

# ELR H5-IES-PT/500AC-9-IOL - Hybrid motor starter



2908670

<https://www.phoenixcontact.com/pc/products/2908670>

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Networkable hybrid motor starter for reversing 3~ AC motors up to 500 V AC and 9 A output current, with adjustable overload shutdown, emergency stop function up to SIL 3/PL e, and Push-in connection. Connection to IO-Link.

## Commercial data

Item number	2908670
Packing unit	1 pc
Minimum order quantity	1 pc
Product key	CK7434
Catalog page	Page 25 (C-5-2019)
GTIN	4055626321257
Weight per piece (including packing)	313 g
Weight per piece (excluding packing)	306.2 g
Customs tariff number	85371098
Country of origin	DE

## Technical data

### Notes

General	If this device is to be used in combination with the CrossPowerSystem power distribution board, the device mount for the 16 A fuse (order designation: EM-CPS-DA-22,5F/16A; order number: 1002668) is required in order to attach the hybrid motor starter to the power distribution board.
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### 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)
Maximum power dissipation	7 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.)
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 the control input and control supply voltage, and auxiliary circuit to the main circuit	Safe isolation (IEC 60947-1)
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

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Operate threshold	> 60 A
Response time	< 0.5 s

## 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

## Output data

### AC output

Rated operating voltage $U_e$	500 V AC
Operating voltage range	42 V AC ... 550 V AC
Rated operating current $I_e$	9 A (AC-51) 7 A (AC-53a)
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
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

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>

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Conductor cross section flexible	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section AWG	24 ... 14

## Signaling

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

## Dimensions

Width	22.5 mm
Height	127 mm
Depth	114 mm

## 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)	-5 °C ... 55 °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

### 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)))

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FLA	7.6 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	2 hp (208 V AC)
	2 hp (230 V AC)
	2 hp (240 V AC)
	5 hp (480 V AC)

