## **SIEMENS**

Data sheet 3RV2421-4CA10



Circuit breaker size S0 for transformer protection A-release 16...22 A N-release 364 A screw terminal Standard switching capacity



| product brand name  | SIRIUS                     |
|---|----------------------------|
| product designation   | Circuit breaker            |
| design of the product   | For transformer protection |
| product type designation  | 3RV2                       |
| General technical data  |                            |
| size of the circuit-breaker   | S0                         |
| size of contactor can be combined company-specific                                      | S00, S0                    |
| product extension auxiliary switch  | Yes                        |
| 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                         | 690 V                      |
| surge voltage resistance rated value  | 6 kV                       |
| shock resistance according to IEC 60068-2-27  | 25g / 11 ms                |
| mechanical service life (operating cycles)  |                            |
| of the main contacts typical  | 100 000                    |
| <ul> <li>of auxiliary contacts typical</li> </ul>                                       | 100 000                    |
| electrical endurance (operating cycles) typical   | 100 000                    |
| reference code according to IEC 81346-2   | Q                          |
| Substance Prohibitance (Date)   | 10/01/2009                 |
| SVHC substance name   | Lead - 7439-92-1           |
| 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                 |
| relative humidity during operation  | 10 95 %                    |
| Main circuit  |                            |
| number of poles for main current circuit  | 3                          |
| adjustable current response value current of the current-<br>dependent overload release | 16 22 A                    |
| operating voltage   |                            |
| rated value   | 20 690 V                   |
| <ul> <li>at AC-3 rated value maximum</li> </ul>   | 690 V                      |
| at AC-3e rated value maximum  | 690 V                      |
| operating frequency rated value   | 50 60 Hz                   |

| operational current rated value                                 | 22 /       |
|---|------------|
| operational current   | 22 A       |
| operational current   | 22.4       |
| at AC-3 at 400 V rated value                                    | 22 A       |
| at AC-3e at 400 V rated value                                   | 22 A       |
| operating power   |            |
| • at AC-3   |            |
| — at 230 V rated value  | 5.5 kW     |
| — at 400 V rated value  | 11 kW      |
| — at 500 V rated value  | 11 kW      |
| — at 690 V rated value  | 18.5 kW    |
| • at AC-3e  |            |
| — at 230 V rated value  | 5.5 kW     |
| — at 400 V rated value  | 11 kW      |
| — at 500 V rated value  | 11 kW      |
| — at 690 V rated value  | 18.5 kW    |
| operating frequency   |            |
| • at AC-3 maximum   | 15 1/h     |
| • at AC-3e 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    |
| maximum short-circuit current breaking capacity (Icu)           | tionia.    |
| at AC at 240 V rated value                                      | 100 kA     |
| • at AC at 400 V rated value                                    | 55 kA      |
| at AC at 500 V rated value     at AC at 500 V rated value       | 10 kA      |
|   |            |
| • at AC at 690 V rated value                                    | 4 kA       |
| operating short-circuit current breaking capacity (Ics) at AC   | 400 1-4    |
| 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       |
| response value current of instantaneous short-circuit trip unit | 364 A      |
| UL/CSA ratings  |            |
| full-load current (FLA) for 3-phase AC motor                    |            |
| at 480 V rated value  | 22 A       |
| at 600 V rated value  | 22 A       |
| yielded mechanical performance [hp]                             |            |
| <ul> <li>for single-phase AC motor</li> </ul>                   |            |
| — at 110/120 V rated value                                      | 1.5 hp     |
| — at 230 V rated value  | 3 hp       |
| • for 3-phase AC motor  |            |
| <ul> <li>at 200/208 V rated value</li> </ul>                    | 7.5 hp     |
| <ul> <li>at 220/230 V rated value</li> </ul>                    | 7.5 hp     |
| — at 460/480 V rated value                                      | 15 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 500 V  | gL/gG 50 A |
| • at 690 V  | gL/gG 50 A |
| Installation/ mounting/ dimensions                              |            |
| mounting position   | any        |
|   |            |

