SIEMENS

Data sheet 3RV2021-4BA10



Circuit breaker size S0 for motor protection, CLASS 10 A-release 13...20 A N-release 260 A screw terminal Standard switching capacity

product type designation design of the product product type designation 3RV2 General technical data size of the circuit-breaker size of contactor can be combined company-specific product extension auxiliary switch power loss [W] for rated value of the current • at AC in hot operating state • at AC in hot operating state per pole insulation voltage with degree of pollution 3 at AC rated value surge voltage resistance rated value waximum permissible voltage for safe isolation in networks with grounded star point • between main and auxiliary circuit • between main and auxiliary circuit • between main and suxiliary circuit • between main and swither young of the main contacts typical • of the main contacts typical • of auxiliary contacts typical • of auxiliary cortacts typical • of auxiliary cortacts typical type of protection according to ATEX directive 2014/34/EU certificate of suitability according to ATEX di	product brand name	SIRIUS
product type designation General technical data size of the circuit-breaker Size of contactor can be combined company-specific product extension auxiliary switch Power loss [W] for rated value of the current at AC in hot operating state at AC in hot operating state at AC in hot operating state per pole Insulation voltage with degree of pollution 3 at AC rated value surge voltage resistance rated value maximum permissible voltage for safe isolation in networks with grounded star point between main and auxiliary circuit between main and auxiliary circuit between main and auxiliary circuit of the main contacts typical of the main contacts typical electrical endurance (switching cycles) of the main contacts typical electrical endurance (switching cycles) typical type of protection according to ATEX directive 2014/34/EU certificate of suitability acco	product designation	Circuit breaker
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size of the circuit-breaker size of contactor can be combined company-specific product extension auxiliary switch power loss [W] for rated value of the current • at AC in hot operating state • at AC in hot operating state per pole insulation voltage with degree of pollution 3 at AC rated value surge voltage resistance rated value surge voltage resistance rated value walve maximum permissible voltage for safe isolation in networks with grounded star point • between main and auxiliary circuit • between main and auxiliar	product type designation	3RV2
size of contactor can be combined company-specific product extension auxiliary switch power loss [W] for rated value of the current • at AC in hot operating state 10.5 W • at AC in hot operating state per pole 3.5 W insulation voltage with degree of pollution 3 at AC rated value surge voltage resistance rated value 6kV maximum permissible voltage for safe isolation in networks with grounded star point 400 V • between main and auxiliary circuit 400 V • between main and auxiliary circuit 400 V • between main and auxiliary circuit 400 V • between main and suxiliary circuit 400 V • between main contacts typical 100 000 • of the main contacts typical 100 000 • of auxiliary contacts typical 100 000 • of auxiliary contacts typical 100 000 type of protection according to ATEX directive 2014/34/EU certificate of suitability according to ATEX directive 2014/34/EU reference code acc. to IEC 81346-2 Q Substance Prohibitance (Date) 01.10.2009 Ambient conditions installation altitude at height above sea level maximum ambient temperature • during storage -50 +80 °C temperature compensation -20 +60 °C • during transport -50 +80 °C temperature compensation -20 +60 °C • during transport -50 +80 °C temperature trivenum mumber of poles for main current circuit 3	General technical data	
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surge voltage resistance rated value maximum permissible voltage for safe isolation in networks with grounded star point • between main and auxiliary circuit • between main and auxiliary circuit • between main and auxiliary circuit 400 V • between main and auxiliary circuit 400 V shock resistance acc. to IEC 60068-2-27 25g / 11 ms mechanical service life (switching cycles) • of the main contacts typical • of auxiliary contacts typical 100 000 • durixy contacts typical 100 000 type of protection according to ATEX directive 2014/34/EU certificate of suitability according to ATEX directive 2014/34/EU reference code acc. to IEC 81346-2 Q Substance Prohibitance (Date) 01.10.2009 Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • during storage • during transport temperature compensation relative humidity during operation 10 95 % Main circuit number of poles for main current circuit 3	 at AC in hot operating state per pole 	3.5 W
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between main and auxiliary circuit shock resistance acc. to IEC 60068-2-27 mechanical service life (switching cycles) • of the main contacts typical • of auxiliary contacts typical		
