SIEMENS

Product data sheet 3RT1516-1AH00



CONTACTOR, AC-3 4 KW/400 V, AC-1 18 A, CC 48 V 50/60 HZ, 4-POLE, 2 NO + 2 NC, SIZE S00, SCREW CONNECTION

General technical data:		
product brand name		SIRIUS
Size of the contactor		S00
Protection class IP / on the front		IP20
Protection against electrical shock		finger-safe
Degree of pollution		3
Installation altitude / at a height over sea level / maximum	m	2,000
Ambient temperature		
during storage	°C	-55 +80
during operating	°C	-25 +60
Insulation voltage / rated value	V	690
Mechanical operating cycles as operating time		
of the contactor / typical		30,000,000
• of the contactor with added auxiliary switch block / typical		10,000,000
 of the contactor with added electronics-compatible auxiliary switch block / typical 		5,000,000

Main circuit:	
Number of NC contacts / for main contacts	2
Number of NO contacts / for main contacts	2
Operational current / at AC-1 / up to 690 V	

* at 400 V * per NO contact / rated value * per NC contact / rated value * per NC contact / rated value * per NC contact / rated value * with 1 current path / at DC-1 * at 24 V / rated value * at 110 V / rated value * at 220 V / rated value * at 220 V / rated value * with 2 current paths in series / at DC-1 * at 24 V / rated value * at 110 V / rated value * at 120 V / rated value * at 120 V / rated value * at 220 V / rated value * at 220 V / rated value * at 320 V / rated value * at 440 V / rated value * per NO contact / rated value * per NO contact / rated value * at 110 V * per NO contact / rated value * per NC contact / rated value * per NC contact / rated value * per NO contact / rated	• at 40 °C ambient temperature / rated value	Α	18
* at 400 V	• at 60 °C ambient temperature / rated value	Α	16
• per NO contact / rated value • per NC contact / rated value • per NC contact / rated value • per NC contact / rated value • with 1 current path / at DC-1 • at 24 V / rated value • at 220 V / rated value • at 220 V / rated value • at 440 V / rated value • at 440 V / rated value • at 220 V / rated value • at 220 V / rated value • at 220 V / rated value • at 440 V / rated value • at 440 V / rated value • at 440 V / rated value • at 220 V / rated value • at 440 V / rated value • at 110 V • per NO contact / rated value • per NC contact /	Operating current / at AC-2 / at AC-3		
• per NC contact / rated value • with 1 current path / at DC-1 • at 24 V / rated value • at 110 V / rated value • at 440 V / rated value • at 440 V / rated value • at 440 V / rated value • at 220 V / rated value • at 110 V / rated value • at 24 V / rated value • at 24 V / rated value • at 24 V / rated value • at 110 V / rated value • at 20 V / rated value • at 40 V / rated value • at 110 V • per NO contact / rated value • at 110 V • per NO contact / rated value • per NC conta	• at 400 V		
### Operating current * with 1 current path / at DC-1 * at 24 V / rated value * at 110 V / rated value * at 110 V / rated value * at 220 V / rated value * with 2 current paths in series / at DC-1 * at 24 V / rated value * with 2 current paths in series / at DC-1 * at 24 V / rated value * at 110 V / rated value * at 120 V / rated value * at 120 V / rated value * at 220 V / rated value * at 440 V / rated value * at 40 V / rated value * at 40 V / rated value * at 40 V rated value * at 120 V * per NC contact / rated value * per NC contact	• per NO contact / rated value	Α	9
• with 1 current path / at DC-1 • at 24 V / rated value • at 110 V / rated value • at 110 V / rated value • at 220 V / rated value • at 220 V / rated value • at 440 V / rated value • with 2 current paths in series / at DC-1 • at 24 V / rated value • at 110 V / rated value • at 110 V / rated value • at 120 V / rated value • at 220 V / rated value • at 220 V / rated value • at 440 V / rated value • at 440 V / rated value • at 440 V / rated value • with 1 current path / at DC-3 / at DC-5 • at 24 V • per NC contact / rated value • per NC contact / rated value • at 110 V • per NC contact / rated value • at 220 V • per NC contact / rated value • at 220 V • per NC contact / rated value • at 220 V • per NC contact / rated value	• per NC contact / rated value	Α	9
* at 24 V / rated value	Operating current		
* at 110 V / rated value	• with 1 current path / at DC-1		
* at 220 V / rated value	• at 24 V / rated value	Α	16
• at 440 V / rated value • with 2 current paths in series / at DC-1 • at 24 V / rated value • at 110 V / rated value • at 220 V / rated value • at 440 V / rated value • at 440 V / rated value • at 440 V / rated value • with 1 current path / at DC-3 / at DC-5 • at 24 V • per NO contact / rated value • per NC contact / rated value • per NC contact / rated value • at 220 V • per NO contact / rated value • at 220 V • per NO contact / rated value • at 220 V • per NO contact / rated value • at 220 V • per NO contact / rated value • at 220 V • per NO contact / rated value • at 220 V • per NO contact / rated value • per NC contact / rated value • per NC contact / rated value • per NC contact / rated value • with 2 current paths in series / at DC-3 / at DC-5 • at 24 V • per NO contact / rated value • per NC contact / rated value • per	• at 110 V / rated value	Α	2.1
