

# Hybrid motor starter - ELR H5-I-SC-24DC/500AC-2-L



2905513

<https://www.phoenixcontact.com/pc/products/2905513>

Please be informed that the data shown in this PDF document is generated from our Online Catalog. Please find the complete data in the user documentation. Our General Terms of Use for Downloads are valid.



Hybrid motor starter, for reversing 3~ AC motors up to 550 V AC/2.4 A, 24 V DC input, class 10 tripping characteristic, overload function, without symmetry monitoring, and without phase failure and underload detection. 1-phase motors can be switched.

## Commercial Data

Item number	2905513
Packing unit	1 pc
Minimum order quantity	1 pc
Product Key	CK7422
GTIN	4046356964715
Weight per Piece (including packing)	300.1 g
Weight per Piece (excluding packing)	217.18 g
Customs tariff number	85371098
Country of origin	DE

## Technical Data

### Product properties

Product type	Hybrid motor starter
Operating mode	100% operating factor

### Electrical properties

Number of phases	3
Motor starter type	Reversing starter
Maximum power dissipation for nominal condition	2.2 W
Switching frequency	≤ 2 Hz (Load-dependent)
Maximum power dissipation	3.3 W
Minimum power dissipation	1.1 W
Coordination type	1

### Supply

Rated control circuit supply voltage $U_S$	24 V DC
Control supply voltage range	19.2 V DC ... 30 V DC
Rated control supply current $I_S$	40 mA
Protective circuit	Surge protection
	Reverse polarity protection

### Insulation characteristics

Rated insulation voltage	500 V
Rated surge voltage	6 kV
Overvoltage category	III
Degree of pollution	2
Insulation characteristics between the control input and control supply voltage, and auxiliary circuit to the main circuit	Safe isolation (IEC 60947-1) at operating voltage ≤ 300 V AC
	Basic insulation (IEC 60947-1) at operating voltage 300 V AC ... 500 V AC
Isolation characteristics between the control input and control supply voltage to auxiliary circuit	Safe isolation (IEC 60947-1) in the auxiliary circuit ≤ 300 V AC

### Input data

#### Control

Input name	Control input right/left
Rated actuating voltage $U_C$	24 V DC
Triggering voltage range	19.2 V DC ... 30 V DC
Rated actuating current $I_C$	5 mA (Input type 1)
Switching threshold	9.6 V ("0" signal)
	19.2 V ("1" signal)
Typical turn-off time	< 30 ms
Protective circuit	Reverse polarity protection

### Output data

# Hybrid motor starter - ELR H5-I-SC-24DC/500AC-2-L



2905513

<https://www.phoenixcontact.com/pc/products/2905513>

## AC output

Rated operating voltage $U_e$	500 V AC
Operating voltage range	42 V AC ... 550 V AC
Rated operating current $I_e$	2.4 A (AC-51)
	2.4 A (AC-53a)
Mains frequency	50/60 Hz
Load current range	180 mA ... 2.4 A (see to derating)
Trigger characteristic in acc. with IEC 60947-4-2	Class 10
Cooling time	20 min. (for auto reset)
Leakage current	0 mA
Protective circuit	Surge protection

## Acknowledge output

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

## Connection data

### 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
Tightening torque	0.5 Nm ... 0.6 Nm
	5 lb <sub>F</sub> -in. ... 7 lb <sub>F</sub> -in.

### 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
Tightening torque	0.5 Nm ... 0.6 Nm
	5 lb <sub>F</sub> -in. ... 7 lb <sub>F</sub> -in.

## LED signaling

Status display	Yellow LED
Operating voltage display	Green LED
Error indication	Red LED

## Dimensions

# Hybrid motor starter - ELR H5-I-SC-24DC/500AC-2-L



2905513

<https://www.phoenixcontact.com/pc/products/2905513>

Width	22.5 mm
Height	107 mm
Depth	114 mm

## Material specifications

Flammability rating according to UL 94	V0 (Housing)
--	--------------

## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-25 °C ... 70 °C (observe derating)
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Altitude	≤ 2000 m

## Approval data

### UKCA

Certificate	UKCA-compliant
-------------	----------------

### UL approval

Certificate	NLDX.E228652
-------------	--------------

### UL data

SCCR	100 kA (500 V AC (fuse: 30 A class CC/30 A class J (high fault)))
	5 kA (500 V AC (fuse: 20 A RK5 (standard fault)))
FLA	2.4 A (500 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

