## **SIEMENS**

Data sheet 3RT5046-1AN20



Contactor AC 220 V 50/60 HZ AC3 45 kW 400 V 3-pole, size S3, screw terminal

size of contactor product extension auxiliary switch power loss [W] for rated value of the current • at AC in hot operating state per pole • without load current share typical  type of calculation of power loss depending on pole quadratic insulation voltage rated value  1 000 V  degree of pollution 3 surge voltage resistance rated value oil and main contacts according to EN 60947-1  \$hock resistance at rectangular impulse • at AC \$ 6.8g / 5 ms, 4g / 10 ms  **shock resistance with sine pulse • at AC \$ 10.6g / 5 ms, 6.2g / 10 ms  **mechanical service life (operating cycles) • of contactor typical • of the contactor with added auxiliary switch block typical  **of the contactor with added auxiliary switch block typical  **of the contactor with added auxiliary switch block typical  **of the contactor with added auxiliary switch block typical  **of the contactor with added auxiliary switch block typical  **of the contactor with added auxiliary switch block typical  **of the contactor with added auxiliary switch block typical  **of the contactor with added auxiliary switch block typical  **of the contactor with added auxiliary switch block typical  **of the contactor with added auxiliary switch block typical  **of the contactor with added auxiliary switch block typical  **of the contactor with added auxiliary switch block typical  **of the contactor with added auxiliary switch block typical  **of contactor fypical  **of the contactor (brief)  **of contactor (brief)  **of contactor (brief)  **of the contacto	product brand name	SIRIUS
Size of contactor  product extension auxiliary switch  power loss [W] for rated value of the current  at AC in hot operating state per pole without load current share typical  yep of calculation of power loss depending on pole unsulation voltage rated value degree of pollution  savinge voltage resistance rated value anaximum permissible voltage for protective separation between coll and main contacts according to EN 60947-1  shock resistance at rectangular impulse at AC at AC shock resistance with sine pulse at AC at C ocontactor typical of contactor typical of the contactor with added auxiliary switch block typical and timelation at timelation at the contactor with added auxiliary switch block typical and including operation during storage  at AC at C at	product designation	Power contactor
size of contactor product extension auxiliary switch power loss [W] for rated value of the current • at AC in hot operating state per pole • without load current share typical  type of calculation of power loss depending on pole quadratic insulation voltage rated value  1 000 V  degree of pollution 3 surge voltage resistance rated value oil and main contacts according to EN 60947-1  \$hock resistance at rectangular impulse • at AC \$ 6.8g / 5 ms, 4g / 10 ms  **shock resistance with sine pulse • at AC \$ 10.6g / 5 ms, 6.2g / 10 ms  **mechanical service life (operating cycles) • of contactor typical • of the contactor with added auxiliary switch block typical  **of the contactor with added auxiliary switch block typical  **of the contactor with added auxiliary switch block typical  **of the contactor with added auxiliary switch block typical  **of the contactor with added auxiliary switch block typical  **of the contactor with added auxiliary switch block typical  **of the contactor with added auxiliary switch block typical  **of the contactor with added auxiliary switch block typical  **of the contactor with added auxiliary switch block typical  **of the contactor with added auxiliary switch block typical  **of the contactor with added auxiliary switch block typical  **of the contactor with added auxiliary switch block typical  **of the contactor with added auxiliary switch block typical  **of contactor fypical  **of the contactor (brief)  **of contactor (brief)  **of contactor (brief)  **of the contacto	product type designation	3RT5
product extension auxiliary switch  power loss [W] for rated value of the current  • at AC in hot operating state per pole • without load current share typical 7,83 W  type of calculation of power loss depending on pole insulation voltage rated value degree of pollution 3  surge voltage resistance rated value 6 kV maximum permissible voltage for protective separation between coll and main contacts according to EN 60947-1  shock resistance at rectangular impulse • at AC  at AC  shock resistance with sine pulse • at AC  shock resistance Prohibitance (Date)  shock resistance with sine pulse • at AC  shock resistance with sine pulse	General technical data	
power loss [W] for rated value of the current  at AC in hot operating state per pole without load current share typical type of calculation of power loss depending on pole insulation voltage rated value degree of pollution surge voltage resistance rated value maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1 shock resistance at rectangular impulse at AC at AC shock resistance at rectangular impulse at AC at AC shock resistance at rectangular impulse at AC at	size of contactor	S3
• at AC in hot operating state per pole • without load current share typical  • without load current share typical  type of calculation of power loss depending on pole quadratic insulation voltage rated value  1 000 ∨  degree of pollution  3 surge voltage resistance rated value 6 kV  maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1  shock resistance at rectangular impulse • at AC  10.68 / 5 ms, 4g / 10 ms  shock resistance with sine pulse • at AC  10.000 000  • of contactor typical • of the contactor typical • of the contactor with added auxiliary switch block typical 10 000 000  Substance Prohibitance (Date)  installation altitude at height above sea level maximum 2 000 m  ambient temperature • during operation • during storage  10 000 000  400 000	product extension auxiliary switch	Yes
