

CONTACTOR, AC-3 45 KW/400 V, AC 230V 50/60HZ 3-POLE, SIZE S3, SCREW CONNECTION



Figure similar

product brandname	SIRIUS
Product designation	power contactor
General technical data	
Size of contactor	S3
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	IP00
• of the terminal	IP00
Shock resistance	
• at rectangular impulse	
— at AC	6,8g / 5 ms, 4g / 10 ms

<ul style="list-style-type: none"> • with sine pulse <ul style="list-style-type: none"> — at AC 	10,6g / 5 ms, 6,2g / 10 ms
Mechanical service life (switching cycles)	
<ul style="list-style-type: none"> • of contactor typical 	10 000 000
<ul style="list-style-type: none"> • of the contactor with added electronics-compatible auxiliary switch block typical 	5 000 000
<ul style="list-style-type: none"> • of the contactor with added auxiliary switch block typical 	10 000 000
Ambient conditions	
Installation altitude at height above sea level maximum	2 000 m
Ambient temperature	
<ul style="list-style-type: none"> • during operation 	-25 ... +60 °C
<ul style="list-style-type: none"> • during storage 	-55 ... +80 °C
Main circuit	
Number of poles for main current circuit	3
Number of NO contacts for main contacts	3
Number of NC contacts for main contacts	0
Operating current	
<ul style="list-style-type: none"> • at AC-1 at 400 V <ul style="list-style-type: none"> — at ambient temperature 40 °C rated value 	120 A
<ul style="list-style-type: none"> • at AC-1 <ul style="list-style-type: none"> — up to 690 V at ambient temperature 40 °C rated value 	120 A
<ul style="list-style-type: none"> — up to 690 V at ambient temperature 60 °C rated value 	100 A
<ul style="list-style-type: none"> — up to 1000 V at ambient temperature 40 °C rated value 	70 A
<ul style="list-style-type: none"> — up to 1000 V at ambient temperature 60 °C rated value 	60 A
<ul style="list-style-type: none"> • at AC-3 <ul style="list-style-type: none"> — at 400 V rated value 	95 A
<ul style="list-style-type: none"> — at 690 V rated value 	58 A
<ul style="list-style-type: none"> — at 1000 V rated value 	30 A
Connectable conductor cross-section in main circuit at AC-1	
<ul style="list-style-type: none"> • at 60 °C minimum permissible 	35 mm ²
<ul style="list-style-type: none"> • at 40 °C minimum permissible 	50 mm ²
Operating current for approx. 200000 operating cycles at AC-4	
<ul style="list-style-type: none"> • at 400 V rated value 	42 A
<ul style="list-style-type: none"> • at 690 V rated value 	27 A
Operating current	

<ul style="list-style-type: none"> • at 1 current path at DC-1 <ul style="list-style-type: none"> — at 24 V rated value — at 110 V rated value • with 2 current paths in series at DC-1 <ul style="list-style-type: none"> — at 24 V rated value — at 110 V rated value • with 3 current paths in series at DC-1 <ul style="list-style-type: none"> — at 24 V rated value — at 110 V rated value 	<p>100 A</p> <p>9 A</p> <p>100 A</p> <p>100 A</p> <p>100 A</p> <p>100 A</p>
<p>Operating current</p> <ul style="list-style-type: none"> • at 1 current path at DC-3 at DC-5 <ul style="list-style-type: none"> — at 24 V rated value — at 110 V rated value • with 2 current paths in series at DC-3 at DC-5 <ul style="list-style-type: none"> — at 110 V rated value — at 24 V rated value • with 3 current paths in series at DC-3 at DC-5 <ul style="list-style-type: none"> — at 110 V rated value — at 24 V rated value 	<p>40 A</p> <p>2.5 A</p> <p>100 A</p> <p>100 A</p> <p>100 A</p> <p>100 A</p>
<p>Operating power</p> <ul style="list-style-type: none"> • at AC-1 <ul style="list-style-type: none"> — at 230 V at 60 °C rated value — at 400 V rated value — at 690 V rated value — at 690 V at 60 °C rated value — at 1000 V at 60 °C rated value • at AC-2 at 400 V rated value • at AC-3 <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 — at 1000 V rated value 	<p>38 kW</p> <p>66 kW</p> <p>114 kW</p> <p>114 kW</p> <p>98 W</p> <p>45 kW</p> <p>22 kW</p> <p>45 kW</p> <p>55 kW</p> <p>55 kW</p> <p>37 W</p>
<p>Operating power for approx. 200000 operating cycles at AC-4</p> <ul style="list-style-type: none"> • at 400 V rated value • at 690 V rated value 	<p>22 kW</p> <p>25.4 kW</p>
<p>Thermal short-time current limited to 10 s</p>	<p>760 A</p>
<p>Power loss [W] at AC-3 at 400 V for rated value of the operating current per conductor</p>	<p>10.8 W</p>
<p>No-load switching frequency</p> <ul style="list-style-type: none"> • at AC 	<p>5 000 1/h</p>

Operating frequency	
• at AC-1 maximum	900 1/h
• at AC-2 maximum	350 1/h
• at AC-3 maximum	850 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	230 V
• at 60 Hz rated value	230 V
Control supply voltage frequency 1 rated value	50 Hz
Control supply voltage frequency 2 rated value	60 Hz
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	298 V·A
Inductive power factor with closing power of the coil	0.7
Apparent holding power of magnet coil at AC	27 V·A
Inductive power factor with the holding power of the coil	0.29
Closing delay	
• at AC	17 ... 90 ms
Opening delay	
• at AC	10 ... 25 ms
Arcing time	10 ... 15 ms

