

# Hybrid motor starter - ELR H51-IESSC-24DC500AC-9 - 2902745

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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.

## Why buy this product

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



## Key Commercial Data

Packing unit	1 STK
GTIN	 4 046356 673631
GTIN	4046356673631

## Technical data

### Device 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
Type of protection	Surge protection
	Reverse polarity protection

### Input data

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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## Technical data

### Input data

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
Type of protection	Reverse polarity protection

### Output data load output

Output name	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 (see to derating)
Trigger characteristic in acc. with IEC 60947-4-2	Class 10A
Cooling time	20 min. (for auto reset)
Leakage current	0 mA
Type of protection	Surge protection Short-circuit protection

### Output data reply output

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

### Overspeed tripping

Operate threshold	> 45 A
Response time	< 2 s

### General

Switching frequency	$\leq 2$ Hz (Load-dependent)
Mounting position	vertical (horizontal DIN rail, motor output below)
Mounting type	DIN rail mounting
Assembly instructions	alignable, for spacing see derating
Operating mode	100% operating factor
Maximum power dissipation	12 W
Minimum power dissipation	0.88 W
Operating voltage display	Green LED
Status display	Yellow LED
Indication	Red LED

### Connection data, input side

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## Technical data

### Connection data, input side

Connection name	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
Torque	0.5 Nm ... 0.6 Nm

### Connection data, output side

Connection name	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
Torque	0.5 Nm ... 0.6 Nm

### Ambient conditions

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

### Dimensions

Width	22.5 mm
Height	160 mm
Depth	114.5 mm

### 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	6.5 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

### Insulation characteristics

Rated insulation voltage	500 V
Rated surge voltage	6 kV
Overvoltage category	III
Degree of pollution	2

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## Technical data

### Insulation characteristics

Designation	Insulation characteristics between the control input and control supply voltage, and auxiliary circuit to the main circuit
Insulation	Safe isolation (IEC 60947-1) at operating voltage $\leq 300$ V AC
	Safe isolation (EN 50178) at operating voltage $\leq 300$ V AC
	Basic isolation (IEC 60947-1) at operating voltage 300 ... 500 V AC
	Safe isolation (EN 50178) at operating voltage 300 ... 500 V AC
Designation	Isolation characteristics between the control input and control supply voltage to auxiliary circuit
Insulation	Safe isolation (IEC 60947-1) in the auxiliary circuit $\leq 300$ V AC
	Safe isolation (EN 50178) in the auxiliary circuit $\leq 300$ V AC

### Standards and Regulations

Designation	Standards/regulations
Standards/regulations	IEC 60947-1
	EN 60947-4-2
	IEC 61508
	ISO 13849
ATEX	# II (2) G [Ex e] [Ex d] [Ex px]
	# II (2) D [Ex t] [Ex p]

### Approvals/conformities

Safety Integrity Level according to IEC 61508	$\leq 3$ (Safe shutdown)
	2 (Motor protection)
Category acc. to EN ISO 13849	$\leq 3$ (Safe shutdown)
Performance level according to ISO 13849	e (Safe shutdown)
ATEX	# II (2) G [Ex e] [Ex d] [Ex px]
	# II (2) D [Ex t] [Ex p]
EU-type examination certificate	PTB 07 ATEX 3145
UL certificate	NLDX.E228652

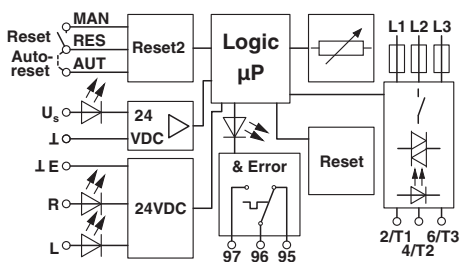
### Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

## Drawings

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Block diagram



## Articles in set

Fuse - FUSE-10X38-20A-GR - 2903384



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

## Approvals

Approvals

Approvals

UL Listed / cUL Listed / IECEE CB Scheme / EAC / cULus Listed

Ex Approvals

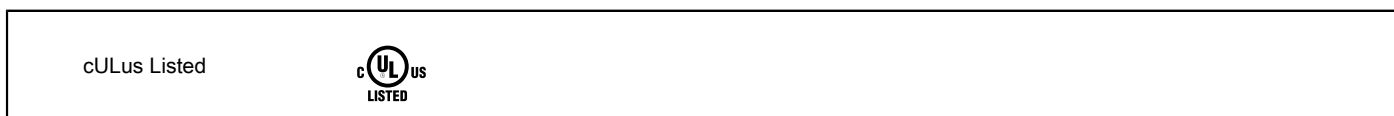
ATEX

## Approval details

UL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 228652
cUL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 228652
IECEE CB Scheme		<a href="http://www.iecee.org/">http://www.iecee.org/</a>	DE1-51298

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### Approvals



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