without load current share typical type of calculation of power loss depending on pole insulation voltage rated value degree of pollution 3 surge voltage resistance rated value maximum permissible voltage for protective separation between cill and main contacts according to EN 60947-1  shock resistance at rectangular impulse	power loss [W] for rated value of the current	
type of calculation of power loss depending on pole insulation voltage rated value degree of pollution 3 surge voltage resistance rated value 6 kV maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1 shock resistance at rectangular impulse • at AC 6.8g / 5 ms, 4g / 10 ms  shock resistance with sine pulse • at AC 10.6g / 5 ms, 6.2g / 10 ms  mechanical service life (operating cycles) • of contactor typical • of the contactor with added auxiliary switch block typical  Substance Prohibitance (Date) mistallation altitude at height above sea level maximum • during operation • during operation • during operation • during storage  out of Contacts for main current circuit 3 number of NO contacts for main contacts 0 operating voltage • at AC-3e rated value maximum • at AC-1 up to 690 V  out at ambient temperature 60 °C rated value • at AC-3 at ambient temperature 60 °C rated value • at AC-3 at ambient temperature 60 °C rated value • at AC-3 at ambient temperature 60 °C rated value • at AC-3	<ul> <li>at AC in hot operating state per pole</li> </ul>	10.8 W
insulation voltage rated value  degree of pollution  surge voltage resistance rated value  6 kV  680 V  690 V  690 V  690 V  600	without load current share typical	7.83 W
degree of pollution 3 surge voltage resistance rated value 6 kV maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1 shock resistance at rectangular impulse • at AC 6.8g / 5 ms, 4g / 10 ms shock resistance with sine pulse • at AC 10.6g / 5 ms, 6.2g / 10 ms mechanical service life (operating cycles) • of contactor typical 10.000 000 • of the contactor with added auxiliary switch block typical 10 000 000 substance Prohibitance (Date) 10 000 000 substance Prohibitance (Date) 20 000 m ambient temperature • during operation 25 +60 °C • during storage 25 +80 °C fair circuit 3 number of NO contacts for main contacts 0 operating voltage • at AC-3e rated value maximum 1000 V  operational current • at AC-1 up to 690 V — at ambient temperature 60 °C rated value 4 at AC-3	type of calculation of power loss depending on pole	quadratic
surge voltage resistance rated value  maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1  shock resistance at rectangular impulse  • at AC  shock resistance with sine pulse • at AC  10.6g / 5 ms, 4g / 10 ms  shock resistance with sine pulse • at AC  10.6g / 5 ms, 6.2g / 10 ms  mechanical service life (operating cycles) • of contactor typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical  10 000 000  Substance Prohibitance (Date)  30/01/2017  unbiant temperature • during operation • during storage • during storage • during storage • at AC-3e rated value maximum  10 000 V  operating voltage • at AC-3e rated value maximum  • at AC-1 up to 690 V  — at ambient temperature 60 °C rated value • at AC-3	insulation voltage rated value	1 000 V
maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1  shock resistance at rectangular impulse	degree of pollution	3
coil and main contacts according to EN 60947-1  shock resistance at rectangular impulse  • at AC  shock resistance with sine pulse  • at AC  10.6g / 5 ms, 4g / 10 ms  mechanical service life (operating cycles)  • of contactor typical • of the contactor with added auxiliary switch block typical  Substance Prohibitance (Date)  installation altitude at height above sea level maximum  ambient temperature  • during operation • during storage  • during storage  • during storage  • at AC-3e rated value maximum  1 000 V  operating voltage • at AC-3e rated value maximum  • at AC-1 up to 690 V  — at ambient temperature 40 °C rated value • at AC-3 • at AC-3 • at AC-3  • at	surge voltage resistance rated value	6 kV
• at AC  shock resistance with sine pulse • at AC  10.6g / 5 ms, 6.2g / 10 ms  mechanical service life (operating cycles) • of contactor typical • of the contactor with added auxiliary switch block typical 10 000 000  Substance Prohibitance (Date) 03/01/2017  Installation altitude at height above sea level maximum 2 000 m  ambient temperature • during operation • during operation • during storage  during storage  10 000 000  2 000 m  ambient temperature • during operation • during storage  10 000 000  2 000 m  ambient temperature • during operation • during storage  10 000 000  10 00		690 V
shock resistance with sine pulse	shock resistance at rectangular impulse	
• at AC  mechanical service life (operating cycles)  • of contactor typical  • of the contactor with added auxiliary switch block typical  • of the contactor with added auxiliary switch block typical  Substance Prohibitance (Date)  O3/01/2017  Initial and titude at height above sea level maximum  ambient temperature  • during operation • during storage  • during storage  -25 +60 °C • during storage  Alin circuit  number of poles for main current circuit  number of NC contacts for main contacts  number of NC contacts for main contacts  operating voltage • at AC-3 erated value maximum  • at AC-1 up to 690 V  — at ambient temperature 40 °C rated value • at AC-3  • at AC-3	• at AC	6.8g / 5 ms, 4g / 10 ms
mechanical service life (operating cycles)	shock resistance with sine pulse	
of contactor typical     of the contactor with added auxiliary switch block typical     10 000 000  Substance Prohibitance (Date)  Minimizer Conditions  Installation altitude at height above sea level maximum  ambient temperature     ouring operation     ouring storage  Aline circuit  number of poles for main current circuit  number of NC contacts for main contacts  number of NC contacts for main contacts  operating voltage     at AC-3e rated value maximum  at AC-1 up to 690 V  at AC-3  at AC-3  10 000 000  03/01/2017  10 000 m  2 000 m  2 000 m  3 000 m  3 000 m  4 000 C  5 +60 °C  6 0°C	• at AC	10.6g / 5 ms, 6.2g / 10 ms
