## SIEMENS

## Data sheet

## 3RN2012-2BW31



Thermistor motor protection relay Standard evaluation unit 22.5 mm enclosure Spring-type terminal 2 change-over contacts bistable US = 24 V-240 V AC/DC Manual/Auto/Remote reset 2 LEDs (READY/TRIPPED) galvanic isolation Test/reset button Wire break monitoring Short circuit monitoring non-volatile

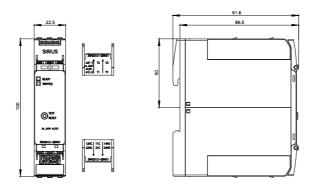
product brand name					
product brand name	SIRIUS				
product category	SIRIUS 3RN2 thermistor motor protection				
product designation	Thermistor motor protection relay				
design of the product	Bistable evaluation unit, open-circuit and short-circuit detection in the sensor circuit (no triggering in the event of control supply voltage failure)				
product type designation	3RN2				
General technical data					
product function	thermistor motor protection				
display version LED	Yes				
power loss [W] for rated value of the current					
<ul> <li>at AC in hot operating state</li> </ul>	1 W				
<ul> <li>at DC in hot operating state</li> </ul>	1 W				
insulation voltage for overvoltage category III according to IEC 60664 with degree of pollution 3 rated value	300 V				
degree of pollution	3				
surge voltage resistance rated value	4 kV				
protection class IP	IP20				
shock resistance acc. to IEC 60068-2-27	11g / 15 ms				
vibration resistance acc. to IEC 60068-2-6	10 55 Hz: 0.35 mm				
mechanical service life (switching cycles) typical	10 000 000				
electrical endurance (switching cycles) at AC-15 at 230 V typical	100 000				
thermal current of the switching element with contacts maximum	5 A				
reference code acc. to IEC 81346-2	К				
Substance Prohibitance (Date)	01.05.2012 00:00:00				
Control circuit/ Control					
type of voltage of the control supply voltage	AC/DC				
control supply voltage at AC					
<ul> <li>at 50 Hz rated value</li> </ul>	24 240 V				
• at 60 Hz rated value	24 240 V				
control supply voltage at DC					
rated value	24 240 V				
operating range factor control supply voltage rated value at DC					
initial value	0.85				
full-scale value	1.1				
operating range factor control supply voltage rated value at AC at 50 Hz					
• initial value	0.85				
• full-scale value	1.1				

