

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



2901063

<https://www.phoenixcontact.com/us/products/2901063>

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The figure shows the ELR H5-I-SC-24DC/500AC-9-SP version

Hybrid motor starter for reversing 3~ AC motors up to 550 V AC, with 24 V DC input, 2.4 A output current, adjustable overload shutdown, class 10 tripping characteristics, and with no underload detection.

Your advantages

- 22.5 mm wide
- Reduction in wiring
- Long service life
- Space saving
- 3-phase loop bridges
- Adjustable current for bimetal function
- Low-wear switching

Commercial data

Item number	2901063
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	C470
Product key	DK7422
GTIN	4046356577861
Weight per piece (including packing)	256 g
Weight per piece (excluding packing)	217 g
Customs tariff number	85371098
Country of origin	DE

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Technical data

Product properties

Product type	Hybrid motor starters
Product family	CONTACTRON
Operating mode	100% operating factor

Electrical properties

Number of phases	3
Motor starter type	Reversing starter
Switching frequency	≤ 2 Hz (Load-dependent)
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

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2901063

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Output data

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 in accordance with 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 rigid	0.2 mm ² ... 2.5 mm ²
Conductor cross-section flexible	0.2 mm ² ... 2.5 mm ²
Conductor cross-section AWG	24 ... 14
Tightening torque	0.5 Nm ... 0.6 Nm 5 lb _f -in. ... 7 lb _f -in.

Load circuit

Connection method	Screw connection
Stripping length	8 mm
Screw thread	M3
Conductor cross-section rigid	0.2 mm ² ... 2.5 mm ²
Conductor cross-section flexible	0.2 mm ² ... 2.5 mm ²
Conductor cross-section AWG	24 ... 14
Tightening torque	0.5 Nm ... 0.6 Nm 5 lb _f -in. ... 7 lb _f -in.

Signaling

Status display	LED (yellow)
Operating voltage display	Green LED
Error indication	Red LED

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2901063

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Dimensions

Width	22.5 mm
Height	107 mm
Depth	114 mm

Material specifications

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

Approvals

UKCA

Certificate	UKCA-compliant
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UL approval

Certificate	NLDX.E228652
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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 60947-1
	IEC 61508
	ISO 13849

Mounting

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

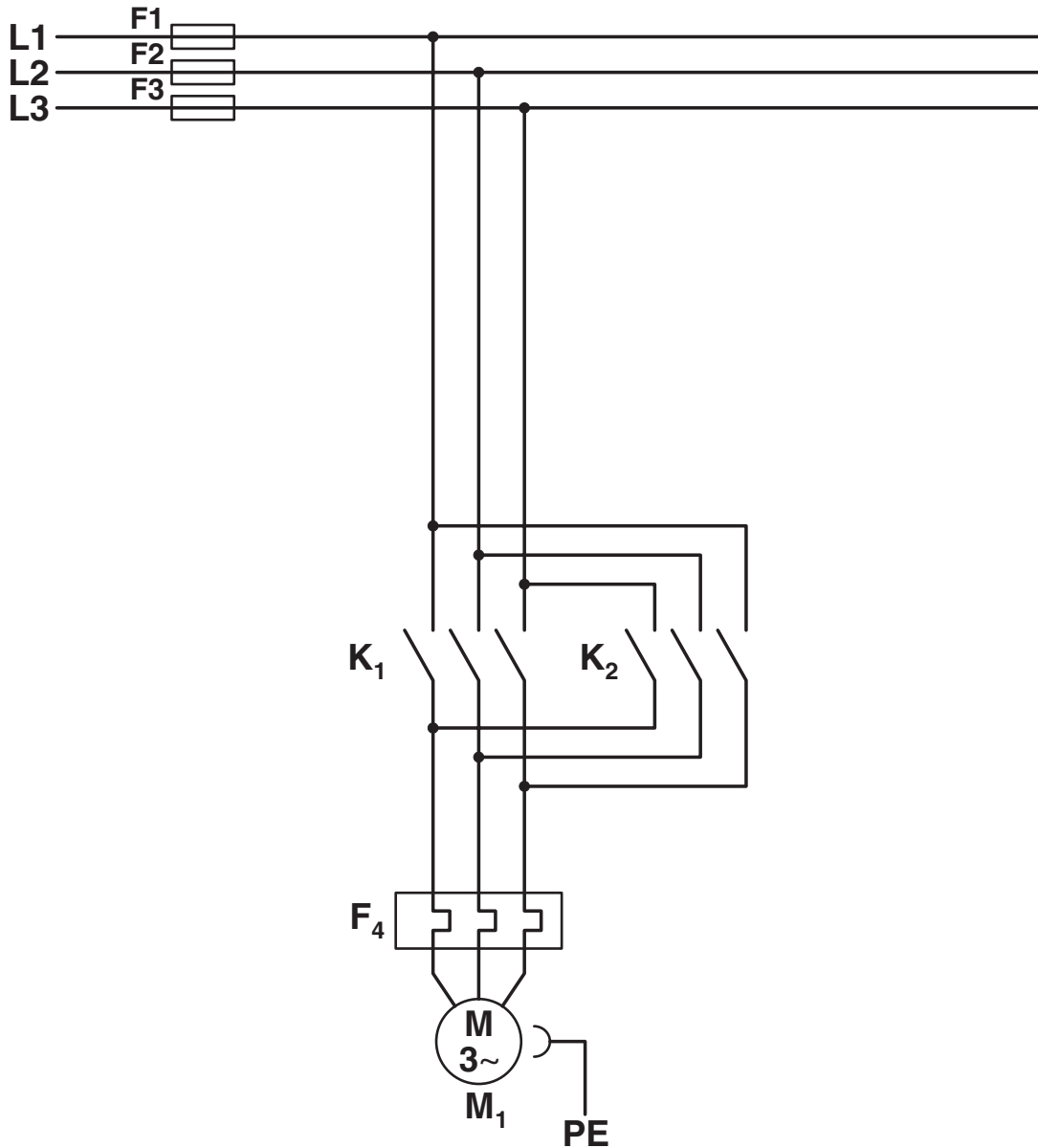
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Drawings

