SIEMENS

Data sheet

3RT2027-1AL20



Power contactor, AC-3 32 A, 15 kW / 400 V 1 NO + 1 NC, 230 V AC 50/60 Hz, 3-pole size S0 screw terminals

size of contactor S0 product extension No • function module for communication No • auxiliary switch Yes power loss [W] for rated value of the current 6.3 W • at AC in hot operating state 6.3 W • at AC in hot operating state per pole 2.3 W • of main circuit with degree of pollution 3 rated value 690 V • of main circuit with degree of pollution 3 rated value 690 V • of main circuit rated value 6 kV • of auxiliary sitcling to EN 6097-1 400 V stock resistance at rectangular impulse • at AC • at AC 13.5g / 5 ms, 5.3g / 10 ms shock resistance with sine pulse 10 000 000 • of the contactor with added electronically optimized 10 000 000 • of the contactor with added auxiliary switch block typical 10 000 000 • of the contactor with added auxiliary switch block typical 10 000 000 • of the contactor with added auxiliary switch block typical 10 000 000 • of the contactor with added auxi	4/12 6/13	
product designation Power contactor product type designation 3RT2 Scored technical data S0 size of contactor S0 outmation module for communication No - function module for communication No - function module for communication No - auxiliary switch Yes power loss [W] for rated value of the current 6.3 W - at AC in hot operating state per pole 2.3 W - of main circuit with degree of pollution 3 rated value 690 V - of main circuit with degree of pollution 3 rated value 690 V - of auxiliary circuit with degree of pollution 3 rated value 690 V - of auxiliary circuit with degree of pollution 3 rated value 64 V - of auxiliary circuit with degree of pollution 3 rated value 64 V - of auxiliary circuit with degree of pollution 3 rated value 64 V - of auxiliary circuit with degree of pollution 3 rated value 64 V - of auxiliary circuit with degree of pollution 3 rated value 64 V - of auxiliary circuit with degree of pollution 3 rated value 64 V - of auxiliary circuit with degree of pollution 3 rated value	product brand name	SIRIUS
product type designation 3RT2 General technical data	•	
size of contactor S0 product extension No • function module for communication No • auxiliary switch Yes power loss [W] for rated value of the current 6.3 W • at AC in hot operating state 6.3 W • at AC in hot operating state per pole 2.3 W • of main circuit with degree of pollution 3 rated value 690 V • of main circuit with degree of pollution 3 rated value 690 V • of main circuit rated value 6 kV • of auxiliary sitcling to EN 6097-1 400 V stock resistance at rectangular impulse • at AC • at AC 13.5g / 5 ms, 5.3g / 10 ms shock resistance with sine pulse 10 000 000 • of the contactor with added electronically optimized 10 000 000 • of the contactor with added auxiliary switch block typical 10 000 000 • of the contactor with added auxiliary switch block typical 10 000 000 • of the contactor with added auxiliary switch block typical 10 000 000 • of the contactor with added auxi		3RT2
product extension No • function module for communication No • auxiliary switch Yes • power loss [W] for rated value of the current - • at AC in hot operating state 6.3 W • at AC in hot operating state per pole 2.3 W • at AC in hot operating state per pole 2.3 W • of main circuit with degree of pollution 3 rated value 690 V • of main circuit with degree of pollution 3 rated value 690 V • of main circuit rated value 6 k/V • of main circuit rated value 6 k/V • of auxiliary circuit rated value 6 k/V • of auxiliary circuit rated value 6 k/V • of auxiliary circuit rated value 8 k/V • of auxiliary circuit rated value 8 k/V • at AC 8.3g / 5 ms, 8.3g / 10 ms * at AC 8.3g / 5 ms, 8.3g / 10 ms • at AC 10 000 000 • of the contactor with added auxiliary switch block typical 10 000 000 • of the contactor with added auxiliary switch block typical 2000 m • of the contactor with added auxiliary switch block typical 10 000 000	General technical data	
• function module for communicationNo• auxiliary switchYespower loss [W] for rated value of the current-• at AC in hot operating state per pole2.3 W• without load current share typical10.5 Winsulation voltage-• of main circuit with degree of pollution 3 rated value690 V• of auxiliary circuit with degree of pollution 3 rated value690 V• of main circuit with degree of pollution 3 rated value690 V• of main circuit rated value6 kV• of main circuit rated value100 V• of auxiliary circuit rated value6 kV• of main circuit rated value100 V• of main circuit rated value100 V• of auxiliary strict bit for the contact second ng to EN 60947-1shock resistance at rectangular impulse100 00 000• at AC13.5g / 5 ms, 8.3g / 10 msshock resistance with sine pulse10 000 000• at AC10 000 000• of the contactor with added electronically optimized auxiliary switch block typical10 000 000• of the contactor with added auxiliary switch block typical10 000 000• of the contactor with added auxiliary switch block typical2000 m• of the contactor with added auxiliary switch block typical2000 m• of the contactor with added auxiliary switch block typical2000 m• of the con	size of contactor	S0
