

# ELR H51-IES-24DC500AC-3-IOL - Hybrid motor starter



1151617

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Hybrid motor starter; functions: start motor, reverse motor, motor protection, emergency stop, network capable, short-circuit protection; input: 24 V DC; output: 3~, 500 V AC, 3 A; connection method: screw and Push-in connection; connection to the IO-Link system

## Commercial data

Item number	1151617
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	C470
Product key	DK7456
GTIN	4063151150037
Weight per piece (including packing)	487.1 g
Weight per piece (excluding packing)	331 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

#### Insulation characteristics: Standards/regulations

Pollution degree	2
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### 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	4.1 W
Minimum power dissipation	0.88 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 $I_S$	65 mA
Protective circuit	Surge protection Reverse polarity protection; Parallel polarity protection diode

#### Supply: IO-Link

Nominal voltage for I/O supply	24 V DC (This supply voltage is provided via the IO-Link interface of the IO-Link master.)
Current consumption	typ. 65 mA ± 15 % (24 V DC) max. 150 mA
Protective circuit	Reverse polarity protection Short-circuit protection Overload protection

#### Insulation characteristics

Rated insulation voltage	550 V
Rated surge voltage	6 kV
Overvoltage category	III
Degree of pollution	2
Insulation characteristics between control input voltage and control supply voltage to main circuit	Safe isolation (IEC 60947-1)

#### Emergency tripping

Operate threshold	> 33 A
Response time	< 0.5 s

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## Input data

### Control

Input name	Enable input
Rated actuating voltage $U_C$	24 V DC
Triggering voltage range	19.2 V DC ... 30 V DC
Rated actuating current $I_C$	7 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

### IO-Link

Number of ports	1
Connection method	COMBICON
Connection technology	3-conductor
Specification	V1.1.1
Reverse polarity protection	yes
Cycle Time	30 ms
Amount of process data	8 Byte (Input data)
	2 Byte (Output data)

## Output data

### AC output

Rated operating voltage $U_e$	500 V AC
Operating voltage range	42 V AC ... 550 V AC
Rated operating current $I_e$	3 A (AC-51)
	3 A (AC-53a)
Mains frequency	50/60 Hz
Load current range	180 mA ... 3 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; Varistor

## Connection data

### Control circuits

Connection method	Push-in connection
Stripping length	10 mm
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

### Load circuit

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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.

## Signaling

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

## Dimensions

Width	22.5 mm
Height	160 mm
Depth	114.5 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)	-5 °C ... 60 °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
	NRNT.E172140

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

Identification	≤ 3
Note	Safe shutdown

### Performance Level (ISO 13849)

Identification	e
Note	Safe shutdown

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## 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	3 A (480 V AC)
Group installation	20 A (class RK5, SCCR 5kA (480 V AC), #24 - 14 AWG max. solid and stranded)
	30 A (class CC or J, SCCR 100kA (480 V AC), #24 - 14 AWG max. solid and stranded)
Category code	NLDX / NRNT
Horsepower ratings	0.5 hp (120 V AC / 208 V AC)
	1.5 hp (277 V AC / 480 V AC)

## Standards and regulations

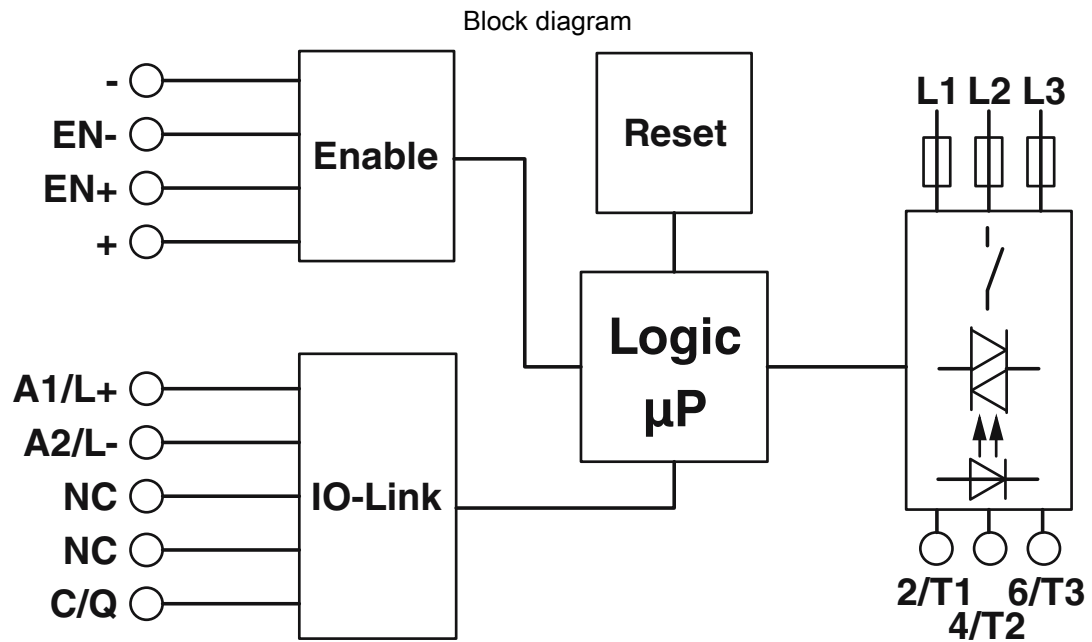
### Standards/regulations

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

## Mounting

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

Drawings



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## Classifications

### ECLASS

ECLASS-13.0	27370905
ECLASS-15.0	27370905

### ETIM

ETIM 9.0	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.)	Lead(CAS: 7439-92-1)
SCIP	6daae9b6-93a2-4416-912d-27e75b05c314

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