Contactor 3RT6023-1AN20

URL:https://www.sxplc.com/index.php?route=product/product&product_id=6815

Product data sheet

Comprehensive Technical Data

Contactor Construction Size S0

Product extension Auxiliary switch Yes

Power Loss [W] at Current Measurement

● At AC 0.4 W per electrode in thermal operation

● No load current share Typical 1.97 W

Lost power calculation type Electrode-related Orthogonal

Insulation voltage Measured value 690 V

Degree of contamination 3

Insulation voltage Measured value 690 V Pollution level 3 Power against shock voltage Measured value 6 kV

Maximum permissible voltage for safe isolation Between coil and main contacts in accordance with EN 60947-1

60947-1

400 V

Shock resistance ● At square wave impact 7,5g / 5g at AC

7,5g / 5 ms, 4,7g / 10 ms at ● AC

Shock resistance at sinusoidal shock

11,8g/5 ms, 7,4g/10 ms at AC

Mechanical user life (changeover cycle)

● Typical 10,000,000 for contactors

Typical 10,000,000 for contactors with auxiliary switching block

RoHS Directive (Date) 05/01/2012

Environmental conditions

Installation Height Height above water Maximum 2 000 m

Ambient temperature

-25 ... +60 °C during operation +60 °C

During storage -55 ... +80 °C +80 °C ● During storage -55 ... +80 °C

Main Circuit

Number of poles Used for main circuit 3

Number of Normally Open Contacts Used for Main Contacts 3

Number of Normally Closed Contacts Used for Main Contact 0

Operating Voltage

● Measured value at AC-3 Maximum 690 V

● Measured value at AC-3e Maximum 690 V

Working current

● Up to 690 V at AC-1

- Measured value at 40 °C ambient temperature 40 A

- Measured value at 60 °C ambient temperature 35 A

● At AC-3

- 9 A measured at 400 V

- 9 A measured value at 690 V

Measured value at 690 V 9 A at 400 V ● At AC-3e

- Measured value at 400 V 9 A at 690 V

- Measured value at 690 V 9 A

Connectable wire cross-section in the main circuit ● Maximum permissible value at 60 °C

● Maximum permissible value 10 mm² at 60 °C

● Maximum permissible value 10 mm² at 40 °C

Operating current Approx. 200000 operating cycles AC-4

● Measured value at 400 V 4.1 A

● 3.3 A measured value at 690 V

Rated power

● At AC-1

- Measured value at 230 V 13.3 kW

- Measured value at 60 °C at 230 V 13.3 kW

- Measured value at 60 °C at 400 V 23 kW

- Measured value at 60 °C at 690 V 40 kW

Measured value at 60 °C at 690 V

- ● Measured value at 230 V 2.2 kW

- Measured value at 400 V 4 kW

- Measured value at 690 V 7.5 kW

Measured value at 690 V 7.5 kW at AC-3e

- AC-3e Measured value at 230 V 2.2 kW Measured value at 400 V 4 kW

- Measured value at 400 V 4 kW Measured value at 690 V 7.5 kW

- Measured value at 690 V 7.5 kW

Measured value at 690 V 7.5 kW Rated power Approx. 200,000 operating cycles AC-4

● Measured value at 400 V 2 kW

Measured value at 400 V 2 kW Measured value at 690 V 2.5 kW

No-load frequency

5,000 1/h at ● AC

Switching frequency

Maximum 1 000 1/h at AC-1 ● Maximum 1 000 1/h at AC-3

Maximum value at AC-1 1 000 1/h ● Maximum value at AC-3 1 000 1/h

Maximum 1 000 1/h at AC-3e ● Maximum 1 000 1/h at AC-4

● AC-4 Maximum 300 1/h

Control circuit/control

Control circuit/control voltage type AC for control feed voltage

When controlling the feed voltage AC

● Measured value at 50 Hz 220 V

● Measured value 220 V at 60 Hz

Measured value of control feed voltage for working area elements AC for solenoid coils