### Standards/regulations

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

## Mounting

Mounting type	DIN rail mounting
Assembly instructions	alignable, for spacing see derating
Mounting position	vertical (horizontal DIN rail, motor output below)

# Hybrid motor starter - ELR H5-I-SC-24DC/500AC-2-L

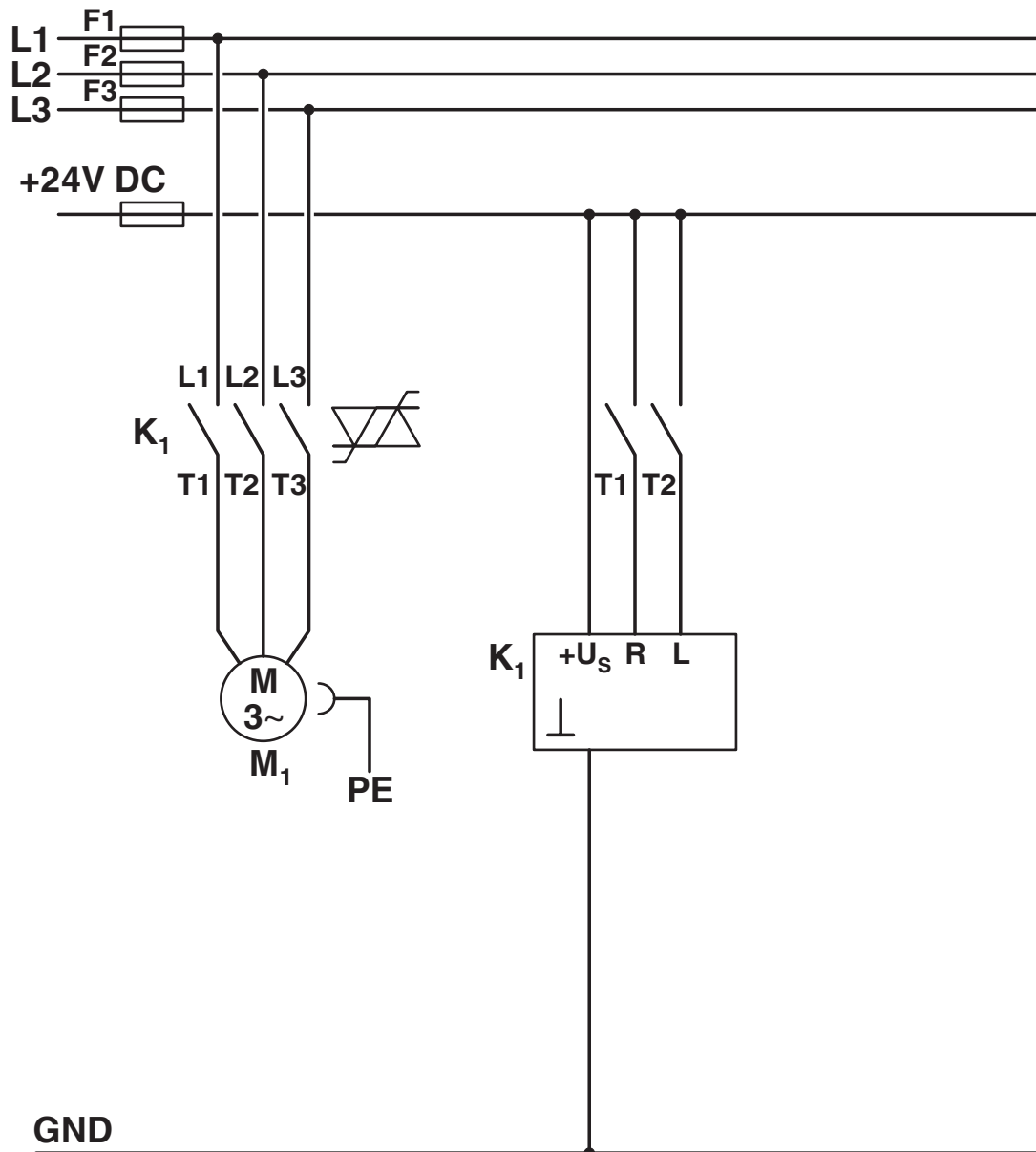


2905513

<https://www.phoenixcontact.com/pc/products/2905513>

## Drawings

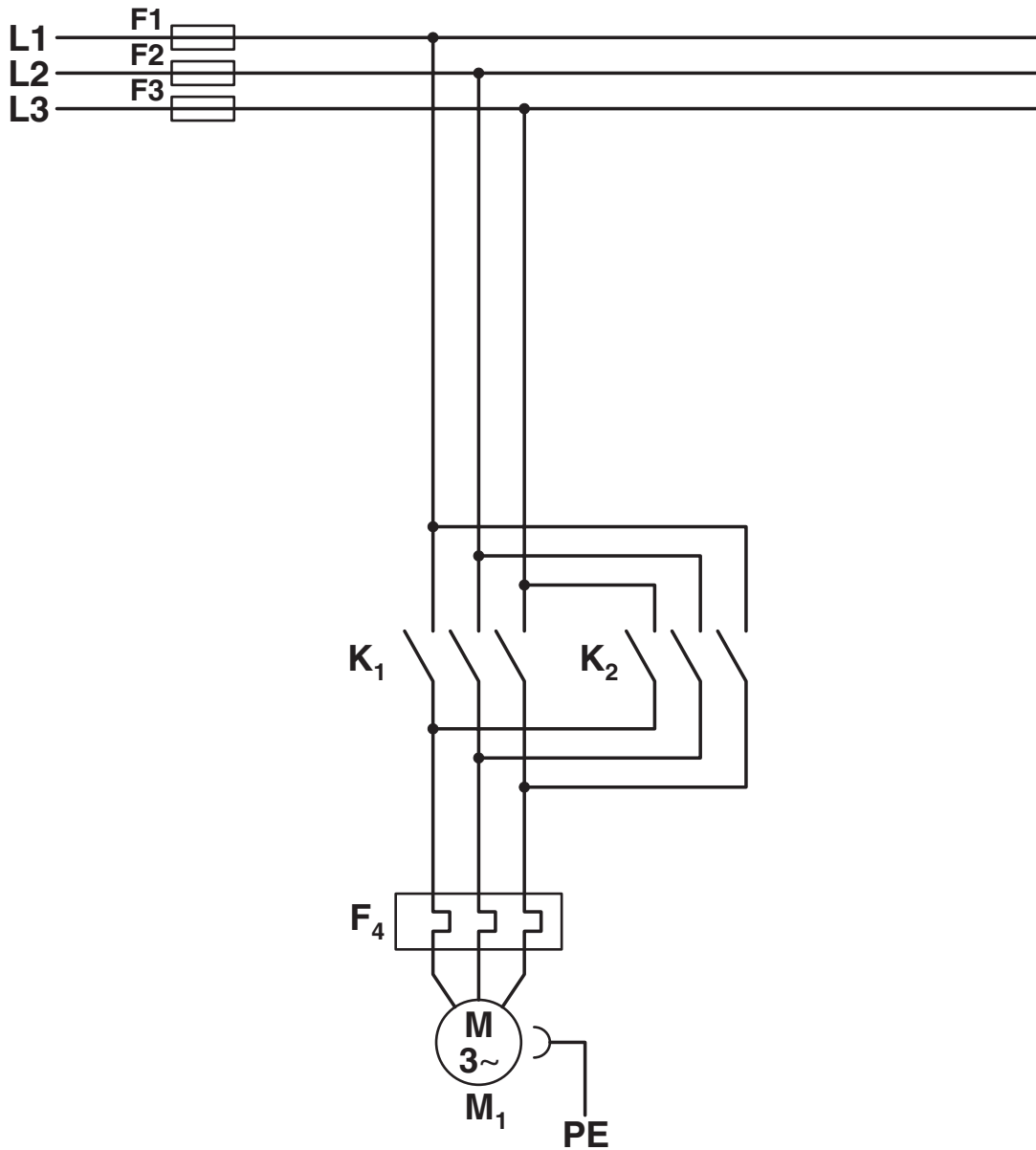