shock resistance acc. to IEC 60068-2-27 mechanical service life (switching cycles) of the main contacts typical of auxiliary contacts typical electrical endurance (switching cycles) typical type of protection according to ATEX directive 2014/34/EU certificate of suitability according to ATEX directive 2014/34/EU reference code acc. to IEC 81346-2 Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature of during storage of during storage of during transport temperature compensation relative humidity during operation Main circuit number of poles for main current circuit 25g / 11 ms 100 000 100 0	 between main and auxiliary circuit 	400 V
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of the main contacts typical of auxiliary contacts typical electrical endurance (switching cycles) typical type of protection according to ATEX directive 2014/34/EU certificate of suitability according to ATEX directive 2014/34/EU reference code acc. to IEC 81346-2 Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature olduring operation during storage during transport temperature compensation relative humidity during operation Main circuit number of poles for main current circuit 100 000 100 000 EX II (2) GD DMT 02 ATEX F 001 20 U 0 U 0 U 0 U 0 U 0 U 0 U 0	shock resistance acc. to IEC 60068-2-27	25g / 11 ms
of auxiliary contacts typical electrical endurance (switching cycles) typical type of protection according to ATEX directive 2014/34/EU certificate of suitability according to ATEX directive 2014/34/EU reference code acc. to IEC 81346-2 Quality and a substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature ouring operation during operation during transport emperature compensation relative humidity during operation Main circuit number of poles for main current circuit 100 000 Ex II (2) GD DMT 02 ATEX F 001 2 Unit (2) GD DMT 02 ATEX F 001 2 Unit (2) GD Ex II (2) GD (2) GD Ex	mechanical service life (switching cycles)	
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type of protection according to ATEX directive 2014/34/EU certificate of suitability according to ATEX directive 2014/34/EU reference code acc. to IEC 81346-2 Q Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum 2 000 m ambient temperature • during operation -20 +60 °C • during storage -50 +80 °C • during transport -50 +80 °C temperature compensation -20 +60 °C relative humidity during operation 10 95 % Main circuit number of poles for main current circuit 3	of auxiliary contacts typical	100 000
certificate of suitability according to ATEX directive 2014/34/EU reference code acc. to IEC 81346-2 Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • during storage • during storage • during transport temperature compensation relative humidity during operation Main circuit number of poles for main current circuit DMT 02 ATEX F 001 DMT 02 ATEX F 001 DMT 02 ATEX F 001 2 0 +60 °C 0 +60 °C -20 +60 °C 10 95 %	electrical endurance (switching cycles) typical	100 000
reference code acc. to IEC 81346-2 Q Substance Prohibitance (Date) 01.10.2009 Ambient conditions installation altitude at height above sea level maximum 2 000 m ambient temperature • during operation -20 +60 °C • during storage -50 +80 °C • during transport -50 +80 °C temperature compensation -20 +60 °C relative humidity during operation 10 95 % Main circuit number of poles for main current circuit 3		Ex II (2) GD
Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • during storage • during transport -50 +80 °C • during transport -50 +80 °C temperature compensation -20 +60 °C relative humidity during operation 10 95 % Main circuit number of poles for main current circuit 3	, ,	DMT 02 ATEX F 001
Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • during storage • during transport • during transport • -50 +80 °C temperature compensation -20 +60 °C relative humidity during operation 10 95 % Main circuit number of poles for main current circuit 3	reference code acc. to IEC 81346-2	Q
installation altitude at height above sea level maximum ambient temperature • during operation • during storage • during transport • during transport • during transport • during transport -50 +80 °C temperature compensation -20 +60 °C relative humidity during operation 10 95 % Main circuit number of poles for main current circuit 3	Substance Prohibitance (Date)	01.10.2009
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 during operation during storage turing transport temperature compensation relative humidity during operation mumber of poles for main current circuit 	installation altitude at height above sea level maximum	2 000 m
 during storage during transport temperature compensation relative humidity during operation 10 95 % Main circuit number of poles for main current circuit 	ambient temperature	
◆ during transport −50 +80 °C temperature compensation −20 +60 °C relative humidity during operation 10 95 % Main circuit number of poles for main current circuit 3	during operation	-20 +60 °C
temperature compensation -20 +60 °C relative humidity during operation 10 95 % Main circuit number of poles for main current circuit 3	during storage	-50 +80 °C
relative humidity during operation 10 95 % Main circuit number of poles for main current circuit 3	during transport	-50 +80 °C
Main circuit number of poles for main current circuit 3	temperature compensation	-20 +60 °C
number of poles for main current circuit 3	relative humidity during operation	10 95 %
·	Main circuit	
adjustable current response value current of the 13 20 A	number of poles for main current circuit	3
	adjustable current response value current of the	13 20 A

