3RT2036-1AV60-0UA0

Data sheet



contactor, NEMA version, 25 HP, 460 / 575 V, 3-pole, 480 V AC, 60 Hz, auxiliary contacts: 1 NO + 1 NC, screw terminal, size: S2 $\,$

product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT2
General technical data	
size of contactor	S2
product extension	
 function module for communication 	No
auxiliary switch	Yes
power loss [W] for rated value of the current	
 at AC in hot operating state 	12 W
 at AC in hot operating state per pole 	4 W
without load current share typical	6.5 W
type of calculation of power loss depending on pole	quadratic
insulation voltage	
 of main circuit with degree of pollution 3 rated value 	690 V
of auxiliary circuit with degree of pollution 3 rated value	690 V
surge voltage resistance	
of main circuit rated value	6 kV
of auxiliary circuit rated value	6 kV
maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1	400 V
shock resistance at rectangular impulse	
• at AC	11.8g / 5 ms, 7.4g / 10 ms
shock resistance with sine pulse	
• at AC	18.5g / 5 ms, 11.6g / 10 ms
mechanical service life (operating cycles)	
 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
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	10/01/2014
Weight	0.987 kg
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
relative humidity minimum	10 %
relative humidity at 55 °C according to IEC 60068-2-30 maximum	95 %

ain circuit	3
number of poles for main current circuit	3
number of NO contacts for main contacts	3
operating voltage	000.14
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 	70 A
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated	70 A
value	
 up to 690 V at ambient temperature 60 °C rated 	60 A
value	
• at AC-3	
— at 400 V rated value	51 A
— at 500 V rated value	51 A
— at 690 V rated value	24 A
• at AC-3e	
— at 400 V rated value	51 A
— at 500 V rated value	51 A
— at 690 V rated value	24 A
at AC-4 at 400 V rated value	41 A
at AC-5a up to 690 V rated value	61.6 A
at AC-5b up to 400 V rated value	41.5 A
• at AC-6a	
— up to 230 V for current peak value n=20 rated value	43.2 A
— up to 400 V for current peak value n=20 rated value	43.2 A
— up to 500 V for current peak value n=20 rated value	43.2 A
— up to 690 V for current peak value n=20 rated value	24 A
• at AC-6a	
— up to 230 V for current peak value n=30 rated value	28.8 A
— up to 400 V for current peak value n=30 rated value	28.8 A
— up to 500 V for current peak value n=30 rated value	28.8 A
— up to 690 V for current peak value n=30 rated value	24 A
minimum cross-section in main circuit at maximum AC-1 rated value	25 mm²
operational current for approx. 200000 operating cycles at AC-4	
at 400 V rated value	24 A
at 690 V rated value	20 A
operational current	2077
• at 1 current path at DC-1	
— at 24 V rated value	55 A
— at 60 V rated value	23 A
— at 110 V rated value	4.5 A
— at 220 V rated value	1 A
— at 440 V rated value	0.4 A
— at 600 V rated value	0.25 A
with 2 current paths in series at DC-1	
— at 24 V rated value	55 A
— at 60 V rated value	45 A
— at 110 V rated value	45 A
— at 220 V rated value	5 A
— at 440 V rated value	1A
— at 600 V rated value	0.8 A
with 3 current paths in series at DC-1	
— at 24 V rated value	55 A
— at 60 V rated value	55 A
— at 110 V rated value	55 A
— at 220 V rated value	45 A

