



POWER CONTROLLER CURRENT RANGE 90A 40
DEGREES C 110-230V / 24V AC/DC FOR
SEMICONDUCTOR RELAY / CONTACTOR W. PARTIAL LOAD
MONITORING W. PARTIAL LOAD MONITORING

General technical data:

product brand name		SIRIUS
product designation		power controller
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		3RF2900-0RA88
Product designation / _2 / of the accessories that can be ordered		input reactor / 1AC
Manufacturer article number / _2 / of the accessories that can be ordered		4EM6100-5CB00
Hole diameter / of the current transformer	mm	17
Number of partial loads / for load monitoring		6
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

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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	110 ... 230
• at 60 Hz / at AC / rated value	V	110 ... 230
Working area related to the operating voltage		
• at 50 Hz / for AC	V	93.5 ... 253
• at 60 Hz / for AC	V	93.5 ... 253
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
Partial load / for load monitoring	A	2.9
Metering range current	A	0 ... 99

Control circuit:

type of voltage		AC/DC
Control supply voltage		
• 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
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	40
Control current / for DC / rated value	mA	40
Operating voltage		
• at the analog input	V	-1 ... +11

Source resistance / at the analog input	Ω	8,000
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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		0
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 mm²), 2x (0.5 ... 1.0 mm²)
• finely stranded		
• with conductor end processing		1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.0 mm²)
• without conductor final cutting		1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.0 mm²)
• 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	mm²	0.5 ... 2.5
• stranded wire		
• with conductor end processing /	mm²	0.5 ... 2.5
• without conductor final cutting	mm²	0.5 ... 2.5
AWG number / as coded connectable conductor cross-section		
• for auxiliary and control contacts		12 ... 20
Skinning length / of the cable / for auxiliary and control contacts	mm	7

Tightening torque / for auxiliary and control contacts • with screw-type terminals	N·m	0.5 ... 0.6
Tightening torque (lbf·in) / for auxiliary and control contacts • with screw-type terminals	lbf·in	4.5 ... 5.3

Certificates/approvals:

General Product Approval	EMC	Declaration of Conformity	Test Certificates
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[Type Test
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other

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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

