



SEMICONDUCTOR RELAY 3RF2,  
1-PH. WIDTH 45 MM,  
50 A 48-460 V / 110-230 V AC SCREW TERMINAL

**General technical data:**

<b>product brand name</b>		SIRIUS
<b>product designation</b>		solid-state relay
<b>Product function</b>		zero-point switching
<b>Number of poles / for main current circuit</b>		1
<b>Protection class IP</b>		IP20
<b>Ambient temperature</b>		
• during operating	°C	-25 ... +60
• during storage	°C	-55 ... +80
<b>Installation altitude / at a height over sea level / maximum</b>	m	1,000
<b>Resistance against vibration / according to IEC 60068-2-6</b>		2g
<b>Resistance against shock / according to IEC 60068-2-27</b>		15g / 11 ms
<b>Item designation</b>		
• according to DIN 40719 extendable after IEC 204-2 / according to IEC 750		K
• according to DIN EN 61346-2		Q
<b>Number of NC contacts / for auxiliary contacts</b>		0
<b>Number of NO contacts / for auxiliary contacts</b>		0
<b>Number of change-over switches / for auxiliary contacts</b>		0

**Main circuit:**

<b>Number of NO contacts / for main contacts</b>		1
<b>Number of NC contacts / for main contacts</b>		0
<b>Operating current</b>		
• at AC-1 / at 400 V / rated value	A	50
• at AC-51 / rated value	A	50
<b>Operating current / minimum</b>	mA	500
<b>Operating voltage</b>		
• at 50 Hz / at AC / rated value	V	48 ... 460
• at 60 Hz / at AC / rated value	V	48 ... 460
<b>Working area related to the operating voltage</b>		
• at 50 Hz / for AC	V	40 ... 506
• at 60 Hz / for AC	V	40 ... 506
<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>Voltage slew rate / at the thyristor / for main contacts / maximum permissible</b>	V/ $\mu$ s	1,000
<b>Block voltage / at the thyristor / for main contacts / maximum permissible</b>	V	1,200
<b>Reverse current / of the thyristor</b>	mA	10
<b>Derating temperature</b>	$^{\circ}$ C	40
<b>Active power loss / total / typical</b>	W	66
<b>Resistance against the impulse current / rated value</b>	A	600
<b>I<sup>2</sup>t-level / maximum</b>	A <sup>2</sup> ·s	1,800

#### Control circuit:

<b>Control supply voltage frequency</b>		
• 1 / rated value	Hz	50
• 2 / rated value	Hz	60
<b>Type of voltage / of the controlled supply voltage</b>		AC
<b>Control supply voltage / 1</b>		
• at 50 Hz / for AC		
• initial rated value	V	110
• final rated value	V	230
• at 60 Hz / for AC		
• initial rated value	V	110
• final rated value	V	230
<b>Control supply voltage</b>		
• at 50 Hz / for AC / final value for signal<0>-recognition	V	40
• at 60 Hz / for AC / final value for signal<0>-recognition	V	40

<b>Tolerance of the line frequency</b>	Hz	5
<b>Relative symmetrical tolerance / of the supply voltage frequency</b>	%	10
<b>Control current</b>		
• at minimum control supply voltage / for AC	mA	2
• for AC / rated value	mA	15
<b>Fuse assignments</b>		<a href="https://www.automation.siemens.com/cd-static/material/info/3RF20_eng.pdf">https://www.automation.siemens.com/cd-static/material/info/3RF20_eng.pdf</a>

#### Installation/mounting/dimensions:

<b>Type of mounting</b>		screw fixing
<b>Type of fixing/fixation / series installation</b>		Yes
<b>Design of the thread / of the screw for fastening of the operating resource</b>		M4
<b>Tightening torque / of the screw for fastening of the operating resource</b>	N·m	1.5
<b>Width</b>	mm	45
<b>Height</b>	mm	58
<b>Depth</b>	mm	48