of the contactor with added auxiliary switch block typical Substance Prohibitance (Date)  Minimient conditions  Installation altitude at height above sea level maximum  ambient temperature     ouring operation     ouring storage  Alin circuit  number of poles for main current circuit  number of NC contacts for main contacts  number of NC contacts for main contacts  operating voltage     at AC-3e rated value maximum  at AC-1 up to 690 V     at ambient temperature 40 °C rated value     at AC-3  at AC-3  100000000000000000000000000000000000	mechanical service life (operating cycles)	
Substance Prohibitance (Date)  Ambient conditions  installation altitude at height above sea level maximum  ambient temperature  • during operation • during storage  • during storage  -25 +80 °C  Asin circuit  number of poles for main current circuit  number of NO contacts for main contacts  number of NC contacts for main contacts  operating voltage • at AC-3e rated value maximum  • at AC-1 up to 690 V  — at ambient temperature 40 °C rated value — at ambient temperature 60 °C rated value • at AC-3  • at AC-3	<ul> <li>of contactor typical</li> </ul>	10 000 000
installation altitude at height above sea level maximum  ambient temperature  • during operation • during storage • during storage  -25 +60 °C  -55 +80 °C  Aain circuit  number of poles for main current circuit  number of NO contacts for main contacts  number of NC contacts for main contacts  operating voltage • at AC-3 er rated value maximum  • at AC-1 up to 690 V  — at ambient temperature 40 °C rated value — at ambient temperature 60 °C rated value • at AC-3	of the contactor with added auxiliary switch block typical	10 000 000
installation altitude at height above sea level maximum  ambient temperature  • during operation • during storage  -25 +60 °C  • during storage  -55 +80 °C   //ain circuit  number of poles for main current circuit  number of NO contacts for main contacts  number of NC contacts for main contacts  operating voltage • at AC-3e rated value maximum  1 000 V  operational current  • at AC-1 up to 690 V  — at ambient temperature 40 °C rated value — at ambient temperature 60 °C rated value  • at AC-3	Substance Prohibitance (Date)	03/01/2017
ambient temperature  ● during operation  • during storage  • during storage  -25 +60 °C  -55 +80 °C   Main circuit  number of poles for main current circuit  number of NO contacts for main contacts  number of NC contacts for main contacts  operating voltage  • at AC-3e rated value maximum  1 000 V  operational current  • at AC-1 up to 690 V  — at ambient temperature 40 °C rated value — at ambient temperature 60 °C rated value  • at AC-3	Ambient conditions	
<ul> <li>during operation</li> <li>during storage</li> <li>-55 +80 °C</li> </ul> Main circuit number of poles for main current circuit <ul> <li>number of NO contacts for main contacts</li> <li>number of NC contacts for main contacts</li> <li>operating voltage</li> <li>at AC-3e rated value maximum</li> <li>operational current</li> <li>at AC-1 up to 690 V</li> <li>at ambient temperature 40 °C rated value</li> <li>at AC-3</li> </ul> 1000 V 120 A <ul> <li>at ambient temperature 60 °C rated value</li> <li>at AC-3</li> </ul> 100 A <ul> <li>at AC-3</li> </ul>	installation altitude at height above sea level maximum	2 000 m
<ul> <li>during storage</li> <li>-55 +80 °C</li> </ul> Namber of poles for main current circuit <ul> <li>number of NO contacts for main contacts</li> <li>number of NC contacts for main contacts</li> <li>operating voltage</li> <li>at AC-3e rated value maximum</li> <li>operational current</li> <li>at AC-1 up to 690 V</li> <li>— at ambient temperature 40 °C rated value</li> <li>— at ambient temperature 60 °C rated value</li> <li>at AC-3</li> </ul>	ambient temperature	
Nain circuit  number of poles for main current circuit  number of NO contacts for main contacts  number of NC contacts for main contacts  operating voltage  • at AC-3e rated value maximum  1 000 V  operational current  • at AC-1 up to 690 V  — at ambient temperature 40 °C rated value — at ambient temperature 60 °C rated value  • at AC-3	<ul><li>during operation</li></ul>	-25 +60 °C
number of poles for main current circuit  number of NO contacts for main contacts  number of NC contacts for main contacts  operating voltage  • at AC-3e rated value maximum  1 000 V  operational current  • at AC-1 up to 690 V  — at ambient temperature 40 °C rated value — at ambient temperature 60 °C rated value  • at AC-3	during storage	-55 +80 °C
number of NO contacts for main contacts  number of NC contacts for main contacts  operating voltage  • at AC-3e rated value maximum  1 000 V  operational current  • at AC-1 up to 690 V  — at ambient temperature 40 °C rated value — at ambient temperature 60 °C rated value  • at AC-3	Main circuit	
number of NC contacts for main contacts  operating voltage  • at AC-3e rated value maximum  1 000 V  operational current  • at AC-1 up to 690 V  — at ambient temperature 40 °C rated value — at ambient temperature 60 °C rated value  • at AC-3	number of poles for main current circuit	3
operating voltage  • at AC-3e rated value maximum  1 000 V  operational current  • at AC-1 up to 690 V  — at ambient temperature 40 °C rated value — at ambient temperature 60 °C rated value  • at AC-3	number of NO contacts for main contacts	3
at AC-3e rated value maximum  1 000 V  operational current  at AC-1 up to 690 V  at ambient temperature 40 °C rated value  at ambient temperature 60 °C rated value  at AC-3  1000 V  120 A  1000 V	number of NC contacts for main contacts	0
operational current         • at AC-1 up to 690 V             — at ambient temperature 40 °C rated value             — at ambient temperature 60 °C rated value             • at AC-3	operating voltage	
<ul> <li>at AC-1 up to 690 V</li> <li>— at ambient temperature 40 °C rated value</li> <li>— at ambient temperature 60 °C rated value</li> <li>120 A</li> <li>100 A</li> </ul>	at AC-3e rated value maximum	1 000 V
<ul> <li>— at ambient temperature 40 °C rated value</li> <li>— at ambient temperature 60 °C rated value</li> <li>at AC-3</li> </ul>	operational current	
— at ambient temperature 60 °C rated value 100 A  • at AC-3	● at AC-1 up to 690 V	
• at AC-3	<ul> <li>— at ambient temperature 40 °C rated value</li> </ul>	120 A
	— at ambient temperature 60 °C rated value	100 A
	• at AC-3	
— at 400 V rated value 95 A	— at 400 V rated value	95 A