• with 2 current paths in series / at DC-1 • at 24 V / rated value • at 110 V / rated value • at 220 V / rated value • at 220 V / rated value • at 440 V / rated value • with 1 current path / at DC-3 / at DC-5 • at 24 V • per NO contact / rated value • per NC contact / rated value • at 220 V • per NO contact / rated value • with 2 current paths in series / at DC-3 / at DC-5 • at 24 V • per NC contact / rated value • with 2 current paths in series / at DC-3 / at DC-5 • at 24 V • per NO contact / rated value • at 110 V • per NC contact / rated value • at 110	• at 220 V / rated value	А	0.8
• at 24 V / rated value	• at 440 V / rated value	А	0.6
• at 110 V / rated value • at 220 V / rated value • at 440 V / rated value • at 440 V / rated value • with 1 current path / at DC-3 / at DC-5 • at 24 V • per NO contact / rated value • per NC contact / rated value • at 110 V • per NO contact / rated value • per NC contact / rated value • at 220 V • per NC contact / rated value • per NC contact / rated value • with 2 current paths in series / at DC-3 / at DC-5 • at 24 V • per NC contact / rated value • per	• with 2 current paths in series / at DC-1		
• at 220 V / rated value • at 440 V / rated value Operating current • with 1 current path / at DC-3 / at DC-5 • at 24 V • per NO contact / rated value • at 110 V • per NC contact / rated value • per NC contact / rated value • at 1220 V • per NO contact / rated value • at 220 V • per NO contact / rated value • per NC contact / rated value • at 220 V • per NO contact / rated value • per NC contact / rated value • per NC contact / rated value • at 24 V • per NO contact / rated value • at 24 V • per NO contact / rated value • per NC contact / rated value	• at 24 V / rated value	Α	16
* at 440 V / rated value A 0.8 Operating current * with 1 current path / at DC-3 / at DC-5 * at 24 V * per NO contact / rated value A 16 * per NC contact / rated value A 0.15 * per NO contact / rated value A 0.075 * at 220 V * per NO contact / rated value A 0.75 * per NO contact / rated value A 0.375 * with 2 current paths in series / at DC-3 / at DC-5 * at 24 V * per NO contact / rated value A 16 * per NC contact / rated value A 0.375 * with 2 current paths in series / at DC-3 / at DC-5 * at 24 V * per NO contact / rated value A 16 * per NC contact / rated value A 16 * per NC contact / rated value A 16 * at 110 V * per NO contact / rated value A 0.35 * per NC contact / rated value A 0.175 Operating performance * at AC-1 * at 230 V / rated value KW 6.5 * at 400 V / rated value KW 11	• at 110 V / rated value	Α	12
Operating current • with 1 current path / at DC-3 / at DC-5 • at 24 V • per NO contact / rated value • per NC contact / rated value • at 110 V • per NO contact / rated value • per NC contact / rated value • per NC contact / rated value • per NC contact / rated value • per NO contact / rated value • at 110 V • per NO contact / rated value • at 110 V • per NO contact / rated value • at 230 V / rated value • at AC-1 • at 230 V / rated value • at 400 V / rated value	• at 220 V / rated value	Α	1.6
• with 1 current path / at DC-3 / at DC-5 • at 24 V • per NO contact / rated value • per NC contact / rated value • at 110 V • per NO contact / rated value • per NC contact / rated value • per NO contact / rated value • per NO contact / rated value • per NC contact / rated value • per NO contact / rated value	• at 440 V / rated value	Α	0.8
• at 24 V • per NO contact / rated value • per NC contact / rated value • per NO contact / rated value • at 110 V • per NO contact / rated value • per NC contact / rated value • per NC contact / rated value • per NO contact / rated value • per NO contact / rated value • per NO contact / rated value • per NC contact / rated value • per NC contact / rated value • per NC contact / rated value • per NO contact / rated value • at 110 V • per NO contact / rated value	Operating current		
• per NC contact / rated value • per NC contact / rated value • per NC contact / rated value • at 110 V • per NC contact / rated value • per NC contact / rated value • at 220 V • per NC contact / rated value • with 2 current paths in series / at DC-3 / at DC-5 • at 24 V • per NC contact / rated value • per NC contact / rated value • per NC contact / rated value • at 110 V • per NC contact / rated value • per NC contact / rated value • at AC-1 • at 230 V / rated value • at 400 V / rated value	• with 1 current path / at DC-3 / at DC-5		
* per NC contact / rated value * at 110 V * per NO contact / rated value * per NC contact / rated value * at 220 V * per NC contact / rated value * at 220 V * per NC contact / rated value * at 220 V * per NC contact / rated value * per NC contact / rated value * per NC contact / rated value * at 24 V * per NO contact / rated value * at 110 V * per NC contact / rated value * at 110 V * per NC contact / rated value * at 230 V / rated value * at 230 V / rated value * at 400 V / rated value	• at 24 V		
