## **SIEMENS**

**Product data sheet** 

#### 3RU2116-0KB0

#### THERM. OVERLOAD RELAY 0.90 - 1.25 A

Product brand nameSIRUSProtection class IP / frontal/front sideIP20Insulation voltage / with degree of pollution 3IP20• rated valueV690Attitude of installation site / at a height over see level / maximumP• during transportPS• during transport°C-55 80• during transport°C-55 80• during the operating phase°C-55 80• during the operating phase°C-55 80• during the operating phase°C-55 80• during the operating phase°C80 / 10 msRelative humidityV80• during the operating phase7%90Relative name from the operating phase7%80resistance against shockW8.9 / 10 msInpulse voltage resistance / rated valueKW6resistance against shockW8.9• according to DIN No 119 extendable after IEC 204-2 / according to DIN No 119 extendable after IEC 204-2 / according to DIN No 119 extendable after IEC 204-2 / according to DIN No 119 extendable after IEC 204-2 / according to DIN No 119 extendable after IEC 204-2 / according to DIN No 119 extendable after IEC 204-2 / according to DIN No 119 extendable after IEC 204-2 / according to DIN AD 119 extendable after IEC 204-2 / according to DIN No 119 extendable after IEC 204-2 / according to DIN AD 119 extendable after IEC 204-2 / according to DIN AD 119 extendable after IEC 204-2 / according to DIN AD 119 extendable after IEC 204-2 / according to DIN AD 119 extendable after IEC 204-2 / according to DIN AD 119 extendable after IEC 204-2 / according to DIN AD 119 e	General technical data:		
Insulation voltage / with degree of pollution 3         V         690           Attitude of installation site / at a height over sea level / maximum         max         2,000           Ambient temperature         m         2,000           • during transport         °C         5580           • during transport         °C         4070           • during the operating phase         °C         4070           Relative humidity         %         90           • during the operating phase         °C         4070           Resistance against shock         %         90           Impulse voltage resistance / rated value         KV         6           Real loss power / total / typical         W         3.9           * according to DIN 40719 extendable after IEC 204-2 / according to DIN 40719 extendable after IEC 204-2 / according to DIN 40719 extendable after IEC 204-2 / according to DIN 40719 extendable after IEC 204-2 / according to DIN 40719 extendable after IEC 204-2 / according to DIN 40719 extendable after IEC 204-2 / according to DIN 40719 extendable after IEC 204-2 / according to DIN 40719 extendable after IEC 204-2 / according to DIN 40719 extendable after IEC 204-2 / according to DIN 40719 extendable after IEC 204-2 / according to DIN 40719 extendable after IEC 204-2 / according to DIN 40719 extendable after IEC 204-2 / according to DIN 40719 extendable after IEC 204-2 / according to DIN 40719 extendable after IEC 204-2 / according to DIN 40719 extendable after IEC 204-2 / according to DIN 40719 extendab	Product brand name		SIRIUS
• rated valueV990Altitude of installation site / at a height over sea level / maximummax2,000Ambient temperaturemax2,000• during transport°C-55 80• during storage°C-55 80• during the operating phase°C-65 80• during the operating phase°C-40 70Relative humidity90• during the operating phase1/9680/10 msRelative stundity80/10 ms• during the operating phase1/966Resistance against shock1/966Real loss power / total / typicalKV6• according to DIN 40719 extendable after IEC 204-2 / according to IEC 750F• according to DIN 40719 extendable after IEC 204-2 / according to IEC 750CLASS 10• according to DIN 40719 extendable after IEC 204-2 / according to IEC 750S00Size of overload relay500Size of overload relay500Size of overload relay500Math circuit3Mumber of poles / for main current circuit3• maximumV• maximumV• maximum690• preating outrent / at AC-3 at 400 V • rated valueA•	Protection class IP / frontal/front side	_	IP20