Circuit diagram



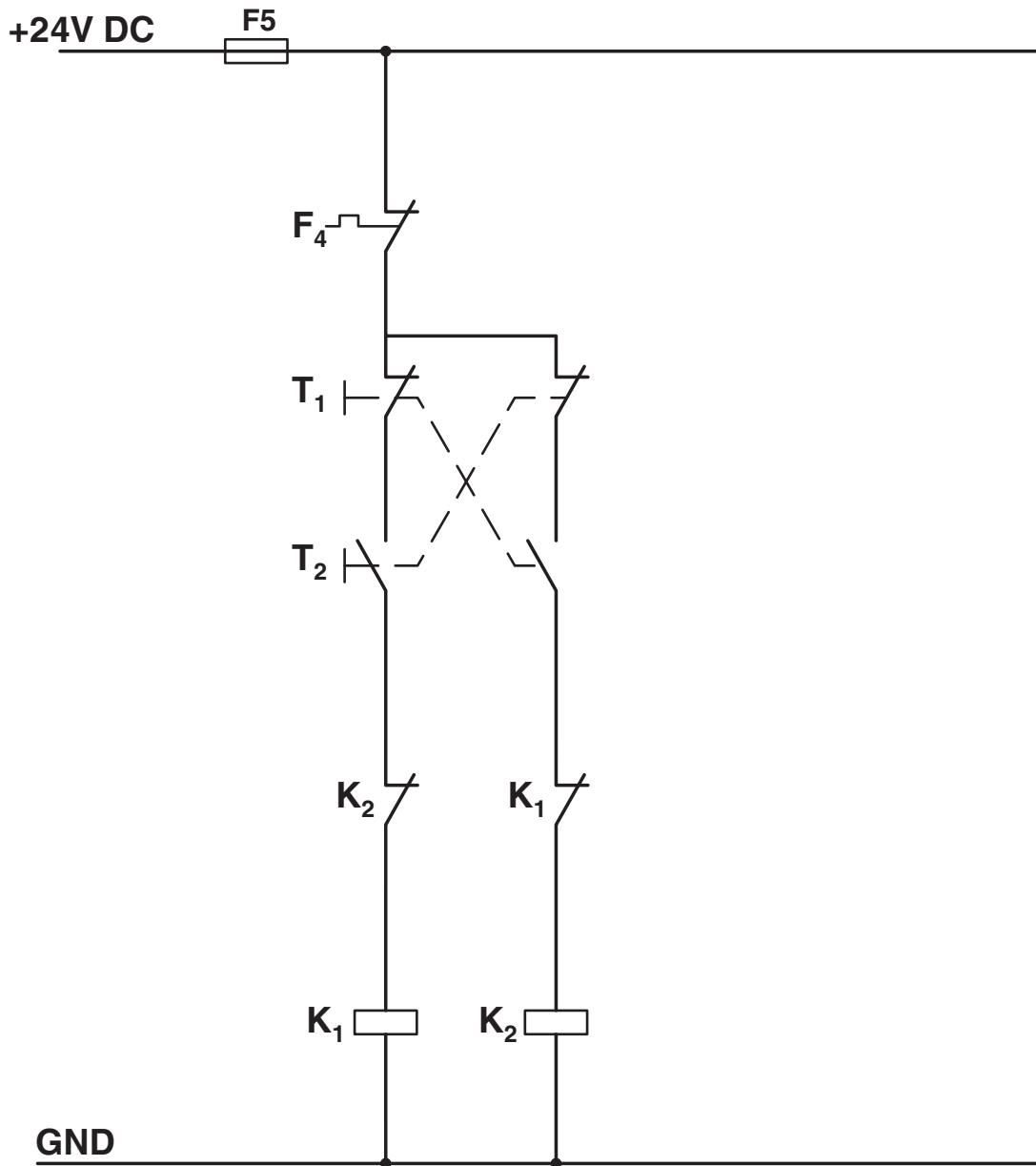
2905513

<https://www.phoenixcontact.com/pc/products/2905513>

Circuit diagram



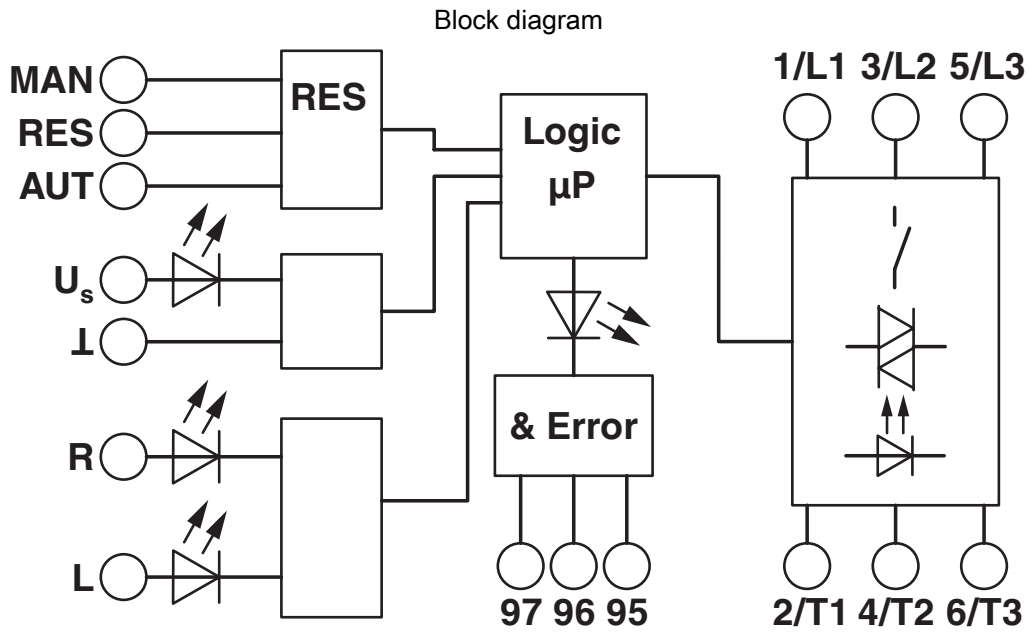
Circuit diagram



