



power controller current range 90 A / 40 °C 110 ... 230 V / 24 V AC/DC with partial load monitoring for semiconductor relay/contactors

|                                             |                               |
|---------------------------------------------|-------------------------------|
| product brand name                          | SIRIUS                        |
| product designation                         | power controller              |
| product type designation                    | 3RF39                         |
| manufacturer's article number               |                               |
| • _1 of the accessories that can be ordered | <a href="#">3RF2900-0RA88</a> |
| product designation                         |                               |
| • _1 of the accessories that can be ordered | sealable end cover            |
| • _2 of the accessories that can be ordered | input reactor / 3AC           |

| General technical data                                  |                                                                                                                                                                                                |
|---------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| product function                                        | for solid-state relays / contactors 3RF31 and 3RF33                                                                                                                                            |
| power loss [W] for rated value of the current           |                                                                                                                                                                                                |
| • without load current share typical                    | 1 W                                                                                                                                                                                            |
| insulation voltage rated value                          | 600 V                                                                                                                                                                                          |
| degree of pollution                                     | 3                                                                                                                                                                                              |
| surge voltage resistance of main circuit rated value    | 3 kV                                                                                                                                                                                           |
| protection class IP                                     | IP20                                                                                                                                                                                           |
| protection class IP on the front according to IEC 60529 | IP20                                                                                                                                                                                           |
| shock resistance according to IEC 60068-2-27            | 15g / 11 ms                                                                                                                                                                                    |
| vibration resistance according to IEC 60068-2-6         | 2g                                                                                                                                                                                             |
| reference code according to IEC 81346-2                 | K                                                                                                                                                                                              |
| Substance Prohibitance (Date)                           | 03/07/2024                                                                                                                                                                                     |
| SVHC substance name                                     | Lead - 7439-92-1<br>Lead monoxide (lead oxide) - 1317-36-8<br>6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol - 119-47-1<br>2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one - 71868-10-5 |
| Net Weight                                              | 0.166 kg                                                                                                                                                                                       |

| Switching Function               |            |
|----------------------------------|------------|
| design of the switching function | NC contact |

| Main circuit                                              |               |
|-----------------------------------------------------------|---------------|
| number of poles for main current circuit                  | 0             |
| number of NO contacts for main contacts                   | 0             |
| number of NC contacts for main contacts                   | 0             |
| type of voltage                                           | AC/DC         |
| type of voltage of the operating voltage                  | AC            |
| operating voltage at AC                                   |               |
| • at 50 Hz rated value                                    | 110 ... 230 V |
| • at 60 Hz rated value                                    | 110 ... 230 V |
| operating frequency rated value                           | 50 ... 60 Hz  |
| relative symmetrical tolerance of the operating frequency | 10 %          |
| operating range relative to the operating voltage at AC   |               |

