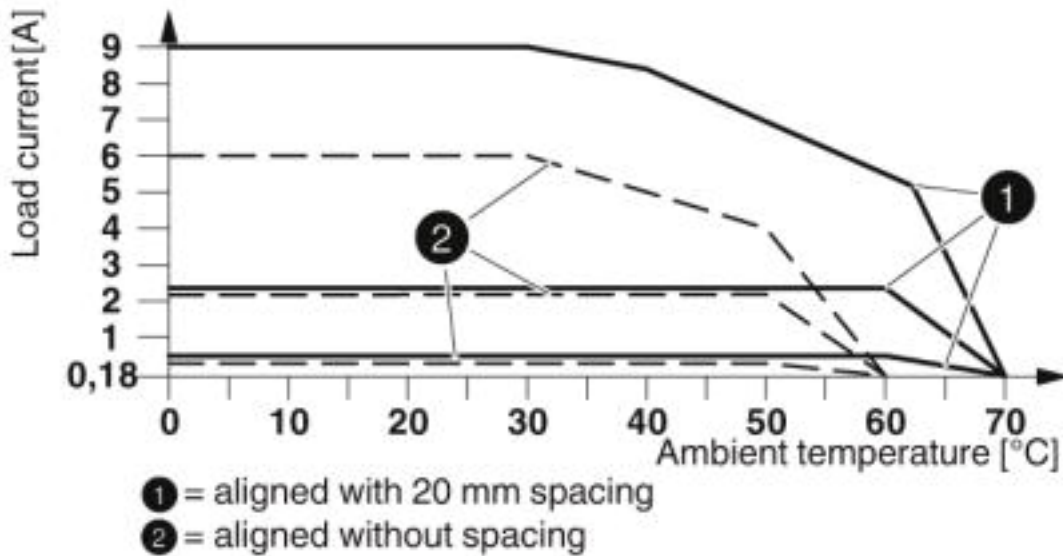
F4 = Motor protection relay

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Block diagram



Diagram



Derating diagram

<https://www.phoenixcontact.com/us/products/2900692>

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### Classifications

#### eCl@ss

eCl@ss 5.0	27024002
eCl@ss 5.1	27024000
eCl@ss 6.0	27024000
eCl@ss 7.0	27024002
eCl@ss 8.0	27024002
eCl@ss 9.0	27370905

#### ETIM

ETIM 2.0	EC001037
ETIM 3.0	EC001037
ETIM 4.0	EC001037
ETIM 5.0	EC001037
ETIM 6.0	EC001037

#### UNSPSC

UNSPSC 6.01	30211915
UNSPSC 7.0901	39121514
UNSPSC 11	39121514
UNSPSC 12.01	39121514
UNSPSC 13.2	25173902

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