## **SIEMENS**

Data sheet 3RV2021-4EA40



Circuit breaker size S0 for motor protection, CLASS 10 A-release 27...32 A N-release 400 A ring cable lug connection Standard switching capacity

size of the circuit-breaker         S0           size of contactor can be combined company-specific product extension auxiliary switch         Yes           power loss [W] for rated value of the current         4 AC in hot operating state         13.25 W           • at AC in hot operating state per pole         4.4 W           • insulation voltage with degree of pollution 3 at AC rated value         680 V           surge voltage resistance rated value         6 kV           maximum permissible voltage for safe isolation in networks with grounded star point         400 V           • between main and auxiliary circuit         400 V           • of the main contacts typical         100 000           • of the main contacts typical         100 000           • of the main contacts typical         100 000           • of protection according to ATEX directive         Ex II (2) GD           2014/3/4/EU         DMT 02 ATEX F 001           certificate of suitability according to ATEX directive         Q           Ambient conditions         Provice of the province	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 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 • of the main contacts typical • of auxiliary contacts typical electrical endurance (switching cycles) typical certificate of suitability according to ATEX directive 2014/34/EU  certificate of suitability according to ATEX directive 2014/34/EU  certificate of suitability according to ATEX directive 2014/34/EU  certificate of suitability according to peration • ambient temperature during operation • ambient temperature during operation • ambient temperature during storage • ambient temperature during storage • ambient temperature during operation  ### AC in hot operation ### AC in hot operation ### AC in hot operation ### AU W  ### AU W	product designation	Circuit breaker
Size of the circuit-breaker size of contactor can be combined company-specific product extension auxiliary switch et 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 maximum permissible voltage for safe isolation in networks with grounded star point between main and auxiliary circuit between main contacts typical of auxiliary contacts typical of auxiliary contacts typical of auxiliary contacts typical of protection according to ATEX directive 2014/34/EU  reference code acc. to IEC 81346-2 Rahbient conditions installation altitude at height above sea level maximum ambient temperature during operation elactive number of poles for main current circuit  number of poles for main current circuit  so 0.00	design of the product	For motor protection
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 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 • between main and suxiliary circuit • between main contacts typical • of the main contacts typical • of auxiliary contacts typical • of protection according to ATEX directive 2014/33/EU certificate of suitability according to ATEX directive 2014/33/EU certificate of suitability according to ATEX directive 2014/33/EU  reference code acc. to IEC 81346-2 Q Ambient conditions installation altitude at height above sea level maximum • ambient temperature during operation • ambient temperature during torage • ambient temperature during torage • ambient temperature during transport  temperature compensation - 20 +60 °C - ambient conditions  temperature compensation - 20 +60 °C - and the main current circuit  number of poles for main current circuit  3	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 • 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  maximum permissible voltage for safe isolation in networks with grounded star point  • between main and auxiliary circuit • between main and suxiliary circuit • of the main contacts typical • of the main contacts typical • of auxiliary contacts typical • certificate of suitability according to ATEX directive 2014/3/4/EU  reference code acc. to IEC 81346-2  Q Ambient conditions  installation altitude at height above sea level maximum • ambient temperature during operation • ambient temperature during operation • ambient temperature during storage • ambient temperature during transport  felative humidity during operation  mumber of poles for main current circuit  a Soon Soon Soon Soon Soon Soon Soon Soo	General technical data	
product extension auxiliary switch power loss [W] for rated value of the current	size of the circuit-breaker	S0
power loss [W] for rated value of the current	size of contactor can be combined company-specific	S00, S0
• 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 • of the main contacts typical • of auxiliary contacts typical • of protection according to ATEX directive 2014/34/EU  certificate of suitability according to ATEX directive 2014/34/EU  certificate of sui	product extension auxiliary switch	Yes
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 auxiliary circuit betwe	power loss [W] for rated value of the current	
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  shock resistance acc. to IEC 60068-2-27  mechanical service life (switching cycles)  • of the main contacts typical  • of auxiliary 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  Q  Ambient conditions  installation altitude at height above sea level maximum  • ambient temperature during operation  • ambient temperature during storage  • ambient temperature during transport  -50 +80 °C  • ambient temperature during transport  temperature compensation  relative humidity during operation  10 95 %  Main circuit  number of poles for main current circuit  3	<ul> <li>at AC in hot operating state</li> </ul>	13.25 W
value surge voltage resistance rated value maximum permissible voltage for safe isolation in networks with grounded star point  • between main and auxiliary circuit  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 electrical endurance (switching cycles) typical  type of protection according to ATEX directive 2014/34/EU  reference code acc. to IEC 81346-2 Q  Ambient conditions installation altitude at height above sea level maximum  • ambient temperature during operation • ambient temperature during storage • ambient temperature during transport  -50 +80 °C • ambient temperature during transport relative humidity during operation  -20 +60 °C  -20 +60 °C  -20 +60 °C  -30 +80 °C  -40 +80 °C  -40 +80 °C  -40 +80 °C  -4080 °C  -40	at AC in hot operating state per pole	4.4 W
maximum permissible voltage for safe isolation in networks with grounded star point  • between main and auxiliary circuit  • duo 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  • 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  Q  Ambient conditions  installation altitude at height above sea level maximum  • ambient temperature during operation  • ambient temperature during storage  • ambient temperature during transport  -50 +80 °C  • ambient temperature during transport  relative humidity during operation  10 95 %  Main circuit  number of poles for main current circuit  3	0 0 1	690 V