Circuit diagram



Conventional structure

Main current path contactor

K1 = Left contactor

K2 = Right contactor

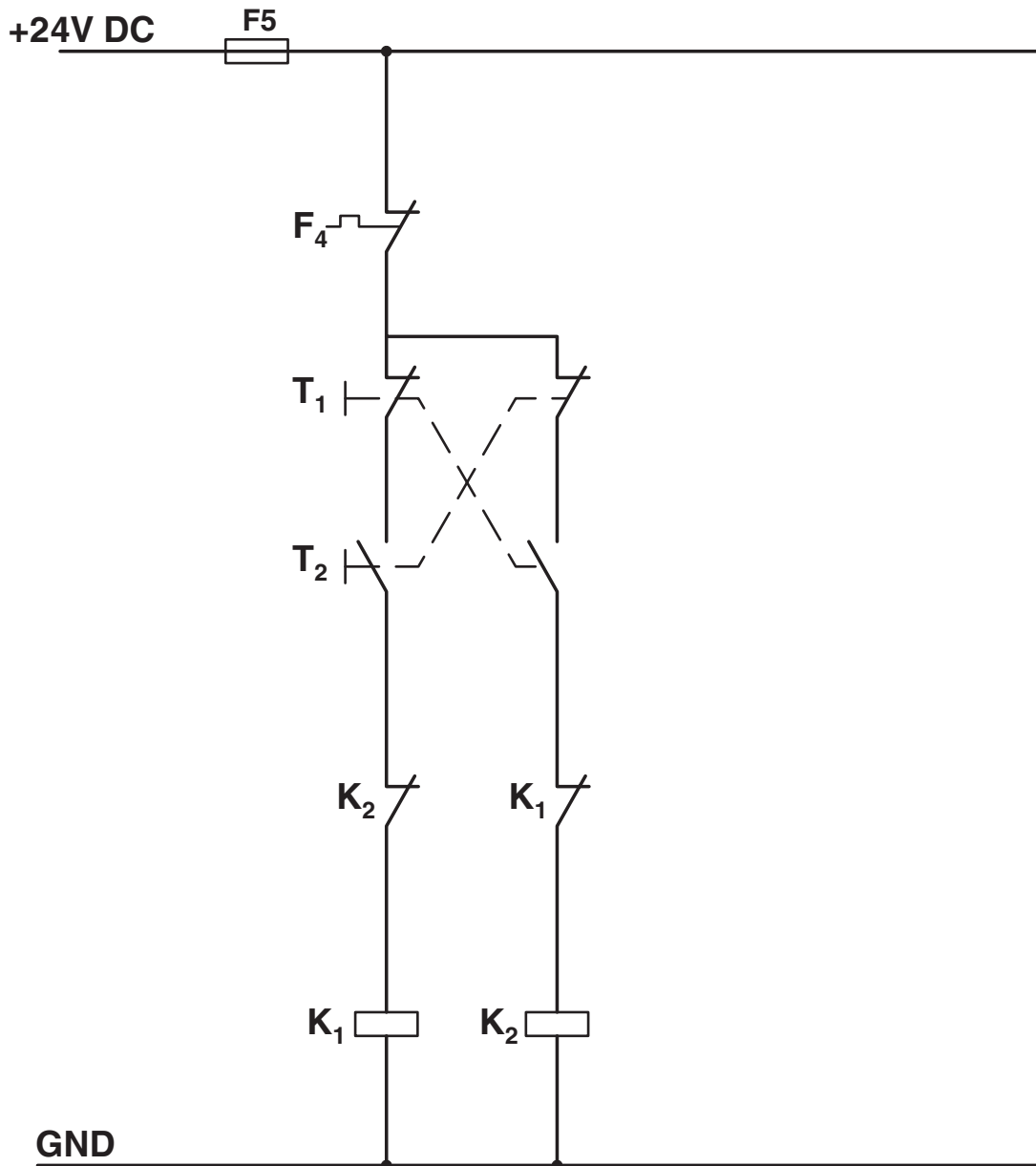
F4 = Motor protection relay

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2901063

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Circuit diagram



Conventional structure

Control current path contactor

K1 = Left contactor

K2 = Right contactor

T1 = Left, T2 = Right

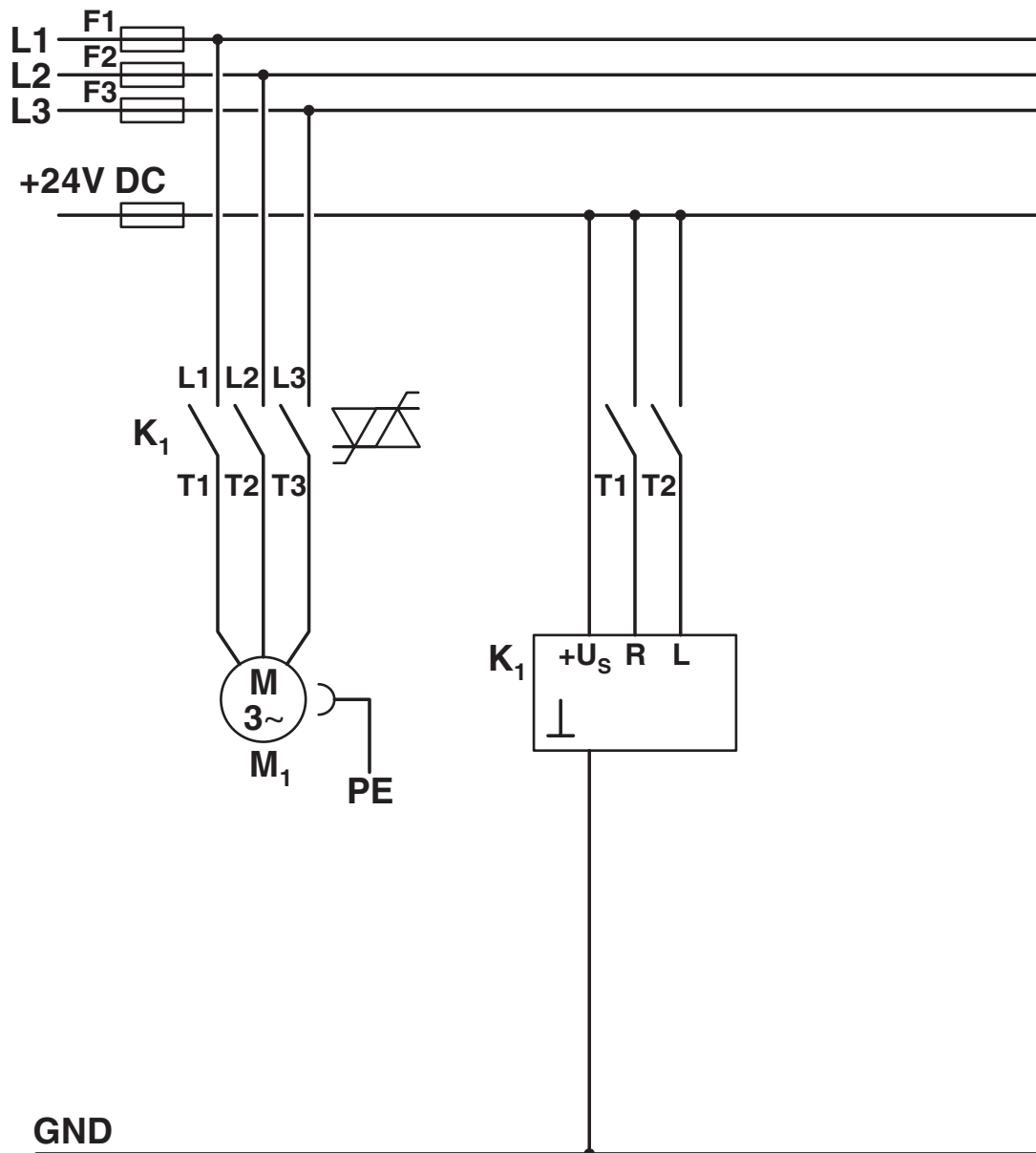
F4 = Motor protection relay

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Circuit diagram