• auxiliary switchYespower loss [W] for rated value of the current6.3 W• at AC in hot operating state per pole2.3 W• at AC in hot operating state per pole2.3 W• without load current share typical10.5 Winsulation voltage690 V• of main circuit with degree of pollution 3 rated value690 V• of main circuit rated value690 V• of main circuit rated value690 V• of main circuit rated value6 kV• of main circuit rated value6 kV• of main circuit rated value6 kV• of auxiliary circuit rate value8.3g / 5 ms, 5.3g / 10 msshock resistance at rectangular impulse10 000 000• of the contactor with added auxiliary switch block typical10 000 000• of the contactor with added auxiliary switch block typical10 000 000• of the contactor with added auxiliary switch block typical2000 m• of the contactor with added auxiliary switch block typical2000 m <t< td=""><td>product extension</td><td></td></t<>	product extension	
power loss [W] for rated value of the current set AC in hot operating state per pole 6.3 W at AC in hot operating state per pole 2.3 W at AC in hot operating state per pole 2.3 W at AC in hot operating state per pole 2.3 W without load current share typical 10.5 W insulation voltage 690 V of main circuit with degree of pollution 3 rated value 690 V of main circuit rated value 6 KV of auxiliary circuit rated value 6 KV ot auxiliary ci	 function module for communication 	No
• at AC in hot operating state6.3 W• at AC in hot operating state per pole2.3 W• without load current share typical10.5 Winsulation voltage690 V• of main circuit with degree of pollution 3 rated value690 V• of auxiliary circuit with degree of pollution 3 rated value690 V• of main circuit rated value68 V• of main circuit rated value6 kV• of auxiliary circuit rated value6 kV• at AC8.3g / 5 ms, 5.3g / 10 ms• at AC8.3g / 5 ms, 8.3g / 10 ms• of the contactor typical10 000 000• of the contactor with added electronically optimized10 000 000• of the contactor with added auxiliary switch block typical10 000 000• of the contactor with added auxiliary switch block typical10 000 000• of the contactor with added auxiliary switch block typical10 000 000• of the contactor with added auxiliary switch block typical2000 m• auring operation •	 auxiliary switch 	Yes
• at AC in hot operating state per pole2.3 W• without load current share typical10.5 Winsulation voltage60 V• of main circuit with degree of pollution 3 rated value690 V• of auxiliary circuit with degree of pollution 3 rated value690 V• of main circuit with degree of pollution 3 rated value690 V• of main circuit rated value6 kV• of main circuit rated value6 kV• of auxiliary streage for safe isolation between coil and main contacts according to EN 60947-1shock resistance with sine pulse10.00 V• at AC8,3g / 5 ms, 5,3g / 10 msmechanical service life (switching cycles)10.000 000• of the contactor with added auxiliary switch block typical10.000 000• of the contactor with added auxiliary switch block typical10.000 000• of the contactor ditions2.000 mauxiliary switch block typical2.000 maubient conditions-25 +60 °C• during storage-25 +60 °C• during storage-25 +60 °C• during storage-25 +60 °C </td <td>power loss [W] for rated value of the current</td> <td></td>	power loss [W] for rated value of the current	
• without load current share typical10.5 Winsulation voltage-• of main circuit with degree of pollution 3 rated value690 V• of axiliary circuit with degree of pollution 3 rated value690 Vsurge voltage resistance-• of main circuit rated value6 kV• of axiliary circuit rated value6 kV• at AC8.3g / 5 ms, 5.3g / 10 ms• at AC8.3g / 5 ms, 5.3g / 10 ms• at AC13.5g / 5 ms, 8.3g / 10 ms• at AC10 000 000• of contactor typical10 000 000• of the contactor with added electronically optimized• of the contactor with added auxiliary switch block typical10 000 000• of the contactor with added auxiliary switch block typical10 000 000• of the contactor with added auxiliary switch block typical2000 mambient conditions2000 mambient conditions-• during operation-25 +60 °C• during storage-55 +80 °C• during storage-55 +80 °C• relative humidity at 55 °C according to IEC 60068-2-300%	 at AC in hot operating state 	6.3 W
