



Digital monitoring relay Voltage monitoring, 22.5 mm from 0.1-60 V AC/DC  
 Overshoot and undershoot 24 to 240 V AC/DC 50 to 60 Hz DC and AC  
 Noise pulses delay 0.1 to 20 s Hysteresis 0.1 to 30 V 1 change-over  
 contact with or without fault buffer screw terminal Successor product for  
 3UG3531-1AL20, 3UG3531-1AG20

|  |  |
|--|--|
| <b>product brand name</b>  | SIRIUS   |
| <b>product designation</b>   | Voltage monitoring relay with digital setting                                |
| <b>product type designation</b>  | 3UG4   |
| <b>General technical data</b>  |  |
| <b>product function</b>  | Voltage monitoring relay   |
| <b>design of the display</b>   | LCD  |
| insulation voltage for overvoltage category III according to IEC 60664   |  |
| <ul style="list-style-type: none"> <li>with degree of pollution 3 rated value</li> </ul>   | 690 V  |
| <b>type of voltage</b>   |  |
| <ul style="list-style-type: none"> <li>for monitoring</li> <li>of the control supply voltage</li> </ul>  | AC/DC<br>AC/DC   |
| <b>surge voltage resistance rated value</b>  | 4 kV   |
| <b>maximum permissible voltage for safe isolation</b>  |  |
| <ul style="list-style-type: none"> <li>between auxiliary and auxiliary circuit</li> <li>between control and auxiliary circuit</li> </ul>   | 300 V<br>300 V   |
| <b>protection class IP</b>   | IP20   |
| shock resistance according to IEC 60068-2-27   | sinusoidal half-wave 15g / 11 ms   |
| vibration resistance according to IEC 60068-2-6  | 1 ... 6 Hz: 15 mm, 6 ... 500 Hz: 2g  |
| mechanical service life (switching cycles) typical   | 10 000 000   |
| electrical endurance (switching cycles) at AC-15 at 230 V typical  | 100 000  |
| <b>thermal current of the switching element with contacts maximum</b>  | 5 A  |
| <b>reference code according to IEC 81346-2</b>   | K  |
| <b>relative repeat accuracy</b>  | 1 %  |
| <b>Substance Prohibitance (Date)</b>   | 05/01/2012   |
| <b>Product Function</b>  |  |
| <b>product function</b>  |  |
| <ul style="list-style-type: none"> <li>undervoltage detection</li> <li>overvoltage detection</li> <li>overvoltage detection 1 phase</li> <li>overvoltage detection 3 phase</li> <li>overvoltage detection DC</li> <li>undervoltage detection 1 phase</li> <li>undervoltage detection 3 phases</li> <li>undervoltage detection DC</li> <li>voltage window recognition 1 phase</li> <li>voltage window recognition 3 phase</li> <li>voltage window recognition DC</li> </ul> | Yes<br>Yes<br>Yes<br>No<br>Yes<br>Yes<br>No<br>Yes<br>Yes<br>No<br>No<br>Yes |

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>adjustable open/closed-circuit current principle</li> </ul>            | Yes   |
| <ul style="list-style-type: none"> <li>external reset</li> </ul>  | Yes   |
| <ul style="list-style-type: none"> <li>auto-RESET</li> </ul>  | Yes   |
| <b>Control circuit/ Control</b>   |   |
| <b>control supply voltage at AC</b>   |   |
| <ul style="list-style-type: none"> <li>at 50 Hz rated value</li> </ul>  | 24 ... 240 V                                |
| <ul style="list-style-type: none"> <li>at 60 Hz rated value</li> </ul>  | 24 ... 240 V                                |
| <b>control supply voltage at DC</b>   |   |
| <ul style="list-style-type: none"> <li>rated value</li> </ul>   | 24 ... 240 V                                |
| <b>operating range factor control supply voltage rated value at DC</b>  |   |
| <ul style="list-style-type: none"> <li>initial value</li> </ul>   | 0.85  |
| <ul style="list-style-type: none"> <li>full-scale value</li> </ul>  | 1.1   |
| <b>operating range factor control supply voltage rated value at AC at 50 Hz</b>                               |   |
| <ul style="list-style-type: none"> <li>initial value</li> </ul>   | 0.85  |
| <ul style="list-style-type: none"> <li>full-scale value</li> </ul>  | 1.1   |
| <b>operating range factor control supply voltage rated value at AC at 60 Hz</b>                               |   |
| <ul style="list-style-type: none"> <li>initial value</li> </ul>   | 0.85  |
| <ul style="list-style-type: none"> <li>full-scale value</li> </ul>  | 1.1   |
| <b>Measuring circuit</b>  |   |
| <b>measurable line frequency</b>  | 40 ... 500 Hz                               |
| <b>measurable voltage at AC</b>   | 60 ... 0.1 V                                |
| <b>measurable voltage at DC</b>   | 0.1 ... 60 V                                |
| <b>adjustable response delay time</b>   |   |
| <ul style="list-style-type: none"> <li>with lower or upper limit violation</li> </ul>                         | 0.1 ... 20 s                                |
| <b>accuracy of digital display</b>  | +/-1 digit                                  |
| <b>relative temperature-related measurement deviation</b>   | 0.1 %                                       |
| <b>Precision</b>  |   |
| <b>relative metering precision</b>  | 5 %   |
| <b>Auxiliary circuit</b>  |   |
| number of NC contacts delayed switching   | 0   |
| number of NO contacts delayed switching   | 0   |
| number of CO contacts delayed switching   | 1   |
| <b>operating frequency with 3RT2 contactor maximum</b>  | 5 000 1/h                                   |
| <b>Main circuit</b>   |   |
| <b>number of poles for main current circuit</b>   | 1   |
| <b>operational current at 17 V minimum</b>  | 5 mA  |
| <b>continuous current of the DIAZED fuse link of the output relay</b>   | 4 A   |
| <b>Electromagnetic compatibility</b>  |   |
| <b>conducted interference</b>   |   |
| <ul style="list-style-type: none"> <li>due to burst according to IEC 61000-4-4</li> </ul>                     | 2 kV  |
| <ul style="list-style-type: none"> <li>due to conductor-earth surge according to IEC 61000-4-5</li> </ul>     | 2 kV  |
| <ul style="list-style-type: none"> <li>due to conductor-conductor surge according to IEC 61000-4-5</li> </ul> | 1 kV  |
| <b>field-based interference according to IEC 61000-4-3</b>  | 10 V/m                                      |
| <b>electrostatic discharge according to IEC 61000-4-2</b>   | 6 kV contact discharge / 8 kV air discharge |
| <b>Galvanic isolation</b>   |   |
| <b>design of the electrical isolation</b>   | Protective separation                       |
| <b>galvanic isolation</b>   |   |
| <ul style="list-style-type: none"> <li>between input and output</li> </ul>                                    | Yes   |
| <ul style="list-style-type: none"> <li>between the outputs</li> </ul>   | Yes   |
| <ul style="list-style-type: none"> <li>between the voltage supply and other circuits</li> </ul>               | Yes   |
| <b>Connections/ Terminals</b>   |   |
| <b>product component removable terminal for auxiliary and control circuit</b>                                 | Yes   |
| <b>type of electrical connection</b>  | screw-type terminals                        |
| <b>type of connectable conductor cross-sections</b>   |   |

