

# ELR-H51-9-BUSBAR-COMPACT-SET - Hybrid motor starter



2904337

<https://www.phoenixcontact.com/us/products/2904337>

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Complete package consisting of ELR H51-IESSC-24DC500AC-9 and EM RI-ADAPTER COMPACT for mounting on 60 mm busbar

## Your advantages

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

## Commercial data

Item number	2904337
Packing unit	1 pc
Minimum order quantity	1 pc
Product key	CK7454
Catalog page	Page 37 (C-5-2019)
GTIN	4046356802970
Weight per piece (including packing)	458.8 g
Weight per piece (excluding packing)	350 g
Country of origin	DE

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## Set consists of

### ELR H51-IESSC-24DC500AC-9 - Hybrid motor starter

2902745

<https://www.phoenixcontact.com/us/products/2902745>



Short-circuit-proof hybrid motor starter for reversing 3~ AC motors up to 550 V AC, with 24 V DC input, 9 A output current, emergency stop function, and adjustable overload shutdown. Can only be used with EM-RD adapter, EM-RI adapter or power distribution board.

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### EM RI-ADAPTER COMPACT - Adapter

2902748

<https://www.phoenixcontact.com/us/products/2902748>



Adapter for mounting short circuit-proof hybrid motor starters of type ELR-H51 ... on 60 mm power busbars. Compact design with 160 mm design height.

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## FUSE-10X38-20A-GR - Fuse

2903384

<https://www.phoenixcontact.com/us/products/2903384>



Fuse, number: 10 Pcs., fuse type: Fuse (CC), nominal current: 20 A, tripping characteristic: super-fast blow (gR)

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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
Maximum power dissipation for nominal condition	11 W
Switching frequency	≤ 2 Hz (Load-dependent)
Maximum power dissipation	7 W
Minimum power dissipation	0.88 W
Coordination type	2

### 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; Parallel polarity protection diode

### 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
	Safe isolation (EN 50178) at operating voltage ≤ 300 V AC
	Basic insulation (IEC 60947-1) at operating voltage 300 V AC ... 500 V AC
	Safe isolation (EN 50178) at operating voltage 300 ... 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
	Safe isolation (EN 50178) in the auxiliary circuit ≤ 300 V AC

### Emergency tripping

Operate threshold	> 45 A
Response time	< 2 s

### 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

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Rated actuating current $I_C$	5 mA
Switching threshold	9.6 V ("0" signal)
	19.2 V ("1" signal)
Switching level	< 5 V DC (For EMERGENCY STOP)
Typical turn-off time	< 30 ms

## Output data

### AC output

Rated operating voltage $U_e$	500 V AC
Operating voltage range	42 V AC ... 550 V AC
Mains frequency	50/60 Hz
Load current range	1.5 A ... 9 A
Trigger characteristic in acc. with IEC 60947-4-2	Class 10A
Cooling time	20 min. (for auto reset)
Leakage current	0 mA
Protective circuit	Surge protection; Varistor
	Short-circuit protection; Fuse

### Acknowledge output

Note	Confirmation: floating change-over contact, signal contact
Contact switching type	1 changeover 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 <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 rigid	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.

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## Signaling

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

## Material specifications

Flammability rating according to UL 94	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

### ATEX

Identification	⊕ II (2) G [Ex e] [Ex d] [Ex px]
	⊕ II (2) D [Ex t] [Ex p]
Certificate	PTB 07 ATEX 3145

### UL approval

Certificate	NLDX.E228652
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### Safety Integrity Level (SIL, IEC 61508)

Identification	≤ 3
Note	Safe shutdown

### Safety Integrity Level (SIL, IEC 61508)

Identification	2
Note	Motor protection

### Performance Level (ISO 13849)

Identification	e
Note	Safe shutdown

### Category (ISO 13849)

Identification	3
Note	Safe shutdown

### 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	6.5 A (480 V AC)
Group installation	20 A (class RK5, SCCR 5kA, #24 - 14 AWG max. solid and stranded)

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	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
	EN 60947-4-2
	IEC 61508
	ISO 13849

## Mounting

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

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## Classifications

### ECLASS

ECLASS-11.0	27370905
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### UNSPSC

UNSPSC 21.0	25173902
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## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	6(c), 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.)	Lead(CAS: 7439-92-1)
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## Accessories

### FUSE-10X38-30A-MR - Fuse

2903119

<https://www.phoenixcontact.com/us/products/2903119>



Fuse, number: 10 Pcs., fuse type: Fuse (CC), nominal current: 30 A, tripping characteristic: fast-blow (F)

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### FUSE-10X38-20A-GR - Fuse

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Fuse, number: 10 Pcs., fuse type: Fuse (CC), nominal current: 20 A, tripping characteristic: super-fast blow (gR)

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## FUSE-10X38-16A-GR - Fuse

2903126

<https://www.phoenixcontact.com/us/products/2903126>



Fuse, number: 10 Pcs., fuse type: Fuse (CC), nominal current: 16 A, tripping characteristic: super-fast blow (gR)

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