# hoja de datos del producto



CIRCUIT-BREAKER SZ S0, FOR MOTOR PROTECTION, CLASS 10, A-RELEASE 17...22A, N-RELEASE 286A, SCREW CONNECTION, STANDARD SW. CAPACITY, W. TRANSVERSE AUX. SWITCH 1NO+1NC

| General technical data:   |     |                    |  |  |
|---|-----|--------------------|--|--|
| product brand name  | SIF | RIUS               |  |  |
| Product designation   | 3R' | V2 circuit breaker |  |  |
| Size of the circuit-breaker   | S0  |                    |  |  |
| Number of poles / for main current circuit  | 3   |                    |  |  |
| Product function  |     |                    |  |  |
| short circuit protection  | Yes | s                  |  |  |
| overload protection   | Yes | s                  |  |  |
| phase disturbance recognition   | Yes | s                  |  |  |
| • plant protection  | Yes | s                  |  |  |
| motor protection  | Yes | s                  |  |  |
| <ul> <li>motor protection with relais overload functionality</li> </ul>                             | No  |                    |  |  |
| • starter protection  | No  |                    |  |  |
| transformer protection  | No  |                    |  |  |
| disconnector functionality  | Yes | s                  |  |  |
| <ul> <li>main control switches with supply disconnect function and EM-<br/>STOP switches</li> </ul> | No  |                    |  |  |
| Design of the operating mechanism   | sel | ector switch       |  |  |
| Product component   |     |                    |  |  |
| auxiliary switch  | Yes | s                  |  |  |
| undervoltage release mechanism  | No  |                    |  |  |