| fastening method   | screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 |
|--|--|
| height   | 97 mm  |
| width  | 45 mm  |
| depth  | 97 mm  |
| required spacing   |  |
| with side-by-side mounting at the side                       | 0 mm   |
| • 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  |
| — at the side  | 9 mm   |
| • for grounded parts at 500 V                                |  |
| — 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   |
| <ul> <li>for grounded parts at 690 V</li> </ul>              |  |
| — 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                                       |  |
| type of electrical connection     for main current circuit   | corow typo terminals   |
| arrangement of electrical connectors for main current        | screw-type terminals  Top and bottom                                     |
| circuit  | Top and bottom   |
| type of connectable conductor cross-sections                 |  |
| • for main contacts  |  |
| — solid or stranded  | 2x (1 2.5 mm²), 2x (2.5 10 mm²)  |
| <ul> <li>finely stranded with core end processing</li> </ul> | 2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²                                |
| for 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 size 2  |
| design of the thread of the connection screw                 |  |
| for main contacts  | M4   |
| afety related data   |  |
| product function suitable for safety function                | Yes  |
| suitability for use  |  |
| <ul> <li>safety-related switching on</li> </ul>              | No   |
| safety-related switching OFF                                 | Yes  |
| service life maximum   | 10 a   |
| test wear-related service life necessary                     | Yes  |
| proportion of dangerous failures                             |  |
| with low demand rate according to SN 31920                   | 40 %   |
| with high demand rate according to SN 31920                  | 50 %   |
| B10 value with high demand rate according to SN 31920        | 5 000  |

| failure rate [FIT] with low demand rate according to SN 31920                          | 50 FIT   |
|--|--|
| ISO 13849  |  |
| device type according to ISO 13849-1   | 3  |
| overdimensioning according to ISO 13849-2 necessary                                    | Yes  |
| IEC 61508  |  |
| safety device type according to IEC 61508-2  | Type A   |
| T1 value   |  |
| <ul> <li>for proof test interval or service life according to IEC<br/>61508</li> </ul> | 10 a   |
| Electrical Safety  |  |
| protection class IP on the front according to IEC 60529                                | IP20   |
| touch protection on the front according to IEC 60529                                   | finger-safe, for vertical contact from the front |
| Display  |  |
| display version for switching status   | Handle   |
| Approvals Certificates   |  |
| General Product Approval   |  |

Confirmation





<u>KC</u>



**Test Certificates** 

## Marine / Shipping

Special Test Certificate Type Test Certificates/Test Report









Marine / Shipping

other

Confirmati



Special Test Certificate

Railway

PRS



Miscellaneous

Confirmation

Railway Environment

Confirmation



Siemens EcoTech



Environmental Confirmations

## urther information

Information on the packaging

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

Information- and Downloadcenter (Catalogs, Brochures,...)

https://www.siemens.com/ic10

Industry Mall (Online ordering system)

https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RV2421-4CA10

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2421-4CA10

Service&Support (Manuals, Certificates, Characteristics, FAQs,...) https://support.industry.siemens.com/cs/ww/en/ps/3RV2421-4CA10

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

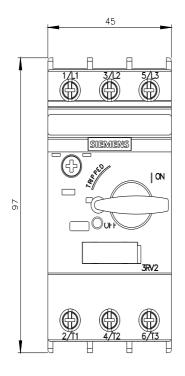
http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RV2421-4CA10&lang=en

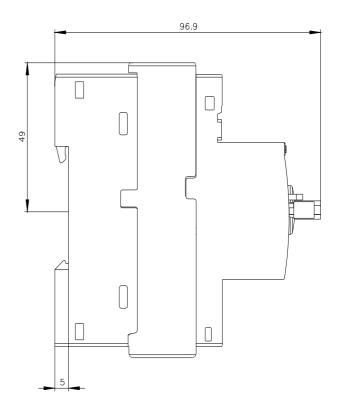
Characteristic: Tripping characteristics, I²t, Let-through current

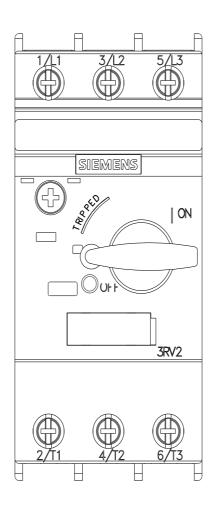
https://support.industry.siemens.com/cs/ww/en/ps/3RV2421-4CA10/char

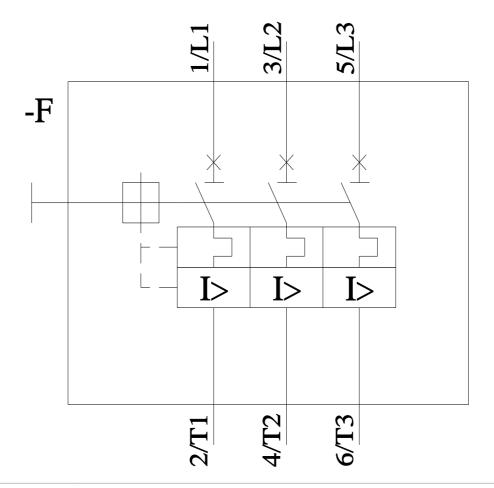
Further characteristics (e.g. electrical endurance, switching frequency)

 $\underline{\text{http://www.automation.siemens.com/bilddb/index.aspx?view=Search\&mlfb=3RV2421-4CA10\&objecttype=14\&gridview=view1}$ 









last modified: 4/12/2024 🖸