Attitude of installation site / at a height over sea level / maximum         m         2,000           Ambient temperature             • during transport         °C         65 80           • during storage         °C         40 70           • during the operating phase         °C         40 70           Relative humidity         -         40 70           • during the operating phase         °C         8g/10 ms           reduring the operating phase         /%         90           • during the operating phase         /%         8g/10 ms           • during the operating phase         /%         6           • according to DIN 40719 extendable after IEC 204-2 / according to DIN EN 61346-2         F         500           • torography specific         So0         500         500 <t< th=""><th>Insulation voltage / with degree of pollution 3</th><th>_</th><th></th></t<>	Insulation voltage / with degree of pollution 3	_	
maximumImage: section of the section of t	rated value	V	690
• during transport°C• 55 80• during storage°C• 55 80• during the operating phase°C• 40 70Relative humidity°C• 90• during the operating phase/%90Relative humidity8/10 msregistance against shockW8Impulse voltage resistance / rated valueKV6Real loss power / total / typicalW3.9• according to DIN 40719 extendable after IEC 204-2 / according to DIN 40719 extendable after IEC 204-2 / according to DIN 40719 extendable after IEC 204-2 / according to DIN 40719 extendable after IEC 204-2 / according to DIN 40719 extendable after IEC 204-2 / according to DIN 40719 extendable after IEC 204-2 / according to DIN 40719 extendable after IEC 204-2 / according to DIN 40719 extendable after IEC 204-2 / according to DIN 40719 extendable after IEC 204-2 / according to DIN 40719 extendable after IEC 204-2 / according to DIN 40719 extendable after IEC 204-2 / according to DIN 40719 extendable after IEC 204-2 / according to DIN 40719 extendable after IEC 204-2 / according to DIN 40719 extendable after IEC 204-2 / according to DIN 40719 extendable after IEC 204-2 / according to DIN 40719 extendable after IEC 204-2 / according to DIN 40719 extendable after IEC 204-2 / according to DIN 40719FTrip classCLASS 10CLASS 10Size of the contactor / can be combinedSize of the contactor / can be combinedSize of the contactor / can be company extended• company-specificSize of the contactor / can de valueSize of the contactor / can de valueSize of the contactor / can de value• Chance IEC 2004 for main current circuitSize of the contactor / can de valueSiz	-	m	2,000
during storage°C-55 80- during the operating phase°C-40 70Relative humidity-40 70• during the operating phase/%90Resistance against shock8g / 10 msImpulse voltage resistance / rated valuekV6Real loss power / total / typicalW3.9• according to DIN 40719 extendable after IEC 204-2 / according to DIN 40719 extendable after IEC 204-2 / according to DIN 40719 extendable after IEC 204-2 / according to DIN EN 61346-2FTrip classCLASS 10Trip classCLASS 10Size of overload relayS00Size of overload relayS00Size of the contactor / can be combined • company-specificS00Main circuit:S00Mumber of poles / for main current circuit3Operating voltage / at 3 AC / rated valueVNumber of poles / for main current circuitS00Operating voltage / at 3 AC / rated valueKNumber of poles / for main current circuitS00Operating voltage / at 3 AC / rated valueKNumber of poles / for main current circuitS00Operating voltage / at 3 AC / rated valueKNumber of poles / for main current circuitS00Operating voltage / at 3 AC / rated valueKNumber of poles / for main current circuitS00Operating voltage / at 3 AC / rated valueKNumber of poles / for main current circuitS00Number of poles / for main current circuitS00Operating voltage / at 3 AC	Ambient temperature		
