



Reference: 3RT2017-2BB42-1AA0

CONTACTOR, AC-3, 5.5KW/400V, 1NC, DC 24V, 3-POLE, SZ S00 SPRING-LOADED TERMINAL.

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product brand name	SIRIUS
Product designation	3RT2 contactor
General technical data:	
Size of contactor	S00
Product extension	
function module for communication	No
Auxiliary switch	Yes
Insulation voltage	
rated value	690 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	400 V
Protection class IP	
on the front	IP20
of the terminal	IP20
Shock resistance	
at rectangular impulse	
— at DC	7.3g / 5 ms, 4.7g / 10 ms
with sine pulse	
— at DC	11,4g / 5 ms, 7,3g / 10 ms

Mechanical service life (switching cycles)	
of contactor typical	30 000 000
of the contactor with atd>	5 000 000
of the contactor with atd>	10 000 000
Ambient conditions:	
Installation altitude at height above sea level maximum	2 000 m
Ambient temperature	
during operation	-25 +60 °C
during storage	-55 +80 °C
Main circuit:	
Number of NO contacts for main contacts	3
Number of NC contacts for main contacts	0
Operating voltage	
at AC-3 rated value maximum	690 V
Operating current	
at AC-1 at 400 V	
— at ambient temperature 40 °C rated value	22 A
at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	22 A
— up to 690 V at ambient temperature 60 °C rated value	20 A
at AC-2 at 400 V rated value	12 A
at AC-3	
— at 400 V rated value	12 A
— at 500 V rated value	9.2 A
— at 690 V rated value	6.7 A
Connectable conductor cross-section in main circuit at AC-1	
at 60 °C minimum permissible	2.5 mm ²
at 40 °C minimum permissible	4 mm²
Operating current for approx. 200000 operating cycles at AC-4	
at 400 V rated value	4.1 A
at 690 V rated value	3.3 A
Operating current	
at 1 current path at DC-1	
— at 24 V rated value	20 A
— at 110 V rated value	2.1 A
— at 220 V rated value	0.8 A

— at 440 V rated value	0.6 A
— at 600 V rated value	0.6 A
with 2 current paths in series at DC-1	
— at 24 V rated value	20 A
— at 110 V rated value	12 A
— at 220 V rated value	1.6 A
— at 440 V rated value	0.8 A
— at 600 V rated value	0.7 A
with 3 current paths in series at DC-1	
— at 24 V rated value	20 A
— at 110 V rated value	20 A
— at 220 V rated value	20 A
— at 440 V rated value	1.3 A
— at 600 V rated value	1 A
Operating current	
at 1 current path at DC-3 at DC-5	
— at 24 V rated value	20 A
— at 110 V rated value	0.1 A
with 2 current paths in series at DC-3 at DC-5	
— at 110 V rated value	0.35 A
— at 24 V rated value	20 A
with 3 current paths in series at DC-3 at DC-5	
— at 110 V rated value	20 A
— at 220 V rated value	1.5 A
— at 24 V rated value	20 A
— at 440 V rated value	0.2 A
— at 600 V rated value	0.2 A
Operating power	
at AC-1	
— at 230 V rated value	7.5 kW
— at 230 V at 60 °C rated value	7.5 kW
— at 400 V rated value	13 kW
— at 400 V at 60 °C rated value	13 kW
— at 690 V rated value	22 kW
— at 690 V at 60 °C rated value	22 kW
at AC-2 at 400 V rated value	5.5 kW
at AC-3	
— at 230 V rated value	3 kW

