## **SIEMENS**

Data sheet 3RV2042-4FA10



Circuit breaker size S3 for motor protection, CLASS 10 A-release 28...40 A N-release 520 A screw terminal Increased switching capacity 100 kA  $\,$ 

size of the circuit-breaker         \$3           size of contactor can be combined company-specific product extension auxiliary switch         Yes           power loss [W] for rated value of the current	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 electrical endurance (switching cycles) 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 peration • ambient temperature during operation • ambient temperature during storage • ambient temperature during storage • ambient temperature during operation  Main circuit  number of poles for main current circuit  3 8kV  1 000 V  23 W  400 V  5 KN  400 V  5 5 W  5 W  5 S W  5	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 et at AC in hot operating state 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 ebetween main and auxiliary circuit between main and auxiliary circuit between main and auxiliary circuit ebetween main and auxiliary circuit ebetween main and auxiliary circuit ef of auxiliary contacts typical of the main 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 allitude at height above sea level maximum emained a theight above sea level maximum ember of poles for main current circuit  number of poles for main current circuit  as 3  S3  S3  S3  S4  Yes  S3  Yes  S4  W  AV  V  S5  W  AV  V  AV  V  AV  V  AV  V  AV  V  AV  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	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 • of the main contacts typical • 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 2014/3/4/EU  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 storage • ambient temperature during transport • ambient temperature during transport  relative humidity during operation  mumber of poles for main current circuit  9 3  Yes  9 3 W  1 000 V  23 W  1 000 V  25g/ 11 ms Sinus  25 000  25 000  25 000  25 000  25 000  25 000  25 000  27 000  28 XII (2) GD  27 000  28 XII (2) GD  29 000  20	General technical data	
product extension auxiliary switch power loss [W] for rated value of the current	size of the circuit-breaker	S3
power loss [W] for rated value of the current  at AC in hot operating state 23 W  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 400 V  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 Sinus  mechanical service life (switching cycles)  of the main contacts typical 25 000  electrical endurance (switching cycles) typical 25 000  electrical endurance (switching cycles) typical 25 000  electrical endurance (switching cycles) typical 274/34/EU  certificate of suitability according to ATEX directive 2014/34/EU  certificate of suitability according to ATEX directive 200 m  each according to ATEX directive 200 m  each according to ATEX directive 200 m  ordinate temperature during operation 200 m  each according to ATEX directive 200 m  ordinate temperature during to ATEX directive 200 m  ordinate tempera	size of contactor can be combined company-specific	S3
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 betwee	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  • of the 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  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 operation  • 20 +60 °C  • ambient temperature during transport  - 50 +80 °C  • ambient temperature during operation  • 20 +60 °C  • ambient temperature during transport  - 50 +80 °C  • ambient temperature during transport  - 50 +80 °C  • ambient temperature during operation  • 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 conditions  relative humidity during operation  • 20 +60 °C  • ambient compensation  relative humidity during operation  - 20 +60 °C  • 30 +80 °C  • 40 °C  • 30 +80 °C  • 40 °C  • 50 +80 °C	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  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  temperature compensation  relative humidity during operation  10 95 %  Main circuit  number of poles for main current circuit  3   400 V  40 V  400	<ul> <li>at AC in hot operating state</li> </ul>	23 W
value surge voltage resistance rated value maximum permissible voltage for safe isolation in networks with grounded star point  • between main and auxiliary circuit 400 V  shock resistance acc. to IEC 60068-2-27 25g / 11 ms Sinus  mechanical service life (switching cycles) • of the main contacts typical • of auxiliary contacts typical 25 000 electrical endurance (switching cycles) typical 25 000  electrical endurance (switching cycles) typical 25 000  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 • ambient temperature during operation • ambient temperature during storage • 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 kV   400 V  400	at AC in hot operating state per pole	7.7 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  mechanical service life (switching cycles)  • of the main contacts typical  • of auxiliary contacts typical  • Ex II (2) GD  25 000  Ex II (2) GD  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 transport  • 20 +60 °C  temperature compensation  • 20 +60 °C  relative humidity during operation  10 95 %  Main circuit  number of poles for main current circuit  3	9 9 1	1 000 V