Auxiliary circuit

Number of NC contacts	
• for auxiliary contacts	
— instantaneous contact	0
Number of NO contacts	
• for auxiliary contacts	
— instantaneous contact	0
Operating current at AC-12 maximum	10 A
Operating current at AC-15	
• at 230 V rated value	6 A
• at 400 V rated value	3 A
Operating current at DC-12	
• at 60 V rated value	6 A
• at 110 V rated value	3 A
• at 220 V rated value	1 A
Operating current at DC-13	

<ul style="list-style-type: none"> • at 24 V rated value • at 60 V rated value • at 110 V rated value • at 220 V rated value 	10 A 2 A 1 A 0.3 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 / Q600
---	-------------

Short-circuit protection

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 	fuse gL/gG: 250 A fuse gL/gG: 160 A fuse gL/gG: 10 A

Installation/ mounting/ dimensions

Mounting type	screw and snap-on mounting onto 35 mm and 75 mm standard mounting rail
<ul style="list-style-type: none"> • Side-by-side mounting 	Yes
Height	146 mm
Width	70 mm
Depth	139 mm
Required spacing	
<ul style="list-style-type: none"> • for grounded parts <ul style="list-style-type: none"> — at the side 	6 mm

Connections/Terminals

Type of electrical connection	
<ul style="list-style-type: none"> • for main current circuit • for auxiliary and control current circuit 	screw-type terminals screw-type terminals
Type of connectable conductor cross-sections	
<ul style="list-style-type: none"> • for main contacts <ul style="list-style-type: none"> — solid — stranded — single or multi-stranded — finely stranded with core end processing — finely stranded without core end processing • at AWG conductors for main contacts 	2x (2.5 ... 16 mm ²) 2x (10 ... 50 mm ²) 2x (2,5 ... 16 mm ²) 2x (2.5 ... 35 mm ²) 2x (10 ... 35 mm ²) 2x (10 ... 1/0)
Type of connectable conductor cross-sections	
<ul style="list-style-type: none"> • for auxiliary contacts <ul style="list-style-type: none"> — solid — finely stranded with core end processing 	2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²), max. 2x (0.75 ... 4 mm ²) 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), 1x 12

Certificates/approvals

General Product Approval				Declaration of Conformity	Test Certificates
 CCC	 CSA	 UL		 EG-Konf.	spezielle Prüfbescheinigung n

Shipping Approval					other
 ABS	 GL	 LRS	 RINA	 RMRS	Umweltbestätigung

other	
Bestätigungen	sonstig

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=3RT1046-1AL20>

Cax online generator

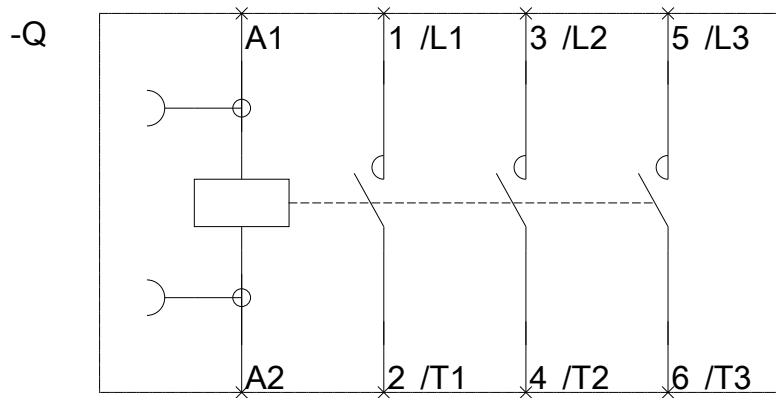
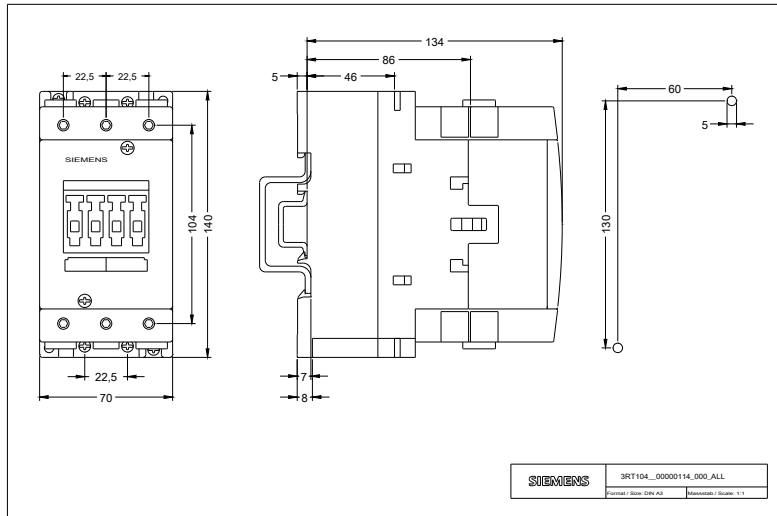
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1046-1AL20>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1046-1AL20>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1046-1AL20&lang=en



last modified:

12/26/2016