• during the operating phase°C40 70Relative humidity°C40 70• during the operating phase/%90Resistance against shock8g / 10 msImpulse voltage resistance / rated valuekV6Real loss power / total / typicalW3.9tem designationF• according to DIN 40719 extendable after IEC 204-2 / according to DIN 40719 extendable after IEC 204-2 / according to DIN EN 61346-2FTrip classGCLASS 10Type of assignement2Size of overload relayS00Size of overload relayS00Main circuit:S00Mumber of poles / for main current circuitAOperating voltage / at 3 AC / rated valueF• maximumVOperating current / at AC-3 / at 400 VA• rated valueAService power / at AC-3A	during transport	°C	-55 80
Relative humidity       //%       90         Resistance against shock       8g/10 ms         Impulse voltage resistance / rated value       kV       6         Real loss power / total / typical       W       3.9         Item designation       V       6         • according to DIN 40719 extendable after IEC 204-2 / according to DIN 40719 extendable after IEC 204-2 / according to DIN EN 61346-2       F         Trip class       CLASS 10       F         Trip class       S00       S00         Size of overload relay       S00       S00         Size of the contactor / can be combined       S00       S00         • company-specific       S00       S00         Mumber of poles / for main current circuit       3       3         Operating voltage / at 3 AC / rated value       V       690         • maximum       V       690         Operating current / at AC-3 / at 400 V       A       1.25         Service power / at AC-3       A       1.25	during storage	°C	-55 80
• during the operating phase/ %90Resistance against shock8g / 10 msImpulse voltage resistance / rated valuekV6Real loss power / total / typicalW3.9tem designation • according to DIN 40719 extendable after IEC 204-2 / according to IEC 750F• according to DIN 40719 extendable after IEC 204-2 / according to IEC 750F• according to DIN EN 61346-2CLASS 10Trip classCLASS 10Type of assignement2Size of overload relayS00• company-specificS00Mumber of poles / for main current circuit3Operating voltage / at 3 AC / rated valueA• maximumVOperating current / at AC-3 / at 400 VA• rated valueAFervice power / at AC-3A	during the operating phase	°C	-40 70
Resistance against shock8g / 10 msImpulse voltage resistance / rated valuekV6Real loss power / total / typicalW3.9tem designationW3.9• according to DIN 40719 extendable after IEC 204-2 / according to DIN 40719 extendable after IEC 204-2 / according to DIN EN 61346-2FTrip classCLASS 10Type of assignement2Size of overload relayS00Size of the contactor / can be combinedS00• company-specificS00Mumber of poles / for main current circuit3Operating voltage / at 3 AC / rated valueV690• rated valueA C-3 / at 400 VA• rated valueA C-3A C-3	Relative humidity		
Impulse voltage resistance / rated valuekV6Real loss power / total / typicalW3.9Item designationW3.9• according to DIN 40719 extendable after IEC 204-2 / according to IEC 750F• according to DIN EN 61346-2FTrip classCLASS 10Type of assignement2Size of overload relayS00Size of the contactor / can be combined • company-specificS00Main circuit:S00Mumber of poles / for main current circuit3Operating voltage / at 3 AC / rated value • maximumVOperating current / at AC-3 / at 400 V • rated valueA1.25AC.	<ul> <li>during the operating phase</li> </ul>	/ %	90
Real loss power / total / typical       W       3.9         Item designation       -         • according to DIN 40719 extendable after IEC 204-2 / according to IEC 750       F         • according to DIN EN 61346-2       F         Trip class       CLASS 10         Type of assignement       2         Size of overload relay       S00         Size of the contactor / can be combined       -         • company-specific       S00         Main circuit:       S00         Mumber of poles / for main current circuit       3         Operating voltage / at 3 AC / rated value       -         • maximum       V       690         Operating current / at AC-3 / at 400 V       A       1.25         Service power / at AC-3       A       1.25	Resistance against shock		8g / 10 ms