• at 110 V • per NO contact / rated value • per NC contact / rated value • at 220 V • per NO contact / rated value • per NC contact / rated value • per NC contact / rated value • per NC contact / rated value • with 2 current paths in series / at DC-3 / at DC-5 • at 24 V • per NO contact / rated value • per NC contact / rated value • at 110 V • per NO contact / rated value • at 110 V • per NO contact / rated value • at AC-1 • at 230 V / rated value • at 400 V / rated value	• per NO contact / rated value	Α	16
• per NO contact / rated value • per NC contact / rated value • at 220 V • per NO contact / rated value • per NO contact / rated value • per NC contact / rated value • per NC contact / rated value • with 2 current paths in series / at DC-3 / at DC-5 • at 24 V • per NO contact / rated value • per NC contact / rated value • at 110 V • per NO contact / rated value • at 230 V / rated value • at 400 V / rated value	• per NC contact / rated value	Α	16
• per NC contact / rated value • at 220 V • per NO contact / rated value • per NC contact / rated value • per NC contact / rated value • with 2 current paths in series / at DC-3 / at DC-5 • at 24 V • per NO contact / rated value • per NC contact / rated value • at 110 V • per NO contact / rated value • per NO contact / rated value • per NC contact / rated value	• at 110 V		
at 220 V aper NO contact / rated value aper NC contact / rated value be re NC contact / rated value at 24 V aper NO contact / rated value at 24 V aper NO contact / rated value be re NC contact / rated value at 110 V aper NO contact / rated value at 110 V aper NO contact / rated value at 24 V aper NO contact / rated value at 110 V aper NO contact / rated value at 230 V / rated value at 230 V / rated value at 230 V / rated value at 400 V / rated value kW at 400 V / rated value kW 11	• per NO contact / rated value	Α	0.15
• per NO contact / rated value • per NC contact / rated value • with 2 current paths in series / at DC-3 / at DC-5 • at 24 V • per NO contact / rated value • per NC contact / rated value • per NC contact / rated value • at 110 V • per NO contact / rated value • per NC contact / rated value • at 4C-1 • at 230 V / rated value • at 400 V / rated value	• per NC contact / rated value	Α	0.075
• per NC contact / rated value • with 2 current paths in series / at DC-3 / at DC-5 • at 24 V • per NO contact / rated value • per NC contact / rated value • at 110 V • per NO contact / rated value • per NO contact / rated value • at Ac-1 • at 230 V / rated value • at 400 V / rated value A 0.375 A 0.375 A 0.375	• at 220 V		
with 2 current paths in series / at DC-3 / at DC-5 at 24 V per NO contact / rated value A 16 per NC contact / rated value A 16 at 110 V per NO contact / rated value A 0.35 per NC contact / rated value A 0.175 Operating performance at AC-1 at 230 V / rated value kW 6.5 at 400 V / rated value kW 11	• per NO contact / rated value	Α	0.75
• at 24 V • per NO contact / rated value • per NC contact / rated value • at 110 V • per NO contact / rated value • per NO contact / rated value A 0.35 • per NC contact / rated value A 0.175 Operating performance • at AC-1 • at 230 V / rated value kW 6.5 • at 400 V / rated value kW 11	• per NC contact / rated value	Α	0.375
• per NO contact / rated value • per NC contact / rated value • at 110 V • per NO contact / rated value • per NO contact / rated value • per NC contact / rated value • A • 0.35 • per NC contact / rated value A • 0.175 Operating performance • at AC-1 • at 230 V / rated value • at 400 V / rated value • W • 11	• with 2 current paths in series / at DC-3 / at DC-5		
• per NC contact / rated value • at 110 V • per NO contact / rated value • per NC contact / rated value • per NC contact / rated value • at AC-1 • at 230 V / rated value • at 400 V / rated value A 16 A 0.35 A 0.175	• at 24 V		
• at 110 V • per NO contact / rated value • per NC contact / rated value A 0.35 • per NC contact / rated value A 0.175 Operating performance • at AC-1 • at 230 V / rated value kW 6.5 • at 400 V / rated value kW 11	• per NO contact / rated value	Α	16
Per NO contact / rated value Per NC contact / rated value A 0.35 Per NC contact / rated value A 0.175 Operating performance at AC-1 at 230 V / rated value kW 6.5 at 400 V / rated value kW 11	• per NC contact / rated value	Α	16
• per NC contact / rated value Operating performance • at AC-1 • at 230 V / rated value • at 400 V / rated value kW 11	• at 110 V		
• at AC-1 • at 230 V / rated value • at 400 V / rated value kW 6.5 kW 11	• per NO contact / rated value	Α	0.35
• at AC-1 • at 230 V / rated value	per NC contact / rated value	А	0.175
 at 230 V / rated value at 400 V / rated value kW 11 	Operating performance		
• at 400 V / rated value kW 11	• at AC-1		
	• at 230 V / rated value	kW	6.5
• at AC-2 / at AC-3	• at 400 V / rated value	kW	11
	• at AC-2 / at AC-3		

