

CONTACTOR, AC-1 140 A / 400 V, AC 220 V, 50 HZ / 240 V 60 HZ,
3-POLE, SIZE S3, SCREW CONNECTION



Figure similar

Product brand name	SIRIUS
Product designation	Contacteur
Product type designation	3RT24
General technical data	
Size of contactor	S3
Product extension	
• function module for communication	No
• Auxiliary switch	Yes
Insulation voltage	
• rated value	1 000 V
Degree of pollution	3
Surge voltage resistance rated value	6 kV
maximum permissible voltage for safe isolation	
• between coil and main contacts acc. to EN 60947-1	690 V
Protection class IP	
• on the front	IP20

• of the terminal	IP00
Shock resistance at rectangular impulse	
• at AC	6.7 g / 5 ms, 4.0 g / 10 ms
Shock resistance with sine pulse	
• at AC	10.6 g / 5 ms, 6.3 g / 10 ms
Mechanical service life (switching cycles)	
• of contactor typical	10 000 000
• of the contactor with added electronics-compatible auxiliary switch block typical	5 000 000
• of the contactor with added auxiliary switch block typical	10 000 000

Ambient conditions

Ambient temperature	
• during operation	-25 ... +60 °C
• during storage	-55 ... +80 °C

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	1 000 V
Operating current	
• at AC-1 at 400 V	
— at ambient temperature 40 °C rated value	140 A
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	140 A
— up to 690 V at ambient temperature 60 °C rated value	130 A
• at AC-2 at 400 V rated value	44 A
• at AC-3	
— at 400 V rated value	44 A
— at 500 V rated value	44 A
— at 690 V rated value	44 A
Connectable conductor cross-section in main circuit at AC-1	
• at 60 °C minimum permissible	50 mm²
• at 40 °C minimum permissible	50 mm²
Operating current	
• at 1 current path at DC-1	
— at 24 V rated value	130 A
— at 110 V rated value	12 A
— at 220 V rated value	2.5 A

— at 440 V rated value	0.8 A
— at 600 V rated value	0.48 A
• with 2 current paths in series at DC-1	
— at 24 V rated value	130 A
— at 110 V rated value	130 A
— at 220 V rated value	13 A
— at 440 V rated value	2.4 A
— at 600 V rated value	1.3 A
• with 3 current paths in series at DC-1	
— at 24 V rated value	130 A
— at 110 V rated value	130 A
— at 220 V rated value	130 A
— at 440 V rated value	6 A
— at 600 V rated value	3.4 A
Operating current	
• at 1 current path at DC-3 at DC-5	
— at 24 V rated value	40 A
— at 110 V rated value	2.5 A
— at 220 V rated value	1 A
— at 440 V rated value	0.15 A
— at 600 V rated value	0.06 A
• with 2 current paths in series at DC-3 at DC-5	
— at 24 V rated value	110 A
— at 110 V rated value	110 A
— at 220 V rated value	7 A
— at 440 V rated value	0.42 A
— at 600 V rated value	0.16 A
• with 3 current paths in series at DC-3 at DC-5	
— at 24 V rated value	110 A
— at 110 V rated value	110 A
— at 220 V rated value	35 A
— at 440 V rated value	0.8 A
— at 600 V rated value	0.35 A
Operating power	
• at AC-1	
— at 230 V rated value	53 kW
— at 230 V at 60 °C rated value	49 kW
— at 400 V rated value	92 kW
— at 400 V at 60 °C rated value	86 kW
— at 690 V rated value	159 kW
— at 690 V at 60 °C rated value	148 kW