— at 600 V rated value	1.4 A
• at 1 current path at DC-3 at DC-5	
— at 24 V rated value	35 A
— at 60 V rated value	6 A
— at 220 V rated value	1 A
— at 440 V rated value	0.1 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	55 A
— at 60 V rated value	45 A
— at 110 V rated value	25 A
— at 220 V rated value	5 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	55 A
— at 60 V rated value	55 A
— at 110 V rated value	55 A
— at 220 V rated value	25 A
— at 440 V rated value	0.6 A
— at 600 V rated value	0.35 A
operating power	
at AC-2 at 400 V rated value	22 kW
• at AC-3	
— at 230 V rated value	15 kW
— at 400 V rated value	22 kW
— at 500 V rated value	30 kW
— at 690 V rated value — at 690 V rated value	22 kW
at AC-3e at AC-3e	ZZ KVV
	AE IAM
— at 230 V rated value	15 kW
— at 400 V rated value	22 kW
— at 500 V rated value	30 kW
— at 690 V rated value	22 kW
operating power for approx. 200000 operating cycles at AC-	
• at 400 V rated value	12.6 kW
at 690 V rated value	18.2 kW
operating apparent power at AC-6a	
up to 230 V for current peak value n=20 rated value	17.2 kVA
• up to 400 V for current peak value n=20 rated value	29.9 kVA
• up to 500 V for current peak value n=20 rated value	37.4 kVA
• up to 690 V for current peak value n=20 rated value	28.6 kVA
operating apparent power at AC-6a	
up to 230 V for current peak value n=30 rated value	11.4 kVA
up to 400 V for current peak value n=30 rated value up to 400 V for current peak value n=30 rated value	19.9 kVA
up to 500 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value	24.9 kVA
up to 690 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value	28.6 kVA
short-time withstand current in cold operating state up to	20.0 ((/))
40 °C	
 limited to 1 s switching at zero current maximum 	937 A; Use minimum cross-section acc. to AC-1 rated value
limited to 5 s switching at zero current maximum	697 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 10 s switching at zero current maximum 	468 A; Use minimum cross-section acc. to AC-1 rated value
limited to 30 s switching at zero current maximum	282 A; Use minimum cross-section acc. to AC-1 rated value
limited to 60 s switching at zero current maximum	229 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	600 1/h
• at AC-3 maximum	800 1/h
at AC-3e maximum	800 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 60 Hz rated value	480 V
operating range factor control supply voltage rated value of	400 V
magnet coil at AC	
• at 60 Hz	0.85 1.1
apparent pick-up power of magnet coil at AC	
● at 60 Hz	212 VA
inductive power factor with closing power of the coil	
● at 60 Hz	0.67
apparent holding power of magnet coil at AC	
• at 60 Hz	18.5 VA
inductive power factor with the holding power of the coil	
● at 60 Hz	0.37
closing delay	
• at AC	10 80 ms
opening delay	
• at AC	10 18 ms
arcing time	10 20 ms
control version of the switch operating mechanism	Standard A1 - A2
Auxiliary circuit	
number of NC contacts for auxiliary contacts instantaneous	1
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	1A
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	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 3-phase AC motor	
• at 480 V rated value	52 A
• at 600 V rated value	52 A
yielded mechanical performance [hp]	
• for single-phase AC motor	
— at 110/120 V rated value	3 hp
— at 230 V rated value	7.5 hp
• for 3-phase AC motor	
— at 200/208 V rated value	10 hp
— at 220/230 V rated value	15 hp

— at 460/480 V rated value	25 hp
— at 575/600 V rated value	25 hp
contact rating of auxiliary contacts according to UL	A600 / P600
Short-circuit protection	
design of the fuse link	
 for short-circuit protection of the main circuit 	
 — with type of coordination 1 required 	gG: 160 A (690 V, 100 kA), aM: 80 A (690 V, 100 kA), BS88: 125 A (415 V, 80 kA)
— with type of assignment 2 required	gG: 80A (690V,100kA), aM: 50A (690V,100kA), BS88: 63A (415V,80kA)
for short-circuit protection of the auxiliary switch required	qG: 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 side-by-side mounting	Yes
fastening method	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715
height	114 mm
width	55 mm
depth	130 mm
required spacing	
with side-by-side mounting forwards	40 mm
— forwards	10 mm
— upwards	10 mm
— downwards — at the side	0 mm
at the side for grounded parts	V IIIIII
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 or stranded	2x (1 35 mm²), 1x (1 50 mm²)
 finely stranded with core end processing 	2x (1 25 mm²), 1x (1 35 mm²)
for AWG cables for main contacts	2x (18 2), 1x (18 1)
connectable conductor cross-section for main contacts	
finely stranded with core end processing	1 35 mm²
connectable conductor cross-section for auxiliary contacts	0.5 0.5
solid or stranded finally atranded with page and processing.	0.5 2.5 mm ²
finely stranded with core end processing type of connectable conductor group costions	0.5 2.5 mm ²
type of connectable conductor cross-sections	
for auxiliary contacts solid or stranded.	2v (0.5
solid or stranded finely stranded with core and processing	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²) 2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)
 finely stranded with core end processing for AWG cables for auxiliary contacts 	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²) 2x (20 16), 2x (18 14)
AWG number as coded connectable conductor cross	ZA (ZO 10), ZA (10 14)
section	
• for main contacts	18 1
• for auxiliary contacts	20 14
Safety related data	
product function	