|                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• at 50 Hz</li> <li>• at 60 Hz</li> </ul>                                                                                                                                                                                                                                          | 93.5 ... 253 V<br>93.5 ... 253 V                                                                                                                   |
| <b>operational current</b>                                                                                                                                                                                                                                                                                                |                                                                                                                                                    |
| <ul style="list-style-type: none"> <li>• at AC-51 rated value</li> </ul>                                                                                                                                                                                                                                                  | 90 A                                                                                                                                               |
| <b>derating temperature</b>                                                                                                                                                                                                                                                                                               | 40 °C                                                                                                                                              |
| <b>Control circuit/ Control</b>                                                                                                                                                                                                                                                                                           |                                                                                                                                                    |
| <b>type of voltage</b>                                                                                                                                                                                                                                                                                                    | AC/DC                                                                                                                                              |
| <b>control supply voltage at AC</b>                                                                                                                                                                                                                                                                                       |                                                                                                                                                    |
| <ul style="list-style-type: none"> <li>• at 50 Hz rated value</li> <li>• at 50 Hz rated value</li> <li>• at 60 Hz rated value</li> <li>• at 60 Hz rated value</li> </ul>                                                                                                                                                  | 24 V<br>20.5 ... 26.5 V<br>24 V<br>20.5 ... 26.5 V                                                                                                 |
| <b>control supply voltage 1 at AC</b>                                                                                                                                                                                                                                                                                     |                                                                                                                                                    |
| <ul style="list-style-type: none"> <li>• at 50 Hz rated value</li> <li>• at 60 Hz rated value</li> </ul>                                                                                                                                                                                                                  | 24 V<br>24 V                                                                                                                                       |
| <b>control supply voltage at DC rated value</b>                                                                                                                                                                                                                                                                           | 24 V                                                                                                                                               |
| <b>control supply voltage at DC rated value</b>                                                                                                                                                                                                                                                                           | 18 ... 30 V                                                                                                                                        |
| <b>control supply voltage 1 at DC rated value</b>                                                                                                                                                                                                                                                                         | 24 V                                                                                                                                               |
| <b>control supply voltage 1 at DC final rated value</b>                                                                                                                                                                                                                                                                   | 24 V                                                                                                                                               |
| <b>control supply voltage at AC</b>                                                                                                                                                                                                                                                                                       |                                                                                                                                                    |
| <ul style="list-style-type: none"> <li>• at 50 Hz full-scale value for signal&lt;0&gt; recognition</li> <li>• at 60 Hz full-scale value for signal&lt;0&gt; recognition</li> </ul>                                                                                                                                        | 5 V<br>5 V                                                                                                                                         |
| control supply voltage at DC full-scale value for signal<0> recognition                                                                                                                                                                                                                                                   | 5 V                                                                                                                                                |
| <b>supply voltage frequency for auxiliary and control circuit rated value</b>                                                                                                                                                                                                                                             | 50 ... 60 Hz                                                                                                                                       |
| <b>symmetrical line frequency tolerance</b>                                                                                                                                                                                                                                                                               | 5 Hz                                                                                                                                               |
| <b>control current at minimum control supply voltage</b>                                                                                                                                                                                                                                                                  |                                                                                                                                                    |
| <ul style="list-style-type: none"> <li>• at AC</li> <li>• at DC</li> </ul>                                                                                                                                                                                                                                                | 2 mA<br>2 mA                                                                                                                                       |
| control current at AC rated value                                                                                                                                                                                                                                                                                         | 40 mA                                                                                                                                              |
| control current at DC rated value                                                                                                                                                                                                                                                                                         | 40 mA                                                                                                                                              |
| <b>Auxiliary circuit</b>                                                                                                                                                                                                                                                                                                  |                                                                                                                                                    |
| <b>number of NC contacts for auxiliary contacts</b>                                                                                                                                                                                                                                                                       | 1                                                                                                                                                  |
| <b>number of NO contacts for auxiliary contacts</b>                                                                                                                                                                                                                                                                       | 1                                                                                                                                                  |
| number of CO contacts for auxiliary contacts                                                                                                                                                                                                                                                                              | 0                                                                                                                                                  |
| <b>Installation/ mounting/ dimensions</b>                                                                                                                                                                                                                                                                                 |                                                                                                                                                    |
| fastening method side-by-side mounting                                                                                                                                                                                                                                                                                    | Yes                                                                                                                                                |
| <b>fastening method</b>                                                                                                                                                                                                                                                                                                   | clip-on                                                                                                                                            |
| <b>height</b>                                                                                                                                                                                                                                                                                                             | 111.5 mm                                                                                                                                           |
| <b>width</b>                                                                                                                                                                                                                                                                                                              | 45 mm                                                                                                                                              |
| <b>depth</b>                                                                                                                                                                                                                                                                                                              | 69.5 mm                                                                                                                                            |
| <b>Connections/ Terminals</b>                                                                                                                                                                                                                                                                                             |                                                                                                                                                    |
| type of electrical connection for auxiliary and control circuit                                                                                                                                                                                                                                                           | screw-type terminals                                                                                                                               |
| <b>type of connectable conductor cross-sections</b>                                                                                                                                                                                                                                                                       |                                                                                                                                                    |
| <ul style="list-style-type: none"> <li>• for auxiliary and control contacts <ul style="list-style-type: none"> <li>— solid</li> <li>— finely stranded with core end processing</li> <li>— finely stranded without core end processing</li> </ul> </li> <li>• for AWG cables for auxiliary and control contacts</li> </ul> | 1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1 mm²)<br>1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1 mm²)<br>1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1 mm²)<br>1x (20 ... 12) |
| tightening torque for auxiliary and control contacts with screw-type terminals                                                                                                                                                                                                                                            | 0.5 ... 0.6 N·m                                                                                                                                    |
| tightening torque [lbf·in] for auxiliary and control contacts with screw-type terminals                                                                                                                                                                                                                                   | 4.5 ... 5.3 lbf·in                                                                                                                                 |
| design of the thread of the connection screw of the auxiliary and control contacts                                                                                                                                                                                                                                        | M3                                                                                                                                                 |
| stripped length of the cable for auxiliary and control contacts                                                                                                                                                                                                                                                           | 7 mm                                                                                                                                               |
| <b>Electrical Safety</b>                                                                                                                                                                                                                                                                                                  |                                                                                                                                                    |
| <b>protection class IP on the front according to IEC 60529</b>                                                                                                                                                                                                                                                            | IP20                                                                                                                                               |
| <b>touch protection on the front according to IEC 60529</b>                                                                                                                                                                                                                                                               | finger-safe, for vertical contact from the front                                                                                                   |