— at 690 V rated value Operating power for approx. 200000 operating cycles at AC-4 at 400 V rated value at 400 V rated value 2 kW at 690 V rated value 2.5 kW Thermal short-time current limited to 10 s 90 A Power loss [W] at AC-3 at 400 V for rated value of the operating current per conductor No-load switching frequency at AC-1 maximum 1 000 1/h at AC-1 maximum 1 000 1/h at AC-3 maximum 750 1/h at AC-4 maximum 250 1/h Control circuit/ Control: Type of voltage of the centrol supply voltage Control supply voltage at DC rated value Operating range factor control supply voltage Closing power of magnet coil at DC 4 W Holding power of magnet coil at DC 4 W Closing delay at DC Opening delay at DC Arcing time 10 15 ms Residual current of the electronics for control with signal 40-2 at AC at 230 V maximum permissible 4 mA Auxiliary circuit: Number of NC contacts for auxiliary contacts - instantaneous contact 1 Instantaneous contact - inst	— at 400 V rated value	5.5 kW
Operating power for approx. 200000 operating cycles at AC-4 at 400 V rated value at 690 V rated value 2 kW 2.5 kW Thermal short-time current limited to 10 s 90 A Power loss (W) at AC-3 at 400 V for rated value of the operating current per conductor No-load switching frequency at DC 10 000 1/h Operating frequency at AC-1 maximum 1 000 1/h 10 000 1/h 10 000 1/h 11 000 1/h 12 000 1/h 12 000 1/h 13 000 1/h 14 AC-3 maximum 250 1/h 250 1/h 15 000 1/h 16 000 1/h 17 000 1/h 17 00 1/h 18 AC-4 maximum 250 1/h 18 AC-4 maximum 250 1/h 19 of voltage of the control supply voltage DC 10 000 1/h 10 000 1/h 11 000 1/h 12 000 1/h 13 000 1/h 14 AC-3 maximum 250 1/h 15 01 1/h 16 01 1/h 17 01 1/h 17 01 1/h 18 AC-4 maximum 250 1/h 18 01 1/h 19 01 1/h 19 01 1/h 10		
at 690 V rated value 2.5 kW Thermal short-time current limited to 10 s 90 A Power loss [W] at AC-3 at 400 V for rated value of the operating current per conductor No-load switching frequency at DC 10 000 1/h Operating frequency at AC-1 maximum 1 000 1/h at AC-2 maximum 750 1/h at AC-3 maximum 250 1/h Control circuit/ Control: Type of voltage of the control supply voltage DC Control supply voltage at DC rated value 24 V Operating range factor control supply voltage rated value of magnet coil at DC Closing power of magnet coil at DC 4 W Holding power of magnet coil at DC 4 W Closing delay at DC 7 13 ms Arcing time 10 15 ms Residual current of the electronics for control with signal <0> at AC at 230 V maximum permissible 4 mA at DC at 24 V maximum permissible 10 mA Auxiliary circuit: Number of NC contacts for auxiliary contacts - instantaneous contact 1 Number of NC contacts for auxiliary contacts for auxiliary contacts - instantaneous contact 1 Number of NC contacts for auxiliary contacts - instantaneous contact 1 Number of NC contacts	Operating power for approx. 200000 operating cycles at	
Thermal short-time current limited to 10 s Power loss [W] at AC-3 at 400 V for rated value of the operating current per conductor No-load switching frequency at DC Operating frequency at AC-1 maximum 1 000 1/h at AC-2 maximum 750 1/h at AC-3 maximum 750 1/h at AC-4 maximum 250 1/h Control circuit / Control: Type of voltage of the control supply voltage DC Control supply voltage at DC rated value Operating range factor control supply voltage rated value of magnet coil at DC 4 W Holding power of magnet coil at DC 4 W Closing power of magnet coil at DC Arcing time Arcing time Arcing time Residual current of the electronics for control with signal close at AC at 230 V maximum permissible 4 mA Auxiliary circuit: Number of NC contacts for auxiliary contacts — instantaneous contact I Number of NC contacts for auxiliary contacts — instantaneous contact I Number of NC contacts for auxiliary contacts — instantaneous contact I Number of NC contacts for auxiliary contacts — instantaneous contact I Number of NC contacts for auxiliary contacts — instantaneous contacts I Number of NC contacts for auxiliary contacts — instantaneous contact I Number of NC contacts for auxiliary contacts — instantaneous contacts I Number of NC contacts for auxiliary contacts — instantaneous contact I Number of NC contacts for auxiliary contacts — instantaneous contact I Number of NC contacts for auxiliary contacts — instantaneous contact I Number of NC contacts for auxiliary contacts — instantaneous contact I Number of NC contacts for auxiliary contacts — instantaneous contact I Number of NC contacts for auxiliary contacts — instantaneous contact I Number of NC contacts I NUMBER OF NC CONTACT IN IN IN IN IN IN IN I	at 400 V rated value	2 kW
