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## Hybrid motor starter - ELR H3-I-SC- 24DC/500AC-2 - 2900543

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Hybrid motor starter for starting 3~ AC motors up to 500 V AC and 2.4 A output current, with 24 V DC control voltage, adjustable overload shutdown, and screw connection.


The figure shows the 9 A version

### Why buy this product

- 22.5 mm wide
- Low-wear switching
- Space saving
- Reduction in wiring
- Long service life
- 3-phase loop bridges
- Bimetal function can be set up to 9 A



### Key Commercial Data

Packing unit	1 STK
GTIN	 4 046356 527682

### Technical data

#### Dimensions

Width	22.5 mm
Height	99 mm
Depth	114.5 mm

#### Ambient conditions

Ambient temperature (operation)	-25 °C ... 70 °C (observe derating)
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Degree of protection	IP20

#### Device supply

Rated control circuit supply voltage $U_s$	24 V DC
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## Technical data

### Device supply

Control supply voltage range	19.2 V DC ... 30 V DC
Rated control supply current I <sub>s</sub>	40 mA
Protective circuit	Protection against polarity reversal Parallel polarity protection diode
	Surge protection

### Input data

Input name	Control input right/left
Rated actuating voltage U <sub>c</sub>	24 V DC
Voltage range	19.2 V DC ... 30 V DC
Rated actuating current I <sub>c</sub>	5 mA
Switching threshold	9.6 V ("0" signal)
	19.2 V ("1" signal)
Protective circuit	Protection against polarity reversal
Typical turn-off time	< 30 ms

### Output data load output

Output name	AC output
Rated operating voltage U <sub>e</sub>	500 V AC
Operating voltage range	42 V AC ... 550 V AC
Load current range	180 mA ... 2.4 A (see to derating)
Trigger characteristic in acc. with IEC 60947	Class 10A
Cooling time	20 min. (for auto reset)
Rated operating current at AC-51	2.4 A
Rated operating current at AC-53a	2.4 A
Leakage current	0 mA
Protective circuit	Surge protection Varistor

### 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	≤ 2 Hz (Load-dependent)
Mounting position	vertical (horizontal DIN rail, motor output below)
Assembly instructions	alignable, for spacing see derating
Operating mode	100% operating factor
Maximum power dissipation	4.1 W
Minimum power dissipation	0.88 W
Operating voltage display	Green LED
Status display	Yellow LED

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## Technical data

### General

Indication	Red LED
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### 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

### 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

### Standards/regulations

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

### Insulation characteristics

Rated insulation voltage	500 V
Rated surge voltage	6 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) at operating voltage ≤ 300 V AC (e.g., 230/400 V AC, 277/480 V AC)
	Safe isolation (EN 50178) at operating voltage ≤ 300 V A (e.g., 230/400 V AC, 277/480 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

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## Technical data

### Insulation characteristics

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

### 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)))
FLA	2.4 A (480 V AC)
Group installation	20 A (class RK5, SCCR 5kA, #24 - 14 AWG max. solid and stranded)
	30 A (class CC or J, SCCR 100kA, #24 - 14 AWG max, solid and stranded)
Category code	NLDX / NRNT

### Standards and Regulations

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

## 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	27370905

### 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

# Hybrid motor starter - ELR H3-I-SC- 24DC/500AC-2 - 2900543

## Approvals

### Approvals

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#### Approvals

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

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#### Ex Approvals

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#### Approvals submitted

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### Approval details

UL Listed 

cUL Listed 

IECEE CB Scheme 

UL Listed 

cUL Listed 

EAC

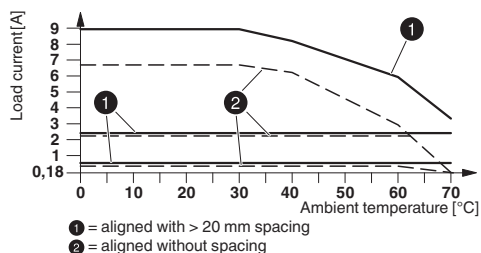
EAC

cULus Listed 

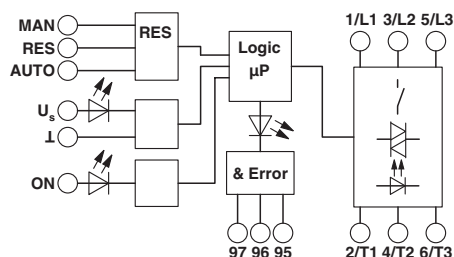
## Drawings

# Hybrid motor starter - ELR H3-I-SC- 24DC/500AC-2 - 2900543

Diagram

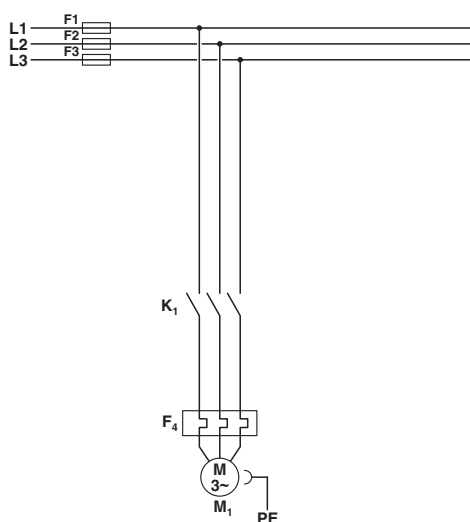


Block diagram



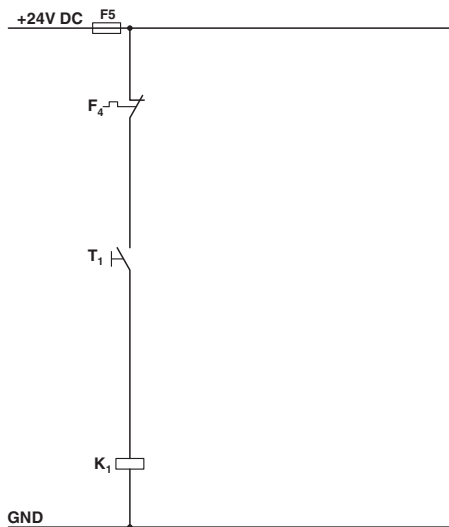
## Derating diagram

Circuit diagram



Conventional structure  
 Main current path reversing contactor  
 K1 = Right contactor  
 F4 = Motor protection relay

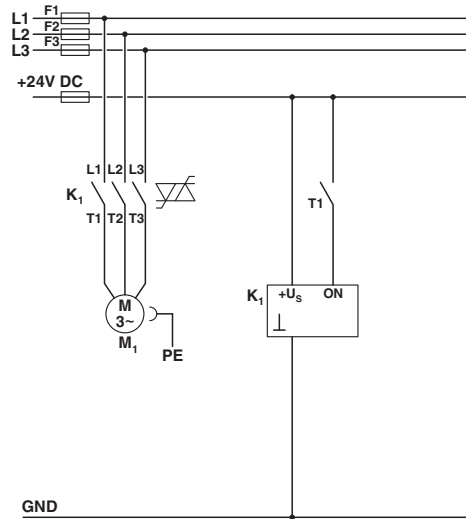
Circuit diagram



Conventional structure  
 Control current path contactor  
 K1 = Right contactor  
 T1 = Right  
 F4 = Motor protection relay

## Hybrid motor starter - ELR H3-I-SC- 24DC/500AC-2 - 2900543

Circuit diagram



### Structure with CONTACTRON

Main and control current path for '2 in 1' hybrid motor starter

K1 = '2 in 1' hybrid motor starter

T1 = Right

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Product	Code	Reference	Product link
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