● At 50 Hz 0.8 ... 0.8 ... 1.1 at 50 Hz

0.85 at 60 Hz ... 1.1 at 60 Hz 1.1

Starting apparent power AC with solenoid coil

68 VA at 50 Hz

67 VA at 60 Hz

Induced power factor Starting power for the coil

● 0.72 at 50 Hz

0.74 at 60 Hz

Stopping apparent power AC of solenoid coil

● 7.9 VA at 50 Hz

● 6.5 VA at 60 Hz

Induced power factor Stopping power for coil

● 0.25 at 50 Hz

0.28 at 60 Hz

Auxiliary Circuit

Number of normally closed contacts 1 for auxiliary contacts without delayed changeover

Number of Normally Open Contacts 1 with no delayed changeover using auxiliary contacts

Maximum value 10 A at operating current AC-12

Maximum value at operating current AC-12 10 A at operating current AC-15

● 10 A measured value at 230 V

● 3 A measured value at 400 V

● Measured value 1 A at 690 V Operating current DC-12

Measured value 1 A at 690 V Working current DC-12

Measured value at 24 V 6 A Measured value at 110 V

● Measured value at 110 V 3 A

Measured value at 220 V 1 A Working current DC-13

Measured value 1 A at 220 V Working current DC-13

Measured value at 24 V 6 A ● Measured value at 110 V

Measured value 6 A at 24 V ● Measured value 1 A at 110 V

● Measured value at 220 V 0.3 A

Contact reliability 1 misconnection per 100 million transitions of the auxiliary contact (17 V, 1 mA)

UL/CSA rating data

Output mechanical power [hp] Measured value at 460/480 V for three-phase AC motors 5 hp

Protects against damage to the switching device caused by a short circuit.

Fuse Specifications

Short-circuit protection for main circuits

- Required for Mating Type 1 gL/gG NH 3NA, DIAZED 5SB, NEOZED 5SE: 63 A

- gL/gG NH 3NA, DIAZED 5SB, NEOZED 5SE: 25 A is required for Mating Type 2.

Short-circuit protection with auxiliary switch Required Fuse gL/gG: 10 A

Mounting/Fixing/Profile Size

Mounting position Rotatable +/-180° for vertical mounting, tiltable +/- 22.5° for vertical mounting.

Fastening type Screw and snap fastening on 35 mm mounting rail in accordance with DIN EN 50022

Side-by-side assembly Yes

Height 85 mm

Width 45 mm

Depth 97 mm

Spacing to be observed 0 mm lateral ground for single row mounting

Connector/ terminal

Electrical Connection Specifications

● For main circuits Screw connections

● For auxiliary and control circuits Screw connection

Type of connectable wire cross-section Used for main contact ● Single or multi-core wire

● Single-core or multi-core 2x (1 ... 2.5 mm²), 2.5 mm² (1 ... 2.5 mm²) 2x (1 ... 2.5 mm²), 2x (2.5 ... 10 mm²) 2x (1 ... 2.5 mm²), 2x (2.5 ... 10 mm²)

For fine wires with cable ends 2x (1 ... 2.5 mm²), 2x (2.5 ... 10 mm²) 2x (1 ... 2.5 mm²), 2x (2.5 ... 6 mm²), 1x 10 mm²) 6 mm²), 1x 10 mm² ● Fine-core cables with cable ends

Connectable wire cross-section types

For auxiliary contacts

- Single or multi-core wire 2x (0.5 ... 1.5 mm²), 2x (2.5 ... 6 mm²), 1x 10 mm². 1.5 mm²), 2x (0.75 ... 2.5 mm²), 2x (0.75 ... 2.5 mm²) 2x (0.75 ... 2.5 mm²)

- for fine wires with cable ends 2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²) 2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²) 2.5 mm²)

Auxiliary contact at AWG conductor 2x (20 ... 16), 2x (18 ... 16), 2x (18 ... 18) 2x (20 ... 16), 2x (18 ... 14) ● For AWG conductors 2x (20 ... 16), 2x (18 ... 14)