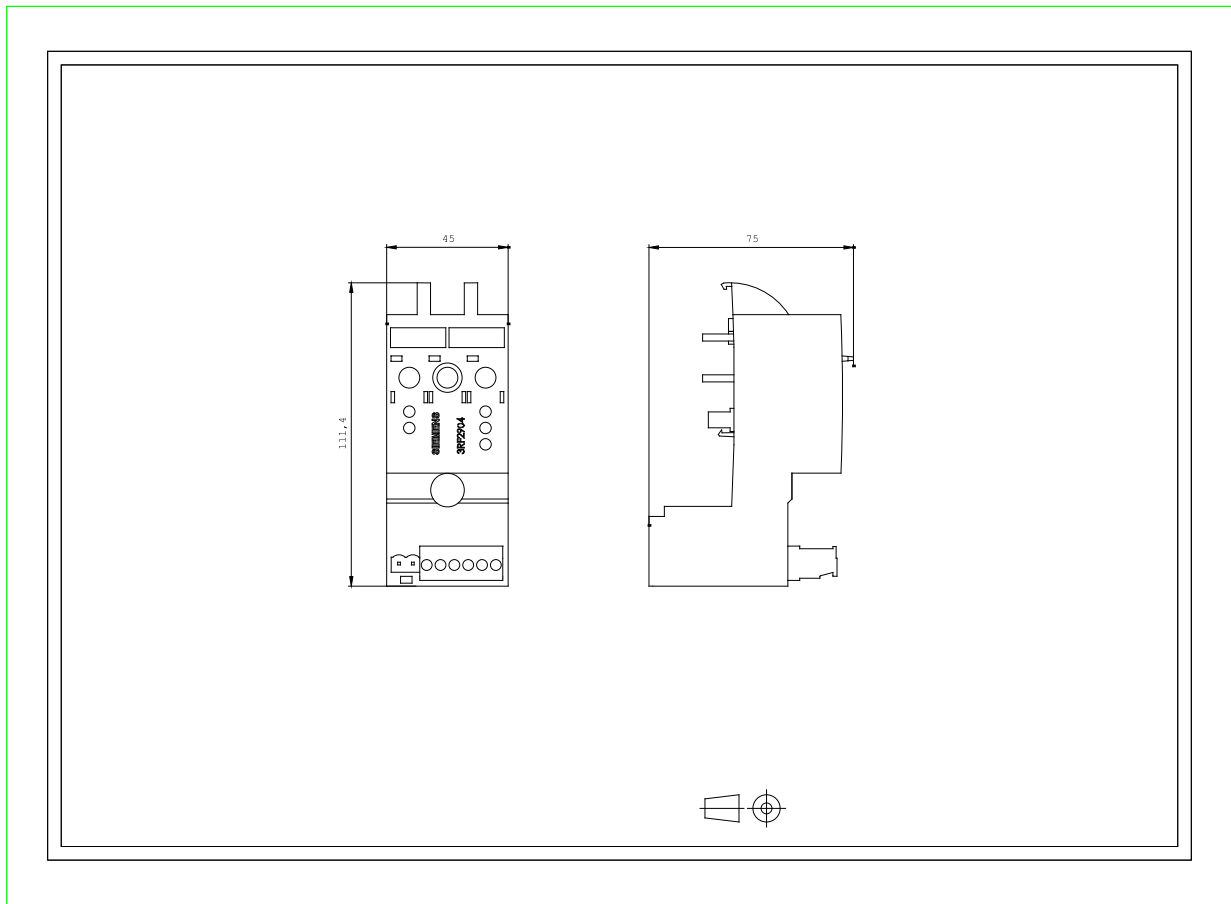
<http://www.siemens.com/cax>

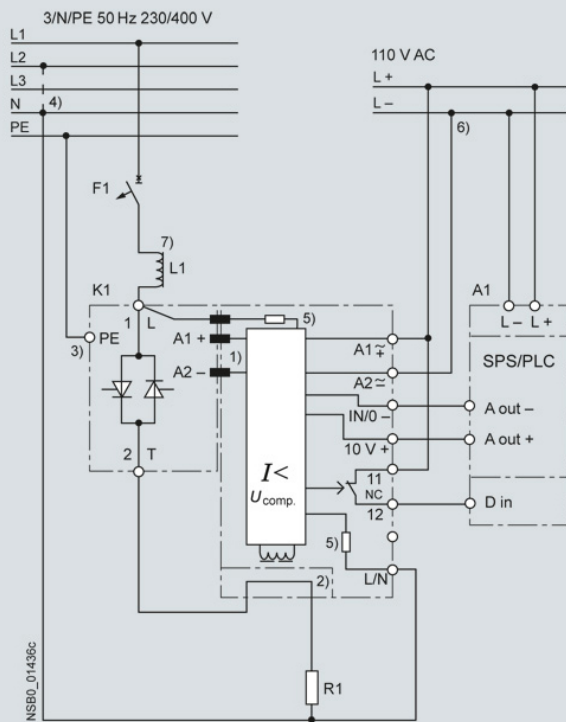
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<http://support.automation.siemens.com/WW/view/en/3RF2990-0KA13/all>

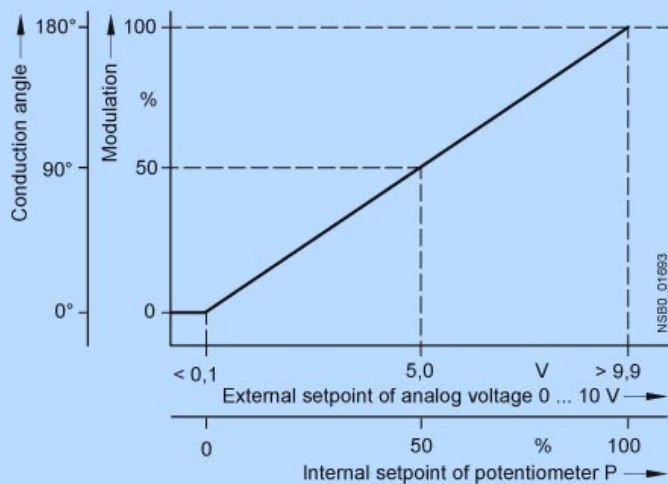
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)

http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3RF2990-0KA13





- 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 Ω per path)
- 6) Grounding of connection L- is recommended
- 7) A 200 μ 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