



OUTPUT REGULATOR CURRENT RANGE 90 A 40  
DEGREES C 400-600 V / 110 V AC TO SEMICON.  
RELAY/CONTACT. 3RF2

### General technical data:

|                                                                           |    |                                                |
|---------------------------------------------------------------------------|----|------------------------------------------------|
| product brand name                                                        |    | SIRIUS                                         |
| product designation                                                       |    | power regulator                                |
| Product function                                                          |    | solid-state relay / solid-state contactor 3RF2 |
| Number of poles / for main current circuit                                |    | 0                                              |
| Protection class IP                                                       |    | IP20                                           |
| Product designation / _1 / of the accessories that can be ordered         |    | sealable end cover                             |
| Manufacturer article number / _1 / of the accessories that can be ordered |    | <a href="#">3RF2900-0RA88</a>                  |
| Product designation / _2 / of the accessories that can be ordered         |    | input reactor / 1AC                            |
| Manufacturer article number / _2 / of the accessories that can be ordered |    | <a href="#">4EM5412-0CB00</a>                  |
| Hole diameter / of the current transformer                                | mm | 17                                             |
| Ambient temperature                                                       |    |                                                |
| • during operating                                                        | °C | -25 ... +60                                    |
| • during storage                                                          | °C | -55 ... +80                                    |
| Installation altitude / at a height over sea level / maximum              | m  | 1,000                                          |
| Resistance against vibration / according to IEC 60068-2-6                 |    | 2g                                             |
| Resistance against shock / according to IEC 60068-2-27                    |    | 15g / 11 ms                                    |
| Item designation                                                          |    |                                                |

- according to DIN 40719 extendable after IEC 204-2 / according to IEC 750
- according to DIN EN 61346-2

A

K

**Main circuit:****Number of NO contacts / for main contacts**

0

**Number of NC contacts / for main contacts**

0

**Operating current**

- at AC-1 / at 400 V / rated value

A

90

**Derating temperature**

°C

40

**Operating voltage**

- at 50 Hz / at AC / rated value

V

400 ... 600

- at 60 Hz / at AC / rated value

V

400 ... 600

**Working area related to the operating voltage**

- at 50 Hz / for AC

V

340 ... 660

- at 60 Hz / for AC

V

340 ... 660

**Operating frequency**

- rated value

Hz

50 ... 60

**Relative symmetrical tolerance / of the operation frequency**

%

10

**Insulation voltage / rated value**

V

600

**Kompensation of the mains voltage swing**

%

20

**Metering range current**

A

0 ... 99

**Control circuit:****type of voltage**

AC

**Control supply voltage**

- at 50 Hz / at AC / rated value

V

110 ... 110

- at 50 Hz / for AC / final value for signal<0>-recognition

V

79

- at 60 Hz / for AC / final value for signal<0>-recognition

V

79

**Supply voltage frequency / for auxiliary and control current circuit**

- rated value

Hz

50 ... 60

**Tolerance of the line frequency**

Hz

5

**Relative symmetrical tolerance / of the supply voltage frequency**

%

10

**Control current / for AC / rated value**

mA

20

**Operating voltage**

- at the analog input

V

-1 ... +11

**Source resistance / at the analog input**

Ω

8,000

**Auxiliary circuit:****Number of NC contacts / for auxiliary contacts**

1

**Number of NO contacts / for auxiliary contacts**

0

|                                                                |    |             |
|----------------------------------------------------------------|----|-------------|
| <b>Number of change-over switches / for auxiliary contacts</b> |    | 0           |
| <b>Operating voltage / of the auxiliary contacts</b>           |    |             |
| • for AC                                                       | V  | 90 ... 121  |
| • for DC                                                       | V  | 90 ... 121  |
| <b>Operating current / of the auxiliary contacts</b>           |    |             |
| • for AC                                                       | mA | 5 ... 1,000 |
| • for DC                                                       | mA | 5 ... 1,000 |

#### Installation/mounting/dimensions:

|                                                      |    |         |
|------------------------------------------------------|----|---------|
| <b>Type of mounting</b>                              |    | clip-on |
| <b>Type of fixing/fixation / series installation</b> |    | Yes     |
| <b>Width</b>                                         | mm | 45      |
| <b>Height</b>                                        | mm | 111.5   |
| <b>Depth</b>                                         | mm | 69.5    |