# Hybrid motor starter - ELR H5-I-SC-24DC/500AC-2-L

2905513

<https://www.phoenixcontact.com/pc/products/2905513>





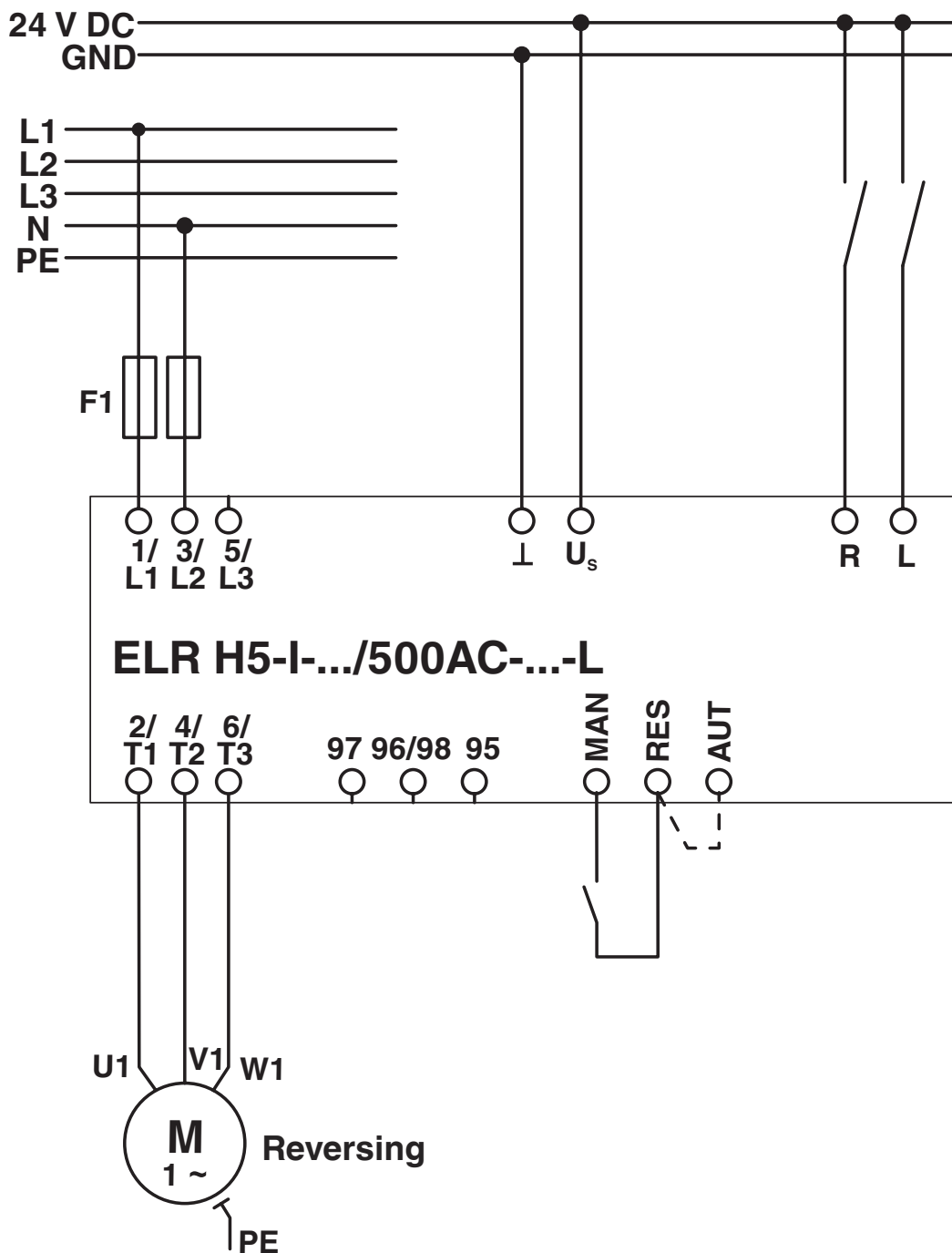
# Hybrid motor starter - ELR H5-I-SC-24DC/500AC-2-L