| Product extension  - audilary switch - cyclional / motor drive  Insulation voltage / with degree of politation 3 / rated value    Ves   Resource   Protection class IP   IP20  | trip indicator  |    | No               |
|--|---|----|------------------|
| • optional / motor drive   No  | Product extension   |    |                  |
| Insulation voltage / with degree of poliution 3 / rated value  | auxiliary switch  |    | Yes              |
| Impulse voltage resistance / rated value  Protection class IP  of the terminal on the front  IP20  Protection against electrical shock Installation altitude / at a height over sea level / maximum  Relative humidity during operating phase  Ambient temperature  oduring transport during storage during transport during transport during value during during value during during functions during storage during during functions during switch / required  Protective and monitoring functions:  Type of protection  Varification of suitability / ATEX  Design of the overload circuit breaker dujustable response current / of the current-dependent overload release Trip class  Trip class  CLASS 10  | optional / motor drive  |    | No               |
| Protection class IP  of the terminal on the front  Protection against electrical shock Installation altitude / at a height over sea level / maximum  Relative humidity during operating phase  Ambient temperature  during transport during storage during operating storage during operating to IEC 60068-2-27  Shock resistance / according to IEC 60068-2-27  Usage category according to IEC 60047-4-1  Active power loss / total / typical  W 9.9  Main circuit:  Operating voltage / rated value  Voltage type / for main circuit  Operating frequency rated value  ACDC  Operating current / at AC-3 / at 400 V / rated value  ACDC  Design of the fuse link / for short-circuit protection of the auxiliary switch / required  Protective and monitoring functions:  Type of protection  Varification of suitability / ATEX  Design of the overload circuit breaker C 6 A dijustable response current / of the current-dependent overload release  Trip class  CLASS 10  CLASS 10  | Insulation voltage / with degree of pollution 3 / rated value | V  | 690              |
| • of the terminal         IP20           • on the front         IP20           Protection against electrical shock         finger-safe           Installation altitude/ at a height over sea level / maximum         m         2,000           Relative humidity         -         -           • during operating phase         %         10 95           Ambient temperature         -         -           • during storage         °C         -50 +80           • during operating         °C         -50 +80           • during operating         °C         -20 +80           • during operating of IEC 60068-2-27         25g / 11 ms           Usage category         • according to IEC 60947-4-1         AC-3           Active power loss / total / typical         W         9.9           Main circuit         AC-3           Operating voltage / rated value         V         690           Voltage type / for main circuit         AC/DC           Operating current / at AC-3 / at 400 V / rated value         A         22           Hilfsstromkreis           Design of the fuse link / for short-circuit protection of the auxiliary switch / required         Fuse gL/gG: 10 A, miniature circuit breaker C 6 A (short-circuit current Ik ~ 400 A)   | Impulse voltage resistance / rated value                      | kV | 6                |
| • on the front IP20  Protection against electrical shock Installation altitude / at a height over sea level / maximum m 2,000  Relative humidity • during operating phase Modern temperature • during transport °C -50 +80 • during transport °C -50 +80 • during operating Storage °C -50 +80 • during operating to IEC 60068-2-27 25g / 11 ms  Usage category • according to IEC 60047-4-1 AC:3 Active power loss / total / typical W 9.9  Main circuit:  Operating voltage / rated value V 690  Voltage type / for main circuit Operating frequency • rated value Hz 50 60  Operating current / at AC-3 / at 400 V / rated value A 22  Hiffsstromkreis  Design of the fuse link / for short-circuit protection of the auxiliary switch / required  Varification of suitability / ATEX Yes  Design of the overload circuit breaker  Adjustable response current / of the current-dependent overload release  Trip class  Trip class  Trip class  | Protection class IP   |    |                  |
| Protection against electrical shock  Installation altitude / at a height over sea level / maximum  Relative humidity   | of the terminal   |    | IP20             |
| Installation altitude / at a height over sea level / maximum m 2,000  Relative humidity  • during operating phase % 10 95  Ambient temperature  • during transport °C .50 +80  • during transport °C .50 +80  • during storage °C .50 +80  • during operating °C .20 +60  Shock resistance / according to IEC 60068-2-27 25g / 11 ms  Usage category  • according to IEC 60947-4-1 AC-3  Active power loss / total / typical W 9.9  Main circuit:  Operating voltage / rated value V 890  Voltage type / for main circuit AC/DC  Operating frequency • rated value Hz 50 60  Operating current / at AC-3 / at 400 V / rated value A 22  Hilfsstromkreis  Design of the fuse link / for short-circuit protection of the auxiliary switch / required (short-circuit current lik < 400 A)  Protective and monitoring functions:  Type of protection  Variffication of suitability / ATEX Design of the overload circuit breaker Adjustable response current / of the current-dependent overload circuit breaker Adjustable response current / of the current-dependent overload circuit breaker  CLASS 10   | • on the front  |    | IP20             |
| Relative humidity  • during operating phase  Ambient temperature  • during transport  • during storage  • during operating  **C  | Protection against electrical shock                           |    | finger-safe      |
| * during operating phase  Ambient temperature  • during transport  • during storage  • during operating  **C   | Installation altitude / at a height over sea level / maximum  | m  | 2,000            |
| Ambient temperature  • during transport  • during storage  • during operating  **C   | Relative humidity   |    |                  |
| <pre>• during transport • during storage • during operating  ***C</pre>  | during operating phase  | %  | 10 95            |
| * during storage     * during operating  **C    -50 +80  **Shock resistance / according to IEC 60068-2-27  **Usage category     **according to IEC 60947-4-1  **Active power loss / total / typical  **Main circuit:  **Operating voltage / rated value  **Voltage type / for main circuit  **Operating frequency     **rated value  **Protective and monitoring functions:  **Type of protection  **Protective and monitoring functions:  Trip class  **C    -50 +80  -50 +80  -50 +80  -50 +80  -60 +8   | Ambient temperature   |    |                  |
| *during operating **C  | during transport  | °C | -50 +80          |
| Shock resistance / according to IEC 60068-2-27  Usage category   | during storage  | °C | -50 +80          |
