

Product datasheet

Specifications



TeSys LF - enclosed DOL starter - 9...14 A

LF3P16E

⚠ Discontinued on: 1 Nov 2020

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Main

Range	TeSys
Product name	TeSys LF
Product or component type	Enclosed DOL starter
Device application	AS interface
Device composition	Contactor AS interface module Circuit-breaker
Utilisation category	AC-3
Network type	AC
[Uc] control circuit voltage	24 V AC 50/60 Hz
Thermal protection adjustment range	9...14 A
Control type	Rotary handle for protection control - OFF - Trip - ON

Complementary

Motor power kW	3 kW at 220/230 V AC 50/60 Hz 5.5 kW at 400/415 V AC 50/60 Hz
Network frequency	50/60 Hz
[Ue] rated operational voltage	Power circuit: 415 V AC 50/60 Hz Output control relay: 250 V AC 50/60 Hz Output control relay: 30 V DC
[Uimp] rated impulse withstand voltage	6 kV for power circuit conforming to IEC 60947-1 2.5 kV for 24 V conforming to IEC 60947-1 2.5 kV for sensor conforming to IEC 60947-1 2.5 kV for AS-Interface conforming to IEC 60947-1
Insulation resistance	> 1000 mOhm for output and communication
Insulation	1500 V between output and ground 1500 V between output and internal logic between input and communication
[Ui] rated insulation voltage	415 V AC 50/60 Hz conforming to IEC 60947
[Ithe] conventional enclosed thermal current	5 A for output control relay at 40 °C
Protection type	Inductive overvoltage Phase failure
Breaking capacity	100 kA at 230/240 V conforming to IEC 60947-2 100 kA at 400/415 V conforming to IEC 60947-2
Mechanical durability	0.1 Mcycles for circuit breaker 30 Mcycles for contactor

Electrical durability	<p>Circuit breaker: 0.1 Mcycles</p> <p>Contactors: 0.8 Mcycles - AC-3 - 8.5 A</p> <p>Relay: 0.1 Mcycles - 24 V, operating rate <6 cyc/mn - AC-12 - 5 A</p> <p>Relay: 1 Mcycles - 24 V, operating rate <15 cyc/mn - AC-12 - 1 A</p> <p>Relay: 0.5 Mcycles - 24 V, operating rate <15 cyc/mn - AC-14 - 1 A</p> <p>Relay: 1 Mcycles - 24 V, operating rate <15 cyc/mn - AC-14 - 0.5 A</p> <p>Relay: 5 Mcycles - 24 V, operating rate <30 cyc/mn - AC-14 - 0.25 A</p> <p>Relay: 0.1 Mcycles - 24 V, operating rate <6 cyc/mn - DC-12 - 5 A</p> <p>Relay: 0.2 Mcycles - 24 V, operating rate <6 cyc/mn - DC-12 - 2 A</p> <p>Relay: 0.5 Mcycles - 24 V, operating rate <15 cyc/mn - DC-3 - 1 A</p> <p>Relay: 1 Mcycles - 24 V, operating rate <30 cyc/mn - DC-3 - 0.25 A</p>
Current consumption	<p>20 mA for communication bus during operation</p> <p>60 mA for communication bus sensor</p> <p>0 mA at 24 V for supply circuit de-energisation</p> <p>30 mA at 24 V for supply circuit maintained mode</p> <p>110 mA at 24 V for supply circuit inrush</p>
Local signalling	<p>Product status: 3 LEDs</p> <p>Input/output status: LED</p>
Number of inputs	2 M12
nominal input value	19...30 V 50 mA - DC
Input description	<p>Status D0: forward stop - bit value 0</p> <p>Status D1: reverse stop - bit value 0</p> <p>Status D2: disable relay - bit value 0</p> <p>Status D3: unused - bit value 0</p> <p>Status D0: forward start - bit value 1</p> <p>Status D1: reverse start - bit value 1</p> <p>Status D2: enable relay - bit value 1</p> <p>Status D3: unused - bit value 1</p>
Input type	Resistive
sensor compatibility	2 or 3-wire PNP
Output description	<p>Command D0: not ready - bit value 0</p> <p>Command D1: stopped - bit value 0</p> <p>Command D2: sensor 1 missing - bit value 0</p> <p>Command D3: sensor 2 missing - bit value 0</p> <p>Command D0: ready - bit value 1</p> <p>Command D1: started - bit value 1</p> <p>Command D2: sensor 1 present - bit value 1</p> <p>Command D3: sensor 2 present - bit value 1</p>
Response time	<p><= 10 ms closing for output control relay</p> <p><= 15 ms opening for output control relay</p>
Contacts type and composition	1 C/O
AS-interface profile	7A70 - extended A/B
Cable gland type	<p>Supply circuit: Pg 16 - 10...15 mm</p> <p>Power circuit: Pg 16 - 10...15 mm</p> <p>Output control relay: Pg 13 - 10...15 mm</p> <p>Output control relay: Pg 16 - 10...15 mm</p>
Connections - terminals	<p>Supply circuit: screw clamp terminals, 1 x 1.5...2 x 6 mm²rigid</p> <p>Supply circuit: screw clamp terminals, 1 x 1.5...2 x 6 mm²flexible without cable end</p> <p>Supply circuit: screw clamp terminals, 1 x 1.5...2 x 4 mm²flexible with cable end</p> <p>Power circuit: screw clamp terminals, 1 x 1.5...2 x 4 mm²rigid</p> <p>Power circuit: screw clamp terminals, 1 x 1.5...2 x 4 mm²flexible without cable end</p> <p>Power circuit: screw clamp terminals, 1 x 1.5...1 x 2.5 mm²flexible with cable end</p> <p>Output control relay: screw terminals, 1 x 0.5...1 x 1.5 mm²rigid</p> <p>Output control relay: screw terminals, 1 x 0.5...1 x 1.5 mm²flexible without cable end</p> <p>Output control relay: screw terminals, 1 x 0.5...1 x 1.5 mm²flexible with cable end</p>
Tightening torque	<p>Supply circuit: 1.7 N.m - with screwdriver flat Ø 5.5 mm</p> <p>Power circuit: 0.8 N.m - with screwdriver flat Ø 5.5 mm</p> <p>Output control relay: 0.7 N.m - with screwdriver flat Ø 3.5 mm</p>
Width	175 mm
Height	195 mm
Depth	175 mm
Net weight	1.35 kg