## Standards and regulations

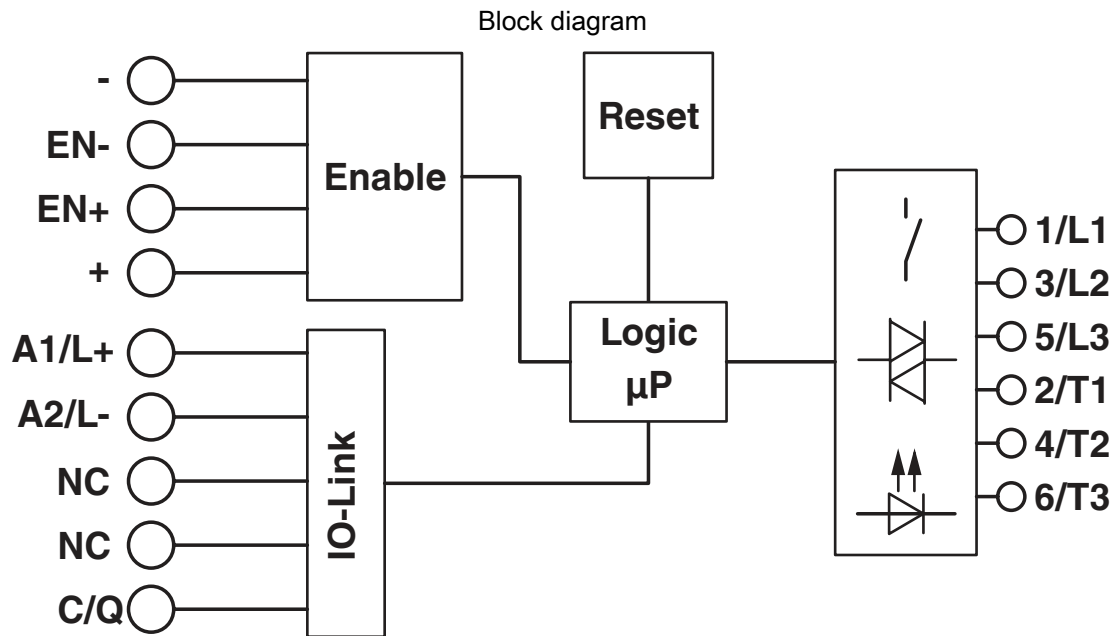
### Standards/regulations

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

## Mounting

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

## Drawings



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/pc/products/2908670>



**IECEE CB Scheme**  
Approval ID: DE1-60807



**EAC**  
Approval ID: RU\*C-DE.\*08.B.00520\*



**IECEE CB Scheme**  
Approval ID: DE1-60164



**UL Listed**  
Approval ID: FILE E 172140



**CCC**  
Approval ID: 2016010304900298



**cUL Listed**  
Approval ID: FILE E 172140



**cUL Listed**  
Approval ID: FILE E 228652



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Approval ID: FILE E 228652

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## Classifications

### ECLASS

ECLASS-11.0	27370905
ECLASS-13.0	27370905
ECLASS-12.0	27370905

### ETIM

ETIM 8.0	EC001037
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### UNSPSC

UNSPSC 21.0	25173900
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## Environmental product compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

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## Accessories

### BRIDGE-PT 1 - Bridge

1161777

<https://www.phoenixcontact.com/pc/products/1161777>

3-phase loop bridge for 1 CONTACTRON module, with Push-in connection and 22.5 mm housing width, connecting cable: 3 m



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### BRIDGE-PT 2 - Bridge

2904490

<https://www.phoenixcontact.com/pc/products/2904490>

3-phase loop bridge for 2 CONTACTRON modules, with Push-in connection and 22.5 mm housing width, connecting cable: 3 m



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## BRIDGE-PT 3 - Bridge

2904491

<https://www.phoenixcontact.com/pc/products/2904491>

3-phase loop bridge for 3 CONTACTRON modules, with Push-in connection and 22.5 mm housing width, connecting cable: 3 m



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## BRIDGE-PT 4 - Bridge

2904492

<https://www.phoenixcontact.com/pc/products/2904492>

3-phase loop bridge for 4 CONTACTRON modules, with Push-in connection and 22.5 mm housing width, connecting cable: 3 m



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## BRIDGE-PT 5 - Bridge

2904493

<https://www.phoenixcontact.com/pc/products/2904493>

3-phase loop bridge for 5 CONTACTRON modules, with Push-in connection and 22.5 mm housing width, connecting cable: 3 m



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## BRIDGE-PT 6 - Bridge

2904494

<https://www.phoenixcontact.com/pc/products/2904494>

3-phase loop bridge for 6 CONTACTRON modules, with Push-in connection and 22.5 mm housing width, connecting cable: 3 m



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## BRIDGE-PT 7 - Bridge

2904495

<https://www.phoenixcontact.com/pc/products/2904495>

3-phase loop bridge for 7 CONTACTRON modules, with Push-in connection and 22.5 mm housing width, connecting cable: 3 m



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## BRIDGE-PT 8 - Bridge

2904496

<https://www.phoenixcontact.com/pc/products/2904496>

3-phase loop bridge for 8 CONTACTRON modules, with Push-in connection and 22.5 mm housing width, connecting cable: 3 m



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## BRIDGE-PT 9 - Bridge

2904497

<https://www.phoenixcontact.com/pc/products/2904497>

3-phase loop bridge for 9 CONTACTRON modules, with Push-in connection and 22.5 mm housing width, connecting cable: 3 m



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## BRIDGE-PT 10 - Bridge

2904498

<https://www.phoenixcontact.com/pc/products/2904498>

3-phase loop bridge for 10 CONTACTRON modules, with Push-in connection and 22.5 mm housing width, connecting cable: 3 m



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## BRIDGE-PT 1-1M - Bridge

1161778

<https://www.phoenixcontact.com/pc/products/1161778>

3-phase loop bridge for 1 CONTACTRON module, with Push-in connection and 22.5 mm housing width, connecting cable: 1 m