networks with grounded star point	surge voltage resistance rated value	8 kV
between main and auxiliary circuit     shock resistance acc. to IEC 60068-2-27     25g / 11 ms Sinus      mechanical service life (switching cycles)     of the main contacts typical     of auxiliary contacts typical     electrical endurance (switching cycles) typical     electrical endurance (switching cycles) typical     25 000  electrical endurance (switching cycles) typical     25 000  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      ambient temperature during operation     ambient temperature during storage     ambient temperature during storage     ambient temperature during transport  -50 +80 °C  temperature compensation  relative humidity during operation  10 95 %  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 25 000  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  Ambient conditions installation altitude at height above sea level maximum  ombient temperature during operation ombient temperature during storage ombient temperature during storage ombient temperature during transport  temperature compensation -20 +60 °C -20 +80 °C -20 +80 °C -20 +80 °C -20 +60 °C	<ul> <li>between main and auxiliary circuit</li> </ul>	400 V
mechanical service life (switching cycles)  of the main contacts typical of auxiliary contacts typical electrical endurance (switching cycles) typical 25 000  Ex II (2) GD  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 -20 +60 °C -30 +80 °C	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>25 000</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>temperature compensation</li> <li>-20 +60 °C</li> <li>relative humidity during operation</li> <li>10 95 %</li> </ul> Main circuit <ul> <li>ambient current circuit</li> <li>3</li> </ul>	shock resistance acc. to IEC 60068-2-27	25g / 11 ms Sinus
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 10 95 %  Main circuit  number of poles for main current circuit  25 000  Ex II (2) GD  DMT 02 ATEX F 001  DMT 02 ATEX F 001  2 000  Ex II (2) GD  O  C  Ex II (2) GD  O  Ex I	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  number of poles for main current circuit  25 000  Ex II (2) GD  DMT 02 ATEX F 001  DMT 02 ATEX F 001  20	<ul> <li>of the main contacts typical</li> </ul>	25 000
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  multiple temperature during transport -50 +80 °C  temperature compensation -20 +60 °C  relative humidity during operation -20 +60 °C  10 95 %	of auxiliary contacts typical	25 000
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  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	25 000
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  temperature compensation  -20 +60 °C  temperature compensation  -20 +80 °C  temperature compensation  -20 +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
	<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 28 40 A	number of poles for main current circuit	3
·	adjustable current response value current of the	28 40 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	40 A
operational current at AC-3 at 400 V rated value	40 A
operating power at AC-3	
• at 230 V rated value	11 000 W
<ul> <li>at 400 V rated value</li> </ul>	18 500 W
• at 500 V rated value	22 000 W
<ul><li>at 690 V rated value</li></ul>	37 000 W
operating frequency at AC-3 maximum	15 1/h
Protective and monitoring functions	
product function	
<ul> <li>ground fault detection</li> </ul>	No
<ul> <li>phase failure detection</li> </ul>	Yes
trip class	CLASS 10
design of the overload release	thermal
breaking capacity operating short-circuit current (lcs) at AC	
at 240 V rated value	100 kA
at 400 V rated value	50 kA
at 500 V rated value	9 kA
• at 690 V rated value	6 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	18 kA
• at AC at 690 V rated value	12 kA
response value current of instantaneous short-circuit trip unit	520 A
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
• at 480 V rated value	40 A
at 600 V rated value	40 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	1.5.1
— at 200/208 V rated value	15 hp
— at 220/230 V rated value	15 hp
— at 460/480 V rated value	30 hp
— at 575/600 V rated value	40 hp
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	165 mm
width	70 mm
depth	176 mm
required spacing	
<ul> <li>for grounded parts at 400 V</li> </ul>	
— downwards	70 mm