Item designationItem designation• according to DIN 40719 extendable after IEC 204-2 / according to IEC 750F• according to DIN EN 61346-2FTrip classCLASS 10Type of assignement2Size of overload relayS00Size of the contactor / can be combined • company-specificS00Main circuit:S00Number of poles / for main current circuit3Operating voltage / at 3 AC / rated value • maximumV690A1.25A.25	Impulse voltage resistance / rated value	kV	6
• according to DIN 40719 extendable after IEC 204-2 / according to IEC 750F• according to DIN EN 61346-2FTrip classCLASS 10Type of assignement2Size of overload relayS00Size of overload relayS00Size of the contactor / can be combined • company-specificS00Mumber of poles / for main current circuit3Operating voltage / at 3 AC / rated value • maximumVOperating current / at AC-3 / at 400 V • rated valueAI.25A	Real loss power / total / typical	W	3.9
to IEC 750F• according to DIN EN 61346-2FTrip classCLASS 10Type of assignement2Size of overload relayS00Size of the contactor / can be combined • company-specificS00Main circuit:S00Mumber of poles / for main current circuit3Operating voltage / at 3 AC / rated value • maximumV690Operating current / at AC-3 / at 400 V • rated valueA1.25I.25	Item designation		
Trip classCLASS 10Type of assignement2Size of overload relayS00Size of the contactor / can be combined • company-specificS00Main circuit:S00Main circuit:S00Number of poles / for main current circuit3Operating voltage / at 3 AC / rated value • maximumV0690Operating current / at AC-3 / at 400 V • rated valueA1.25AC			F
Type of assignement2Size of overload relayS00Size of the contactor / can be combined • company-specificS00Main circuit:S00Main circuit:Number of poles / for main current circuit3Operating voltage / at 3 AC / rated value • maximumV690Operating current / at AC-3 / at 400 V • rated valueA1.25	according to DIN EN 61346-2		F
Size of overload relayS00Size of the contactor / can be combined • company-specificS00Main circuit:S00Main circuit:S00Number of poles / for main current circuit3Operating voltage / at 3 AC / rated value • maximumVOperating current / at AC-3 / at 400 V • rated valueA1.25Service power / at AC-3I	Trip class		CLASS 10
Size of the contactor / can be combined       Sol         • company-specific       Sol         Main circuit:       Image: Company specific state sta	Type of assignement		2
• company-specificSooMain circuit:Number of poles / for main current circuit3Operating voltage / at 3 AC / rated value• maximumVOperating current / at AC-3 / at 400 V690• rated valueAProver / at AC-3AService power / at AC-3A	Size of overload relay		S00
Main circuit:     3       Number of poles / for main current circuit     3       Operating voltage / at 3 AC / rated value     -       • maximum     V     690       Operating current / at AC-3 / at 400 V     -       • rated value     A     1.25       Service power / at AC-3     -     -	Size of the contactor / can be combined		
Number of poles / for main current circuit       3         Operating voltage / at 3 AC / rated value       -         • maximum       V       690         Operating current / at AC-3 / at 400 V       -         • rated value       A       1.25         Service power / at AC-3       -       -	company-specific		S00
Operating voltage / at 3 AC / rated value     Notesting       • maximum     V     690       Operating current / at AC-3 / at 400 V     Notesting       • rated value     A     1.25       Service power / at AC-3     Notesting	Main circuit:		
• maximumV690Operating current / at AC-3 / at 400 V• rated valueA1.25Service power / at AC-3	Number of poles / for main current circuit		3
Operating current / at AC-3 / at 400 V     A       • rated value     A       Service power / at AC-3     -	Operating voltage / at 3 AC / rated value		
• rated value A 1.25 Service power / at AC-3	• maximum	V	690
Service power / at AC-3	Operating current / at AC-3 / at 400 V		
	rated value	А	1.25
• at 400 V / rated value kW 0.37	Service power / at AC-3		
	• at 400 V / rated value	kW	0.37