networks with grounded star point	surge voltage resistance rated value	6 kV
between main and auxiliary circuit     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         • of of auxiliary contacts typical         • DMT 02 ATEX II (2) GD          • DMT 02 ATEX F 001          • DMT 02 ATEX F 001          • Of Of C         • ambient conditions          installation altitude at height above sea level maximum         • 20 +60 °C         • ambient temperature during operation         • ambient temperature during storage         • ambient temperature during transport         • -50 +80 °C          • ambient temperature during transport         • -50 +80 °C          relative humidity during operation         • -20 +60 °C  relative humidity during operation		
shock resistance acc. to IEC 60068-2-27  mechanical service life (switching cycles)  of the main contacts typical loud 000 lectrical endurance (switching cycles) typical loud 000 lectrical endurance (switching cycles) typical loud 000 letype 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  Ambient conditions installation altitude at height above sea level maximum  ourside ambient temperature during operation ourside ambient temperature during storage ourside ambient temperature during transport  temperature compensation letting transport letting	<ul> <li>between main and auxiliary circuit</li> </ul>	400 V
e of the main contacts typical of auxiliary contacts typical loud 000 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 Q Ambient conditions installation altitude at height above sea level maximum of ambient temperature during operation of ambient temperature during storage of ambient temperature during transport temperature compensation relative humidity during operation 100 000 Ex II (2) GD DMT 02 ATEX F 001  DMT 02 ATEX F 001  Q  Anticipation altitude at height above sea level maximum 2 000 m  - 20 +60 °C - 3 +80 °C - 4 +80 °C - 4 +80 °C - 50 +80 °C - 6 +80 °C - 7 +80 °C - 7 +80 °C - 8 +80 °C - 9 +80 °C - 9 +80 °C - 10 +95 %  Main circuit number of poles for main current circuit 3	between main and auxiliary circuit	400 V
<ul> <li>of the main contacts typical</li> <li>of auxiliary contacts typical</li> <li>electrical endurance (switching cycles) typical</li> <li>type of protection according to ATEX directive</li> <li>2014/34/EU</li> <li>certificate of suitability according to ATEX directive</li> <li>2014/34/EU</li> <li>reference code acc. to IEC 81346-2</li> <li>Q</li> <li>Ambient conditions</li> <li>installation altitude at height above sea level maximum</li> <li>ambient temperature during operation</li> <li>ambient temperature during storage</li> <li>ambient temperature during transport</li> <li>50 +80 °C</li> <li>ambient temperature during transport</li> <li>-50 +80 °C</li> <li>temperature compensation</li> <li>relative humidity during operation</li> <li>10 95 %</li> </ul> Main circuit <ul> <li>number of poles for main current circuit</li> </ul> 3	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 Q Ambient conditions installation altitude at height above sea level maximum      o ambient temperature during operation     o ambient temperature during storage     o ambient temperature during transport  temperature compensation relative humidity during operation 10 95 %  Main circuit  number of poles for main current circuit  100 000  Ex II (2) GD  DMT 02 ATEX F 001  DMT 02 ATEX F 001  2 0 +60 °C  C  - 0 +60 °C  - 0 +60 °C  - 0 +80 °C  - 0 +95 °C  - 0 +	mechanical service life (switching cycles)	
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  Ambient conditions  installation altitude at height above sea level maximum  • ambient temperature during operation • ambient temperature during storage • ambient temperature during transport  temperature compensation  relative humidity during operation  number of poles for main current circuit  20 00 00  Ex II (2) GD  DMT 02 ATEX F 001  DMT 02 ATEX F 001  20 00  0  0  0  0  0  0  0  0  0  0  0  0	<ul> <li>of the main contacts typical</li> </ul>	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  Ambient conditions  installation altitude at height above sea level maximum 2 000 m  • ambient temperature during operation -20 +60 °C  • ambient temperature during storage -50 +80 °C  • ambient temperature during transport -50 +80 °C  temperature compensation -20 +60 °C  relative humidity during operation -20 +60 °C  main circuit -3 %	of auxiliary contacts typical	100 000
2014/34/EU  certificate of suitability according to ATEX directive 2014/34/EU  reference code acc. to IEC 81346-2  Q  Ambient conditions  installation altitude at height above sea level maximum  • ambient temperature during operation  • ambient temperature during storage  • ambient temperature during transport  • ambient temperature during transport  -50 +80 °C  • ambient temperature during transport  -20 +60 °C  relative humidity during operation  10 95 %  Main circuit  number of poles for main current circuit  3	electrical endurance (switching cycles) typical	100 000
reference code acc. to IEC 81346-2  Ambient conditions  installation altitude at height above sea level maximum  • ambient temperature during operation • ambient temperature during storage • ambient temperature during transport  • 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		Ex II (2) GD
installation altitude at height above sea level maximum  • ambient temperature during operation • ambient temperature during storage • ambient temperature during storage • 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		DMT 02 ATEX F 001
installation altitude at height above sea level maximum  • ambient temperature during operation • ambient temperature during storage • ambient temperature during transport  • 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	reference code acc. to IEC 81346-2	Q
<ul> <li>ambient temperature during operation</li> <li>ambient temperature during storage</li> <li>ambient temperature during transport</li> <li>ambient temperature during transport</li> <li>-50 +80 °C</li> <li>temperature compensation</li> <li>-20 +60 °C</li> <li>relative humidity during operation</li> <li>10 95 %</li> <li>Main circuit</li> <li>number of poles for main current circuit</li> <li>3</li> </ul>	Ambient conditions	
<ul> <li>ambient temperature during storage</li> <li>ambient temperature during transport</li> <li>-50 +80 °C</li> <li>temperature compensation</li> <li>-20 +60 °C</li> <li>relative humidity during operation</li> <li>10 95 %</li> <li>Main circuit</li> <li>number of poles for main current circuit</li> <li>3</li> </ul>	installation altitude at height above sea level maximum	2 000 m
• ambient temperature during transport	<ul> <li>ambient temperature during operation</li> </ul>	-20 +60 °C
temperature compensation -20 +60 °C relative humidity during operation 10 95 %  Main circuit number of poles for main current circuit 3	<ul> <li>ambient temperature during storage</li> </ul>	-50 +80 °C
relative humidity during operation 10 95 %  Main circuit  number of poles for main current circuit 3	ambient temperature 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 27 32 A	number of poles for main current circuit	3
	adjustable current response value current of the	27 32 A

