



LOAD MONITORING CURRENT RANGE 90 A 40  
DEGREES C 400-600 V / 24 V AC/DC TO SEMICON.  
RELAY/CONTACT. 3RF2

### General technical data:

Product brand name		SIRIUS
product designation		load monitoring
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>
Hole diameter / of the current transformer	mm	17
Number of partial loads / for load monitoring		12
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		A

- according to DIN EN 61346-2

B

#### Main circuit:

<b>Number of NO contacts / for main contacts</b>		0
<b>Number of NC contacts / for main contacts</b>		0
<b>Operating current</b>		
• at AC-1 / at 400 V / rated value	A	90
<b>Derating temperature</b>	°C	40
<b>Operating voltage</b>		
• at 50 Hz / at AC / rated value	V	400 ... 600
• at 60 Hz / at AC / rated value	V	400 ... 600
<b>Working area related to the operating voltage</b>		
• at 50 Hz / for AC	V	340 ... 660
• at 60 Hz / for AC	V	340 ... 660
<b>Operating frequency</b>		
• rated value	Hz	50 ... 60
<b>Relative symmetrical tolerance / of the operation frequency</b>	%	10
<b>Insulation voltage / rated value</b>	V	600
<b>Kompensation of the mains voltage swing</b>	%	20
<b>Partial load / for load monitoring</b>	A	2.9
<b>Metering range current</b>	A	0 ... 99



#### Control circuit:

<b>type of voltage</b>		AC/DC
<b>Control supply voltage</b>		
• for DC / rated value	V	24 ... 24
• at 50 Hz / at AC / rated value	V	24 ... 24
• at 60 Hz / at AC / rated value	V	24 ... 24
• at 50 Hz / for AC / final value for signal<0>-recognition	V	14
• at 60 Hz / for AC / final value for signal<0>-recognition	V	14
• for DC / final value for signal<0>-recognition	V	15
<b>Supply voltage frequency / for auxiliary and control current circuit</b>		
• rated value	Hz	50 ... 60
<b>Tolerance of the line frequency</b>	Hz	5
<b>Relative symmetrical tolerance / of the supply voltage frequency</b>	%	10
<b>Control current / for AC / rated value</b>	mA	40
<b>Control current / for DC / rated value</b>	mA	40
<b>Response delay time</b>	s	0.1 ... 3

Auxiliary circuit:		
Number of NC contacts / for auxiliary contacts		1
Number of NO contacts / for auxiliary contacts		1
Number of change-over switches / for auxiliary contacts		1
Operating voltage / of the auxiliary contacts		
• for AC	V	15 ... 30
• for DC	V	15 ... 30
Operating current / of the auxiliary contacts		
• for AC	mA	5 ... 1,000
• for DC	mA	5 ... 1,000
Installation/mounting/dimensions:		
Type of mounting		clip-on
Type of fixing/fixation / series installation		Yes
Width	mm	45
Height	mm	111.5
Depth	mm	69.5
Connections:		
Design of the electrical connection		
• for auxiliary and control current circuit		screw-type terminals
Design of the thread / of the connection screw / of the auxiliary and control pins		M3
Type of the connectable conductor cross-section		
• 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)
Conductor cross-section that can be connected / for auxiliary and control contacts		
• solid	mm <sup>2</sup>	0.5 ... 2.5
• stranded wire		
• with conductor end processing / minimum	mm <sup>2</sup>	0.5 ... 2.5
• without conductor final cutting	mm <sup>2</sup>	0.5 ... 2.5
AWG number / as coded connectable conductor cross-section		
• for auxiliary and control contacts		12 ... 20
Stripping length / of the cable / for auxiliary and control contacts	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	Test Certificates	other
 <a href="#">ROSTEST</a> 	<a href="#">Manufacturer</a>	<a href="#">Manufacturer</a>