• at 230 V		
• per NO contact / rated value	kW	3
• per NC contact / rated value	kW	3
• at 400 V		
• per NO contact / rated value	kW	4
• per NC contact / rated value	kW	4
Active power loss / at AC-3 / at 400 V / with rated Operating current value / per conductor	W	0.7
Frequency of operation		
• with AC-1 / maximum	1/h	1,000
• at AC-2 / at AC-3 / maximum	1/h	750
Control circuit/ Control:		
Voltage type / of control feed voltage		AC
Control supply voltage		
• at 50 Hz / at AC / rated value	V	48
• at 60 Hz / at AC / rated value	V	48
operating range factor control supply voltage rated value / of the magnet coil		
• at 50 Hz / for AC		0.8 1.1
• at 60 Hz / for AC		0.85 1.1
Apparent pull-in power / of the solenoid / for AC	V-A	27
Apparent holding power / of the solenoid / for AC	V-A	4.4
Inductive power factor		
with the pull-in power of the coil		0.8
with the pull-in power of the coil		0.27
Closing delay		
• at AC	ms	8 35
• at DC	ms	25 100
Opening delay		
• at AC	ms	4 30
• at DC	ms	7 10
Arcing time	ms	10 15
Residual current / of electronics / for control with signal <0>		
• at 230 V / with AC / maximum permissible	А	0.0030
Auxiliary circuit:		
Contact reliability / of the auxiliary contacts		1 faulty switching per 100 million (17 V, 1 mA)
Number of NC contacts / for auxiliary contacts / instantaneous		0