• at AC-2 at 400 V rated value	22 kW
• at AC-3 — at 230 V rated value — at 400 V rated value — at 500 V rated value — at 690 V rated value	12.7 kW 22 kW 29.9 kW 38.2 kW
No-load switching frequency	
• at AC	5 000 1/h
Operating frequency	
• at AC-1 maximum • at AC-2 maximum • at AC-3 maximum • at AC-4 maximum	650 1/h 350 1/h 800 1/h 150 1/h
Control circuit/ Control	
Type of voltage of the control supply voltage	AC
Control supply voltage at AC	
• at 50 Hz rated value • at 60 Hz rated value	220 V 240 V
Operating range factor control supply voltage rated value of magnet coil at AC	
• at 50 Hz • at 60 Hz	0.8 ... 1.1 0.8 ... 1.1
Apparent pick-up power of magnet coil at AC	
• at 50 Hz • at 60 Hz	326 V·A 326 V·A
Inductive power factor with closing power of the coil	
• at 50 Hz • at 60 Hz	0.62 0.55
Apparent holding power of magnet coil at AC	
• at 50 Hz • at 60 Hz	22 V·A 22 V·A
Inductive power factor with the holding power of the coil	
• at 50 Hz • at 60 Hz	0.36 0.4
Closing delay	
• at AC	13 ... 50 ms
Opening delay	
• at AC	10 ... 21 ms
Arcing time	10 ... 20 ms
Control version of the switch operating mechanism	Standard A1 - A2

Auxiliary circuit

Number of NC contacts	
• for auxiliary contacts — instantaneous contact	1
Number of NO contacts	
• for auxiliary contacts — instantaneous contact	1
Operating current at AC-12 maximum	10 A
Operating current at AC-15	
• at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value	6 A 3 A 2 A 1 A
Operating current at DC-12	
• at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value	10 A 6 A 6 A 3 A 2 A 1 A 0.15 A
Operating current at DC-13	
• at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value	10 A 2 A 2 A 1 A 0.9 A 0.3 A 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 three-phase AC motor	
• at 480 V rated value • at 600 V rated value	52 A 52 A
Yielded mechanical performance [hp]	
• for three-phase AC motor — at 200/208 V rated value — at 220/230 V rated value — at 460/480 V rated value — at 575/600 V rated value	15 hp 15 hp 40 hp 50 hp
Contact rating of auxiliary contacts according to UL	A600 / P600

Short-circuit protection

Design of the fuse link

- for short-circuit protection of the main circuit
 - with type of coordination 1 required
 - with type of assignment 2 required
- for short-circuit protection of the auxiliary switch required

gL/gG NH 3NA, DIAZED 5SB, NEOZED 5SE: 250 A
 gR SITOR 3NE: 250 A
 fuse gG: 10 A

Installation/ mounting/ dimensions

Mounting position

+/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface

Mounting type

screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715

- Side-by-side mounting

Yes

Height

140 mm

Width

70 mm

Depth

152 mm

Required spacing

- with side-by-side mounting

— forwards

0 mm

— Backwards

0 mm

— upwards

0 mm

— downwards

0 mm

— at the side

0 mm

- for grounded parts

— forwards

0 mm

— Backwards

0 mm

— upwards

10 mm

— at the side

10 mm

— downwards

10 mm

- for live parts

— forwards

0 mm

— Backwards

0 mm

— upwards

10 mm

— downwards

10 mm

— at the side

10 mm

Connections/Terminals

Type of electrical connection

- for main current circuit
- for auxiliary and control current circuit

screw-type terminals

screw-type terminals

Type of connectable conductor cross-sections

- for main contacts
 - finely stranded with core end processing
- at AWG conductors for main contacts

2x (2.5 ... 35 mm²), 1x (2.5 ... 50 mm²)
 2x (10 ... 1/0), 1x (10 ... 2)

Type of connectable conductor cross-sections

- for auxiliary contacts
 - single or multi-stranded
 - finely stranded with core end processing
- at AWG conductors for auxiliary contacts

2x (0,5 ... 1,5 mm²), 2x (0,75 ... 2,5 mm²)
 2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)
 2x (20 ... 16), 2x (18 ... 14)