— at the side	10 mm	
<ul> <li>for live parts at 400 V</li> </ul>		
— downwards	70 mm	
— upwards	70 mm	
— at the side	10 mm	
<ul> <li>for grounded parts at 500 V</li> </ul>		
— downwards	110 mm	
— upwards	110 mm	
— at the side	10 mm	
<ul> <li>for live parts at 500 V</li> </ul>		
— downwards	110 mm	
— upwards	110 mm	
— at the side	10 mm	
<ul> <li>for grounded parts at 690 V</li> </ul>		
— downwards	150 mm	
— upwards	150 mm	
— backwards	0 mm	
— at the side	30 mm	
— forwards	0 mm	
• for live parts at 690 V		
— downwards	150 mm	
— upwards	150 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	screw-type terminals	
arrangement of electrical connectors for main current circuit	Top and bottom	
type of connectable conductor cross-sections		
for main contacts		
— solid	2x (2.5 16 mm²)	
<ul><li>— solid or stranded</li></ul>	2x (2,5 50 mm²), 1x (10 70 mm²)	
<ul> <li>finely stranded with core end processing</li> </ul>	2x (2.5 35 mm²), 1x (2.5 50 mm²)	
finely stranded without core end processing	2x (10 35 mm²), 1x (10 50 mm²)	
• tightening torque		
— for main contacts for ring cable lug	4.5 6 N·m	
outer diameter of the usable ring cable lug maximum	19 mm	
tightening torque for main contacts with screw-type terminals	4.5 6 N·m	
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 %	
T1 value for proof test interval or service life acc. to	10 y	
IEC 61508		
protection class IP on the front acc. to IEC 60529	IP20	
touch protection on the front acc. to IEC 60529	finger-safe, for vertical contact from the front	
display version for switching status	Handle	
Certificates/ approvals		
General Product Approval		For use in hazardous locations













For use in
hazardous
locations

**Declaration of Conformity** 

**Test Certificates** 

Marine / Shipping





**Miscellaneous** 

**Type Test** Certificates/Test Report

**Special Test** Certificate



## Marine / Shipping













other

Railway

Confirmation

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=3RV2042-4FA10

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2042-4FA10

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

https://support.industry.siemens.com/cs/ww/en/ps/3RV2042-4FA10

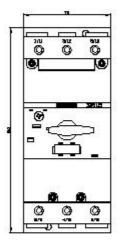
Characteristic: Tripping characteristics, I2t, Let-through current

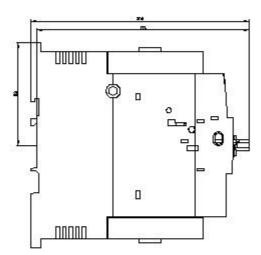
https://support.industry.siemens.com/cs/ww/en/ps/3RV2042-4FA10/char

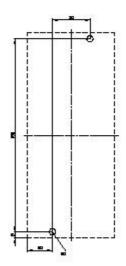
Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2042-4FA10&objecttype=14&gridview=view1

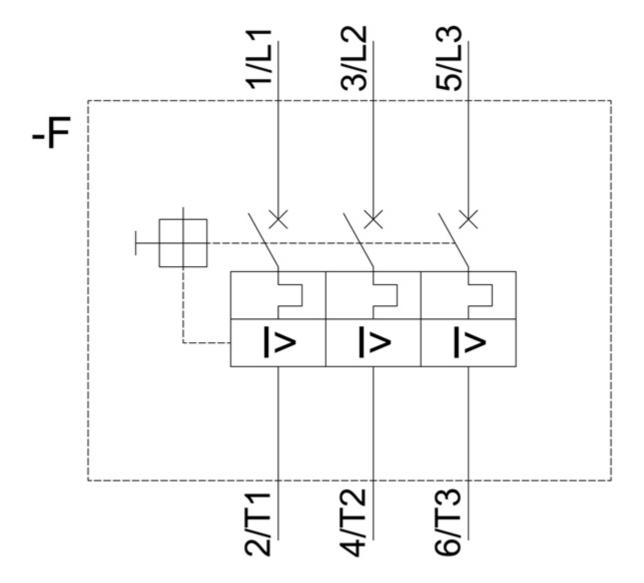












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