current-dependent overload release	
operating voltage	2001
rated value	690 V
• rated value	20 690 V
at AC-3 rated value maximum	690 V
operating frequency rated value	50 60 Hz
operational current at AC 3 at 400 V rated value	20 A
operational current at AC-3 at 400 V rated value operating power at AC-3	20 A
at 230 V rated value	5.5 kW
at 400 V rated value	7.5 kW
at 500 V rated value at 500 V rated value	11 kW
at 690 V rated value at 690 V rated value	15 kW
operating frequency at AC-3 maximum	15 1/h
Auxiliary circuit	
number of NC contacts for auxiliary contacts	0
number of NO contacts for auxiliary contacts	0
number of CO contacts for auxiliary contacts	0
Protective and monitoring functions	
product function	
ground fault detection	No
phase failure detection	Yes
trip class	CLASS 10
design of the overload release	thermal
breaking capacity operating short-circuit current (Ics)	
at AC	
• at 240 V rated value	100 kA
• at 400 V rated value	25 kA
• at 500 V rated value	5 kA
• at 690 V rated value	2 kA
breaking capacity maximum short-circuit current (Icu)	*****
at AC at 240 V rated value	100 kA
at AC at 500 V rated value	55 kA
at AC at 600 V rated value	10 kA
at AC at 690 V rated value response value current of instantaneous short-circuit trip	4 kA
response value current of instantaneous short-circuit trip unit	260 A
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
at 480 V rated value	20 A
at 400 V rated value at 600 V rated value	20 A
yielded mechanical performance [hp]	
for single-phase AC motor	
— at 110/120 V rated value	1.5 hp
— at 230 V rated value	3 hp
• for 3-phase AC motor	
— at 200/208 V rated value	7.5 hp
— at 220/230 V rated value	5 hp
— at 460/480 V rated value	10 hp
Short-circuit protection	
product function short circuit protection	Yes
design of the short-circuit trip	magnetic
design of the fuse link for IT network for short-circuit	
protection of the main circuit	
• at 400 V	gL/gG 63 A
at 400 Vat 500 V	gL/gG 50 A
at 400 Vat 500 Vat 690 V	
 at 400 V at 500 V at 690 V Installation/ mounting/ dimensions	gL/gG 50 A
at 400 Vat 500 Vat 690 V	gL/gG 50 A