Structure with CONTACTRON

Main and control current path for '3 in 1' hybrid motor starter

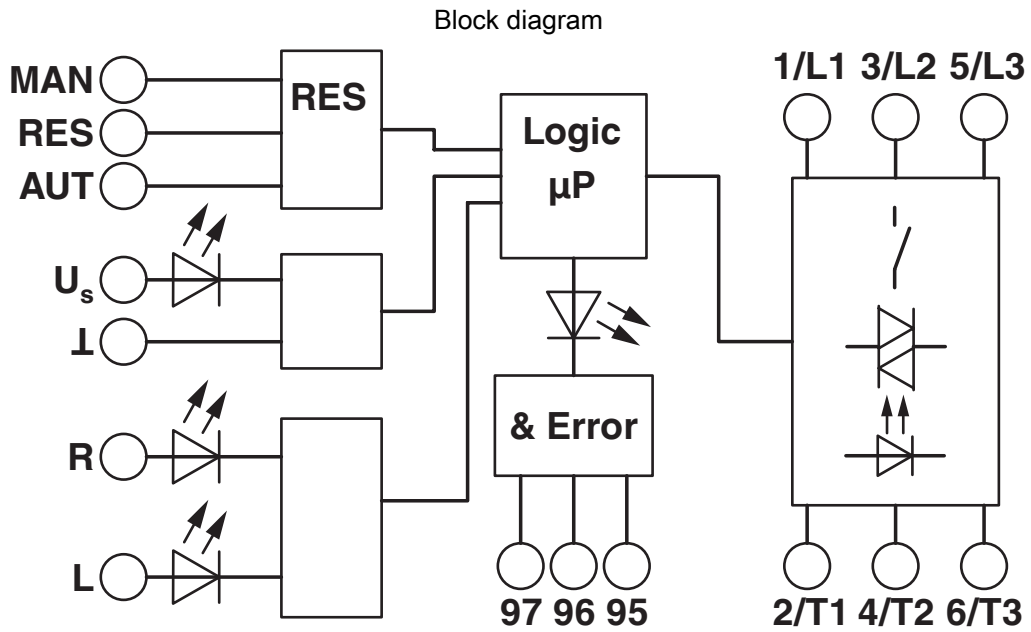
K1 = '3 in 1' hybrid motor starter

T1 = Right, T2 = Left

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Approvals

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EAC

Approval ID: RU C-DE.A*30.B.01082



UL Listed

Approval ID: FILE E 323771



cUL Listed

Approval ID: FILE E 323771



cUL Listed

Approval ID: E228652



UL Listed

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Classifications

ECLASS

ECLASS-13.0	27370905
ECLASS-15.0	27370905

ETIM

ETIM 10.0	EC001037
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UNSPSC

UNSPSC 21.0	25173900
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Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	7(a), 7(c)-I

China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

EU REACH SVHC

REACH candidate substance (CAS No.)	1-Methyl-2-pyrrolidone (NMP)(CAS: 872-50-4)
	Lead(CAS: 7439-92-1)
	2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol(CAS: 79-94-7)
SCIP	73744b06-5c78-499b-863b-a143909dd208

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