SIEMENS

Data sheet 3RV2011-0BA40



Circuit breaker size S00 for motor protection, CLASS 10 A-release 0.14...0.2 A N-release 2.6 A ring cable lug connection Standard switching capacity

December 2011 December 3	product brand name	SIRIUS
Separal technical data	product designation	Circuit breaker
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 auxiliary 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 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 temperature compensation relative humidity during operation Main circuit number of poles for main current circuit 3 800 V 800 V	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 contacts typical of auxiliary contacts typical of auxiliary contacts typical between main contacts typical between 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 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 earbient temperature during transport earbient temperature during operation ambient temperature operation ambient ope	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 5.5 W • at AC in hot operating state per pole 1.8 W insulation voltage with degree of pollution 3 at AC rated value surge voltage resistance rated value 680 V maximum permissible voltage for safe isolation in networks with grounded star point 0 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 100 000 100 00	General technical data	
product extension auxiliary switch power loss [M] 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 suxiliary circuit • between main and suxiliary circuit • of the main contacts typical • 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 poperation temperature compensation 100 000 200 m 200 m 400 V 50 L/10 M 400 V 50 L/20 J/10 M 50 L/20 J/10 M 50 L/20 J/10 M 60 L/20 J/10	size of the circuit-breaker	S00
power loss [W] for rated value of the current • at AC in hot operating state 5.5 W insulation voltage with degree of pollution 3 at AC rated value 690 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 shock resistance acc. to IEC 60068-2-27 25g / 11 ms mechanical service life (switching cycles) 100 000 • of the main contacts typical 100 000 • of auxiliary contacts typical 100 000 electrical endurance (switching cycles) 100 000 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 2 000 m • ambient temperature during operation -20 +60 °C • ambient temperature during transport -50 +80 °C temperature compensation -20 +60 °C relative humidity during operation -20 +60 °C	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 between main and auxiliary circuit between main and auxiliary circuit contains a 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 Ambient conditions installation altitude at height above sea level maximum ambient temperature during operation ambient temperature during storage ambient temperature during storage ambient temperature during operation relative humidity during operation altitude to poles for main current circuit at AC in hot operating state per pole for V 480 V 400 V	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 surge voltage resistance rated value between main and auxiliary circuit between main auxiliary circuit between main and auxiliary circuit between main an	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 • both resistance acc. to IEC 60068-2-27 shock resistance acc. to IEC 60068-2-27 e of the main contacts typical • of auxiliary 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 -50 +80 °C relative humidity during operation 10 95 % Main circuit number of poles for main current circuit 3	 at AC in hot operating state 	5.5 W
value surge voltage resistance rated value maximum permissible voltage for safe isolation in networks with grounded star point • between main and auxiliary circuit • obetween main and auxiliary circuit • of the main contacts typical • of auxiliary contacts typical • bo 000 • of auxiliary contacts typical • bo 000 • Ex II (2) GD DMT 02 ATEX F 001 • 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 • 50 +60 °C • ambient temperature during transport • 50 +80 °C • ambient temperature during transport • 20 +60 °C • ambient temperature during transport • 50 +80 °C • ambient temperature during transport • 50 +80 °C • ambient temperature during transport • 50 +80 °C • ambient temperature during transport • 50 +80 °C • ambient temperature during transport • 50 +80 °C • ambient temperature during transport • 50 +80 °C • ambient temperature during transport • 50 +80 °C • ambient temperature during transport • 50 +80 °C	at AC in hot operating state per pole	1.8 W
maximum permissible voltage for safe isolation in networks with grounded star point • between main and auxiliary circuit • 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 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 • between main and auxiliary circuit • between main and auxiliary circuit • between main and auxiliary circuit 400 V shock resistance acc. to IEC 60068-2-27 prechanical 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 storage • ambient temperature during transport • ambient temperature during transport • ambient temperature during operation • arbient temperature during transport • 50 +80 °C • ambient temperature during operation -20 +60 °C relative humidity during operation 10 95 % Main circuit number of poles for main current circuit 3	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 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 one ambient temperature during operation one ambient temperature during storage one ambient temperature during storage one ambient temperature during transport temperature compensation relative humidity during operation Main circuit number of poles for main current circuit 3		
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 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 Main circuit number of poles for main current circuit 25g / 11 ms 100 000 100 000 EX II (2) GD DMT 02 ATEX F 001 DMT 02 ATEX F 001 2 000 m 2 000 m 2 000 m - 20 +60 °C - 50 +80 °C - 60 °C - 10 +80 °C	 between main and auxiliary circuit 	400 V
mechanical service life (switching cycles) of the main contacts typical of auxiliary contacts typical low 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 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 temperature compensation relative humidity during operation 10 95 % Main circuit number of poles for main current circuit 3	 between main and auxiliary circuit 	400 V
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 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 number of poles for main current circuit 100 000 Ex II (2) GD DMT 02 ATEX F 001 DMT 02 ATEX F 001 200 m 2 000 m 3 000	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 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 100 000 EX II (2) GD DMT 02 ATEX F 001 Q ATEX F 001 2 000 m 3	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 storage • ambient temperature during transport temperature 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 DMT 02 ATEX F 001 2 000 m - 20 +60 °C - 20 +60 °C - 20 +60 °C - 20 +60 °C - 20 +80 °C - 20 +60 °C	 of the main 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 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 relative humidity during operation 3	of auxiliary contacts typical	100 000
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 temperature compensation -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 • 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
 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 	Ambient conditions	
 ambient temperature during storage ambient temperature during transport ambient temperature during storage ambie	installation altitude at height above sea level maximum	2 000 m
 ambient temperature during transport -50 +80 °C temperature compensation relative humidity during operation Main circuit number of poles for main current circuit 3 	 ambient temperature 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	 ambient temperature during storage 	-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 0.14 0.2 A	number of poles for main current circuit	3
	adjustable current response value current of the	0.14 0.2 A