#### Connections:

|                                                                                           |                 |                                                                      |
|-------------------------------------------------------------------------------------------|-----------------|----------------------------------------------------------------------|
| <b>Design of the electrical connection</b>                                                |                 |                                                                      |
| • for auxiliary and control current circuit                                               |                 | screw-type terminals                                                 |
| <b>Design of the thread / of the connection screw / of the auxiliary and control pins</b> |                 | M3                                                                   |
| <b>Type of the connectable conductor cross-section</b>                                    |                 |                                                                      |
| • for auxiliary and control contacts                                                      |                 |                                                                      |
| • solid                                                                                   |                 | 1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.0 mm <sup>2</sup> ) |
| • finely stranded                                                                         |                 |                                                                      |
| • with conductor end processing                                                           |                 | 1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.0 mm <sup>2</sup> ) |
| • without conductor final cutting                                                         |                 | 1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.0 mm <sup>2</sup> ) |
| • for AWG conductors / for auxiliary and control contacts                                 |                 | 1x (AWG 20 ... 12)                                                   |
| <b>Conductor cross-section that can be connected / for auxiliary and control contacts</b> |                 |                                                                      |
| • solid                                                                                   | mm <sup>2</sup> | 0.5 ... 2.5                                                          |
| • stranded wire                                                                           |                 |                                                                      |
| • with conductor end processing /                                                         | mm <sup>2</sup> | 0.5 ... 2.5                                                          |
| • without conductor final cutting                                                         | mm <sup>2</sup> | 0.5 ... 2.5                                                          |
| <b>AWG number / as coded connectable conductor cross-section</b>                          |                 |                                                                      |
| • for auxiliary and control contacts                                                      |                 | 12 ... 20                                                            |
| <b>Skinning length / of the cable / for auxiliary and control contacts</b>                | mm              | 7                                                                    |
| <b>Tightening torque / for auxiliary and control contacts</b>                             |                 |                                                                      |
| • with screw-type terminals                                                               | N·m             | 0.5 ... 0.6                                                          |
| <b>Tightening torque (lbf·in) / for auxiliary and control contacts</b>                    |                 |                                                                      |
| • with screw-type terminals                                                               | lbf·in          | 4.5 ... 5.3                                                          |

#### Certificates/approvals:

| General Product Approval                                                                 |                                                                                           |                                                                                         | EMC                                                                                         | Declaration of Conformity                                                                       | Test Certificates                                  |
|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|----------------------------------------------------|
| <br>CSA | <br>GOST | <br>UL | <br>C-TICK | <br>EG-Konf. | <a href="#">Type Test Certificates/Test Report</a> |

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/industrial-controls/mall>

CAX-Online-Generator

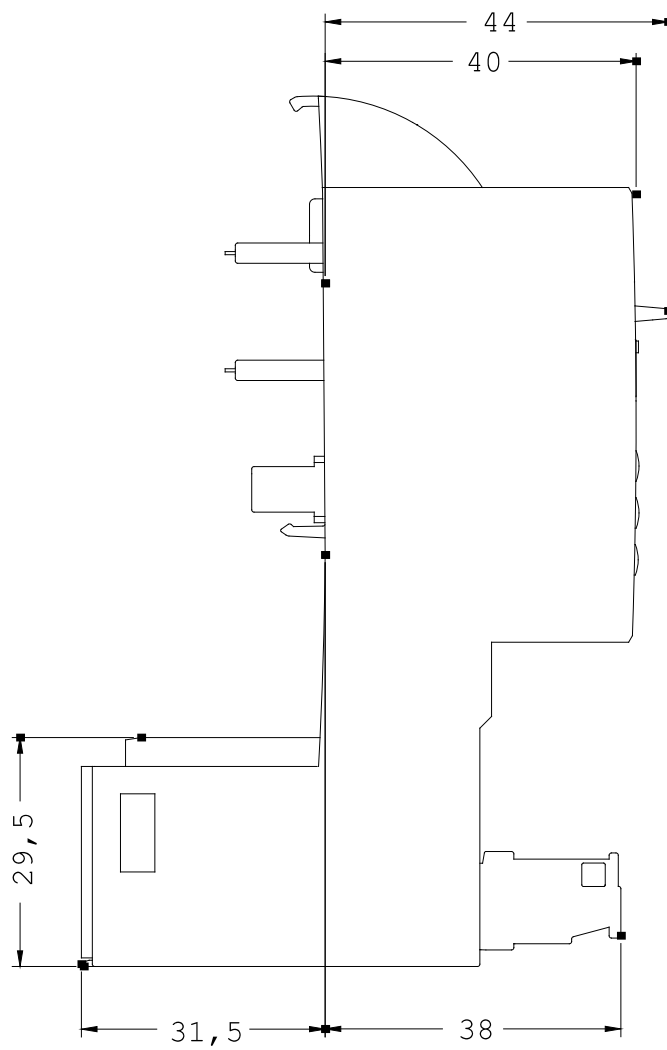
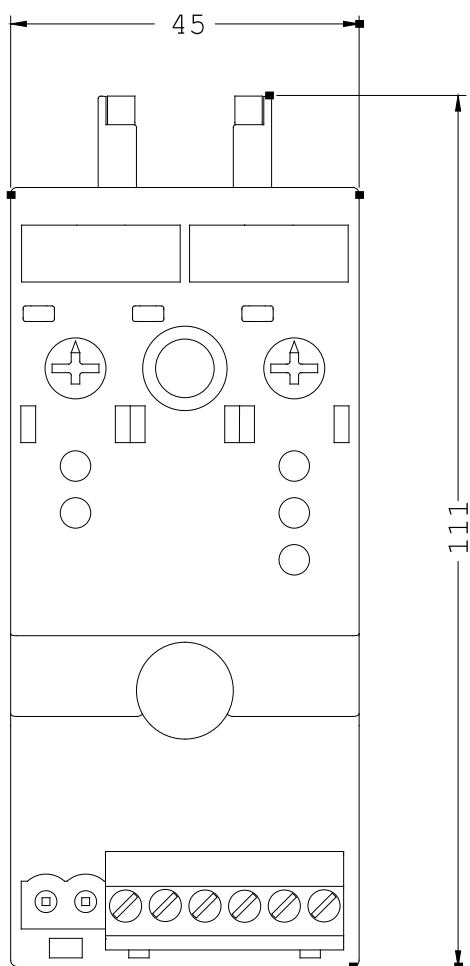
<http://www.siemens.com/cax>