insulation voltage600 Vof main circuit with degree of pollution 3 rated value690 Vof auxiliary circuit with degree of pollution 3 rated value690 Vsurge voltage resistance690 Vof main circuit rated value6 kVof auxiliary circuit rated value8,3g / 5 ms, 5,3g / 10 mssubck resistance at rectangular impulse-at AC8,3g / 5 ms, 5,3g / 10 msshock resistance with sine pulse-at AC10,000 000of the contactor with added electronically optimized auxiliary switch block typical10,000 000of the contactor with added auxiliary switch block typical10,000 000reference code according to IEC 81346-2QSubstance Prohibitance (Date)10,001/2009Ambient conditions2000 mausilary switch block typical typical2000 mof the contactor with added auxiliary switch block typical2000 mreference code according to IEC 81346-2Quting operation-25+60 °C- during operation-25+60 °C- during storage-25+60 °C- faltive humidity minimum10 %relative humidity at 55 °C according to IEC 60068-2-30500 °C- aximum-25+60 °C- aximum-25+60 °C- aximum-25+60 °C- aximum-25+6	 at AC in hot operating state per pole 	2.3 W
• of main circuit with degree of pollution 3 rated value • of auxiliary circuit with degree of pollution 3 rated value690 V• of auxiliary circuit with degree of pollution 3 rated value690 Vsurge voltage resistance6 kV• of main circuit rated value6 kV• of auxiliary circuit rated value6 kVmaximum permissible voltage for safe isolation between coll and main contacts according to EN 60947-1400 V• at AC8,3g / 5 ms, 5,3g / 10 ms• at AC8,3g / 5 ms, 5,3g / 10 ms• at AC10 000 000• of contactor typical10 000 000• of the contactor with added electronically optimized auxiliary switch block typical10 000 000• of the contactor with added auxiliary switch block typical10 000 000• of the contactor with added auxiliary switch block typical2 000 mreference code according to IEC 81346-2QSubstance Prohibitance (Date)2 000 mambient temperature-25 +60 °C• during operation-25 +60 °C• during storage-55 +60 °C• during storage10 %• relative humidity minimum10 %• feature humidity at 55 °C according to IEC 60068-254010 %• aximum10 %	 without load current share typical 	10.5 W
• of auxiliary circuit with degree of pollution 3 rated value690 Vsurge voltage resistance6 kV• of main circuit rated value6 kV• of auxiliary circuit rated value6 kV• at AC8,3g / 5 ms, 5,3g / 10 msshock resistance with sine pulse10 000 000• of contactor typical10 000 000• of the contactor with added electronically optimized auxiliary switch block typical10 000 000• of the contactor with added auxiliary switch block typical10 000 000• of the contactor with added auxiliary switch block typical10 000 000• of the contactor with added auxiliary switch block typical2000 mmetherene code according to IEC 81346-2QSubstance Prohibitance (Date)2000 mAmbient conditions-25 +60 °C• during operation-25 +60 °C• during storage-55 +60 °C• during storage55 % obies• relative humidity minimum10 %• pot persition0 %• during storage55 % obies• during storage55 % obies	insulation voltage	
valuevaluevaluesurge voltage resistance6• of main circuit rated value6 kV• of auxiliary circuit rated value6 kV• of auxiliary circuit rated value6 kVmaximum permissible voltage for safe isolation between coil and main contacts according to EN 60947-1400 Vshock resistance at rectangular impulse400 V• at AC8,3g / 5 ms, 5,3g / 10 msshock resistance with sine pulse10 000 000• at AC13,5g / 5 ms, 8,3g / 10 ms• of contactor typical10 000 000• of the contactor typical10 000 000• of the contactor with added electronically optimized auxiliary switch block typical10 000 000• of the contactor with added auxiliary switch block typical10 000 000reference code according to IEC 81346-2QSubstance Prohibitance (Date)10/01/2009Ambient conditions2 000 mambient temperature • during operation-25 +60 °C• during storage-55 +80 °Crelative humidity at 55 °C according to IEC 60068-2-305%	 of main circuit with degree of pollution 3 rated value 	690 V
• of main circuit rated value6 kV• of auxiliary circuit rated value6 kV• of auxiliary circuit rated value6 kVmaximum permissible voltage for safe isolation between coil and main contacts according to EN 60947-1400 Vshock resistance at rectangular impulse400 V• at AC8,3g / 5 ms, 5,3g / 10 msshock resistance with sine pulse5 ms, 5,3g / 10 ms• at AC13,5g / 5 ms, 8,3g / 10 msmechanical service life (switching cycles)10 000 000• of the contactor typical10 000 000• of the contactor with added electronically optimized auxiliary switch block typical5 000 000• of the contactor with added auxiliary switch block typical10 000 000• of the contactor with added auxiliary switch block typical10 000 000• of the contactor with added auxiliary switch block typical2 000 mmether conditions2 000 msubstance Prohibitance (Date)2 000 mefference code according to IEC 81346-2 uding operation2 000 mentities-25 +60 °C• during storage-25 +60 °C• during storage-25 +60 °C• during storage-25 +80 °C• elative humidity minimum10 %relative humidity at 55 °C according to IEC 60068-2-3095 %	5 6 1	690 V