Safety related data

Proportion of dangerous failures

- with low demand rate acc. to SN 31920
- with high demand rate acc. to SN 31920

40 %
 73 %

Product function

- Mirror contact acc. to IEC 60947-4-1
- positively driven operation acc. to IEC 60947-5-1

Yes
 No

T1 value for proof test interval or service life acc. to IEC 61508

20 y

Protection against electrical shock

finger-safe when touched vertically from front acc. to IEC 60529

Certificates/approvals

General Product Approval

Declaration of Conformity

Test Certificates



[Type Test
Certificates/Test
Report](#)

[Special Test
Certificate](#)

Marine / Shipping

other

Railway



[Confirmation](#)

[Vibration and Shock](#)

Further information

Information- and Downloadcenter (Catalogs, Brochures,...)

<http://www.siemens.com/industrial-controls/catalogs>

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT2446-1AP60>

Cax online generator

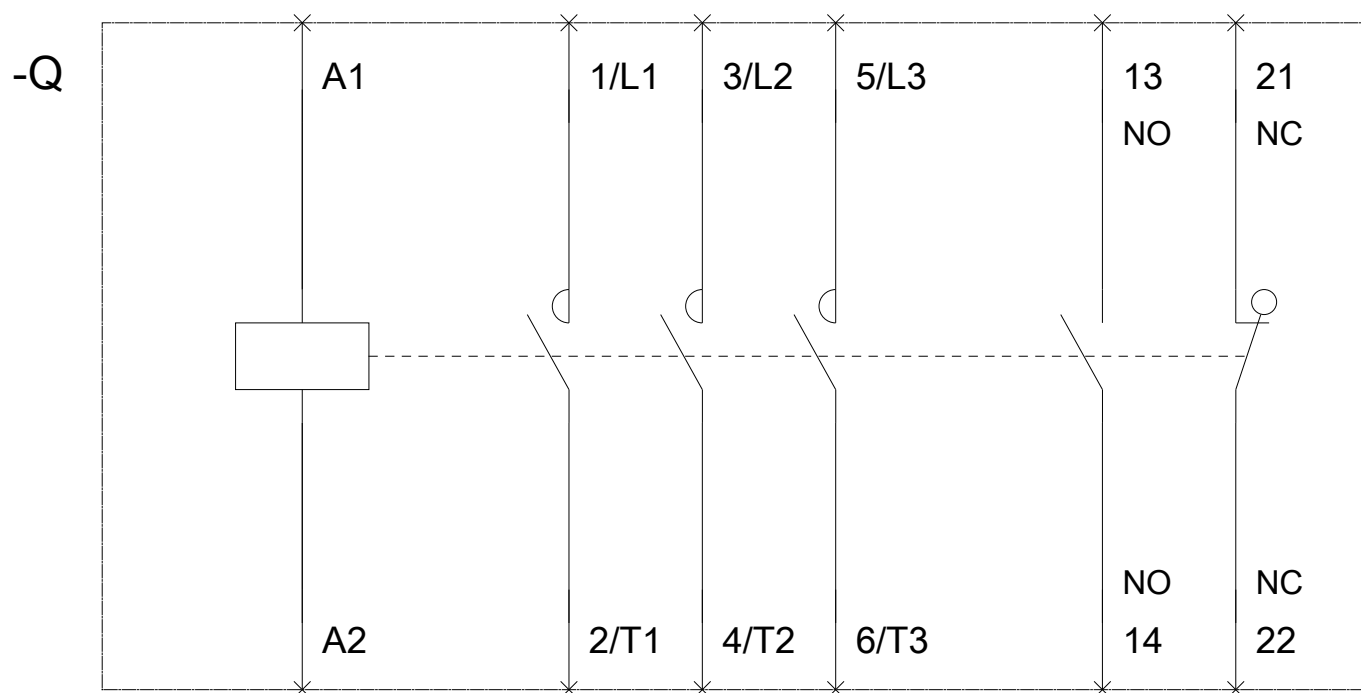
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2446-1AP60>

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2446-1AP60>

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2446-1AP60&lang=en



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