switching

switching

Number of NO contacts / for auxiliary contacts / instantaneous

0

Operating current		
• at AC-12 / maximum	Α	10
• at AC-15 / at 230 V / rated value	Α	6
• at AC-15 / at 400 V / rated value	Α	3
Operating current / at DC-12		
• at 60 V / rated value	Α	6
• at 110 V / rated value	Α	3
• at 220 V / rated value	Α	1
Operating current / at DC-13		
• at 24 V / rated value	Α	10
• at 60 V / rated value	Α	2
• at 110 V / rated value	Α	1
• at 220 V / rated value	Α	0.3

Short-circuit:	
Design of the fuse link	
• for short-circuit protection of the auxiliary switch / required	fuse gL/gG: 10 A
• for short-circuit protection of the main circuit	
 with type of assignment 1 / required 	fuse gL/gG: 35 A
• at type of coordination 2 / required	fuse gL/gG: 20 A

Installation/ mounting/ dimensions:		
mounting position		with vertical mounting surface +/-180° rotatable, with vertical mounting surface +/- 30° tiltable to the front and back
Mounting type		screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 50022
Mounting type / series installation		Yes
Width	mm	45
Height	mm	57.5
Depth	mm	72

Connections/ terminals:	
Design of the electrical connection	
for main current circuit	screw-type terminals
for auxiliary and control current circuit	screw-type terminals
Type of the connectable conductor cross-section	
for main contacts	
• solid	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), max. 2x (0.75 4 mm²)
• finely stranded	
 with conductor end processing 	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)

• for AWG conductors / for main contacts

· for auxiliary contacts

• solid

• finely stranded

• with conductor end processing

• for AWG conductors / for auxiliary contacts

2x (20 ... 16), 2x (18 ... 14), 1x 12

2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²), max. 2x (0.75 ... 4 mm²)

2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)

2x (20 ... 16), 2x (18 ... 14), 1x 12

Certificates/ approvals:

General Product Approval

Functional Safety / Safety of Machinery











Type Examination



Test Certificates



Special Test Certificate

Shipping Approval











other

Confirmation

other

Environmental Confirmations

Further information:

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

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

Industry Mall (Online ordering system)

http://www.siemens.com/industrymall

Cax online generator

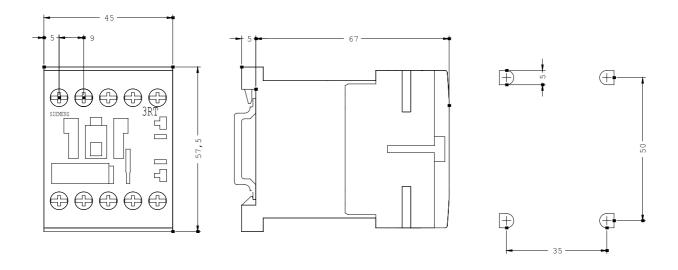
http://www.siemens.com/cax

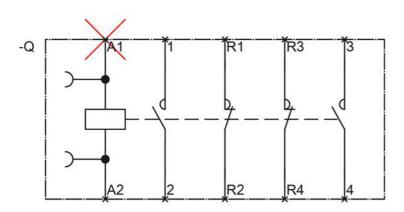
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

 $\underline{\text{http://support.automation.siemens.com/WW/view/en/3RT1516-1AH00/all}}$

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

http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3RT1516-1AH00





last change: Jul 28, 2014