2905513

<https://www.phoenixcontact.com/pc/products/2905513>

Circuit diagram



# Hybrid motor starter - ELR H5-I-SC-24DC/500AC-2-L



2905513

<https://www.phoenixcontact.com/pc/products/2905513>

## Approvals



**EAC**

Approval ID: RU\*C-DE.\*08.B.00520\*



**UL Listed**

Approval ID: FILE E 323771



**CCC**

Approval ID: 2016010304871315



**cUL Listed**

Approval ID: FILE E 323771



**cUL Listed**

Approval ID: FILE E 228652



**UL Listed**

Approval ID: FILE E 228652

# Hybrid motor starter - ELR H5-I-SC-24DC/500AC-2-L



2905513

<https://www.phoenixcontact.com/pc/products/2905513>

## Classifications

### ECLASS

ECLASS-9.0	27370905
ECLASS-10.0.1	27370905
ECLASS-11.0	27370905

### ETIM

ETIM 8.0	EC001037
----------	----------

### UNSPSC

UNSPSC 21.0	25173900
-------------	----------

# Hybrid motor starter - ELR H5-I-SC-24DC/500AC-2-L



2905513

<https://www.phoenixcontact.com/pc/products/2905513>

## Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

# Hybrid motor starter - ELR H5-I-SC-24DC/500AC-2-L



2905513

<https://www.phoenixcontact.com/pc/products/2905513>

## Accessories

### Plastic label

Plastic label - US-EMLP (15X5) - 0828790

<https://www.phoenixcontact.com/pc/products/0828790>



Plastic label, Card, white, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: adhesive, lettering field size: 15 x 5 mm, Number of individual labels: 189

---

### Plastic label

Plastic label - UC-EMLP (15X5) - 0819301

<https://www.phoenixcontact.com/pc/products/0819301>



Plastic label, Sheet, white, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: adhesive, lettering field size: 15 x 5 mm, Number of individual labels: 10

# Hybrid motor starter - ELR H5-I-SC-24DC/500AC-2-L



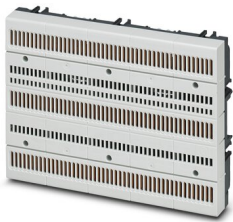
2905513

<https://www.phoenixcontact.com/pc/products/2905513>

## Power distribution board

Power distribution board - EM-CPS-225 - 1002634

<https://www.phoenixcontact.com/pc/products/1002634>



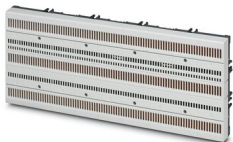
Modular power distribution board with CrossLink<sup>®</sup> interface, 125 A, 3-pos., touch-proof and protection against polarity reversal, width: 225 mm

---

## Power distribution board

Power distribution board - EM-CPS-405 - 1002635

<https://www.phoenixcontact.com/pc/products/1002635>



Modular power distribution board with CrossLink<sup>®</sup> interface, 125 A, 3-pos., touch-proof and protection against polarity reversal, width: 405 mm

# Hybrid motor starter - ELR H5-I-SC-24DC/500AC-2-L



2905513

<https://www.phoenixcontact.com/pc/products/2905513>

## Connection module

Connection module - EM-CPS-TB3/63A - 1002633

<https://www.phoenixcontact.com/pc/products/1002633>



Connection module with integrated spring-loaded terminals for cables from 1.5 to 16 mm<sup>2</sup>, 3-pos., maximum 63 A