Environment

Electromagnetic compatibility	<p>Electrostatic discharge - test level: 8 kV level 3 (in air) conforming to EN/IEC 61000-4-2</p> <p>Electrostatic discharge - test level: 4 kV level 2 (in indirect mode) conforming to EN/IEC 61000-4-2</p> <p>Surge immunity test - test level: 4 kV level 4 (power, line to ground) conforming to IEC 61000-4-5</p> <p>Surge immunity test - test level: 2 kV level 4 (power, line to line) conforming to EN/IEC 61000-4-5</p> <p>Surge immunity test - test level: 2 kV level 2 (control circuit, line to ground) conforming to IEC 61000-4-5</p> <p>Surge immunity test - test level: 500 V level 2 (control circuit, line to line) conforming to EN/IEC 61000-4-5</p> <p>Electrical fast transient/burst immunity test - test level: 2 kV level 3 conforming to EN/IEC 61000-4-4</p> <p>Conducted RF disturbances - test level: 10 V/m conforming to IEC 61000-4-6</p> <p>Conducted RF disturbances - test level: 10 V/m conforming to ENV 50141</p> <p>Radiated radio-frequency electromagnetic field immunity test - test level: 10 V/m conforming to IEC 61000-4-3</p> <p>Radiated radio-frequency electromagnetic field immunity test - test level: 10 V/m conforming to ENV 50204</p> <p>Radiated radio-frequency electromagnetic field immunity test - test level: 10 V/m conforming to ENV 50140</p> <p>Disturbing field emission class B conforming to ENV 55011</p> <p>Disturbing field emission class B conforming to CISPR 11</p>
Mechanical robustness	<p>Shocks contactor open - 10 Gn conforming to IEC 60068-2-27</p> <p>Shocks contactor closed - 15 gn conforming to IEC 60068-2-27</p> <p>Vibrations contactor open - 2 GN conforming to IEC 60068-2-6</p> <p>Vibrations contactor closed - 4 gn conforming to IEC 60068-2-6</p>
IP degree of protection	IP54 conforming to IEC 60529
Protective treatment	TC
Fire resistance	960 °C conforming to IEC 60695-2-1
Operating altitude	2000 m
Standards	<p>IEC 60439-1</p> <p>EN 60947-1</p> <p>IEC 60204-1</p> <p>EN 60439-1</p> <p>EN 60204-1</p> <p>IEC 60947-1</p>
Material	<p>Bottom: polycarbonate + 20 % FG - black</p> <p>Top: polycarbonate + 20 % FG - white: RAL 9001</p>
Ambient air temperature for operation	-5...40 °C conforming to IEC 61439-1
Ambient air temperature for storage	-40...80 °C conforming to IEC 61439-1

Contractual warranty

Warranty (in months)	18
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Environmental Data

Schneider Electric aims to achieve Net Zero status by 2050 through supply chain partnerships, lower impact materials, and circularity via our ongoing “Use Better, Use Longer, Use Again” campaign to extend product lifetimes and recyclability.

[Environmental Data explained >](#)

[How we assess product sustainability >](#)

Use Longer



Lifetime extension

Repair

No