| Usage category  * according to IEC 60947-4-1  Active power loss / total / typical  W 9.9  Main circuit:  Operating voltage / rated value  V 690  Voltage type / for main circuit  Operating frequency  * rated value  Hz 50 60  Operating current / at AC-3 / at 400 V / rated value  A 22  Hilfsstromkreis  Design of the fuse link / for short-circuit protection of the auxiliary switch / required  Protective and monitoring functions:  Type of protection  Varification of suitability / ATEX  Design of the overload circuit breaker  Adjustable response current / of the current-dependent overload release  Trip class  AC-3  AC-2  AC-BO  AC-DC  AC/DC  AC/AC  AC/DC  AC/AC     | during operating  | °C | -20 +60          |
| * according to IEC 60947-4-1     Active power loss / total / typical  Main circuit:  Operating voltage / rated value  V 690  Voltage type / for main circuit  Operating frequency     * rated value  Hz 50 60  Operating current / at AC-3 / at 400 V / rated value  A 22  Hilfsstromkreis  Design of the fuse link / for short-circuit protection of the auxiliary switch / required  Protective and monitoring functions:  Type of protection  Varification of suitability / ATEX  Design of the overload circuit breaker  Adjustable response current / of the current-dependent overload release  Trip class  CLASS 10   | Shock resistance / according to IEC 60068-2-27                |    | 25g / 11 ms      |
| Active power loss / total / typical  Main circuit:  Operating voltage / rated value  V 690  Voltage type / for main circuit  Operating frequency  • rated value  Hz 50 60  Operating current / at AC-3 / at 400 V / rated value  A 22  Hilfsstromkreis  Design of the fuse link / for short-circuit protection of the auxiliary switch / required  Protective and monitoring functions:  Type of protection  Varification of suitability / ATEX  Design of the overload circuit breaker  Adjustable response current / of the current-dependent overload release  Trip class  CLASS 10   | Usage category  |    |                  |
| Main circuit:  Operating voltage / rated value  V 690  Voltage type / for main circuit  Operating frequency • rated value  Hz 50 60  Operating current / at AC-3 / at 400 V / rated value  A 22  Hilfsstromkreis  Design of the fuse link / for short-circuit protection of the auxiliary switch / required  Protective and monitoring functions:  Type of protection  Varification of suitability / ATEX  Design of the overload circuit breaker  Adjustable response current / of the current-dependent overload release  Trip class  CLASS 10   | according to IEC 60947-4-1                                    |    | AC-3             |
| Operating voltage / rated value  Voltage type / for main circuit  Operating frequency  * rated value  Hz  50 60  Operating current / at AC-3 / at 400 V / rated value  A  22  Hilfsstromkreis  Design of the fuse link / for short-circuit protection of the auxiliary switch / required  Protective and monitoring functions:  Type of protection  Voltage type / for main circuit protection of the auxiliary switch / required  Increased safety  Varification of suitability / ATEX  Design of the overload circuit breaker  Adjustable response current / of the current-dependent overload release  Trip class  CLASS 10   | Active power loss / total / typical                           | W  | 9.9              |
| Voltage type / for main circuit  Operating frequency  • rated value  Hz 50 60  Operating current / at AC-3 / at 400 V / rated value  A 22  Hilfsstromkreis  Design of the fuse link / for short-circuit protection of the auxiliary switch / required  Protective and monitoring functions:  Type of protection  Varification of suitability / ATEX  Design of the overload circuit breaker  Adjustable response current / of the current-dependent overload release  Trip class  AC/DC  AC/CC  A     | Main circuit:   |    |                  |
| Operating frequency  | Operating voltage / rated value                               | V  | 690              |
| • rated value  | Voltage type / for main circuit                               |    | AC/DC            |
| Operating current / at AC-3 / at 400 V / rated value  A 22  Hilfsstromkreis  Design of the fuse link / for short-circuit protection of the auxiliary switch / required  Fuse gL/gG: 10 A, miniature circuit breaker C 6 A (short-circuit current lk < 400 A)  Protective and monitoring functions:  Type of protection  Increased safety  Varification of suitability / ATEX  Design of the overload circuit breaker  Adjustable response current / of the current-dependent overload release  Trip class  CLASS 10  | Operating frequency   |    |                  |
| Hilfsstromkreis  Design of the fuse link / for short-circuit protection of the auxiliary switch / required  Protective and monitoring functions:  Type of protection  Increased safety  Varification of suitability / ATEX  Design of the overload circuit breaker  Adjustable response current / of the current-dependent overload release  Trip class  CLASS 10  | • rated value   | Hz | 50 60            |
| Design of the fuse link / for short-circuit protection of the auxiliary switch / required  Protective and monitoring functions:  Type of protection  Increased safety  Varification of suitability / ATEX  Design of the overload circuit breaker  Adjustable response current / of the current-dependent overload release  Trip class  Fuse gL/gG: 10 A, miniature circuit breaker C 6 A (short-circuit current lk < 400 A)  Fuse gL/gG: 10 A, miniature circuit breaker C 6 A (short-circuit current lk < 400 A)  Fuse gL/gG: 10 A, miniature circuit breaker C 6 A (short-circuit current lk < 400 A)  Increased safety  Yes  CLASS 10  | Operating current / at AC-3 / at 400 V / rated value          | А  | 22               |
| auxiliary switch / required (short-circuit current lk < 400 A)  Protective and monitoring functions:  Type of protection Increased safety  Varification of suitability / ATEX Yes  Design of the overload circuit breaker thermal  Adjustable response current / of the current-dependent overload release  Trip class CLASS 10  | Hilfsstromkreis   |    |                  |
| Type of protection  Varification of suitability / ATEX  Pesign of the overload circuit breaker  Adjustable response current / of the current-dependent overload release  Trip class  Increased safety  Yes  thermal  A 17 22  CLASS 10   |   |    |                  |
| Varification of suitability / ATEX  Design of the overload circuit breaker  Adjustable response current / of the current-dependent overload release  Trip class  Yes  thermal  A 17 22  CLASS 10   | Protective and monitoring functions:                          |    |                  |
| Design of the overload circuit breaker thermal  Adjustable response current / of the current-dependent overload release  Trip class thermal th | Type of protection  |    | Increased safety |
| Adjustable response current / of the current-dependent overload release  Trip class  A 17 22  CLASS 10   | Varification of suitability / ATEX                            |    | Yes              |
| overload release  Trip class  CLASS 10   | Design of the overload circuit breaker                        |    | thermal          |
| <u> </u>   |   | А  | 17 22            |
| Design of the short-circuit trip magnetic  | Trip class  |    | CLASS 10         |
|  | Design of the short-circuit trip                              |    | magnetic         |