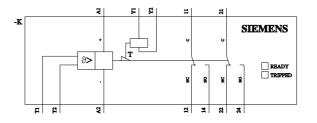
operating range factor control supply voltage rated value at AC at 60 Hz         0.85           • full-scale value         1.1           inrush current peak         0.7 A           • at 24 V         0.7 A           • at 24 V         0.25 ms           • at 24 V         0.25 ms           • at 24 V         0.2 ms           duration of inrush current peak         0.2 ms           • at 24 V         0.2 ms           Measuring circuit         40 ms           Precision         2 %           Auxiliary circuit         0           material of switching contacts         0           number of NC contacts for auxiliary contacts         0           number of NO contacts for auxiliary contacts         0           number of Co contacts for auxiliary contacts         2           Main circuit         3 A           ampacity of the output relay at AC-15 at 250 V at 50/60 Hz         3 A           ampacity of the output relay at AC-15 at 250 V at 50/60 Hz         3 A           ampacity of the output relay at AC-15 at 250 V at 50/60 Hz         3 A           ampacity of the output relay at AC-15 at 250 V at 50/60 Hz         3 A           ampacity of the output relay at AC-15 at 250 V at 50/60 Hz         3 A           ampacity of the output relay at AC-15 at	value at AC at 60 Hz • initial value • full-scale value inrush current peak • at 24 V • at 240 V duration of inrush current peak • at 24 V • at 240 V Measuring circuit	1.1 0.7 A				
• full-scale value       1.1         Inrush current peak       0.7 A         • at 24 V       0.7 A         • at 24 V       0.25 ms         • at 24 V       0.2 ms         Messuring circuit       40 ms         Precision       2 %         Auxiliary circuit       material of switching contacts         material of switching contacts       0         number of NC contacts for auxiliary contacts       0         number of CO contacts for auxiliary contacts       0         number of CO contacts for auxiliary contacts       1         operating frequency rated value       50 60 Hz         Outputs       3 A         ampacity of the output relay at AC-15 at 250 V at 50/60 Hz       3 A         ampacity of the output relay at DC-13       4         • at 25 V       0.2 A         continuous current of the DIAZED fuse link of the output relay at DC-15       6 A         output relay       Electromagnetic compatibility       6 A         conduct	full-scale value  inrush current peak     at 24 V     at 240 V  duration of inrush current peak     at 24 V     at 240 V  Measuring circuit	1.1 0.7 A				
inrush current peak       0.7 A         • at 24 V       0.7 A         • at 24 V       12 A         duration of inrush current peak       0.25 ms         • at 24 V       0.25 ms         • at 24 V       0.2 ms         Messuring circuit       0 ms         buffering time in the event of power failure minimum       40 ms         Precision       2 %         Auxiliary circuit       add ms         material of switching contacts       AgSnO2         number of NO contacts for auxiliary contacts       0         number of NO contacts for auxiliary contacts       0         number of NO contacts for auxiliary contacts       2         Main circuit       ampacity of the output relay at AC-15 at 250 V at 50/60 Hz         ampacity of the output relay at AC-15 at 250 V at 50/60 Hz       3 A         ampacity of the output relay at AC-15 at 250 V at 50/60 Hz       3 A         ampacity of the output relay at AC-15 at 250 V at 50/60 Hz       3 A         eat 24 V       1 A         • at 125 V       0.2 A         continuous current of the DIAZED fuse link of the output relay       0.2 A         conducted interference       0         • due to conductor-earth surge acc. to IEC 61000-4-5       2 kV (power ports) / 1 kV (signal ports) </td <td>inrush current peak • at 24 V • at 240 V duration of inrush current peak • at 24 V • at 240 V Measuring circuit</td> <td>0.7 A</td>	inrush current peak • at 24 V • at 240 V duration of inrush current peak • at 24 V • at 240 V Measuring circuit	0.7 A				
• at 24 V       0.7 Å         • at 240 V       12 Å         duration of inrush current peak       0.25 ms         • at 24 V       0.2 ms         Messuring circuit       buffering time in the event of power failure minimum       40 ms         Precision       2 %         Auxiliary circuit       add ms         material of switching contacts       AgSnO2         number of NC contacts for auxiliary contacts       0         number of NO contacts for auxiliary contacts       0         number of NO contacts for auxiliary contacts       1         operating frequency rated value       50 60 Hz         Outputs       ampacity of the output relay at AC-15 at 250 V at 50/60 Hz       3 Å         ampacity of the output relay at DC-13       3 Å         • at 125 V       0.2 A       0.2 A         continuous current of the DIAZED fuse link of the output relay       6 Å         output relay       Conducted interference       6 Å         • due to conductor-earth surge acc. to IEC 61000-4-5       2 kV (power ports) / 1 kV (signal ports)         • due to conductor-conductor surge acc. to IEC 61000-4-5       2 kV (power ports) / 1 kV (ain discharge	at 24 V     at 240 V  duration of inrush current peak     at 24 V     at 24 V     at 240 V  Measuring circuit					
