

Contactor, AC-1, 140 A/400 V/40 °C, S3, 4-pole, 230 V AC/50 Hz, 1 NO+1 NC, screw terminal



Product brand name	SIRIUS
Product designation	Contactor
Product type designation	3RT23
General technical data	
Size of contactor	S3
Product extension	
• function module for communication	No
• Auxiliary switch	Yes
Surge voltage resistance	
• of main circuit rated value	8 kV
• of auxiliary circuit rated value	6 kV
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
• at DC	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

• at DC	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 auxiliary switch block typical	100 000 000
Reference code acc. to DIN EN 81346-2	Q

Ambient conditions

Installation altitude at height above sea level	
• maximum	2 000 m
Relative humidity	
• during operation	95 %

Main circuit

Number of poles for main current circuit	4
Number of NO contacts for main contacts	4
Operating voltage	
• at AC	
— at 50 Hz rated value	690 V
— at 60 Hz rated value	690 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
Minimum cross-section in main circuit	
• at maximum AC-1 rated value	50 mm²
Short-time withstand current in cold operating state up to 40 °C	
• limited to 1 s switching at zero current maximum	Use minimum cross-section acc. to AC-1 rated value
• limited to 5 s switching at zero current maximum	Use minimum cross-section acc. to AC-1 rated value
• limited to 10 s switching at zero current maximum	Use minimum cross-section acc. to AC-1 rated value
• limited to 30 s switching at zero current maximum	Use minimum cross-section acc. to AC-1 rated value
• limited to 60 s switching at zero current maximum	Use minimum cross-section acc. to AC-1 rated value
No-load switching frequency	
• at AC	5 000 1/h
Operating frequency	

- at AC-1 maximum

1 000 1/s

Control circuit/ Control

Type of voltage	AC
Type of voltage of the control supply voltage	AC
Control supply voltage at AC <ul style="list-style-type: none"> • at 50 Hz rated value 	230 V
Operating range factor control supply voltage rated value of magnet coil at AC <ul style="list-style-type: none"> • at 50 Hz 	0.8 ... 1.1
Apparent pick-up power of magnet coil at AC <ul style="list-style-type: none"> • at 50 Hz 	296 V·A
Inductive power factor with closing power of the coil <ul style="list-style-type: none"> • at 50 Hz 	0.61
Apparent holding power of magnet coil at AC <ul style="list-style-type: none"> • at 50 Hz 	19 V·A
Inductive power factor with the holding power of the coil <ul style="list-style-type: none"> • at 50 Hz 	0.38
Closing delay <ul style="list-style-type: none"> • at AC 	13 ... 50 ms
Opening delay <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • attachable • instantaneous contact 	1 2 1
Number of NO contacts for auxiliary contacts <ul style="list-style-type: none"> • attachable • instantaneous contact 	1 2 1
Operating current at AC-12 <ul style="list-style-type: none"> • maximum 	10 A
Operating current at AC-15 <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • at 24 V rated value • at 48 V rated value • at 60 V rated value 	10 A 6 A 6 A

<ul style="list-style-type: none"> • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value 	3 A 2 A 1 A 0.15 A
Operating current at DC-13 <ul style="list-style-type: none"> • at 24 V rated value • at 48 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 1 A 0.9 A 0.3 A 0.1 A
Design of the miniature circuit breaker <ul style="list-style-type: none"> • for short-circuit protection of the auxiliary switch required 	gG: 10 A (230 V, 400 A)
Contact reliability of auxiliary contacts	1 faulty switching per 100 million (17 V, 1 mA)

UL/CSA ratings

Contact rating of auxiliary contacts according to UL	A600 / P600
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Short-circuit protection

Product function Short circuit protection	No
Design of the fuse link <ul style="list-style-type: none"> • for short-circuit protection of the main circuit <ul style="list-style-type: none"> — with type of coordination 1 required — with type of assignment 2 required • for short-circuit protection of the auxiliary switch required 	gG: 250 A (690 V, 100 kA) gR: 250 A (690 V, 100 kA) gG: 10 A (690 V, 1 kA)

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 <ul style="list-style-type: none"> • Side-by-side mounting 	screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715 Yes
Height	140 mm
Width	96 mm
Depth	152 mm
Required spacing <ul style="list-style-type: none"> • with side-by-side mounting <ul style="list-style-type: none"> — forwards — upwards — downwards — at the side • for grounded parts 	20 mm 10 mm 10 mm 0 mm