#### 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

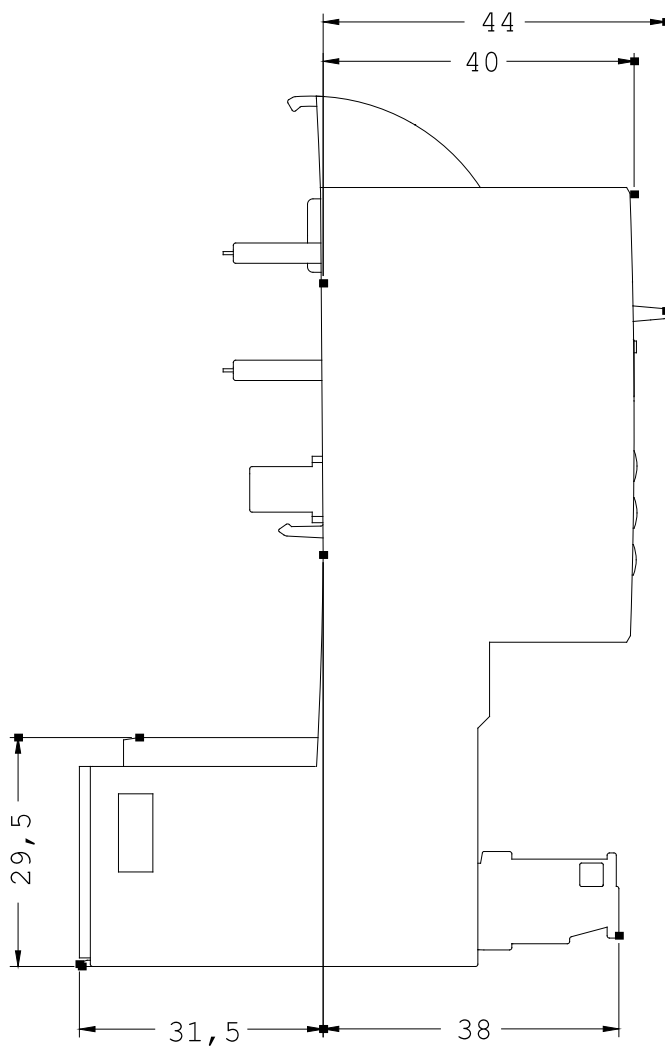
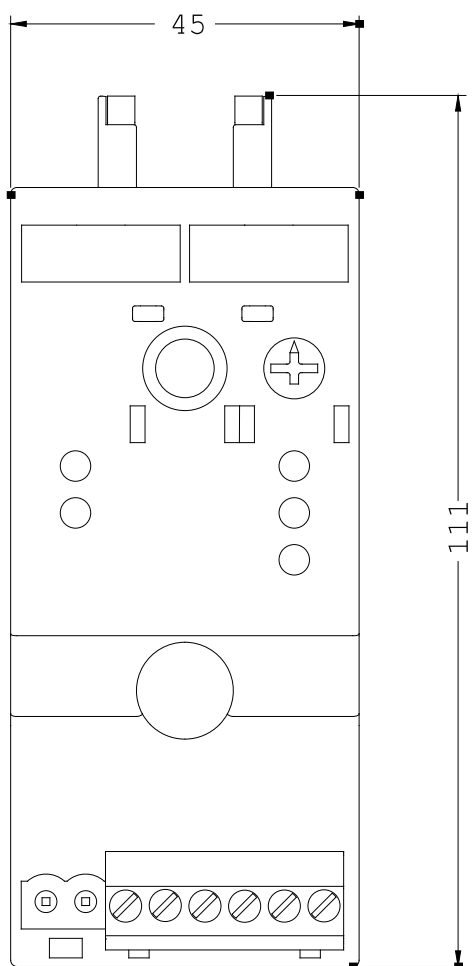
<http://www.siemens.com/cax>

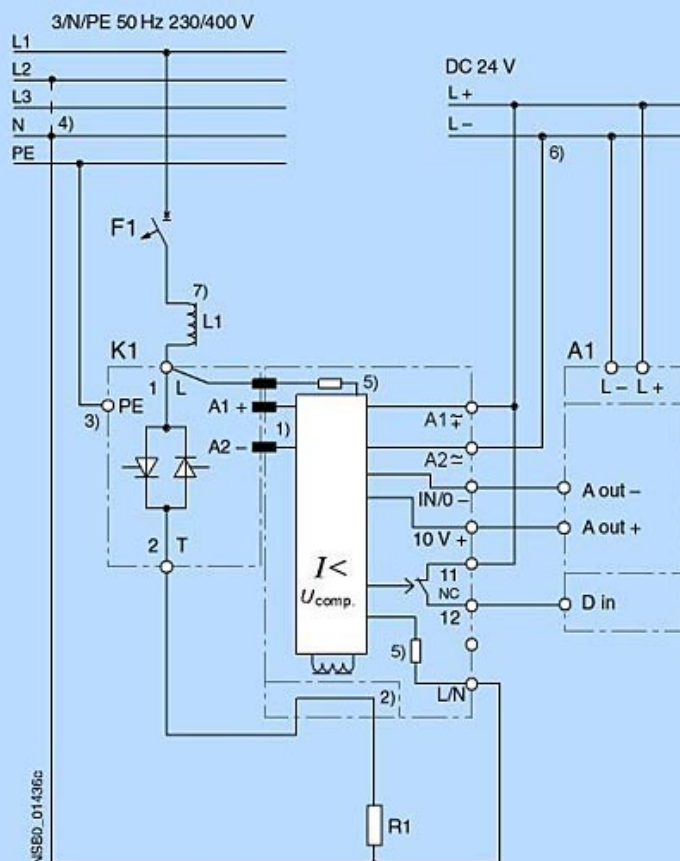
##### Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<http://support.automation.siemens.com/WW/view/en/3RF2990-0GA16/all>

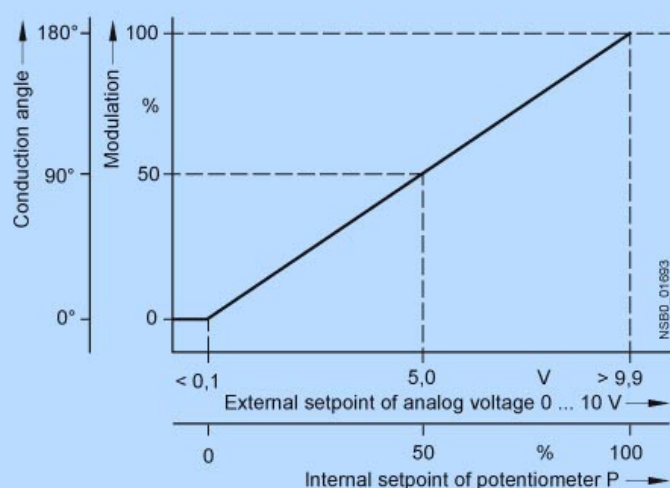
##### Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)

[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3RF2990-0GA16](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3RF2990-0GA16)





- 1) Internal connection to the solid-state relay/contactors
- 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:

Aug 22, 2011