• at 500 V / rated value	kW	0.55
• at 690 V / rated value	W	750
Adjustable response current		
<ul> <li>of the current-dependent overload release</li> </ul>	А	0.9 1.25
Operating current / of the fuse link / rated value	А	4

Auxiliary circuit:		
Contact reliability / of the auxiliary contacts		< 1 error per 100 million operating cycles
Number of NC contacts / for auxiliary contact		1
Number of NO contacts / for auxiliary contact		1
Number of change-over switches / for auxiliary contact		0
Operating current / of the auxiliary contacts		
• at AC-15		
• at 24 V	А	3
• at 110 V	А	3
• at 120 V	А	3
• at 125 V	А	3
• at 230 V	А	2
• at 400 V	А	1
• at DC-13		
• at 24 V	А	1
• at 110 V	А	0.22
• at 125 V	А	0.22
• at 220 V	А	0.11

### Short-circuit:

# Design of the fuse link / for short-circuit protection of the auxiliary switch / required fuse gG: 10 A

Installation/mounting/dimensions:			
built in orientation		vertical	
Type of fixing/fixation		direct mounting	
Width	mm	45	
Height	mm	87	
Depth	mm	73	
distance, to be maintained, to the ranks assembly			
forwards	mm	0	
backwards	mm	0	
• upwards	mm	6	
downwards	mm	6	
• sidewards	mm	6	

distance, to be maintained, to earthed part		
• forwards	mm	0
backwards	mm	0
• upwards	mm	6
downwards	mm	6
• sidewards	mm	6
distance, to be maintained, conductive elements		
• forwards	mm	0
backwards	mm	0
• upwards	mm	6
downwards	mm	6
• sidewards	mm	6

#### **Connections:**

design of the electrical connection		
for main current circuit		screw-type terminals
<ul> <li>for auxiliary and control current circuit</li> </ul>		screw-type terminals
Product function / removable terminal for auxiliary and control circuit	_	No
Type of the connectable conductor cross-section	_	
for main contacts		
• unifilar		2 x (0.5 1.5 mm2), 2 x (0.75 2.5 mm2), 2 x (0.5 4 mm2)
stranded wire		2x (0.5 1.5 mm2), 2x (0.75 2.5 mm2), 2x 0.5 mm2 2x 4 mm2
stranded wire		
<ul> <li>with conductor end processing</li> </ul>		2x (0.5 1.5 mm2), 2x (0.75 2.5 mm2)
at AWG-conductors / for main contacts		2x (20 16), 2x (18 14)
for auxiliary contacts		
• solid		2x (0.5 1.5 mm2), 2x (0.75 2.5 mm2)
finely stranded		
with wire end processing		2x (0.5 1.5 mm2), 2x (0.75 2.5 mm2)
<ul> <li>for AWG conductors / for auxiliary contacts</li> </ul>		2x (20 16), 2x (18 14)
Certificates/approvals:		
verification of suitability		CE / UL / CSA
• ATEX		No

Safety:		
Mean time to failure (MTTF) / with high demand rate		
according to SN 31920	а	2,280
Proportion of dangerous failures		

<ul> <li>with low demand rate / according to SN 31920</li> </ul>	%	50
<ul> <li>with high demand rate / according to SN 31920</li> </ul>	%	50
Failure rate (FIT value) / with low demand rate		
according to SN 31920	FIT	50
T1 value / for proof test interval or service life		
according to IEC 61508	а	20
Protection against electrical shock		finger-safe

#### Further information:

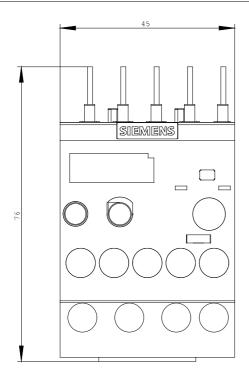
Information- and Downloadcenter (Catalogs, Brochures,...) http://www.siemens.com/industrial-controls/catalogs

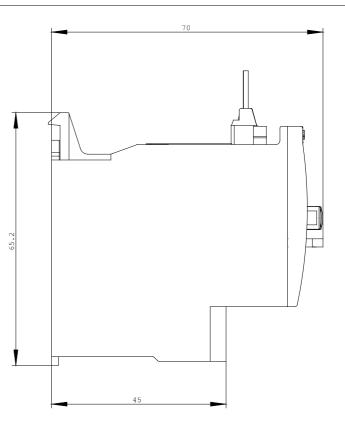
Global Industry Mall (Online ordering system)

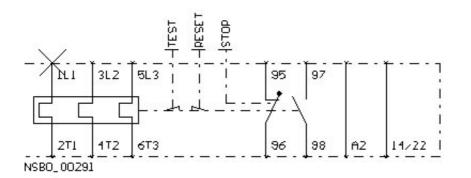
http://www.siemens.com/industrial-controls/mall

Service&Support (Manuals, Certificates, Characteristics, FAQs,...) http://support.automation.siemens.com/WW/view/en/3RU2116-0KB0/all

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...) http://www.automation.siemens.com/bilddb/cax\_en.aspx?mlfb=3RU2116-0KB0







last change:

Apr 26, 2010