current-dependent overload release	
 operating voltage rated value 	690 V
 operating voltage at AC-3 rated value maximum 	690 V
operating frequency rated value	50 60 Hz
operational current rated value	0.2 A
operational current at AC-3 at 400 V rated value	0.2 A
operating power at AC-3	
at 230 V rated value	30 W
at 400 V rated value	60 W
at 500 V rated value	60 W
at 690 V rated value	90 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
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)	uiciiial
at AC	
at 240 V rated value	100 kA
at 400 V rated value	100 kA
at 500 V rated value	100 kA
at 690 V rated value	100 kA
breaking capacity maximum short-circuit current (Icu)	
at AC at 240 V rated value	100 kA
at AC at 400 V rated value	100 kA
at AC at 500 V rated value	100 kA
at AC at 690 V rated value	100 kA
response value current of instantaneous short-circuit trip	2.6 A
unit	
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
 at 480 V rated value 	0.2 A
 at 600 V rated value 	0.2 A
Short-circuit protection	
product function short circuit protection	Yes
design of the short-circuit trip	magnetic
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	
 for grounded parts at 400 V 	
— downwards	30 mm
— upwards	30 mm
— at the side	9 mm
 for live parts at 400 V 	
— downwards	30 mm
— upwards	30 mm
 for grounded parts at 400 V downwards upwards at the side for live parts at 400 V downwards 	30 mm 9 mm 30 mm