• of auxiliary circuit rated value6 kVmaximum permissible voltage for safe isolation between coil and main contacts according to EN 60947-1400 Vshock resistance at rectangular impulse.• at AC8,3g / 5 ms, 5,3g / 10 msshock resistance with sine pulse.• at AC13,5g / 5 ms, 8,3g / 10 msmechanical service life (switching cycles).• of the contactor with added electronically optimized auxiliary switch block typical10 000 000• of the contactor with added auxiliary switch block typical10 000 000• of the contactor with added auxiliary switch block typicalQ• of the contactor with added auxiliary switch block typicalQ• atbatcQSubstance Prohibitance (Date)2 000 mambient temperature.• during operation.25 +60 °C• during storage +60 °C• felative humidity at 55 °C according to IEC 60068-2-30 +60 °C• maximum +60 °C• maximum +60 °C• felative humidity at 55 °C according to IEC 60068-2-30 +60 °C• maximum +60 °C• felative humidity at 55 °C according to IEC 60068-2-30 +60 °C•	surge voltage resistance	
maximum permissible voltage for safe isolation between coil and main contacts according to EN 60947-1 shock resistance at rectangular impulse • at AC400 Vshock resistance at rectangular impulse • at AC8,3g / 5 ms, 5,3g / 10 mse at AC8,3g / 5 ms, 8,3g / 10 msmechanical service life (switching cycles) • of contactor typical10 000 000• of the contactor with added electronically optimized auxiliary switch block typical10 000 000• of the contactor with added auxiliary switch block typical10 000 000reference code according to IEC 81346-2 Substance Prohibitance (Date)QAmbient conditions2 000 menstallation altitude at height above sea level maximum ambient temperature2 000 m• during operation • during storage-25 +60 °C• relative humidity minimum relative humidity minimum10 %	 of main circuit rated value 	6 kV
coil and main contacts according to EN 60947-1shock resistance at rectangular impulse• at AC8,3g / 5 ms, 5,3g / 10 msshock resistance with sine pulse• at AC13,5g / 5 ms, 8,3g / 10 msmechanical service life (switching cycles)• of contactor typical10 000 000• of the contactor with added electronically optimized auxiliary switch block typical5 000 000• of the contactor with added auxiliary switch block typical10 000 000• of the contactor with added auxiliary switch block typical10 000 000• of the contactor with added auxiliary switch block typical10 000 000• of the contactor with added auxiliary switch block typical10 000 000• of the contactor with added auxiliary switch block typical10 000 000• of the contactor with added auxiliary switch block typical10 000 000• of the contactor with added auxiliary switch block typical000 000• of the contactor with added auxiliary switch block typical10 000 000• of the contactor with added auxiliary switch block typical10 000 000• of the contactor with added auxiliary switch block typical2 000 00• of the contactor with added auxiliary switch block typical2 000 m• of the contactor with adde auxiliary2 000 m• auting operation • during operation • during storage-25 +60 °C• felative humidity minimum relative humidity minimum10 %• felative humidity at 55 °C according to EEC 60068-2-30 • 55 %95 %	 of auxiliary circuit rated value 	6 kV
• at AC8,3g / 5 ms, 5,3g / 10 msshock resistance with sine pulse13,5g / 5 ms, 8,3g / 10 ms• at AC13,5g / 5 ms, 8,3g / 10 msmechanical service life (switching cycles)10 000 000• of contactor typical10 000 000• of the contactor with added electronically optimized auxiliary switch block typical10 000 000• of the contactor with added auxiliary switch block typical10 000 000reference code according to IEC 81346-2 Substance Prohibitance (Date)QAmbient conditions2 000 minstallation altitude at height above sea level maximum e during operation • during storage2 000 mrelative humidity minimum relative humidity at 55 °C according to IEC 60068-2-30 maximum2 000 m		400 V
shock resistance with sine pulse 13,5g / 5 ms, 8,3g / 10 ms • at AC 13,5g / 5 ms, 8,3g / 10 ms mechanical service life (switching cycles) 000000 • of contactor typical 10 000 000 • of the contactor with added electronically optimized auxiliary switch block typical 5 000 000 • of the contactor with added auxiliary switch block typical 10 000 000 • of the contactor with added auxiliary switch block typical 10 000 000 reference code according to IEC 81346-2 Q Substance Prohibitance (Date) 10/01/2009 Ambient conditions 2 000 m • during operation -25 +60 °C • during storage -55 +80 °C relative humidity minimum 10 % relative humidity at 55 °C according to IEC 60068-2-30 95 %	shock resistance at rectangular impulse	