current-dependent overload release	
<ul> <li>operating voltage rated value</li> </ul>	690 V
operating voltage at AC-3 rated value maximum	690 V
operating frequency rated value	50 60 Hz
operational current rated value	32 A
operational current at AC-3 at 400 V rated value	32 A
operating power at AC-3	
at 230 V rated value	7 500 W
at 400 V rated value	15 000 W
at 500 V rated value	18 500 W
at 690 V rated value	30 000 W
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
	U .
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 (lcs) at AC	
<ul> <li>at 240 V rated value</li> </ul>	100 kA
<ul> <li>at 400 V rated value</li> </ul>	25 kA
<ul> <li>at 500 V rated value</li> </ul>	5 kA
<ul> <li>at 690 V rated value</li> </ul>	2 kA
breaking capacity maximum short-circuit current (Icu)	
<ul> <li>at AC at 240 V rated value</li> </ul>	100 kA
<ul> <li>at AC at 400 V rated value</li> </ul>	55 kA
<ul> <li>at AC at 500 V rated value</li> </ul>	10 kA
<ul> <li>at AC at 690 V rated value</li> </ul>	4 kA
response value current of instantaneous short-circuit trip unit	400 A
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
• at 480 V rated value	32 A
at 600 V rated value	32 A
yielded mechanical performance [hp]	
• for single-phase AC motor	
— at 110/120 V rated value	2 hp
— at 230 V rated value	5 hp
• for 3-phase AC motor	ОПР
— at 200/208 V rated value	7.5 hp
— at 220/230 V rated value	10 hp
— at 220/230 V rated value  — at 460/480 V rated value	20 hp
	20 110
Short-circuit protection	Vac
product function short circuit protection	Yes
design of the short-circuit trip  design of the fuse link for IT network for short-circuit protection of the main circuit	magnetic
• at 400 V	gL/gG 63 A
• at 500 V	gL/gG 63 A
• at 690 V	gL/gG 63 A
Installation/ mounting/ dimensions	
mounting position	any
fastening method	screw and snap-on mounting onto 35 mm standard mounting rail



