



Figure similar

MONITORING RELAY ATTACHABLE TO CONTACTOR 3RT2. SIZE S2 STANDARD, DIGITAL ADJUSTABLE APPARENT/ACTIVE CURRENT MONIT. 8 - 80A, 20-400 HZ, 3-PHASE SUPPLY 24-240 V AC/DC 1 CO CONTACT, 1 SEMICOND. FOR ALARM AND WARNING MONITORING FOR CURRENT OVERSHOOT/UNDERSHOOT PHASE FAILURE, WIRE BREAK PHASE SEQUENCE FAULT CURRENT BLOCKING CURRENT WARNING AND ALARM THRESHOLDS WITH OR W/O ERROR LOG ON-DELAY 0-99 S SPURIOUS PEAK SUPPR.0-30 S BREAK AFTER FAULT 0-300 MIN SCREW CONNECTION

| General technical data:                                                                                       |    |                                             |
|---------------------------------------------------------------------------------------------------------------|----|---------------------------------------------|
| product brand name                                                                                            |    | SIRIUS                                      |
| Product designation                                                                                           |    | multi-phase current monitoring              |
| Design of the product                                                                                         |    | multi-phase current monitoring              |
| Size of contactor can be combined company-specific                                                            |    | S2                                          |
| Protection class IP                                                                                           |    |                                             |
| • on the front                                                                                                |    | IP20                                        |
| • of the terminal                                                                                             |    | IP00                                        |
| Insulation voltage for overvoltage category III according to IEC 60664 with degree of pollution 3 Rated value | V  | 690                                         |
| Installation altitude at height above sea level maximum                                                       | m  | 2 000                                       |
| Ambient temperature                                                                                           |    |                                             |
| • during storage                                                                                              | °C | -40 ... +80                                 |
| • during operation                                                                                            | °C | -25 ... +60                                 |
| Electromagnetic compatibility                                                                                 |    | IEC 60947-1 / IEC 61000-6-2 / IEC 61000-6-4 |
| EMI immunity acc. to IEC 60947-1                                                                              |    | ambience A (industrial sector)              |
| EMC emitted interference acc. to IEC 60947-1                                                                  |    | ambience A (industrial sector)              |

|                                                                                                                |     |                        |
|----------------------------------------------------------------------------------------------------------------|-----|------------------------|
| <b>Shock resistance</b>                                                                                        |     | 10g / 11 ms            |
| <b>Vibration resistance</b>                                                                                    |     | 10 ... 55 Hz / 0.35 mm |
| <b>Surge voltage resistance Rated value</b>                                                                    | kV  | 6                      |
| <b>Operating apparent output Rated value</b>                                                                   | V·A | 4                      |
| <b>Operating power Rated value</b>                                                                             | W   | 2.5                    |
| <b>Equipment marking acc. to DIN 40719 extended according to IEC 204-2 acc. to IEC 750</b>                     |     | K                      |
| <b>Equipment marking acc. to DIN EN 61346-2</b>                                                                |     | K                      |
| <b>Mechanical service life (switching cycles) typical</b>                                                      |     | 10 000 000             |
| <b>Electrical endurance (switching cycles) at AC-15 at 230 V typical</b>                                       |     | 100 000                |
| <b>Accuracy of digital display</b>                                                                             |     | +/-1 digit             |
| <b>Adjustable response delay time</b>                                                                          |     |                        |
| • when starting                                                                                                | s   | 0 ... 99               |
| • with lower or upper limit violation                                                                          | s   | 0 ... 30               |
| <b>Stand-by time for restart after fault</b>                                                                   | s   | 0.2                    |
| <b>Phase number</b>                                                                                            |     | 3                      |
| <b>Number of monitored phases</b>                                                                              |     | 3                      |
| <b>Product function</b>                                                                                        |     |                        |
| • Overcurrent monitoring                                                                                       |     | Yes                    |
| • Undercurrent monitoring                                                                                      |     | Yes                    |
| • Overcurrent and undercurrent monitoring                                                                      |     | Yes                    |
| • Apparent current monitoring                                                                                  |     | Yes                    |
| • active current monitoring                                                                                    |     | Yes                    |
| • undercurrent detection DC                                                                                    |     | No                     |
| • undercurrent detection 1 phase                                                                               |     | No                     |
| • Overcurrent detection DC                                                                                     |     | No                     |
| • Current window recognition DC                                                                                |     | No                     |
| • undercurrent detection 3 phases                                                                              |     | Yes                    |
| • Overcurrent detection 1 phase                                                                                |     | No                     |
| • Voltage window recognition 3 phase                                                                           |     | No                     |
| • Voltage window recognition 1 phase                                                                           |     | No                     |
| • phase sequence recognition                                                                                   |     | Yes                    |
| • can be activated or deactivated phase sequence recognition                                                   |     | Yes                    |
| • Auto-reset                                                                                                   |     | Yes                    |
| • External reset                                                                                               |     | No                     |
| • Manual RESET                                                                                                 |     | Yes                    |
| <b>Adjustable response value current</b>                                                                       |     |                        |
| • 1                                                                                                            | A   | 8 ... 80               |
| • 2                                                                                                            | A   | 8 ... 80               |
| <b>Factor as multiple of the current monitoring upper limit for the adjustable value of a blocking current</b> |     | 2 ... 5                |