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## BRIDGE-PT-2-1M - Bridge

1049407

<https://www.phoenixcontact.com/pc/products/1049407>

3-phase loop bridge for 2 CONTACTRON modules, with Push-in connection and 22.5 mm housing width, connecting cable: 1 m



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## BRIDGE-PT-3-1M - Bridge

1049408

<https://www.phoenixcontact.com/pc/products/1049408>

3-phase loop bridge for 3 CONTACTRON modules, with Push-in connection and 22.5 mm housing width, connecting cable: 1 m



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## BRIDGE-PT-4-1M - Bridge

1049409

<https://www.phoenixcontact.com/pc/products/1049409>

3-phase loop bridge for 4 CONTACTRON modules, with Push-in connection and 22.5 mm housing width, connecting cable: 1 m





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## BRIDGE-PT-5-1M - Bridge

1049413

<https://www.phoenixcontact.com/pc/products/1049413>

3-phase loop bridge for 5 CONTACTRON modules, with Push-in connection and 22.5 mm housing width, connecting cable: 1 m



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## BRIDGE-PT-2-2M/0,3M - Bridge

1107649

<https://www.phoenixcontact.com/pc/products/1107649>

3-phase loop bridge for 2 CONTACTRON modules, with Push-in connection and 22.5 mm housing width, cable length between the modules: 0.3 m, connecting cable: 2 m



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## BRIDGE-PT-3-2M/0,3M - Bridge

1107650

<https://www.phoenixcontact.com/pc/products/1107650>



3-phase loop bridge for 3 CONTACTRON modules, with Push-in connection and 22.5 mm housing width, cable length between the modules: 0.3 m, connecting cable: 2 m

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## BRIDGE-PT-4-2M/0,3M - Bridge

1107644

<https://www.phoenixcontact.com/pc/products/1107644>



3-phase loop bridge for 4 CONTACTRON modules, with Push-in connection and 22.5 mm housing width, cable length between the modules: 0.3 m, connecting cable: 2 m

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## US-EMLP (15X5) - Plastic label

0828790

<https://www.phoenixcontact.com/pc/products/0828790>



Plastic label, Card, white, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: adhesive, lettering field size: 15 x 5 mm, Number of individual labels: 189

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## UC-EMLP (15X5) - Plastic label

0819301

<https://www.phoenixcontact.com/pc/products/0819301>



Plastic label, Sheet, white, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: adhesive, lettering field size: 15 x 5 mm, Number of individual labels: 10

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## IOL-CONF - Network management software

1083065

<https://www.phoenixcontact.com/pc/products/1083065>



IOL-CONF is a browser-based configuration software tool for the easy startup of IO-Link masters and IO-Link devices

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## EM-CPS-225 - Power distribution board

1002634

<https://www.phoenixcontact.com/pc/products/1002634>



Modular power distribution board with CrossLink<sup>®</sup> interface, 125 A, 3-pos., touch-proof and protection against polarity reversal, width: 225 mm

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<https://www.phoenixcontact.com/pc/products/2908670>

## EM-CPS-405 - Power distribution board

1002635

<https://www.phoenixcontact.com/pc/products/1002635>

Modular power distribution board with CrossLink<sup>®</sup> interface, 125 A, 3-pos., touch-proof and protection against polarity reversal, width: 405 mm



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## EM-CPS-TB3/63A - Connection module

1002633

<https://www.phoenixcontact.com/pc/products/1002633>

Connection module with integrated spring-loaded terminals for cables from 1.5 to 16 mm<sup>2</sup>, 3-pos., maximum 63 A



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## EM-CPS-DA-22,5F/16A - Adapter

1002668

<https://www.phoenixcontact.com/pc/products/1002668>



Device adapter with fuse holder for 16 A fuse (10x38/Class CC), CrossLink<sup>®</sup> interface and fixed DIN rail

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