• at AC13,5g / 5 ms, 8,3g / 10 msmechanical service life (switching cycles)0• of contactor typical10 000 000• of the contactor with added electronically optimized auxiliary switch block typical5 000 000• of the contactor with added auxiliary switch block typical10 000 000• of the contactor with added auxiliary switch block typical10 000 000• of the contactor with added auxiliary switch block typical10 000 000• of the contactor with added auxiliary switch block typical10 000 000• of the contactor with added auxiliary switch block typical0• of the contactor with added auxiliary switch block typical10 000 000• of the contactor with added auxiliary switch block typical0• of the contactor with added auxiliary switch block typical0• of the contactor with added auxiliary switch block typical10 000 000• of the contactor with added auxiliary switch block typical0• of the contactor typical0• of the contactor duties2• of the contactor duties2• during operation • during storage-25 +60 °C• during storage-25 +60 °C• during storage-55 +80 °C• relative humidity minimum • auximum10 %• plative humidity at 55 °C according to IEC 60068-2-30 • plative95 %	• at AC	8,3g / 5 ms, 5,3g / 10 ms
mechanical service life (switching cycles)integration• of contactor typical10 000 000• of the contactor with added electronically optimized auxiliary switch block typical5 000 000• of the contactor with added auxiliary switch block typical10 000 000reference code according to IEC 81346-2QSubstance Prohibitance (Date)10/01/2009Ambient conditions2 000 minstallation altitude at height above sea level maximum ambient temperature2 000 m• during operation • during storage-25 +60 °C -55 +80 °Crelative humidity minimum relative humidity at 55 °C according to IEC 60068-2-30 maximum95 %	shock resistance with sine pulse	
 of contactor typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical reference code according to IEC 81346-2 Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature during operation c-25 +60 °C during storage c-55 +80 °C relative humidity minimum 10 % s% 	• at AC	13,5g / 5 ms, 8,3g / 10 ms
 of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical reference code according to IEC 81346-2 Substance Prohibitance (Date) 10/01/2009 Ambient conditions installation altitude at height above sea level maximum ambient temperature during operation during storage relative humidity minimum 10 % 95 % 	mechanical service life (switching cycles)	
auxiliary switch block typical10 000 000of the contactor with added auxiliary switch block typical10 000 000reference code according to IEC 81346-2QSubstance Prohibitance (Date)10/01/2009Ambient conditions2 000 minstallation altitude at height above sea level maximum ambient temperature2 000 m• during operation • during storage-25 +60 °C• during storage-55 +80 °Crelative humidity minimum relative humidity at 55 °C according to IEC 60068-2-30 mum95 %	 of contactor typical 	10 000 000
typicalreference code according to IEC 81346-2QSubstance Prohibitance (Date)10/01/2009Ambient conditions2 000 minstallation altitude at height above sea level maximum ambient temperature • during operation • during storage2 000 mrelative humidity minimum relative humidity at 55 °C according to IEC 60068-2-30 wum Norder95 %		5 000 000
Substance Prohibitance (Date)10/01/2009Ambient conditions2 000 minstallation altitude at height above sea level maximum ambient temperature • during operation • during storage2 000 m-25 +60 °C -55 +80 °C-25 +60 °Crelative humidity minimum relative humidity at 55 °C according to IEC 60068-2-30 maximum95 %		10 000 000
Ambient conditions 2 000 m installation altitude at height above sea level maximum 2 000 m ambient temperature -25 +60 °C • during operation -25 +60 °C • during storage -55 +80 °C relative humidity minimum 10 % relative humidity at 55 °C according to IEC 60068-2-30 maximum 95 %	reference code according to IEC 81346-2	Q
installation altitude at height above sea level maximum2 000 mambient temperature-25 +60 °C• during operation-25 +60 °C• during storage-55 +80 °Crelative humidity minimum10 %relative humidity at 55 °C according to IEC 60068-2-30 maximum95 %	Substance Prohibitance (Date)	10/01/2009
ambient temperature• during operation• during storage• during storagerelative humidity minimumrelative humidity at 55 °C according to IEC 60068-2-30 maximum	Ambient conditions	
• during operation-25 +60 °C• during storage-55 +80 °Crelative humidity minimum10 %relative humidity at 55 °C according to IEC 60068-2-30 maximum95 %	installation altitude at height above sea level maximum	2 000 m
• during storage • during storage ·55 +80 °C relative humidity minimum 10 % relative humidity at 55 °C according to IEC 60068-2-30 maximum 95 %	ambient temperature	
relative humidity minimum 10 % relative humidity at 55 °C according to IEC 60068-2-30 95 % maximum 95 %	 during operation 	-25 +60 °C
relative humidity at 55 °C according to IEC 60068-2-30 95 %	 during storage 	-55 +80 °C
maximum	relative humidity minimum	10 %
Main circuit		95 %