---

## Adapter

Adapter - EM-CPS-DA-22,5F/16A - 1002668

<https://www.phoenixcontact.com/pc/products/1002668>



Device adapter with fuse holder for 16 A fuse (10x38/Class CC), CrossLink<sup>®</sup> interface and fixed DIN rail

# Hybrid motor starter - ELR H5-I-SC-24DC/500AC-2-L



2905513

<https://www.phoenixcontact.com/pc/products/2905513>

## Bridge

Bridge - BRIDGE- 2 - 2900746

<https://www.phoenixcontact.com/pc/products/2900746>

3-phase loop bridge for CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 0.3 m, with ferrules.



---

## Bridge

Bridge - BRIDGE- 3 - 2900747

<https://www.phoenixcontact.com/pc/products/2900747>

3-phase loop bridge for 3 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 0.3 m, with ferrules.





# Hybrid motor starter - ELR H5-I-SC-24DC/500AC-2-L



2905513

<https://www.phoenixcontact.com/pc/products/2905513>

## Bridge

Bridge - BRIDGE- 4 - 2900748

<https://www.phoenixcontact.com/pc/products/2900748>

3-phase loop bridge for 4 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 0.3 m, with ferrules.



---

## Bridge

Bridge - BRIDGE- 5 - 2900749

<https://www.phoenixcontact.com/pc/products/2900749>

3-phase loop bridge for 5 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 0.3 m, with ferrules.



# Hybrid motor starter - ELR H5-I-SC-24DC/500AC-2-L



2905513

<https://www.phoenixcontact.com/pc/products/2905513>

## Bridge

Bridge - BRIDGE- 6 - 2900750

<https://www.phoenixcontact.com/pc/products/2900750>

3-phase loop bridge for 6 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 0.3 m, with ferrules.



---

## Bridge

Bridge - BRIDGE- 7 - 2900751

<https://www.phoenixcontact.com/pc/products/2900751>

3-phase loop bridge for 7 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 0.3 m, with ferrules.



# Hybrid motor starter - ELR H5-I-SC-24DC/500AC-2-L



2905513

<https://www.phoenixcontact.com/pc/products/2905513>

## Bridge

Bridge - BRIDGE- 8 - 2900752

<https://www.phoenixcontact.com/pc/products/2900752>

3-phase loop bridge for 8 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 0.3 m, with ferrules.



---

## Bridge

Bridge - BRIDGE- 9 - 2900753

<https://www.phoenixcontact.com/pc/products/2900753>

3-phase loop bridge for 9 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 0.3 m, with ferrules.



# Hybrid motor starter - ELR H5-I-SC-24DC/500AC-2-L



2905513

<https://www.phoenixcontact.com/pc/products/2905513>

## Bridge

Bridge - BRIDGE-10 - 2900754

<https://www.phoenixcontact.com/pc/products/2900754>

3-phase loop bridge for 10 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 0.3 m, with ferrules.



---

## Bridge

Bridge - BRIDGE- 2-1M - 2901542

<https://www.phoenixcontact.com/pc/products/2901542>

3-phase loop bridge for 2 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 1 m



# Hybrid motor starter - ELR H5-I-SC-24DC/500AC-2-L



2905513

<https://www.phoenixcontact.com/pc/products/2905513>

## Bridge

Bridge - BRIDGE- 3-1M - 2901655

<https://www.phoenixcontact.com/pc/products/2901655>

3-phase loop bridge for 3 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 1 m



---

## Bridge

Bridge - BRIDGE- 4-1M - 2901658

<https://www.phoenixcontact.com/pc/products/2901658>

3-phase loop bridge for 4 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 1 m



# Hybrid motor starter - ELR H5-I-SC-24DC/500AC-2-L



2905513

<https://www.phoenixcontact.com/pc/products/2905513>

## Bridge

Bridge - BRIDGE- 5-1M - 2901544

<https://www.phoenixcontact.com/pc/products/2901544>

3-phase loop bridge for 5 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 1 m



---

## Bridge

Bridge - BRIDGE- 6-1M - 2901649

<https://www.phoenixcontact.com/pc/products/2901649>

3-phase loop bridge for 6 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 1 m