#### Connections:

<b>Design of the electrical connection / for main current circuit</b>		screw-type terminals
<b>Design of the thread / of the connection screw / for main contacts</b>		M4
<b>Tightening torque / for main contacts / with screw-type terminals</b>		
• minimum	N·m	2
• maximum	N·m	2.5
<b>Tightening torque (lbf·in) / for main contacts / with screw-type terminals</b>		
• minimum	lbf·in	7
• maximum	lbf·in	10.3
<b>Type of the connectable conductor cross-section</b>		
• for main contacts		
• solid		2x (1.5 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 6 mm <sup>2</sup> )
• finely stranded		
• with conductor end processing		2x (1 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 6 mm <sup>2</sup> ), 1x 10 mm <sup>2</sup>
• for AWG conductors		
• for main contacts		2x (14 ... 10)
• for auxiliary and control contacts		1x (AWG 20 ... 12)
• 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		

<ul style="list-style-type: none"> <li>• with conductor end processing</li> <li>• without conductor final cutting</li> </ul>		1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.0 mm <sup>2</sup> )
<b>Conductor cross section that can be connected</b>		
<ul style="list-style-type: none"> <li>• for main contacts <ul style="list-style-type: none"> <li>• solid</li> <li>• stranded wire <ul style="list-style-type: none"> <li>• with conductor end processing</li> </ul> </li> </ul> </li> <li>• for auxiliary and control contacts <ul style="list-style-type: none"> <li>• solid</li> <li>• stranded wire <ul style="list-style-type: none"> <li>• with conductor end processing /</li> <li>• without conductor final cutting</li> </ul> </li> </ul> </li> </ul>	mm <sup>2</sup>	1.5 ... 6
	mm <sup>2</sup>	1 ... 10
	mm <sup>2</sup>	0.5 ... 2.5
	mm <sup>2</sup>	0.5 ... 2.5
	mm <sup>2</sup>	0.5 ... 2.5
<b>AWG number / as coded connectable conductor cross-section / for main contacts</b>		14 ... 10
<b>Design of the electrical connection / for auxiliary and control current circuit</b>		screw-type terminals
<b>Design of the thread / of the connection screw / of the auxiliary and control pins</b>		M3
<b>AWG number / as coded connectable conductor cross-section</b>		
<ul style="list-style-type: none"> <li>• for auxiliary and control contacts</li> </ul>		20 ... 12
<b>Skinning length / of the cable / for main contacts</b>	mm	10
<b>Skinning length / of the cable / for auxiliary and control contacts</b>	mm	7
<b>Tightening torque / for auxiliary and control contacts</b>		
<ul style="list-style-type: none"> <li>• with screw-type terminals</li> </ul>	N-m	0.5 ... 0.6
<b>Tightening torque (lbf-in) / for auxiliary and control contacts</b>		
<ul style="list-style-type: none"> <li>• with screw-type terminals</li> </ul>	lbf-in	4.5 ... 5.3

#### Certificates/approvals:

General Product Approval	EMC	Declaration of Conformity	Test Certificates
--------------------------	-----	---------------------------	-------------------



[Type Test Certificates/Test Report](#)

other

[Environmental Confirmations](#)

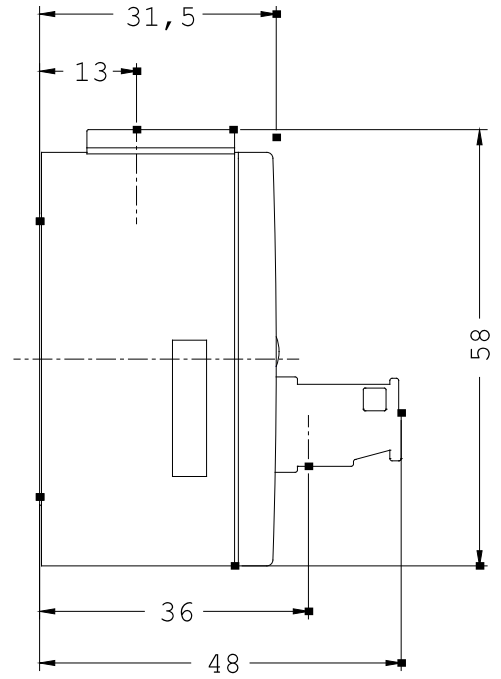
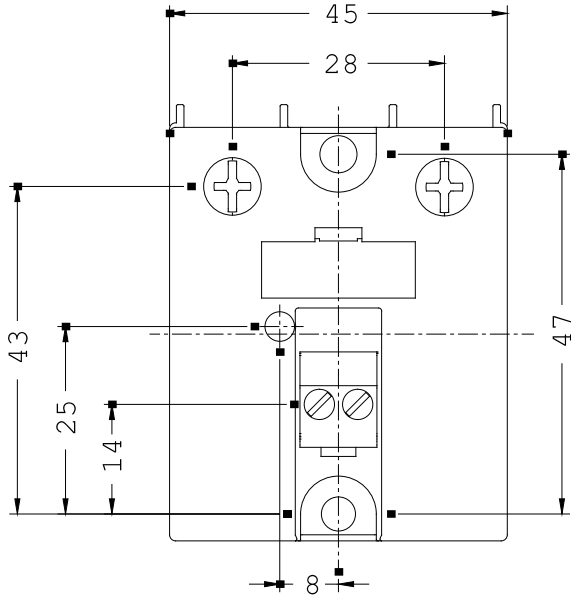
#### Further information:

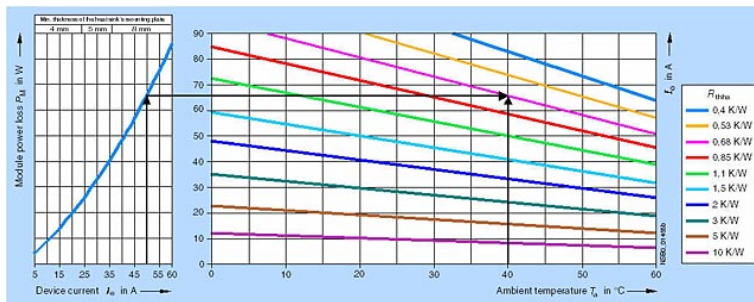
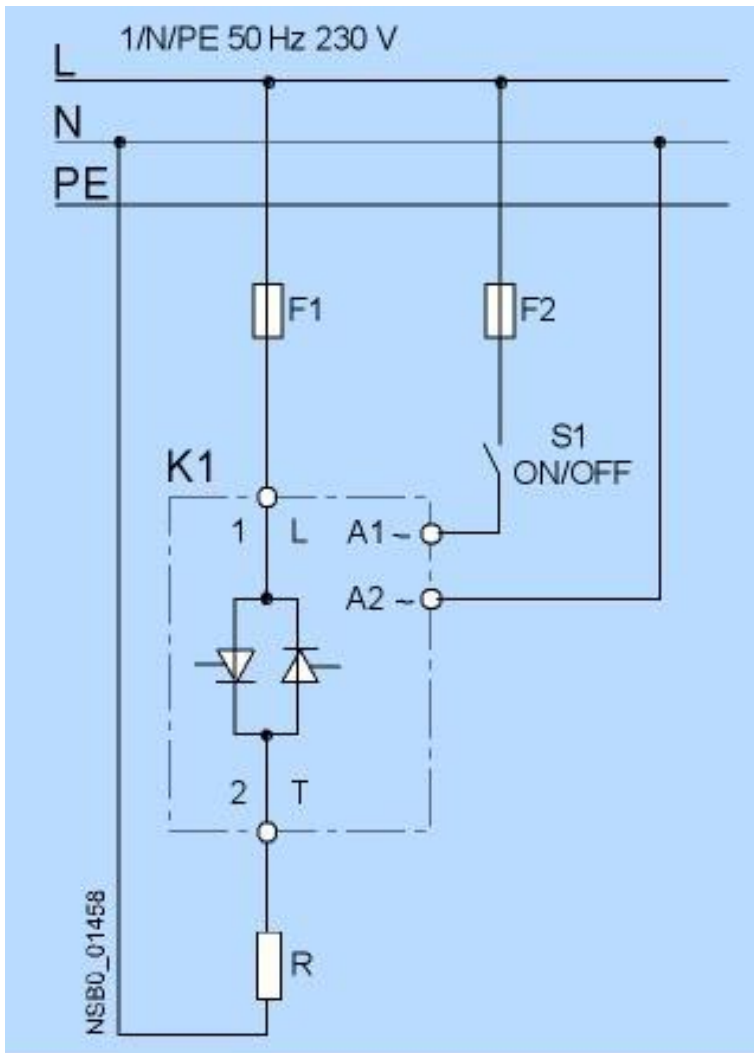
**Information- and Downloadcenter (Catalogs, Brochures,...)**

<http://www.siemens.com/industrial-controls/catalogs>

**Industry Mall (Online ordering system)**

<http://www.siemens.com/industrial-controls/mall>





last change:

Feb 4, 2013