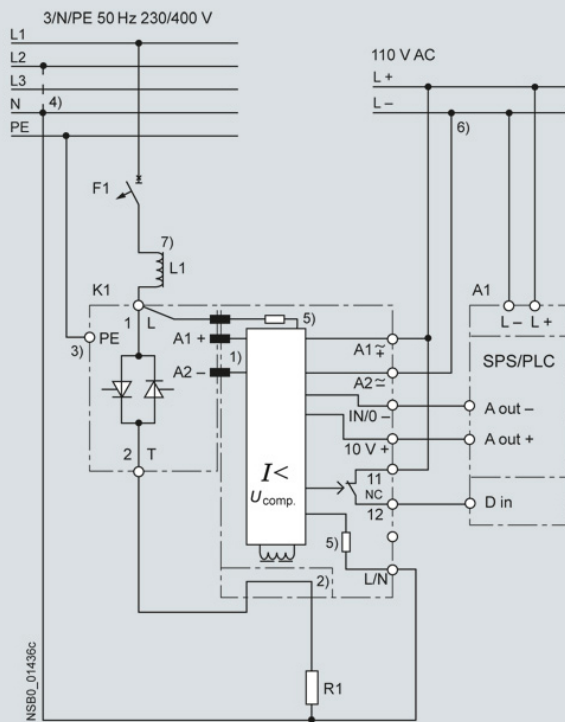
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<http://support.automation.siemens.com/WW/view/en/3RF2990-0HA36/all>

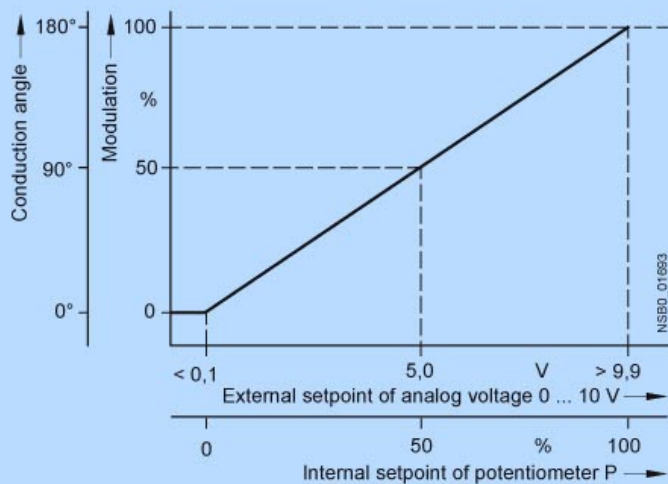
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)

[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3RF2990-0HA36](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3RF2990-0HA36)





- 1) Internal connection to the solid-state relay/contactor
- 2) Straight-through
- 3) Make PE/ground connection according to installation regulations
- 4) Connection of L/N contact with
  - 3RF29 ...0GA.3 load monitoring on neutral conductor N (e.g. 230 V),
  - 3RF29 ...0GA.6 load monitoring on a second phase (e.g. 400 V)
- 5) Voltage detection not electrically isolated (3 M $\Omega$  per path)
- 6) Grounding of connection L- is recommended
- 7) A 200  $\mu$ H choke must be used when operating with leading-edge phase in order to observe the limit values of the conducted interference voltage according to Class A



last change:

Feb 18, 2013