| Ambient conditions                                               |  |                                                                       |       |             |
|------------------------------------------------------------------|--|-----------------------------------------------------------------------|-------|-------------|
| installation altitude at height above sea level maximum          |  | 1 000 m                                                               |       |             |
| <b>ambient temperature</b>                                       |  |                                                                       |       |             |
| ● during operation                                               |  | -25 ... +60 °C                                                        |       |             |
| ● during storage                                                 |  | -55 ... +80 °C                                                        |       |             |
| Electromagnetic compatibility                                    |  |                                                                       |       |             |
| <b>conducted interference</b>                                    |  |                                                                       |       |             |
| ● due to burst according to IEC 61000-4-4                        |  | 2 kV / 5 kHz behavior criterion 2                                     |       |             |
| ● due to conductor-earth surge according to IEC 61000-4-5        |  | 2 kV behavior criterion 2                                             |       |             |
| ● due to conductor-conductor surge according to IEC 61000-4-5    |  | 1 kV behavior criterion 2                                             |       |             |
| ● due to high-frequency radiation according to IEC 61000-4-6     |  | 140 dBuV in the frequency range 0.15 ... 80 MHz, behavior criterion 1 |       |             |
| <b>electrostatic discharge according to IEC 61000-4-2</b>        |  | 4 kV contact discharging / 8 kV air discharging, behavior criterion 2 |       |             |
| <b>conducted HF interference emissions according to CISPR11</b>  |  | Class A for industrial environment                                    |       |             |
| <b>field-bound HF interference emission according to CISPR11</b> |  | Class B for the domestic, business and commercial environments        |       |             |
| Approvals Certificates                                           |  |                                                                       |       |             |
| General Product Approval                                         |  | EMV                                                                   | other | Environment |



[Confirmation](#)

[Environmental Con-  
firmations](#)

#### Further information

##### Information on the packaging

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

##### Information for data generation and storage

<https://support.industry.siemens.com/cs/ww/en/view/109995012>

##### 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=3RF3990-0KA13>

##### Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RF3990-0KA13>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RF3990-0KA13>

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

[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RF3990-0KA13&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RF3990-0KA13&lang=en)