— forwards	20 mm
— upwards	10 mm
— at the side	10 mm
— downwards	10 mm
• for live parts	
— forwards	20 mm
— upwards	10 mm
— downwards	10 mm
— at the side	10 mm

Connections/ Terminals

Type of electrical connection	
• for main current circuit	screw-type terminals
• for auxiliary and control current circuit	screw-type terminals
Type of connectable conductor cross-sections	
• for main contacts	
— stranded	2x (6 ... 16 mm ²), 2x (10 ... 50 mm ²), 1x (10 ... 70 mm ²)
— single or multi-stranded	2x (2.5 ... 16 mm ²), 2x (6 ... 16 mm ²), 2x (10 ... 50 mm ²), 1x (10 ... 70 mm ²)
— finely stranded with core end processing	2x (2.5 ... 35 mm ²), 1x (2.5 ... 50 mm ²)
• at AWG conductors for main contacts	2x (10 ... 1/0), 1x (10 ... 2)
Connectable conductor cross-section for main contacts	
• solid	2.5 ... 16 mm ²
• single or multi-stranded	4 ... 70 mm ²
• stranded	6 ... 70 mm ²
• finely stranded with core end processing	2.5 ... 50 mm ²
Connectable conductor cross-section for auxiliary contacts	
• single or multi-stranded	0.5 ... 2.5 mm ²
• finely stranded with core end processing	0.5 ... 2.5 mm ²
Type of connectable conductor cross-sections	
• for auxiliary contacts	
— solid	2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²)
— single or multi-stranded	2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²)
— finely stranded with core end processing	2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²)
• at AWG conductors for auxiliary contacts	2x (20 ... 16), 2x (18 ... 14)
AWG number as coded connectable conductor cross section	
• for main contacts	10 ... 2
• for auxiliary contacts	20 ... 14

Safety related data




Product function	
• Mirror contact acc. to IEC 60947-4-1	Yes
• positively driven operation acc. to IEC 60947-5-1	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




Communication/ Protocol

Product function Bus communication	No
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Certificates/ approvals

General Product Approval			EMC	Declaration of Conformity	
					
CCC	CSA	UL		RCM	EG-Konf.

Declaration of Conformity	Test Certificates	Marine / Shipping
Miscellaneous	Special Test Certificate	Type Test Certificates/Test Report
		 ABS  LRS  PRS

Marine / Shipping	other
 RINA  RMRS  DNV-GL DNVGL.COM/AF	Confirmation

Further information

Information- and Downloadcenter (Catalogs, Brochures,...)
<https://www.siemens.com/ic10>

Industry Mall (Online ordering system)
<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT2346-1AP00>

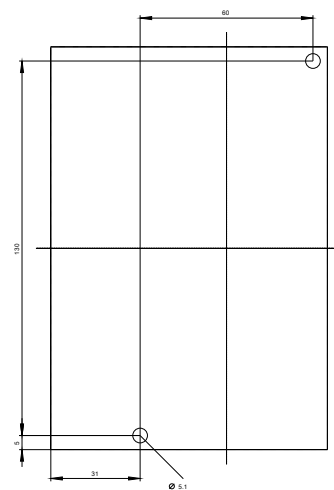
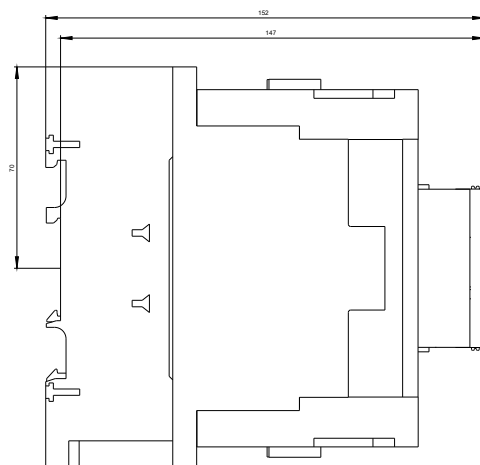
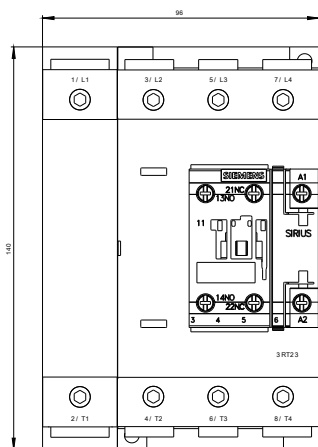
Cax online generator
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2346-1AP00>

