connector 3RT2016-1AF01

URL:https://www.sxplc.com/connector-3rt2016-1af01

Product data sheet

General technical data

size of contactor S00

product extension

- function module for communication No
- auxiliary switch Yes

power loss [W] for rated value of the current

- at AC in hot operating state 0.9 W
- at AC in hot operating state per pole 0.3 W
- without load current share typical 1.1 W

type of calculation of power loss depending on pole quadratic

insulation voltage

● of main circuit with degree of pollution 3 rated value 690 V

● of auxiliary circuit with degree of pollution 3 rated value 690 V

surge voltage resistance

● of main circuit rated value 6 kV

● of auxiliary circuit rated value 6 kV

maximum permissible voltage for protective separation between

coil and main contacts according to EN 60947-1

400 V

shock resistance at rectangular impulse

● at AC 6,7g / 5 ms, 4,2g / 10 ms

shock resistance with sine pulse

● at AC 10,5g / 5 ms, 6,6g / 10 ms

mechanical service life (operating cycles)

● of contactor typical 30 000 000

● of the contactor with added electronically optimized

auxiliary switch block typical

5 000 000

● of the contactor with added auxiliary switch block typical 10 000 000

reference code according to IEC 81346-2 Q

Substance Prohibitance (Date) 10/01/2009

Ambient conditions

installation altitude at height above sea level maximum 2 000 m

ambient temperature

● during operation -25 ... +60 °C

● during storage -55 ... +80 °C

relative humidity minimum 10 %

relative humidity at 55 °C according to IEC 60068-2-30

maximum

95 %

Environmental footprin

Environmental Product Declaration(EPD) Yes

Global Warming Potential [CO2 eq] total 39.6 kg

Global Warming Potential [CO2 eq] during manufacturing 1.18 kg

Global Warming Potential [CO2 eq] during operation 38.5 kg

Global Warming Potential [CO2 eq] after end of life -0.155 kg

Main circuit

number of poles for main current circuit 3

number of NO contacts for main contacts 3

operating voltage

● at AC-3 rated value maximum 690 V

● at AC-3e rated value maximum 690 V

operational current

● at AC-1 at 400 V at ambient temperature 40 °C rated

value

22 A

● at AC-1

— up to 690 V at ambient temperature 40 °C rated

value

22 A

— up to 690 V at ambient temperature 60 °C rated

value

20 A

● at AC-3

— at 400 V rated value 9 A

— at 500 V rated value 7.7 A

— at 690 V rated value 6.7 A

● at AC-3e

— at 400 V rated value 9 A

— at 500 V rated value 7.7 A

— at 690 V rated value 6.7 A

● at AC-4 at 400 V rated value 8.5 A

● at AC-5a up to 690 V rated value 19.4 A

● at AC-5b up to 400 V rated value 7.4 A

● at AC-6a

— up to 230 V for current peak value n=20 rated value 5.3 A

— up to 400 V for current peak value n=20 rated value 5.3 A

— up to 500 V for current peak value n=20 rated value 5.3 A

— up to 690 V for current peak value n=20 rated value 5 A

● at AC-6a

— up to 230 V for current peak value n=30 rated value 3.5 A

— up to 400 V for current peak value n=30 rated value 3.5 A

— up to 500 V for current peak value n=30 rated value 3.6 A

— up to 690 V for current peak value n=30 rated value 3.3 A

minimum cross-section in main circuit at maximum AC-1 rated

value

4 mm²

operational current for approx. 200000 operating cycles at

AC-4

● at 400 V rated value 4.1 A

● at 690 V rated value 3.3 A

operational current

● at 1 current path at DC-1

— at 24 V rated value 20 A

— at 60 V rated value 20 A

— at 110 V rated value 2.1 A

— at 220 V rated value 0.8 A

— at 440 V rated value 0.6 A

— at 600 V rated value 0.6 A

● with 2 current paths in series at DC-1

— at 24 V rated value 20 A

— at 60 V rated value 20 A

— at 110 V rated value 12 A

— at 220 V rated value 1.6 A

— at 440 V rated value 0.8 A

— at 600 V rated value 0.7 A

● with 3 current paths in series at DC-1

— at 24 V rated value 20 A

— at 60 V rated value 20 A

— at 110 V rated value 20 A

— at 220 V rated value 20 A

— at 440 V rated value 1.3 A

— at 600 V rated value 1 A

● at 1 current path at DC-3 at DC-5

— at 24 V rated value 20 A