|                                                                                                                            |        |             |
|----------------------------------------------------------------------------------------------------------------------------|--------|-------------|
| Response value residual current detection at 50/60 Hz typical                                                              | A      | 8           |
| <b>Relative metering precision</b><br>• relating to measured value                                                         | %      | 5           |
| <b>Type of current for monitoring</b>                                                                                      |        | AC          |
| <b>Measurable current at AC</b>                                                                                            | A      | 8 ... 80    |
| <b>Adjustable switching hysteresis for measured current value</b>                                                          | A      | 0.2 ... 16  |
| <b>Response time maximum</b>                                                                                               | ms     | 200         |
| <b>Relative repeat accuracy</b>                                                                                            | %      | 2           |
| <b>Temperature drift per °C</b>                                                                                            | %/°C   | 0.1         |
| <b>Ampacity</b><br>• for permanent overcurrent maximum permissible<br>• for overcurrent duration < 1 s maximum permissible | A<br>A | 80<br>1 600 |

#### Supply voltage:

|                                                                           |             |                                        |
|---------------------------------------------------------------------------|-------------|----------------------------------------|
| <b>Type of voltage of the supply voltage</b>                              |             | AC/DC                                  |
| <b>Supply voltage frequency 1</b>                                         | Hz          | 50 ... 60                              |
| <b>Supply voltage 1</b><br>• at DC<br>• at AC<br>— at 50 Hz<br>— at 60 Hz | V<br>V<br>V | 24 ... 240<br>24 ... 240<br>24 ... 240 |
| <b>Buffering time in the event of power failure minimum</b>               | ms          | 10                                     |

#### Auxiliary circuit:

|                                                                                                                |             |                                               |
|----------------------------------------------------------------------------------------------------------------|-------------|-----------------------------------------------|
| <b>Circuit principle of the output relay</b>                                                                   |             | closed-circuit current / open-circuit current |
| <b>Operating current at 17 V minimum</b>                                                                       | mA          | 5                                             |
| Number of outputs as contact-less semiconductor switching element for signaling function instantaneous contact |             | 1                                             |
| <b>Ampacity of the semiconductor output</b><br>• at DC-13 at 240 V<br>• at AC-14 at 240 V at 50/60 Hz          | mA<br>mA    | 20<br>20                                      |
| <b>Residual current of the semiconductor output maximum</b>                                                    | mA          | 0.035                                         |
| <b>Number of CO contacts</b><br>• for auxiliary contacts                                                       |             | 1                                             |
| <b>Operating current of the auxiliary contacts</b><br>• at AC-15<br>— at 24 V<br>— at 230 V<br>— at 400 V      | A<br>A<br>A | 3<br>3<br>3                                   |

- at DC-13
  - at 24 V
  - at 125 V
  - at 250 V

|   |     |
|---|-----|
| A | 1   |
| A | 0.2 |
| A | 0.1 |

#### Inputs/ Outputs:

#### Short-circuit:

#### Installation/ mounting/ dimensions:

|                                                    |    |                 |
|----------------------------------------------------|----|-----------------|
| <b>mounting position</b>                           |    | any             |
| <b>Mounting type</b>                               |    | direct mounting |
| <b>Width</b>                                       | mm | 55              |
| <b>Height</b>                                      | mm | 99              |
| <b>Depth</b>                                       | mm | 112             |
| <b>Required spacing with side-by-side mounting</b> |    |                 |
| • forwards                                         | mm | 0               |
| • Backwards                                        | mm | 0               |
| • upwards                                          | mm | 0               |
| • downwards                                        | mm | 10              |
| • at the side                                      | mm | 0               |
| <b>Required spacing for grounded parts</b>         |    |                 |
| • forwards                                         | mm | 10              |
| • Backwards                                        | mm | 0               |
| • upwards                                          | mm | 10              |
| • downwards                                        | mm | 10              |
| • at the side                                      | mm | 10              |
| <b>Required spacing for live parts</b>             |    |                 |
| • forwards                                         | mm | 10              |
| • Backwards                                        | mm | 0               |
| • upwards                                          | mm | 10              |
| • downwards                                        | mm | 10              |
| • at the side                                      | mm | 10              |