|  |  |
|--|--|
| <ul style="list-style-type: none"> <li>• solid</li> <li>• finely stranded with core end processing</li> <li>• at AWG cables solid</li> <li>• at AWG cables stranded</li> </ul> | 1x (0.5 ... 4 mm <sup>2</sup> ), 2x (0.5 ... 2.5 mm <sup>2</sup> )<br>1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.5 mm <sup>2</sup> )<br>2x (20 ... 14)<br>2x (20 ... 14) |
| <b>connectable conductor cross-section</b> <ul style="list-style-type: none"> <li>• solid</li> <li>• finely stranded with core end processing</li> </ul>                       | 0.5 ... 4 mm <sup>2</sup><br>0.5 ... 2.5 mm <sup>2</sup>   |
| <b>AWG number as coded connectable conductor cross section</b> <ul style="list-style-type: none"> <li>• solid</li> <li>• stranded</li> </ul>                                   | 20 ... 14<br>20 ... 14   |
| tightening torque with screw-type terminals  | 1.2 ... 0.8 N·m  |

### Installation/ mounting/ dimensions

|   |                  |
|---|------------------|
| <b>mounting position</b>  | any              |
| <b>fastening method</b>   | snap-on mounting |
| <b>height</b>   | 92 mm            |
| <b>width</b>  | 22.5 mm          |
| <b>depth</b>  | 91 mm            |
| <b>required spacing</b> <ul style="list-style-type: none"> <li>• with side-by-side mounting               <ul style="list-style-type: none"> <li>— forwards 0 mm</li> <li>— backwards 0 mm</li> <li>— upwards 0 mm</li> <li>— downwards 0 mm</li> <li>— at the side 0 mm</li> </ul> </li> <li>• for grounded parts               <ul style="list-style-type: none"> <li>— forwards 0 mm</li> <li>— backwards 0 mm</li> <li>— upwards 0 mm</li> <li>— at the side 0 mm</li> <li>— downwards 0 mm</li> </ul> </li> <li>• for live parts               <ul style="list-style-type: none"> <li>— forwards 0 mm</li> <li>— backwards 0 mm</li> <li>— upwards 0 mm</li> <li>— at the side 0 mm</li> </ul> </li> </ul> |                  |

### Ambient conditions

|  |         |
|--|---------|
| installation altitude at height above sea level maximum  | 2 000 m |
| <b>ambient temperature</b> <ul style="list-style-type: none"> <li>• during operation -25 ... +60 °C</li> <li>• during storage -40 ... +85 °C</li> <li>• during transport -40 ... +85 °C</li> </ul> |         |

### Certificates/ approvals

|                                 |            |                                  |
|---------------------------------|------------|----------------------------------|
| <b>General Product Approval</b> | <b>EMC</b> | <b>Declaration of Conformity</b> |
|---------------------------------|------------|----------------------------------|

[Confirmation](#)



|                          |                          |              |                |
|--------------------------|--------------------------|--------------|----------------|
| <b>Test Certificates</b> | <b>Marine / Shipping</b> | <b>other</b> | <b>Railway</b> |
|--------------------------|--------------------------|--------------|----------------|

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



[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=3UG4631-1AW30>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UG4631-1AW30>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3UG4631-1AW30>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3UG4631-1AW30&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UG4631-1AW30&lang=en)

**Characteristic: Derating**

<https://support.industry.siemens.com/cs/ww/en/ps/3UG4631-1AW30/manual>

last modified:

11/17/2021 