| Current response value / of the instantaneous short-circuit trip                          | Α  | 286  |
|---|----|--|
| Operational short-circuit current breaking capacity (lcs) / with                          |    |  |
| • at 240 V / rated value  | kA | 100  |
| • at 400 V / rated value  | kA | 25   |
| • at 500 V / rated value  | kA | 5  |
| • at 690 V / rated value  | kA | 2  |
| Breaking capacity maximum short-circuit current (Icu)                                     |    |  |
| • at 240 V / for AC / rated value   | kA | 100  |
| • at 400 V / for AC / rated value   | kA | 55   |
| • at 500 V / for AC / rated value   | kA | 10   |
| • at 690 V / for AC / rated value   | kA | 4  |
| Design of fuse insert / 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   |
| Breaking capacity short-circuit current (lcn)   |    |  |
| • with 1 current path / at 150 V / for DC / rated value                                   | kA | 10   |
| • with 2 current paths in series / at 300 V / for DC / rated value                        | kA | 10   |
| • with 3 current paths in series / at 450 V / for DC / rated value                        | kA | 10   |
| Installation/ mounting/ dimensions:   |    |  |
| Mounting type   |    | screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715 |
| mounting position   |    | any  |
| Depth   | mm | 96   |
| Height  | mm | 97   |
| Width   | mm | 45   |
| Connections/ terminals:   |    |  |
| Arrangement of electrical connectors / for main current circuit                           |    | Top and bottom   |
| Design of the electrical connection / for main current circuit                            |    | screw-type terminals   |