Power loss [W] at AC-3 at 400 V for rated value of the operating current per conductor No-load switching frequency at DC Operating frequency at AC-1 maximum 1 000 1/h at AC-2 maximum 750 1/h at AC-3 maximum 250 1/h at AC-4 maximum 250 1/h Control circuit/ Control: Type of voltage of the control supply voltage DC Control supply voltage at DC rated value Operating range factor control supply voltage rated value of magnet coil at DC Holding power of magnet coil at DC 4 W Holding power of magnet coil at DC A W Closing delay at DC Opening delay at DC Arcing time Residual current of the electronics for control with signal cost at AC at 230 V maximum permissible 4 mA at DC at 24 V maximum permissible 10 mA Auxiliary circuit: Number of NC contacts for auxiliary contacts — instantaneous contact 1 Number of NC contacts for auxiliary contacts — instantaneous contact 1 Number of NC contacts for auxiliary contacts — instantaneous contact 1 Number of NC contacts for auxiliary contacts — instantaneous contact 1 Number of NC contacts for auxiliary contacts — instantaneous contact 1 Number of NC contacts for auxiliary contacts — instantaneous contact 1 Number of NC contacts for auxiliary contacts for auxiliary contacts — instantaneous contact 1	at 690 V rated value	2.5 kW
operating current per conductor No-load switching frequency at DC 10 000 1/h Operating frequency at AC-1 maximum 1 000 1/h at AC-2 maximum 250 1/h at AC-3 maximum 250 1/h Control circuit/ Control: Type of voltage of the control supply voltage Control supply voltage at DC rated value Operating range factor control supply voltage rated value of magnet coil at DC Closing power of magnet coil at DC A W Holding power of magnet coil at DC Closing delay at DC Opening delay at DC Arcing time 10 15 ms Residual current of the electronics for control with signal <0> at AC at 230 V maximum permissible at DC at 24 V maximum permissible at DC at 24 V maximum permissible at DC contacts for auxiliary contacts — instantaneous contact 1 Number of NC contacts for auxiliary contacts	Thermal short-time current limited to 10 s	90 A
at DC Operating frequency at AC-1 maximum 1 000 1/h at AC-2 maximum 750 1/h at AC-3 maximum 250 1/h at AC-4 maximum 250 1/h Control circuit/ Control: Type of voltage of the control supply voltage Control supply voltage at DC rated value Operating range factor control supply voltage rated value of magnet coil at DC Closing power of magnet coil at DC 4 W Holding power of magnet coil at DC 4 W Closing delay at DC Opening delay at DC 7 13 ms Arcing time 10 15 ms Residual current of the electronics for control with signal <0>		1.2 W
at AC-1 maximum 1 000 1/h at AC-2 maximum 750 1/h at AC-3 maximum 750 1/h at AC-4 maximum 250 1/h Control circuit/ Control: Type of voltage of the control supply voltage DC Control supply voltage at DC rated value 24 V Operating range factor control supply voltage rated value of magnet coil at DC Closing power of magnet coil at DC 4 W Holding power of magnet coil at DC 4 W Closing delay at DC 30 100 ms Opening delay at DC 7 13 ms Arcing time 10 15 ms Residual current of the electronics for control with signal <0>	No-load switching frequency	
at AC-1 maximum 1000 1/h at AC-2 maximum 750 1/h at AC-3 maximum 750 1/h at AC-4 maximum 250 1/h Control circuit/ Control: Type of voltage of the control supply voltage DC Control supply voltage at DC rated value Operating range factor control supply voltage rated value of magnet coil at DC Closing power of magnet coil at DC Closing power of magnet coil at DC A W Holding power of magnet coil at DC Opening delay at DC Opening delay at DC Arcing time Arcing time Residual current of the electronics for control with signal <0>	at DC	10 000 1/h
at AC-2 maximum 750 1/h at AC-3 maximum 750 1/h at AC-4 maximum 250 1/h Control circuit/ Control: Type of voltage of the control supply voltage DC Control supply voltage at DC rated value Operating range factor control supply voltage rated value of magnet coil at DC Closing power of magnet coil at DC Holding power of magnet coil at DC 4 W Holding power of magnet coil at DC A W Closing delay at DC Opening delay at DC 7 13 ms Arcing time Residual current of the electronics for control with signal <0>	Operating frequency	
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at AC-4 maximum Control circuit/ Control: Type of voltage of the control supply voltage Control supply voltage at DC rated value Operating range factor control supply voltage rated value of magnet coil at DC Closing power of magnet coil at DC Holding power of magnet coil at DC Closing delay at DC Opening delay at DC 7 13 ms Arcing time 10 15 ms Residual current of the electronics for control with signal <0> at AC at 230 V maximum permissible at DC at 24 V maximum permissible Auxiliary circuit: Number of NC contacts for auxiliary contacts	at AC-2 maximum	750 1/h