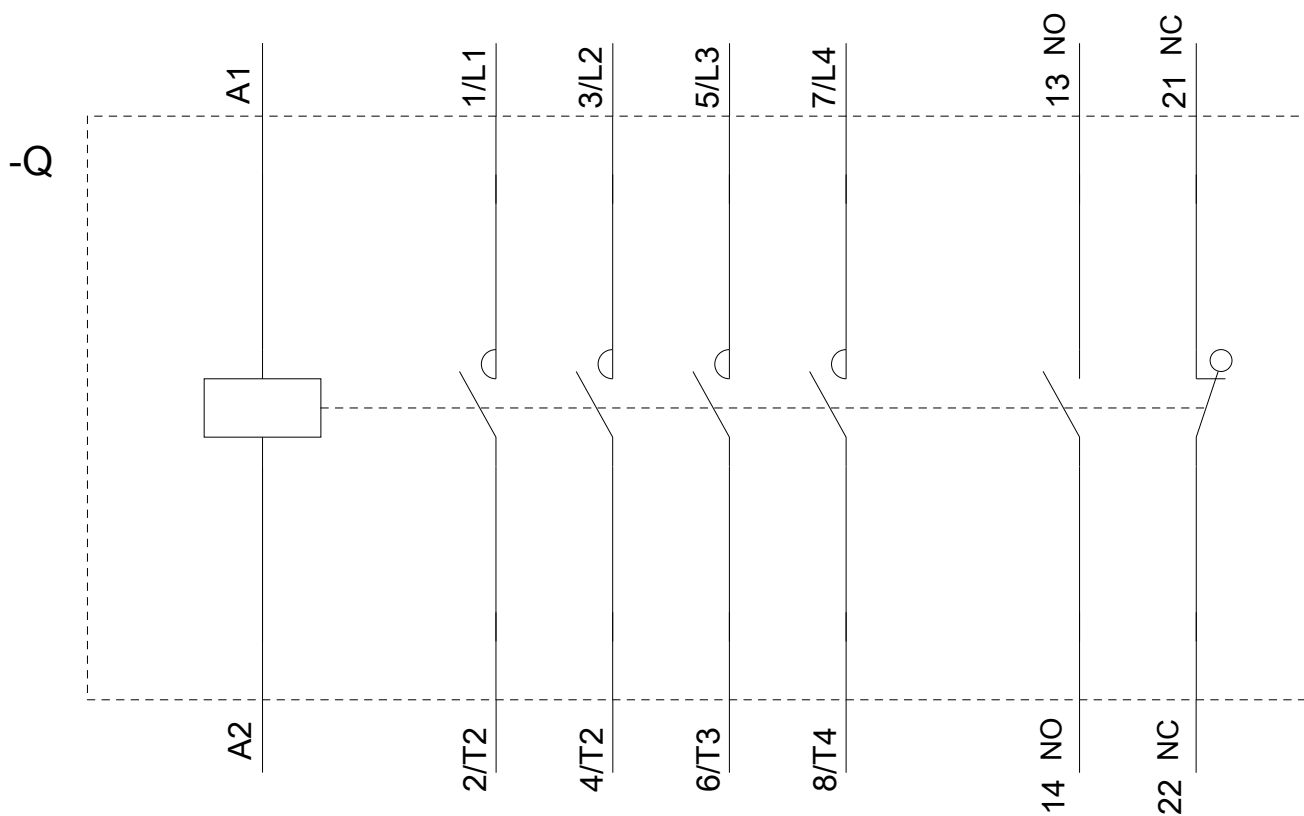
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
<https://support.industry.siemens.com/cs/ww/en/ps/3RT2346-1AP00>

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2346-1AP00&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current
<https://support.industry.siemens.com/cs/ww/en/ps/3RT2346-1AP00/char>

Further characteristics (e.g. electrical endurance, switching frequency)
<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2346-1AP00&objecttype=14&gridview=view1>





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