#### Connections/ Terminals:

|                                                        |  |                      |
|--------------------------------------------------------|--|----------------------|
| <b>Type of electrical connection</b>                   |  |                      |
| • for main current circuit                             |  | screw-type terminals |
| • for auxiliary and control current circuit            |  | screw-type terminals |
| <b>Product function</b>                                |  |                      |
| • removable terminal for main circuit                  |  | No                   |
| • removable terminal for auxiliary and control circuit |  | Yes                  |
| <b>Type of connectable conductor cross-section</b>     |  |                      |
| • for main contacts                                    |  |                      |

|                                             |     |                                                                      |
|---------------------------------------------|-----|----------------------------------------------------------------------|
| — solid                                     |     | 2x (1 ... 35 mm <sup>2</sup> ), 1x (1 ... 50 mm <sup>2</sup> )       |
| — stranded                                  |     | 2x (1 ... 35 mm <sup>2</sup> ), 1x (1 ... 50 mm <sup>2</sup> )       |
| — finely stranded                           |     |                                                                      |
| — with core end processing                  |     | 2x (1 ... 25 mm <sup>2</sup> ), 1x (1 ... 35 mm <sup>2</sup> )       |
| • for AWG conductors                        |     |                                                                      |
| — for main contacts                         |     | 2x (18 ... 2), 1x (18 ... 1)                                         |
| — for auxiliary contacts                    |     | 2x (20 ... 14)                                                       |
| • for auxiliary contacts                    |     |                                                                      |
| — solid                                     |     | 1x (0.5 ... 4 mm <sup>2</sup> ), 2x (0.5 ... 2.5 mm <sup>2</sup> )   |
| — finely stranded                           |     |                                                                      |
| — with core end processing                  |     | 1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.5 mm <sup>2</sup> ) |
| Tightening torque with screw-type terminals | N·m | 0.8 ... 1.2                                                          |

#### Certificates/ approvals:

##### Certificate of suitability

CE / UL / CSA

##### General Product Approval

##### Declaration of Conformity

##### Test Certificates

##### other



[Typprüfbescheinigung/Werkszeugnis](#)

[Bestätigungen](#)

##### other

[Umweltbestätigung](#)

#### UL/CSA ratings:

Contact rating of the auxiliary contacts acc. to UL

B300 / R300

#### Safety related data:

Protection against electrical shock

finger-safe when touched vertically from front acc. to IEC 60529

#### 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

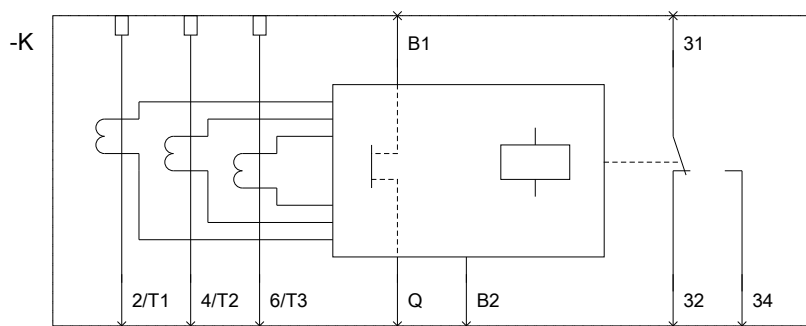
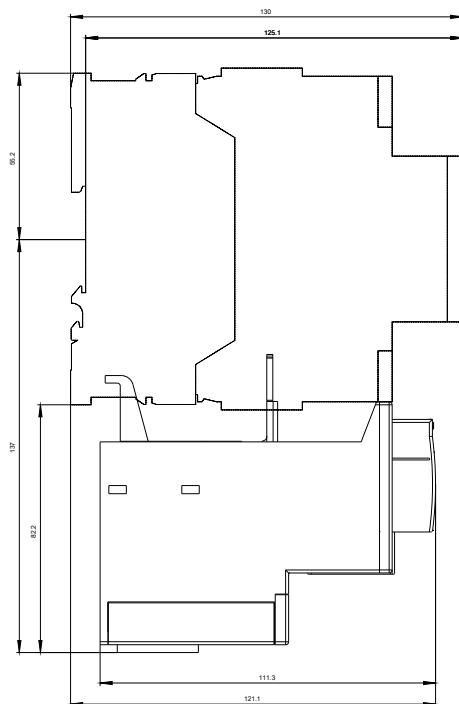
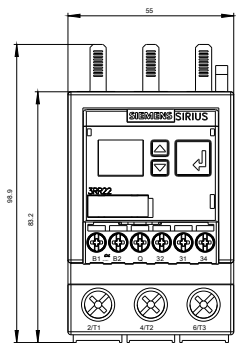
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RR22431FW30>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RR22431FW30>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RR22431FW30&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RR22431FW30&lang=en)



last modified:

30.11.2015