— at 690 V rated value	58 A
• at AC-3e	
— at 400 V rated value	95 A
— at 690 V rated value	58 A
connectable conductor cross-section in main circuit at AC-	
at 60 °C minimum permissible	35 mm²
at 40 °C minimum permissible     at 40 °C minimum permissible	50 mm <sup>2</sup>
operational current for approx. 200000 operating cycles at	30 11111
AC-4	
at 400 V rated value	42 A
• at 690 V rated value	27 A
operating power	
• at AC-1	
— at 230 V at 60 °C rated value	38 kW
— at 400 V at 60 °C rated value	66 kW
— at 690 V at 60 °C rated value	114 kW
• at AC-3	
— at 230 V rated value	22 kW
— at 400 V rated value	45 kW
— at 690 V rated value	55 kW
• at AC-3e	
— at 400 V rated value	45 kW
— at 690 V rated value	55 kW
operating power for approx. 200000 operating cycles at AC-	
at 400 V rated value	22 kW
at 690 V rated value	25.4 kW
no-load switching frequency	20.4 KVV
• at AC	5 000 1/h
operating frequency	3 000 1/11
at AC-1 maximum	900 1/h
• at AC-3 maximum	850 1/h
at AC-3e 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	220 V
• at 60 Hz rated value	220 V
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	20014
• at 50 Hz	298 VA
• at 60 Hz	298 VA
inductive power factor with closing power of the coil	0.7
• at 50 Hz	0.7
• at 60 Hz	0.7
apparent holding power of magnet coil at AC	27.1/A
• at 50 Hz	27 VA
• at 60 Hz	27 VA
inductive power factor with the holding power of the coil  • at 50 Hz	0.29
• at 60 Hz	0.29
Auxiliary circuit	V.20
number of NC contacts for auxiliary contacts instantaneous	0
contact	
number of NO contacts for auxiliary contacts instantaneous contact	0
operational current at AC-12 maximum	10 A
operational current at AO-12 maximum	

