

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



1151617

<https://www.phoenixcontact.com/us/products/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 |
|------------------|---|

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 ² ... 2.5 mm ² |
| Conductor cross-section flexible | 0.2 mm ² ... 2.5 mm ² |
| 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 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 |

Dimensions

| | |
|--------|----------|
| Width | 22.5 mm |
| Height | 160 mm |
| Depth | 114.5 mm |

Material specifications

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

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 |
|-------------|----------------|

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

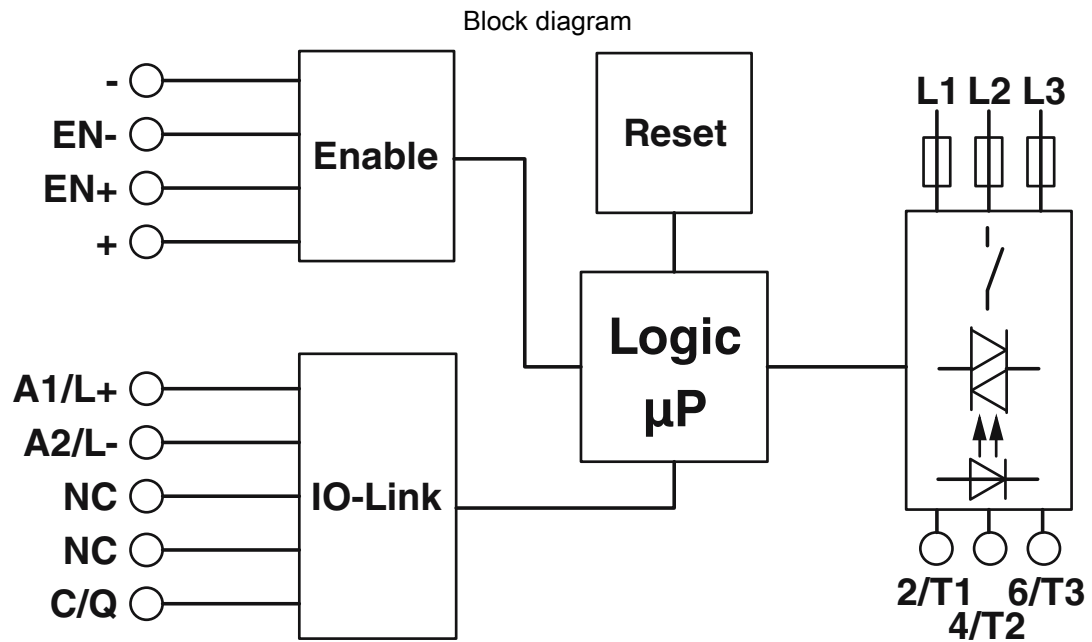
Standards/regulations

| | |
|-----------------------|--------------|
| 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

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|----------|----------|
| ETIM 9.0 | EC001037 |
|----------|----------|

UNSPSC

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|-------------|----------|
| 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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