## **SIEMENS**

**Product data sheet** 

THERM. OVERLOAD RELAY 2.2 - 3.2 A

Product brand name     INUS       Protection class IP / frontal/front side     IP20       Insulation voltage / with degree of pollution 3     IV       • rited value     V     690       Altitude of installation site / at a height over see level /     IV     690       Ambient temperature     IV     55 80       • during transport     IC     -55 80       • during the operating phase     IC     -40 70       • during the operating phase     IC     -40 70       • during the operating phase     IC     8g / 10 ms       • during the operating phase     KV     6       • during the operating phase     IV     6       • during the operating phase     IV     8g / 10 ms       Impulse voltage resistance / rated value     KV     6       Real loss power / total / typical     IV     8       • according to DIN EN 61346-2     IV     F       • ind coling to DIN EN 61346-2     IV     S00       * stor of pasignement     S00     S00       Size of the contactor / can be combined     S00     S00       • company-specific     S00     S00       Number of poles / for main current circuit     S00     S00       Operating voltage / at 3 AC / rated value     S0     S00       • cana	General technical data:		
Insulation voltage / with degree of pollution 3         V         600           • rated value         V         600           Altitude of installation site / at a height over sea level / maximum         max         2,000           Ambient temperature         -         -           • during transport         °C         -         -           • during transport         °C         -         -         -           • during the operating phase         °C         -         -         -         -           • during the operating phase         °C         -	Product brand name		SIRIUS
• rated valueV690Attitude of installation site / at a height over sea level / maximum2,000Ambient temperature• during transport• during storage• during storage• during the operating phase• during the operating phase• during the operating phase-8g / 10 msRelative humidity• during the operating phase/%8g / 10 msResistance against shockW6Real loss power / total / typicalW3.9• 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 10Trip classCLASS 10Size of overload relaySo0Size of overload relaySo0Mather of poles / for main current circuit3Operating voltage / at 3 AC / rated valueV• maximumQOperating outgae / at 3 AC / rated valueA• maximumQ• rated valueAAnalytic qualueASize of outgae / at 3 AC / rated value• maximumQ• prevating voltage / at 3 AC / rated value• maximumQ• maximumA• at de valueA• at de value	Protection class IP / frontal/front side		IP20
Altitude 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       °C       8g / 10 ms         • during the operating phase       7%       90         • during the operating phase       7%       8g / 10 ms         Impulse voltage resistance / rated value       kV       6         Real loss power / total / typical       W       3.9         tem designation       F       5         • according to DIN 40719 extendable after IEC 204-2 / according to IDN 40719 extendable after IEC 204-2 / according to IDN EN 61346-2       F         Trip class       F       500         Size of overload relay       S00       500         Size of overload relay       S00       500         Mather of poles / for main current circuit       S0       6         Operating voltage / at 3 AC / rated value       V       690         • maximum       V       690       690         Operating current / at AC-3 at 400 V       A       3.2         •	Insulation voltage / with degree of pollution 3		
maximumImage: set of the set o	rated value	V	690
during transport"C5580during storage"C5580during the operating phase"C4070Relative humidity"C80/10 mseduring the operating phase1%90Resistance against shockKV6Impulse voltage resistance / rated valueKV6Real toss power / total / typicalW3.9eacording to DIN 40719 extendable after IEC 204-2 / according to IEC 750Faccording to DIN 40719 extendable after IEC 204-2 / according to IEC 750Faccording to DIN 40719 extendable after IEC 204-2 / according to IEC 750Faccording to DIN 40719 extendable after IEC 204-2 / according to IEC 750Faccording to DIN 40719 extendable after IEC 204-2 / according to IEC 750Faccording to DIN 40719 extendable after IEC 204-2 / according to IEC 750Faccording to DIN 40719 extendable after IEC 204-2 / according to IEC 750Faccording to DIN 40719 extendable after IEC 204-2 / according to IEC 750Faccording to DIN 40719 extendable after IEC 204-2 / according to IEC 750Faccording to DIN 40719 extendable after IEC 204-2 / according to IEC 750Fstore of operating to DIN 40719 extendable after IEC 204-2 / according to IEC 750Fstore of operating to DIN 40719 extendable to IEC 750SSize of the contactor / can be combined to company-specificSNumber of poles / for main current circuit to maximumSOperating current / at AC-3 / at 400 V totad valueA <t< td=""><td>-</td><td>m</td><td>2,000</td></t<>	-	m	2,000
Auring storageCSI- during storage°C-55 80- during the operating phase°C40 70Relative humidity90- during the operating phase/%90Resistance against shock8g / 10 msImpulse voltage resistance / rated valuekV6Real loss power / total / typicalW30tem designationW90- 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 classS00Size of overload relayS00Size of overload relayS00Size of the contactor / can be combinedS00• company-specificS00Mainer er folds / for main current circuit3Operating voltage / at 3 AC / rated valueM• maximumVOperating uring / at AC-3 / at 400 VA• rated valueAStrice power / at AC-3AStrice power / at AC-3AAStrice power / at AC-3AStrice power / at AC-3AStrice power / at AC-3AStrice power / at AC-3AStrice power / at AC-3 <tr <td="">AAStrice p</tr>	Ambient temperature		
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Relative humidity       /%       90         Relative humidity       8g/10 ms         Resistance against shock       8g/10 ms         Impulse voltage resistance / rated value       kV       6         Real loss power / total / typical       W       3.9         Item designation        F         • according to DIN 40719 extendable after IEC 204-2 / according to DIN EN 61346-2       F         Trip class       CLASS 10         Type of assignement       2         size of overload relay       S000         Size of the contactor / can be combined       S00         • company-specific       S00         Mumber of poles / for main current circuit       3         Operating voltage / at 3 AC / rated value       V       690         • maximum       V       690         Operating current / at AC-3 / at 400 V       A       3.2         • rated value       A       3.2	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 EN 61346-2FTrip classCLASS 10Type of assignement2Size of overload relayS00size of the contactor / can be combined • company-specificS00Mumber of poles / for main current circuitIOperating voltage / at 3 AC / rated value • maximum3Operating current / at AC-3/ at 400 V • rated valueAService power / at AC-3AService power / at AC-3IService power / at AC-	<ul> <li>during the operating phase</li> </ul>	°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 valueV• maximumVOperating current / at AC-3 / at 400 VA• rated valueAService power / at AC-3A	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:S00Number of poles / for main current circuit3Operating voltage / at 3 AC / rated value • maximumVOperating current / at AC-3 / at 400 V • rated valueA3.2Service power / at AC-3	during the operating phase	/ %	90
Real 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:S00Number of poles / for main current circuit3Operating voltage / at 3 AC / rated valueV• maximumVOperating current / at AC-3 / at 400 V • rated valueA3.2Strice power / at AC-3AStrice power / at AC-3A	Resistance against shock		8g / 10 ms
tem designationImage: Construct of the second o	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-specificS00Main circuit:Number of poles / for main current circuitS00Operating voltage / at 3 AC / rated value • maximumV690Operating current / at AC-3 / at 400 V • rated valueA3.2Struice power / at AC-3IIService power	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 circuitSOperating voltage / at 3 AC / rated value • maximumVOperating current / at AC-3 / at 400 V • rated valueAService power / at AC-3AService power / at AC-3I	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 circuitAOperating voltage / at 3 AC / rated value • maximumVOperating current / at AC-3 / at 400 V • rated valueAService power / at AC-3A			F
Type 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 • maximumV690Operating current / at AC-3 / at 400 V • rated valueA3.2Service power / at AC-3A3.2	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 valueA3.2Service power / at AC-3I	Trip class		CLASS 10
Size of the contactor / can be combined       Sol         • company-specific       Sol         Main circuit:       Number of poles / for main current circuit       3         Operating voltage / at 3 AC / rated value       V       690         • maximum       V       690         Operating current / at AC-3 / at 400 V       A       3.2         Service power / at AC-3       I       I	Type of assignement		2
• company-specificSooMain circuit:Number of poles / for main current circuit3Operating voltage / at 3 AC / rated value٩• maximum٧Operating current / at AC-3 / at 400 V٩• rated valueAService power / at AC-3٩	Size of overload relay		S00
Main circuit:     3       Number of poles / for main current circuit     3       Operating voltage / at 3 AC / rated value     4       • maximum     V     690       Operating current / at AC-3 / at 400 V     A     3.2       Service power / at AC-3     A     3.2	Size of the contactor / can be combined		
Number of poles / for main current circuit       3         Operating voltage / at 3 AC / rated value       690         • maximum       V       690         Operating current / at AC-3 / at 400 V       A       3.2         • rated value       A       3.2	company-specific		S00
Operating voltage / at 3 AC / rated value     V     690       • maximum     V     690       Operating current / at AC-3 / at 400 V     A     3.2       • rated value     A     3.2	Main circuit:		
• maximum     V     690       Operating current / at AC-3 / at 400 V     A     3.2       • rated value     A     3.2	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     A	Operating voltage / at 3 AC / rated value		
• rated value A 3.2 Service power / at AC-3	• maximum	V	690
Service power / at AC-3	Operating current / at AC-3 / at 400 V		
	rated value	А	3.2
• at 400 V / rated value kW 1.1	Service power / at AC-3		
	• at 400 V / rated value	kW	1.1