Control circuit/ Control: Type of voltage of the control supply voltage Control supply voltage at DC rated value 24 V Operating range factor control supply voltage rated value of magnet coil at DC Holding power of magnet coil at DC 4 W Closing delay at DC Opening delay at DC 7 13 ms Arcing time Residual current of the electronics for control with signal <0> at AC at 230 V maximum permissible at DC at 24 V maximum permissible Auxilliary circuit: Number of NC contacts for auxillary contacts	at AC-3 maximum	750 1/h
Type of voltage of the control supply voltage Control supply voltage at DC rated value 24 V Operating range factor control supply voltage rated value of magnet coil at DC Closing power of magnet coil at DC Holding power of magnet coil at DC 4 W Closing delay at DC Opening delay at DC 7 13 ms Arcing time Residual current of the electronics for control with signal <0> at AC at 230 V maximum permissible 4 mA at DC at 24 V maximum permissible 10 mA Auxiliary circuit: Number of NC contacts for auxiliary contacts	at AC-4 maximum	250 1/h
Control supply voltage at DC rated value 24 V Operating range factor control supply voltage rated value of magnet coil at DC Closing power of magnet coil at DC 4 W Holding power of magnet coil at DC 4 W Closing delay at DC 30 100 ms Opening delay at DC 7 13 ms Arcing time 10 15 ms Residual current of the electronics for control with signal <0> at AC at 230 V maximum permissible 4 mA at DC at 24 V maximum permissible 10 mA Auxiliary circuit: Number of NC contacts for auxiliary contacts	Control circuit/ Control:	
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Holding power of magnet coil at DC Closing delay at DC 30 100 ms Opening delay at DC 7 13 ms Arcing time 10 15 ms Residual current of the electronics for control with signal <0> at AC at 230 V maximum permissible 4 mA at DC at 24 V maximum permissible 10 mA Auxiliary circuit: Number of NC contacts for auxiliary contacts — instantaneous contact 1 Number of NO contacts for auxiliary contacts for auxiliary contacts	Operating range factor control supply voltage rated value of magnet coil at DC	0.8 1.1
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at DC Opening delay at DC 7 13 ms Arcing time 10 15 ms Residual current of the electronics for control with signal <0> at AC at 230 V maximum permissible 4 mA at DC at 24 V maximum permissible 10 mA Auxiliary circuit: Number of NC contacts for auxiliary contacts — instantaneous contact 1 Number of NO contacts for auxiliary contacts for auxiliary contacts	Holding power of magnet coil at DC	4 W
at DC 7 13 ms Arcing time 10 15 ms Residual current of the electronics for control with signal <0> at AC at 230 V maximum permissible 4 mA at DC at 24 V maximum permissible 10 mA Auxiliary circuit: Number of NC contacts for auxiliary contacts for auxiliary contacts for auxiliary contacts for auxiliary contacts	Closing delay	
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Arcing time 10 15 ms Residual current of the electronics for control with signal <0> at AC at 230 V maximum permissible 4 mA at DC at 24 V maximum permissible 10 mA Auxiliary circuit: Number of NC contacts for auxiliary contacts — instantaneous contact 1 Number of NO contacts for auxiliary contacts	Opening delay	
Residual current of the electronics for control with signal <0> at AC at 230 V maximum permissible 4 mA at DC at 24 V maximum permissible 10 mA Auxiliary circuit: Number of NC contacts for auxiliary contacts — instantaneous contact 1 Number of NO contacts for auxiliary contacts	at DC	7 13 ms
at AC at 230 V maximum permissible 4 mA at DC at 24 V maximum permissible 10 mA Auxiliary circuit: Number of NC contacts for auxiliary contacts — instantaneous contact 1 Number of NO contacts for auxiliary contacts	Arcing time	10 15 ms
at DC at 24 V maximum permissible Auxiliary circuit: Number of NC contacts for auxiliary contacts — instantaneous contact 1 Number of NO contacts for auxiliary contacts		
Auxiliary circuit: Number of NC contacts for auxiliary contacts — instantaneous contact 1 Number of NO contacts for auxiliary contacts	at AC at 230 V maximum permissible	4 mA
Number of NC contacts for auxiliary contacts — instantaneous contact 1 Number of NO contacts for auxiliary contacts	at DC at 24 V maximum permissible	10 mA
for auxiliary contacts — instantaneous contact 1 Number of NO contacts for auxiliary contacts	Auxiliary circuit:	
— instantaneous contact 1 Number of NO contacts for auxiliary contacts	Number of NC contacts	
Number of NO contacts for auxiliary contacts	for auxiliary contacts	
for auxiliary contacts	— instantaneous contact	1
	Number of NO contacts	
— instantaneous contact 0	for auxiliary contacts	
	— instantaneous contact	0