	Main circuit	

number of poles for main current circuit	3
number of NO contacts for main contacts	3
operating voltage	
 at AC-3 rated value maximum 	690 V
 at AC-3e rated value maximum 	690 V
operational current	
 at AC-1 at 400 V at ambient temperature 40 °C rated value 	50 A
• at AC-1	
	50 A
— up to 690 V at ambient temperature 40 °C rated value	50 A
— up to 690 V at ambient temperature 60 °C	42 A
rated value	
• at AC-3	
— at 400 V rated value	32 A
— at 500 V rated value	32 A
— at 690 V rated value	21 A
• at AC-3e	
— at 400 V rated value	32 A
— at 500 V rated value	32 A
— at 690 V rated value	21 A
• at AC-4 at 400 V rated value	22 A
• at AC-5a up to 690 V rated value	44 A
• at AC-5b up to 400 V rated value	26.5 A
• at AC-6a	00.0.4
 — up to 230 V for current peak value n=20 rated value 	30.8 A
— up to 400 V for current peak value n=20 rated value	30.8 A
— up to 500 V for current peak value n=20 rated	27 A
value — up to 690 V for current peak value n=20 rated	21 A
• at AC-6a	00 5 4
 — up to 230 V for current peak value n=30 rated value 	20.5 A
 — up to 400 V for current peak value n=30 rated value 	20.5 A
 — up to 500 V for current peak value n=30 rated value 	18 A
— up to 690 V for current peak value n=30 rated value	18 A
minimum cross-section in main circuit at maximum AC-1 rated value	10 mm ²
operational current for approx. 200000 operating cycles at AC-4	
at 400 V rated value	12 A
• at 690 V rated value	12 A
operational current	
• at 1 current path at DC-1	
— at 24 V rated value	35 A
— at 110 V rated value	4.5 A
— at 220 V rated value — at 440 V rated value	1 A 0.4 A
— at 440 V rated value — at 600 V rated value	0.4 A 0.25 A
with 2 current paths in series at DC-1	0.25 A
- at 24 V rated value	35 A
— at 110 V rated value	35 A 35 A
— at 220 V rated value	5 A
— at 440 V rated value	1 A
— at 600 V rated value	0.8 A
• with 3 current paths in series at DC-1	
— at 24 V rated value	35 A
— at 110 V rated value	35 A
— at 220 V rated value	35 A
— at 440 V rated value	2.9 A

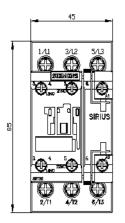
— at 600 V rated value	1.4 A
 at 1 current path at DC-3 at DC-5 	
— at 24 V rated value	20 A
— at 220 V rated value	1 A
— at 440 V rated value	0.09 A
— at 600 V rated value	0.06 A
 with 2 current paths in series at DC-3 at DC-5 	
— at 24 V rated value	35 A
— at 110 V rated value	15 A
— at 220 V rated value	3 A
— at 440 V rated value	0.27 A
— at 600 V rated value	0.16 A
 with 3 current paths in series at DC-3 at DC-5 	
— at 24 V rated value	35 A
— at 110 V rated value	35 A
	10 A
— at 220 V rated value	
— at 440 V rated value	0.6 A
— at 600 V rated value	0.6 A
operating power	
• at AC-3	
— at 230 V rated value	7.5 kW
— at 400 V rated value	15 kW
— at 500 V rated value	15 kW
— at 690 V rated value	18.5 kW
• at AC-3e	
— at 230 V rated value	7.5 kW
— at 400 V rated value	15 kW
— at 500 V rated value	15 kW
— at 690 V rated value	18.5 kW
operating power for approx. 200000 operating cycles	
at AC-4 • at 400 V rated value	6 kW
• at 690 V rated value	10.3 kW
operating apparent power at AC-6a	10.01/4
• up to 230 V for current peak value n=20 rated value	12.2 kVA
 up to 400 V for current peak value n=20 rated value 	21.3 kVA
 up to 500 V for current peak value n=20 rated value 	23.3 kVA
 up to 690 V for current peak value n=20 rated value 	25 kVA
operating apparent power at AC-6a	
 up to 230 V for current peak value n=30 rated value 	8.1 kVA
 up to 400 V for current peak value n=30 rated value 	14.2 kVA
 up to 500 V for current peak value n=30 rated value 	15.5 kVA
 up to 690 V for current peak value n=30 rated value 	21.5 kVA
short-time withstand current in cold operating state	
up to 40 °C	400 At Lies minimum areas section and to AC 4 rated value
 limited to 1 s switching at zero current maximum 	499 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 5 s switching at zero current maximum 	395 A; Use minimum cross-section acc. to AC-1 rated value
Imited to 10 s switching at zero current maximum	260 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 30 s switching at zero current maximum 	186 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 60 s switching at zero current maximum 	152 A; 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/h
 at AC-2 maximum 	750 1/h
 at AC-3 maximum 	750 1/h
● at AC-3e maximum	750 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
operating range factor control supply voltage rated	

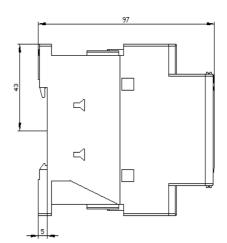
value of magnet coil at AC	
• at 50 Hz	0.8 1.1
• at 60 Hz	0.85 1.1
apparent pick-up power of magnet coil at AC	
• at 50 Hz	81 VA
• at 60 Hz	79 VA
inductive power factor with closing power of the coil	0.70
• at 50 Hz	0.72
• at 60 Hz	0.74
apparent holding power of magnet coil at AC	
• at 50 Hz	10.5 VA
• at 60 Hz	8.5 VA