| Connections/ terminals:   |   |
|---|---|
| Arrangement of electrical connectors / for main current circuit                 | Top and bottom                            |
| Design of the electrical connection / for main current circuit                  | screw-type terminals                      |
| Type of the connectable conductor cross-section                                 |   |
| • for main contacts   |   |
| solid or multi-stranded   | 2x (1 2,5 mm²), 2x (2,5 10 mm²)           |
| • finely stranded   |   |
| with conductor end processing   | 2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² |
| for AWG conductors / for main contacts  | 2x (16 12), 2x (14 8)                     |
| Design of the electrical connection / for auxiliary and control current circuit | screw-type terminals                      |
| Type of the connectable conductor cross-section                                 |   |

· for auxiliary contacts

• solid or multi-stranded

• finely stranded

• with conductor end processing

• for AWG conductors / for auxiliary contacts

| 2x (0,5 1,5 mm²), 2x (0,75 2,5 mm²) |
|-------------------------------------|
| 2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²) |
| 2x (20 16), 2x (18 14)              |

| UL/CSA ratings:   |   |             |
|---|---|-------------|
| Operating voltage / according to UL 60947 / rated value               | V | 600         |
| Full-load current (FLA) / for 3-phase motor                           |   |             |
| • at 480 V / rated value  | Α | 22          |
| • at 600 V / rated value  | Α | 22          |
| Contact rating designation / for auxiliary contacts / according to UL |   | C300 / R300 |

## Certificates/ approvals:

## **General Product Approval**

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**Declaration of** 

Conformity

**Test Certificates** 

<u>Special Test</u> <u>Type Test</u> <u>Certificate</u> <u>Certificates/Test</u> Report

### **Shipping Approval**













## **Shipping Approval**





other

Confirmation



other

Environmental Confirmations

## Further information:

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

http://www.siemens.com/industrial-controls/catalogs

Industry Mall (Online ordering system)

http://www.siemens.com/industrymall

Cax online generator

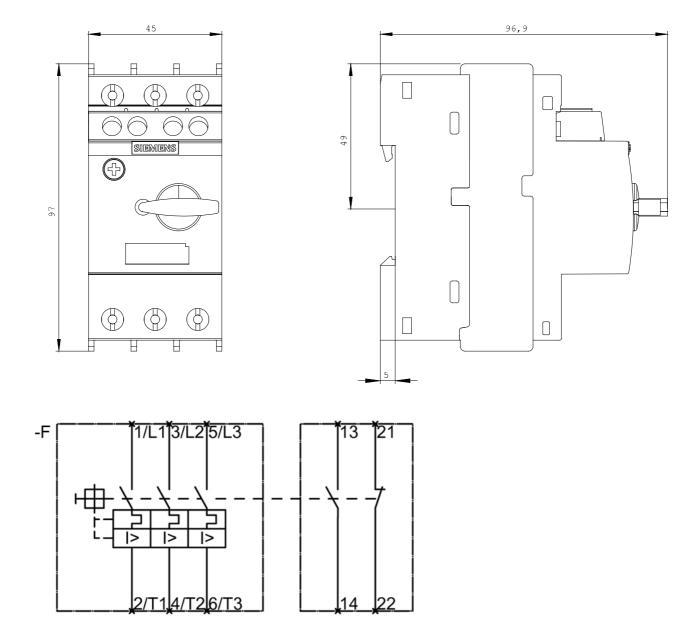
http://www.siemens.com/cax

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

http://support.automation.siemens.com/WW/view/en/3RV2021-4CA15/all

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

 $\underline{http://www.automation.siemens.com/bilddb/cax\_en.aspx?mlfb=3RV2021-4CA15}$ 



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