 mirror contact according to IEC 60947-4-1 	Yes
 positively driven operation according to IEC 60947-5-1 	No
 suitable for safety function 	Yes
suitability for use safety-related switching OFF	Yes
service life maximum	20 a
test wear-related service life necessary	Yes
proportion of dangerous failures	
 with low demand rate according to SN 31920 	40 %
 with high demand rate according to SN 31920 	73 %
B10 value with high demand rate according to SN 31920	1 000 000
failure rate [FIT] with low demand rate according to SN 31920	100 FIT
ISO 13849	
device type according to ISO 13849-1	3
overdimensioning according to ISO 13849-2 necessary	Yes
IEC 61508	
safety device type according to IEC 61508-2	Type A
Electrical Safety	
protection class IP on the front according to IEC 60529	IP20
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front
Approvals Certificates	

Approvals Certificates

General Product Approval





Confirmation



<u>KC</u>



EMV Test Certificates Marine / Shipping



Special Test Certificate Type Test Certificates/Test Report







Marine / Shipping other Railway Dangerous goods







Confirmation

Special Test Certificate

Transport Information

Environment

Environmental Confirmations

Further information

Information on the packaging

https://support.industry.siemens.com/cs/ww/en/view/109813875

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=3RT2036-1AV60-0UA0

Cax online generator

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

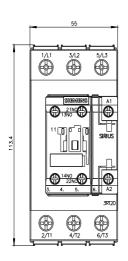
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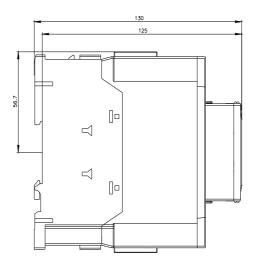
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

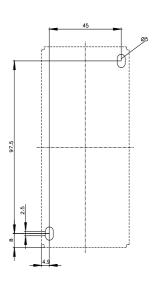
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2036-1AV60-0UA0&lang=en

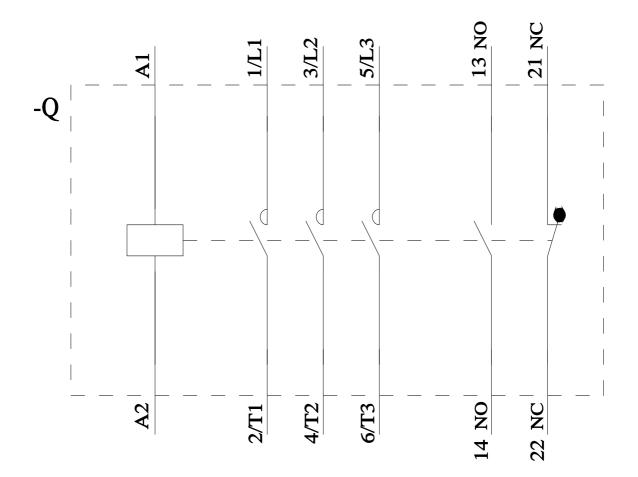
Characteristic: Tripping characteristics, I2t, Let-through current

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last modified: 7/19/2024 🖸