inductive power factor with the holding power of the coil	
• at 50 Hz	0.25
• at 60 Hz	0.28
closing delay	
• at AC	8 40 ms
opening delay	
• at AC	4 16 ms
arcing time	10 10 ms
control version of the switch operating mechanism	Standard A1 - A2
Auxiliary circuit	
number of NC contacts for auxiliary contacts	1
instantaneous contact	
number of NO contacts for auxiliary contacts instantaneous contact	1
operational current at AC-12 maximum	10 A
operational 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
operational 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
operational 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 at 600 V rated value 	0.3 A 0.1 A
• at 600 v rated value contact reliability of auxiliary contacts	1 faulty switching per 100 million (17 V, 1 mA)
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor • at 480 V rated value	27 A
 at 400 V rated value at 600 V rated value 	27 A
	£1 1 X
vielded mechanical performance [bp]	
yielded mechanical performance [hp] • for single-phase AC motor	
 for single-phase AC motor 	2 hp
 for single-phase AC motor — at 110/120 V rated value 	2 hp 5 hp
 for single-phase AC motor — at 110/120 V rated value — at 230 V rated value 	2 hp 5 hp
 for single-phase AC motor — at 110/120 V rated value 	5 hp
 for single-phase AC motor at 110/120 V rated value at 230 V rated value for 3-phase AC motor 	5 hp 10 hp
 for single-phase AC motor at 110/120 V rated value at 230 V rated value for 3-phase AC motor at 200/208 V rated value 	5 hp 10 hp 10 hp
 for single-phase AC motor at 110/120 V rated value at 230 V rated value for 3-phase AC motor at 200/208 V rated value at 220/230 V rated value 	5 hp 10 hp
 for single-phase AC motor at 110/120 V rated value at 230 V rated value for 3-phase AC motor at 200/208 V rated value at 220/230 V rated value at 460/480 V rated value 	5 hp 10 hp 10 hp 20 hp

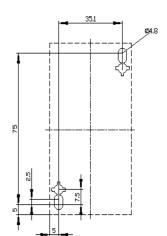
Short-circuit protection				
design of the fuse link				
for short-circuit protection of the main circuit				
- with type of coordination 1 required	gG: 125A (690V,100kA), aM: 50A (690V,100kA), BS88: 125A (415V,80kA)			
— with type of assignment 2 required	gG: 50A (690V,100kA), aM: 25A (690V, 100kA), BS88: 50A (415V, 80kA)			
 for short-circuit protection of the auxiliary switch required 	gG: 10 A (500 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			
fastening method	screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715			
 side-by-side mounting 	Yes			
height	85 mm			
width	45 mm			
depth	97 mm			
required spacing				
 with side-by-side mounting 				
— forwards	10 mm			
— upwards	10 mm			
— downwards	10 mm			
— at the side	0 mm			
 for grounded parts 				
— forwards	10 mm			
— upwards	10 mm			
— at the side	6 mm			
— downwards	10 mm			
 for live parts 				
— forwards	10 mm			
— upwards	10 mm			
— downwards	10 mm			
— at the side	6 mm			
Connections/ Terminals				
type of electrical connection				
 for main current circuit 	screw-type terminals			
 for auxiliary and control circuit 	screw-type terminals			
 at contactor for auxiliary contacts 	Screw-type terminals			
 of magnet coil 	Screw-type terminals			
type of connectable conductor cross-sections				
 for main contacts 				
— solid	2x (1 2.5 mm²), 2x (2.5 10 mm²)			
— solid or stranded	2x (1 2.5 mm²), 2x (2.5 10 mm²)			
— finely stranded with core end processing	2x (1 2.5 mm ²), 2x (2.5 6 mm ²), 1x 10 mm ²			
at AWG cables for main contacts	2x (16 12), 2x (14 8)			
connectable conductor cross-section for main contacts				
	4 40			
• solid	1 10 mm ²			
• stranded	1 10 mm²			
 stranded finely stranded with core end processing connectable conductor cross-section for auxiliary 				
 stranded finely stranded with core end processing connectable conductor cross-section for auxiliary contacts 	1 10 mm² 1 10 mm²			
 stranded finely stranded with core end processing connectable conductor cross-section for auxiliary contacts solid or stranded 	1 10 mm² 1 10 mm² 0.5 2.5 mm²			
 stranded finely stranded with core end processing connectable conductor cross-section for auxiliary contacts solid or stranded finely stranded with core end processing 	1 10 mm² 1 10 mm²			
 stranded finely stranded with core end processing connectable conductor cross-section for auxiliary contacts solid or stranded finely stranded with core end processing type of connectable conductor cross-sections 	1 10 mm² 1 10 mm² 0.5 2.5 mm²			
 stranded finely stranded with core end processing connectable conductor cross-section for auxiliary contacts solid or stranded finely stranded with core end processing type of connectable conductor cross-sections for auxiliary contacts 	1 10 mm ² 1 10 mm ² 0.5 2.5 mm ² 0.5 2.5 mm ²			