product function mirror contact according to IEC 60947-4-1	Yes	
Safety related data		
• for AWG cables for auxiliary contacts	2x (20 16), 2x (18 14), 1x 12	
— finely stranded with core end processing	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)	
for auxiliary contacts		
type of connectable conductor cross-sections	·	
finely stranded without core end processing	2x (10 35 mm²)	
finely stranded with core end processing	2x (2.5 35 mm²)	
solid or stranded	2x (2.5 16 mm²)	
type of connectable conductor cross-sections for main contacts	, p	
for auxiliary and control circuit	screw-type terminals	
for main current circuit	screw-type terminals	
type of electrical connection		
Connections/ Terminals		
depth	139 mm	
width	70 mm	
height	146 mm	
side-by-side mounting	Yes	
fastening method	backward by +/- 22.5° on vertical mounting surface screw and snap-on mounting onto 35 mm and 75 mm DIN rail	
mounting position	+/-180° rotation possible on vertical mounting surface; can be tilted	ed forward and
Installation/ mounting/ dimensions		
• for short-circuit protection of the auxiliary switch required	fuse gL/gG: 10 A	
— with type of assignment 2 required	fuse gL/gG: 160 A	
with type of coordination 1 required	fuse gL/gG: 250 A	
for short-circuit protection of the main circuit		
design of the fuse link		
Short-circuit protection		
yielded mechanical performance [hp] for 3-phase AC motor at 460/480 V rated value	75 hp	
UL/CSA ratings		
contact reliability of auxiliary contacts	1 faulty switching per 100 million (17 V, 1 mA)	
at 220 V rated value	0.3 A	
at 110 V rated value	1 A	
at 24 V rated value	6 A	
operational current at DC-13	17.	
at 220 V rated value	1 A	
at 110 V rated value	3 A	
operational current at DC-12		
at 400 V rated value	3 A	
operational current at AC-15  • at 230 V rated value	6 A	





Confirmation







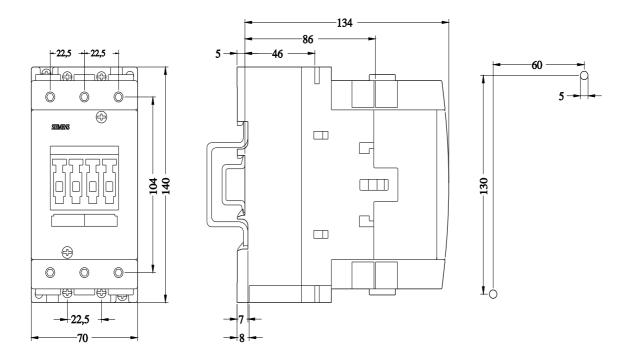
Declaration of Conformity

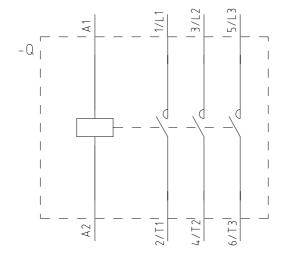
other

CE EG-Konf. Confirmation

Confirmation

Further information





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