— at 60 V rated value 0.5 A

— at 110 V rated value 0.15 A

● with 2 current paths in series at DC-3 at DC-5

— at 24 V rated value 20 A

— at 60 V rated value 5 A

— at 110 V rated value 0.35 A

● with 3 current paths in series at DC-3 at DC-5

— at 24 V rated value 20 A

— at 60 V rated value 20 A

— at 110 V rated value 20 A

— at 220 V rated value 1.5 A

— at 440 V rated value 0.2 A

— at 600 V rated value 0.2 A

operating power

● at AC-3

— at 230 V rated value 2.2 kW

— at 400 V rated value 4 kW

— at 500 V rated value 4 kW

— at 690 V rated value 5.5 kW

● at AC-3e

— at 230 V rated value 2.2 kW

— at 400 V rated value 4 kW

— at 500 V rated value 4 kW

— at 690 V rated value 5.5 kW

operating power for approx. 200000 operating cycles at AC4

● at 400 V rated value 2 kW

● at 690 V rated value 2.5 kW

operating apparent power at AC-6a

● up to 230 V for current peak value n=20 rated value 2 kVA

● up to 400 V for current peak value n=20 rated value 3.6 kVA

● up to 500 V for current peak value n=20 rated value 4.6 kVA

● up to 690 V for current peak value n=20 rated value 5.9 kVA

operating apparent power at AC-6a

● up to 230 V for current peak value n=30 rated value 1.3 kVA

● up to 400 V for current peak value n=30 rated value 2.4 kVA

● up to 500 V for current peak value n=30 rated value 3.1 kVA

● up to 690 V for current peak value n=30 rated value 4 kVA

short-time withstand current in cold operating state up to

40 °C

● limited to 1 s switching at zero current maximum 155 A; Use minimum cross-section acc. to AC-1 rated value

● limited to 5 s switching at zero current maximum 111 A; Use minimum cross-section acc. to AC-1 rated value

● limited to 10 s switching at zero current maximum 86 A; Use minimum cross-section acc. to AC-1 rated value

● limited to 30 s switching at zero current maximum 66 A; Use minimum cross-section acc. to AC-1

rated value

● limited to 60 s switching at zero current maximum 55 A; Use minimum cross-section acc. to AC-1

rated value

no-load switching frequency

● at AC 10 000 1/h

operating frequency

● at AC-1 maximum 1 000 1/h

● at AC-2 maximum 750 1/h

● at AC-3 maximum 750 1/h

● at AC-3e maximum 750 1/h

● at AC-4 maximum 250 1/h

Control circuit/ Control

type of voltage of the control supply voltage AC

control supply voltage at AC

● at 50 Hz rated value 110 V

● at 60 Hz rated value 110 V

operating range factor control supply voltage rated value of

magnet coil at AC

● at 50 Hz 0.8 ... 1.1

● at 60 Hz 0.85 ... 1.1

apparent pick-up power of magnet coil at AC

● at 50 Hz 27 VA

● at 60 Hz 24.3 VA

inductive power factor with closing power of the coil

● at 50 Hz 0.8

● at 60 Hz 0.75

apparent holding power of magnet coil at AC

● at 50 Hz 4.2 VA

● at 60 Hz 3.3 VA

inductive power factor with the holding power of the coil

● at 50 Hz 0.25

● at 60 Hz 0.25

closing delay

● at AC 9 ... 35 ms

opening delay

● at AC 4 ... 15 ms

arcing time 10 ... 15 ms

control version of the switch operating mechanism Standard A1 - A2

Auxiliary circuit

number of NO contacts for auxiliary contacts instantaneous

contact

1

operational current at AC-12 maximum 10 A

operational current at AC-15

● at 230 V rated value 10 A

● at 400 V rated value 3 A

● at 500 V rated value 2 A

● at 690 V rated value 1 A

operational current at DC-12

● at 24 V rated value 10 A

● at 48 V rated value 6 A

● at 60 V rated value 6 A

● at 110 V rated value 3 A

● at 125 V rated value 2 A

● at 220 V rated value 1 A

● at 600 V rated value 0.15 A

operational current at DC-13

● at 24 V rated value 10 A

● at 48 V rated value 2 A

● at 60 V rated value 2 A

● at 110 V rated value 1 A

● at 125 V rated value 0.9 A

● at 220 V rated value 0.3 A

● at 600 V rated value 0.1 A

contact reliability of auxiliary contacts 1 faulty switching per 100 million (17 V, 1 mA)

UL/CSA ratings

full-load current (FLA) for 3-phase AC motor

● at 480 V rated value 7.6 A

● at 600 V rated value 9 A

yielded mechanical performance [hp]

● for single-phase AC motor

— at 110/120 V rated value 0.33 hp

— at 230 V rated value 1 hp