	according to DIN EN 60715
height	97 mm
width	45 mm
depth	97 mm
required spacing	57 Hilli
• for grounded parts at 400 V	
— downwards	30 mm
— upwards	30 mm
— at the side	9 mm
• for live parts at 400 V	9 111111
— downwards	30 mm
— upwards	30 mm
— at the side	9 mm
• for grounded parts at 500 V	22
— downwards	30 mm
— upwards	30 mm
— at the side	9 mm
• for live parts at 500 V	
— downwards	30 mm
— upwards	30 mm
— at the side	9 mm
 for grounded parts at 690 V 	
— downwards	50 mm
— upwards	50 mm
— backwards	0 mm
— at the side	30 mm
— forwards	0 mm
 for live parts at 690 V 	
— downwards	50 mm
— upwards	50 mm
— backwards	0 mm
— at the side	30 mm
— forwards	0 mm
Connections/ Terminals	
product component removable terminal for auxiliary	No
and control circuit	
type of electrical connection	
for main current circuit	screw-type terminals
arrangement of electrical connectors for main current	Top and bottom
circuit	
type of connectable conductor cross-sections	
for main contacts	
— solid or stranded	2x (1 2,5 mm²), 2x (2,5 10 mm²)
 finely stranded with core end processing 	2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²
at AWG cables for main contacts	2x (16 12), 2x (14 8)
tightening torque	
 for main contacts with screw-type terminals 	2 2.5 N·m
design of screwdriver shaft	Diameter 5 to 6 mm
size of the screwdriver tip	Pozidriv 2
design of the thread of the connection screw	
for main contacts	M4
Safety related data	
B10 value	
with high demand rate acc. to SN 31920	5 000
proportion of dangerous failures	
with low demand rate acc. to SN 31920	50 %
with high demand rate acc. to SN 31920 with high demand rate acc. to SN 31920	50 %
- With high demand rate doc. to ON 01920	OO 70
failure rate [FIT]	
failure rate [FIT]	50 EIT
failure rate [FIT] • with low demand rate acc. to SN 31920 T1 value for proof test interval or service life acc. to	50 FIT 10 y

protection class IP on the front acc. to IEC 60529

touch protection on the front acc. to IEC 60529

display version for switching status

IP20

finger-safe, for vertical contact from the front

Handle

Certificates/ approvals

General Product Approval





Confirmation



<u>KC</u>



For use in hazardous locations

Declaration of Conformity

Test Certificates





UK Declaration of Conformity



Type Test Certificates/Test Report

Special Test Certificate

Marine / Shipping













Marine / Shipping

other

Railway



Confirmation



Confirmation

Vibration and Shock

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=3RV2021-4BA10

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2021-4BA10

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

https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-4BA10

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

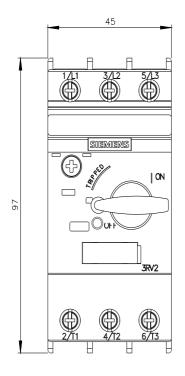
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2021-4BA10&lang=en

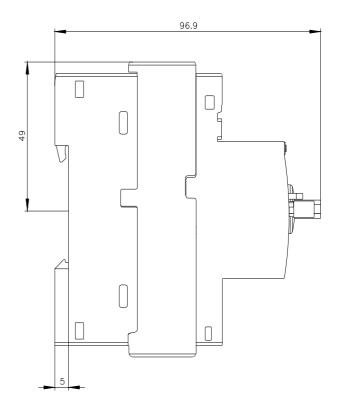
Characteristic: Tripping characteristics, I²t, Let-through current

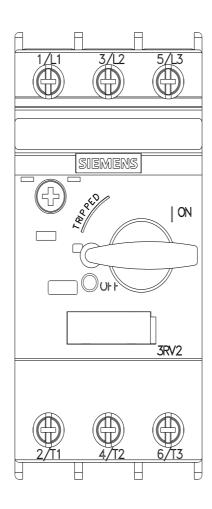
https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-4BA10/char

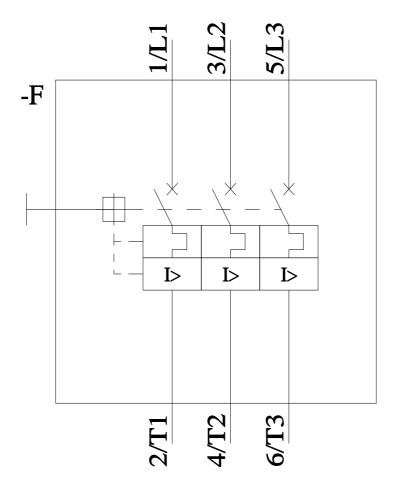
Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2021-4BA10&objecttype=14&gridview=view1









last modified: 10/7/2021 🖸