— upwards — backwards	50 mm 0 mm	
— at the side	30 mm	
— forwards	0 mm	
Connections/ Terminals		
product function removable terminal for auxiliary and control circuit	No	
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	Top and bottom	
circuit		
tightening torque		
— for main contacts for ring cable lug	0.8 1.2 N·m	
— for auxiliary contacts for ring cable lug	1.2 0.8 N·m 7.5 mm	
outer diameter of the usable ring cable lug maximum 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		
for main contacts	M3	
 of the auxiliary and control contacts 	M3	
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	50 %	
failure rate [FIT]		
	50 FIT	
with low demand rate acc. to SN 31920 The value for proof test interval or convice life acc. to	10 y	
T1 value for proof test interval or service life acc. to IEC 61508		
T1 value for proof test interval or service life acc. to IEC 61508 protection class IP on the front acc. to IEC 60529	IP00	
T1 value for proof test interval or service life acc. to IEC 61508 protection class IP on the front acc. to IEC 60529 display version for switching status	IP00 Handle	
T1 value for proof test interval or service life acc. to IEC 61508 protection class IP on the front acc. to IEC 60529		For use in



For use in hazardous locations

Declaration of Conformity

Test Certificates

Marine / Shipping



Miscellaneous



Special Test Certificate Type Test
Certificates/Test
Report



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=3RV2011-0BA40

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2011-0BA40

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

https://support.industry.siemens.com/cs/ww/en/ps/3RV2011-0BA40

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2011-0BA40&lang=en

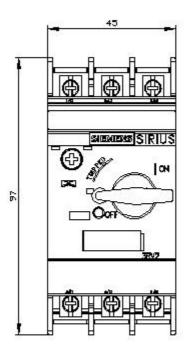
Characteristic: Tripping characteristics, I2t, Let-through current

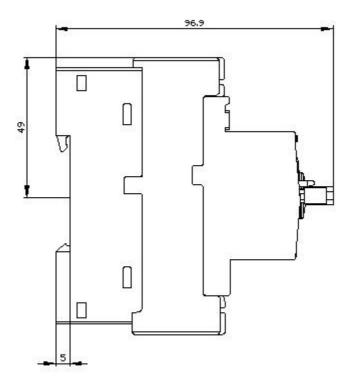
https://support.industry.siemens.com/cs/ww/en/ps/3RV2011-0BA40/char

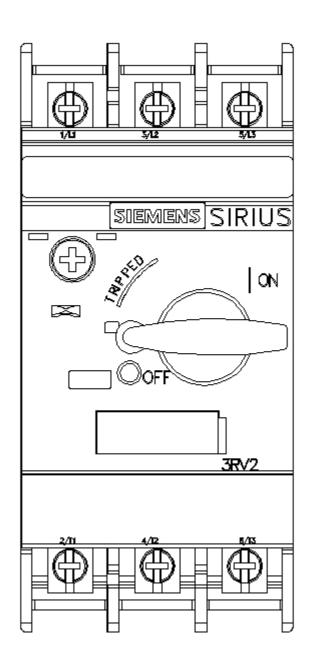
Further characteristics (e.g. electrical endurance, switching frequency)

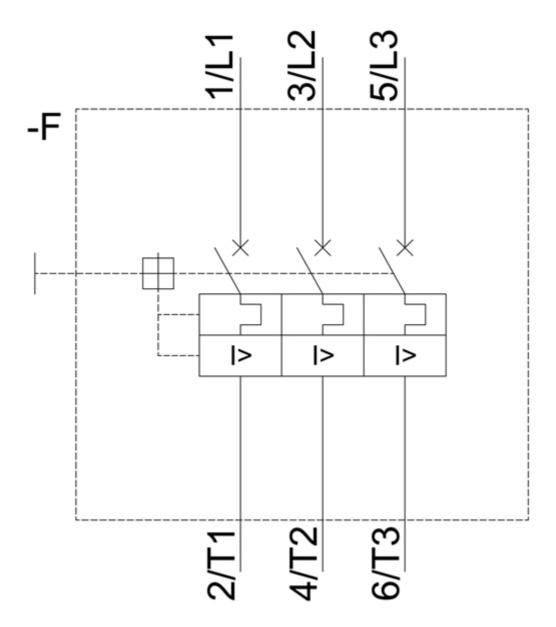
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2011-0BA40&objecttype=14&gridview=view1











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