# Hybrid motor starter - ELR H5-I-SC-24DC/500AC-2-L



2905513

<https://www.phoenixcontact.com/pc/products/2905513>

## Bridge

Bridge - BRIDGE- 2-3M - 2901543

<https://www.phoenixcontact.com/pc/products/2901543>

3-phase loop bridge for 2 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 3 m



---

## Bridge

Bridge - BRIDGE- 3-3M - 2901656

<https://www.phoenixcontact.com/pc/products/2901656>

3-phase loop bridge for 3 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 3 m



# Hybrid motor starter - ELR H5-I-SC-24DC/500AC-2-L



2905513

<https://www.phoenixcontact.com/pc/products/2905513>

## Bridge

Bridge - BRIDGE- 4-3M - 2901659

<https://www.phoenixcontact.com/pc/products/2901659>

3-phase loop bridge for 4 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 3 m



---

## Bridge

Bridge - BRIDGE- 5-3M - 2901545

<https://www.phoenixcontact.com/pc/products/2901545>

3-phase loop bridge for 5 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 3 m





# Hybrid motor starter - ELR H5-I-SC-24DC/500AC-2-L



2905513

<https://www.phoenixcontact.com/pc/products/2905513>

## Bridge

Bridge - BRIDGE- 6-3M - 2901697

<https://www.phoenixcontact.com/pc/products/2901697>

3-phase loop bridge for 6 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 3 m



---

## Bridge

Bridge - BRIDGE- 7-3M - 2901698

<https://www.phoenixcontact.com/pc/products/2901698>

3-phase loop bridge for 7 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 3 m



# Hybrid motor starter - ELR H5-I-SC-24DC/500AC-2-L



2905513

<https://www.phoenixcontact.com/pc/products/2905513>

## Bridge

Bridge - BRIDGE- 8-3M - 2901700

<https://www.phoenixcontact.com/pc/products/2901700>

3-phase loop bridge for 8 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 3 m



---

## Bridge

Bridge - BRIDGE- 9-3M - 2901701

<https://www.phoenixcontact.com/pc/products/2901701>

3-phase loop bridge for 9 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 3 m



# Hybrid motor starter - ELR H5-I-SC-24DC/500AC-2-L



2905513

<https://www.phoenixcontact.com/pc/products/2905513>

## Bridge

Bridge - BRIDGE-10-3M - 2901702

<https://www.phoenixcontact.com/pc/products/2901702>

3-phase loop bridge for 10 CONTACTRON modules, with screw connection and 22.5 mm housing width, connecting cable: 3 m



---

## Bridge

Bridge - BRIDGE- 2- 2M/0,3M - 2909897

<https://www.phoenixcontact.com/pc/products/2909897>

3-phase loop bridge for 2 CONTACTRON modules, with screw connection and 22.5 mm housing width, cable length between the modules: 0.3 m, connecting cable: 2 m



# Hybrid motor starter - ELR H5-I-SC-24DC/500AC-2-L



2905513

<https://www.phoenixcontact.com/pc/products/2905513>

## Bridge

Bridge - BRIDGE- 3- 2M/0,3M - 2909898

<https://www.phoenixcontact.com/pc/products/2909898>



3-phase loop bridge for 3 CONTACTRON modules, with screw connection and 22.5 mm housing width, cable length between the modules: 0.3 m, connecting cable: 2 m

---

## Bridge

Bridge - BRIDGE- 4- 2M/0,3M - 2909899

<https://www.phoenixcontact.com/pc/products/2909899>



3-phase loop bridge for 4 CONTACTRON modules, with screw connection and 22.5 mm housing width, cable length between the modules: 0.3 m, connecting cable: 2 m

# Hybrid motor starter - ELR H5-I-SC-24DC/500AC-2-L



2905513

<https://www.phoenixcontact.com/pc/products/2905513>

## Covering hood

Covering hood - BRIDGE COVER - 2906240

<https://www.phoenixcontact.com/pc/products/2906240>

The BRIDGE COVER covering hood is used to cover unused plugs on the CONTACTRON bridge that may subsequently be used to extend the system. The hood can be used with the screw and Push-in version of the bridge.



---

Phoenix Contact 2022 © - all rights reserved

<https://www.phoenixcontact.com>

PHOENIX CONTACT GmbH & Co. KG

Flachsmarktstraße 8

D-32825 Blomberg

+49 (0) 5235-3 00

[info@phoenixcontact.com](mailto:info@phoenixcontact.com)