 stranded finely stranded with core end processing connectable conductor cross-section for auxiliary contacts solid or stranded finely stranded with core end processing type of connectable conductor cross-sections for auxiliary contacts goild or stranded 	1 10 mm ² 1 10 mm ² 0.5 2.5 mm ² 0.5 2.5 mm ² 2x (0.5 1.5 mm ²), 2x (0.75 2.5 mm ²)			
 stranded finely stranded with core end processing connectable conductor cross-section for auxiliary contacts solid or stranded finely stranded with core end processing type of connectable conductor cross-sections for auxiliary contacts solid or stranded for auxiliary contacts for auxiliary contacts model or stranded finely stranded with core end processing 	1 10 mm ² 1 10 mm ² 0.5 2.5 mm ² 0.5 2.5 mm ² 2x (0.5 1.5 mm ²), 2x (0.75 2.5 mm ²) 2x (0.5 1.5 mm ²), 2x (0.75 2.5 mm ²)			
 stranded finely stranded with core end processing connectable conductor cross-section for auxiliary contacts solid or stranded finely stranded with core end processing type of connectable conductor cross-sections for auxiliary contacts solid or stranded finely stranded with core end processing type of connectable conductor cross-sections for auxiliary contacts solid or stranded finely stranded with core end processing at AWG cables for auxiliary contacts AWG number as coded connectable conductor cross 	1 10 mm ² 1 10 mm ² 0.5 2.5 mm ² 0.5 2.5 mm ² 2x (0.5 1.5 mm ²), 2x (0.75 2.5 mm ²)			
 stranded finely stranded with core end processing connectable conductor cross-section for auxiliary contacts solid or stranded finely stranded with core end processing type of connectable conductor cross-sections for auxiliary contacts solid or stranded finely stranded with core end processing type of connectable conductor cross-sections for auxiliary contacts solid or stranded finely stranded with core end processing at AWG cables for auxiliary contacts AWG number as coded connectable conductor cross section 	1 10 mm ² 1 10 mm ² 0.5 2.5 mm ² 0.5 2.5 mm ² 2x (0.5 1.5 mm ²), 2x (0.75 2.5 mm ²) 2x (0.5 1.5 mm ²), 2x (0.75 2.5 mm ²) 2x (20 16), 2x (18 14)			
 stranded finely stranded with core end processing connectable conductor cross-section for auxiliary contacts solid or stranded finely stranded with core end processing type of connectable conductor cross-sections for auxiliary contacts solid or stranded finely stranded with core end processing type of connectable conductor cross-sections for auxiliary contacts solid or stranded finely stranded with core end processing at AWG cables for auxiliary contacts AWG number as coded connectable conductor cross 	1 10 mm ² 1 10 mm ² 0.5 2.5 mm ² 0.5 2.5 mm ² 2x (0.5 1.5 mm ²), 2x (0.75 2.5 mm ²) 2x (0.5 1.5 mm ²), 2x (0.75 2.5 mm ²)			

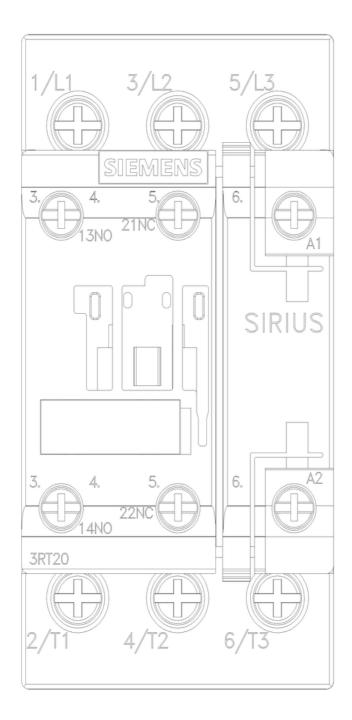
Safety related data					
product function					
 mirror contact 	according to IEC 60947-	4-1	Yes		
B10 value with high o	demand rate according t	o SN 31920	450 000		
proportion of dange					
	nd rate according to SN	31920	40 %		
	and rate according to SN		73 %		
	low demand rate accord		100 FIT		
31920			100111		
T1 value for proof tes IEC 61508	st interval or service life	according to	20 y		
protection class IP 60529	on the front according	to IEC	IP20		
touch protection or suitability for use	n the front according to	IEC 60529	finger-safe, for vertical conta	act from the front	
 safety-related 	switching OFF		Yes		
Certificates/ approva	-				
General Product A	pproval				
				140	
(T)	Confirmation	m	<u> </u>	<u>KC</u>	гпг
QP.		(m)	(%L)		FAL
CSA		ccc	UL UL		LIIL
	Functional				
EMC	Safety/Safety of	Declaration of	f Conformity	Test Certificates	
	Machinery	Declaration			
~	Type Examination			Type Test Certific-	Special Test Certific-
le caracter de la car	Certificate	()	UK	ates/Test Report	ate
ඏ			UK		_
RCM		EG-Konf.	СН		
Marine / Shipping					
	AN VA				-
Stan In Stan		Å.Î.	Lloyd's		
	「「読ん」	Φ	Register	(3)	
ARS	1111	DNV	LRS	BO	PMPS
705	VERITAS	Ditt	0.5	NIGO I	in the second se
other			Railway		
			,		
Confirmation	^	Confirmatio	n Vibration and Shock		
<u>commutor</u>	/VE	Commute			
	<u> </u>				
	VDE				
Further information					

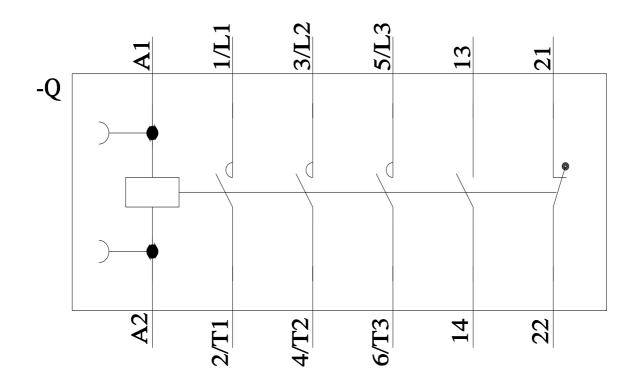
Information- and Downloadcenter (Catalogs, Brochures,...) https://www.siemens.com/ic10 Industry Mall (Online ordering system) https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT2027-1AL20 Cax online generator http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2027-1AL20 Service&Support (Manuals, Certificates, Characteristics, FAQs,...) https://support.industry.siemens.com/cs/ww/en/ps/3RT2027-1AL20 Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2027-1AL20&lang=en Characteristic: Tripping characteristics, I²t, Let-through current https://support.industry.siemens.com/cs/ww/en/ps/3RT2027-1AL20/char Further characteristics (e.g. electrical endurance, switching frequency)











last modified:

6/2/2022 🖸