• at 500 V / rated value	kW	1.5
• at 690 V / rated value	W	2,200
Adjustable response current		
<ul> <li>of the current-dependent overload release</li> </ul>	А	2.2 3.2
Operating current / of the fuse link / rated value	А	10

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)
for AWG conductors / for auxiliary contacts		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:

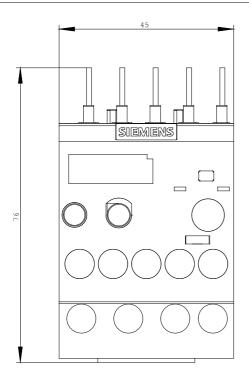
Information- and Downloadcenter (Catalogs, Brochures,...) http://www.siemens.com/industrial-controls/catalogs

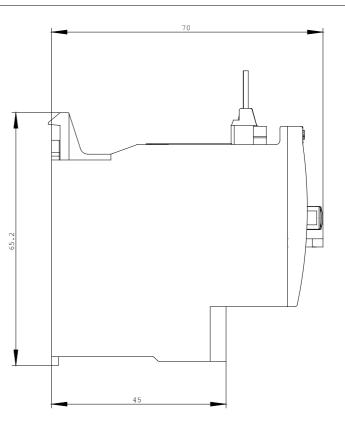
Global Industry Mall (Online ordering system)

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

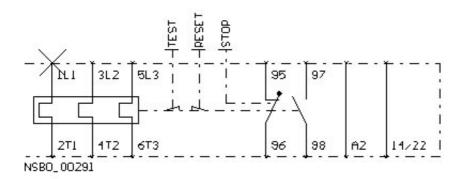
Service&Support (Manuals, Certificates, Characteristics, FAQs,...) http://support.automation.siemens.com/WW/view/en/3RU2116-1DB0/all

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...) http://www.automation.siemens.com/bilddb/cax\_en.aspx?mlfb=3RU2116-1DB0









last change:

Apr 26, 2010