	according to DIN EN 60715
height	97 mm
width	45 mm
depth	97 mm
required spacing	
<ul> <li>for grounded parts at 400 V</li> </ul>	
— downwards	30 mm
— upwards	30 mm
— at the side	9 mm
<ul> <li>for live parts at 400 V</li> </ul>	
— downwards	30 mm
— upwards	30 mm
— at the side	9 mm
<ul> <li>for grounded parts at 500 V</li> </ul>	
— 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 function removable terminal for auxiliary and	No
control circuit	
type of electrical connection	
for main current circuit	Ring cable lug connection
for auxiliary and control circuit	ring cable connection
arrangement of electrical connectors for main current circuit	Top and bottom
• tightening torque	
for main contacts for ring cable lug	2 2.5 N·m
for auxiliary contacts for ring cable lug	1.2 0.8 N·m
outer diameter of the usable ring cable lug maximum	7.5 mm
design of screwdriver shaft	Diameter 5 to 6 mm
size of the screwdriver tip	Size 2 and Pozidriv 2
design of the thread of the connection screw	CLU L MIN I OLIMIT L
• for main contacts	M4
of the auxiliary and control contacts	M3
Safety related data	
B10 value	
with high demand rate acc. to SN 31920	5 000
	0 000
proportion of dangerous failures	50 %
with low demand rate acc. to SN 31920     with high demand rate acc. to SN 31920	50 %
with high demand rate acc. to SN 31920  failure rate [EIT]	50 %
failure rate [FIT]	EO FIT
<ul> <li>with low demand rate acc. to SN 31920</li> </ul>	50 FIT



10 y T1 value for proof test interval or service life acc. to **IEC 61508** protection class IP on the front acc. to IEC 60529 IP00 display version for switching status Handle

Certificates/ approvals

## **General Product Approval**

For use in hazardous locations









KC





For use in hazardous locations	Declaration of Conformity		Test Certificates		Marine / Shipping
		Miscellaneous	Type Test	Special Test	





Certificates/Test Report

Certificate



## Marine / Shipping













other Railway

Confirmation



Vibration and Shock

Confirmation

## **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=3RV2021-4EA40

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2021-4EA40

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

https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-4EA40

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

http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RV2021-4EA40&lang=en

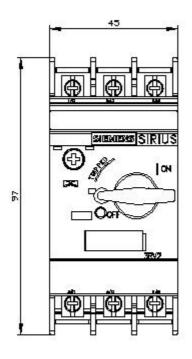
Characteristic: Tripping characteristics, I2t, Let-through current

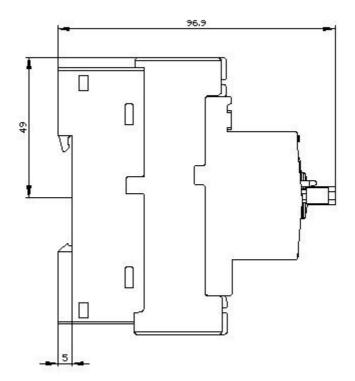
https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-4EA40/char

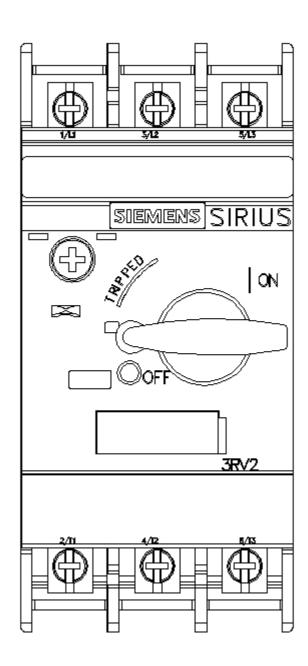
Further characteristics (e.g. electrical endurance, switching frequency)

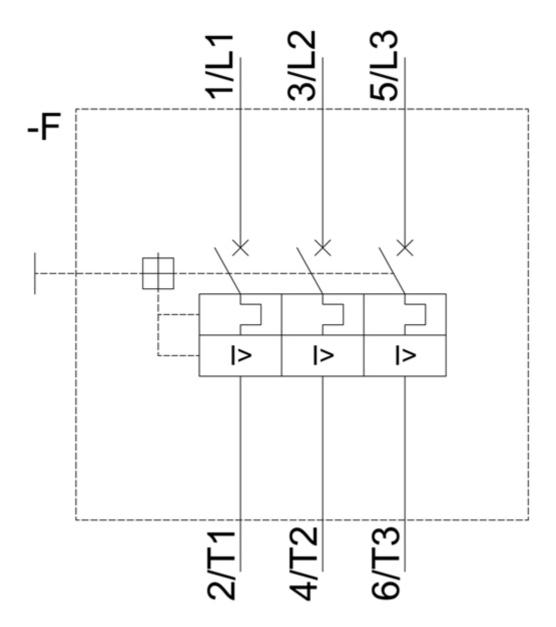
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2021-4EA40&objecttype=14&gridview=view1











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