Operating current at AC-12 maximum	10 A
Operating current at AC-15	
at 230 V rated value	10 A
at 400 V rated value	3 A
at 500 V rated value	2 A
at 690 V rated value	1 A
Operating current at DC-12	
at 24 V rated value	10 A
at 48 V rated value	6 A
at 60 V rated value	6 A
at 110 V rated value	3 A
at 125 V rated value	2 A
at 220 V rated value	1 A
at 600 V rated value	0.15 A
Operating current at DC-13	
at 24 V rated value	10 A
at 48 V rated value	2 A
at 60 V rated value	2 A
at 110 V rated value	1 A
at 125 V rated value	0.9 A
at 220 V rated value	0.3 A
at 600 V rated value	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	11 A
at 600 V rated value	11 A
Yielded mechanical performance [hp]	
for single-phase AC motor	
— at 110/120 V rated value	0.5 hp
— at 230 V rated value	2 hp
for three-phase AC motor	
— at 200/208 V rated value	3 hp
— at 220/230 V rated value	3 hp
— at 460/480 V rated value	7.5 hp
— at 575/600 V rated value	10 hp
Contact rating of auxiliary contacts according to UL	A600 / Q600
Short-circuit protection	

Design of the fuse link	
for short-circuit protection of the main circuit	
— with type of coordination 1 required	gL/gG NH 3NA, DIAZED 5SB, NEOZED 5SE: 50 A
— with type of assignment 2 required	gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 25 A
for short-circuit protection of the auxiliary switch required	fuse gL/gG: 10 A
Installation/ mounting/ dimensions:	
Mounting position	standing, on horizontal mounting surface
Mounting type	screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 50022
Side-by-side mounting	Yes
Height	70 mm
Witd>	45 mm
Depth	73 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	0 mm
— at the side	6 mm
— downwards	0 mm
for live parts	
— forwards	0 mm
— Backwards	0 mm
— upwards	0 mm
— downwards	0 mm
— at the side	6 mm
Connections/Terminals:	
Type of electrical connection	
for main current circuit	spring-loaded terminals
for auxiliary and control current circuit	spring-loaded terminals
Type of connectable conductor cross-sections	
for main contacts	

— solid	2x (0.5 4 mm²)
— single or multi-stranded	2x (0,5 4 mm²)
— finely stranded with core end processing	2x (0.5 2.5 mm²)
— finely stranded without core end processing	2x (0.5 2.5 mm²)
at AWG conductors for main contacts	2x (20 12)
Type of connectable conductor cross-sections	
for auxiliary contacts	
— single or multi-stranded	2x (0,5 4 mm²)
— finely stranded with core end processing	2x (0.5 2.5 mm²)
— finely stranded without core end processing	2x (0.5 2.5 mm²)
at AWG conductors for auxiliary contacts	2x (20 12)
Safety related data:	
B10 value	
with high demand rate acc. to SN 31920	1 000 000
Proportion of dangerous failures	
with low demand rate acc. to SN 31920	40 %
with high demand rate acc. to SN 31920	73 %
Failure rate [FIT]	
with low demand rate acc. to SN 31920	100 FIT
Product function	
Mirror contact acc. to IEC 60947-4-1	Yes
T1 value for proof test interval or service life acc. to IEC 61508	20 y