• at 24 V       0.7 Å         • at 240 V       12 Å         duration of inrush current peak       0.25 ms         • at 24 V       0.2 ms         Messuring circuit       buffering time in the event of power failure minimum       40 ms         Precision       2 %         Auxiliary circuit       add ms         material of switching contacts       AgSnO2         number of NC contacts for auxiliary contacts       0         number of NO contacts for auxiliary contacts       0         number of NO contacts for auxiliary contacts       1         operating frequency rated value       50 60 Hz         Outputs       ampacity of the output relay at AC-15 at 250 V at 50/60 Hz       3 Å         ampacity of the output relay at DC-13       3 Å         • at 125 V       0.2 A       0.2 A         continuous current of the DIAZED fuse link of the output relay       6 Å         output relay       Conducted interference       6 Å         • due to conductor-earth surge acc. to IEC 61000-4-5       2 kV (power ports) / 1 kV (signal ports)         • due to conductor-conductor surge acc. to IEC 61000-4-5       2 kV (power ports) / 1 kV (ain discharge	at 24 V     at 240 V  duration of inrush current peak     at 24 V     at 24 V     at 240 V  Measuring circuit					
duration of inrush current peak       0.25 ms         • at 24 V       0.25 ms         • at 240 V       0.2 ms         Measuring circuit       40 ms         Precision       2 %         Auxiliary circuit       40 ms         material of switching contacts       0         number of NC contacts for auxiliary contacts       0         number of CO contacts for auxiliary contacts       0         number of CO contacts for auxiliary contacts       0         operating frequency rated value       50 60 Hz         Outputs       ampacity of the output relay at AC-15 at 250 V at 50/60 Hz       3 A         ampacity of the output relay at AC-15 at 250 V at 50/60 Hz       3 A         ampacity of the output relay at DC-13       0.2 A         continuous current of the DIAZED fuse link of the output relay       6 A         continuous current of the DIAZED fuse link of the output relay       2 kV (power ports) / 1 kV (signal ports)         e due to burst acc. to IEC 61000-4-4       2 kV (power ports) / 1 kV (signal ports)         e due to conductor-earth surge acc. to IEC 61000-4-5       1 kV (line to ground)         e due to conductor-sender surge acc. to IEC 61000-4-2       6 kV contact discharge / 8 kV air discharge	duration of inrush current peak • at 24 V • at 240 V Measuring circuit	12 A				
• at 24 V       0.25 ms         • at 240 V       0.2 ms         Messuring circuit       buffering time in the event of power failure minimum       40 ms         Precision       2 %         Auxiliary circuit       AgSnO2         material of switching contacts       0         number of NC contacts for auxiliary contacts       0         number of NC contacts for auxiliary contacts       0         number of CO contacts for auxiliary contacts       2         Main circuit       0         operating frequency rated value       50 60 Hz         Outputs       ampacity of the output relay at AC-15 at 250 V at 50/60 Hz         at 24 V       1 A         • at 24 V       0.2 A         continuous current of the DIAZED fuse link of the output relay       6 A         continuous current of the DIAZED fuse link of the output relay       5 kV (power ports) / 1 kV (signal ports)         conducted interference       2 kV (power ports) / 1 kV (signal ports)         e due to burst acc. to IEC 61000-4-4       2 kV (line to ground)         i kU (line to ground)       1 kV (line to line)         electrostatic discharge acc. to IEC 61000-4-2       6 kV contact discharge / 8 kV air discharge	at 24 V     at 240 V Measuring circuit					
• at 240 V       0.2 ms         Measuring circuit       40 ms         Precision       2 %         Auxiliary circuit       AgSnO2         material of switching contacts       AgSnO2         number of NC contacts for auxiliary contacts       0         number of NC contacts for auxiliary contacts       0         number of CO contacts for auxiliary contacts       0         number of CO contacts for auxiliary contacts       2         Main circuit       0         operating frequency rated value       50 60 Hz         Outputs       3 A         ampacity of the output relay at AC-15 at 250 V at 50/60 Hz       3 A         ampacity of the output relay at DC-13       3 A         • at 24 V       1 A         • at 125 V       0.2 A         continuous current of the DIAZED fuse link of the output relay       6 A         output relay       50.00-4-5         • due to conductor-conductor surge acc. to IEC 61000-4-5       2 kV (power ports) / 1 kV (signal ports)         • due to conductor-conductor surge acc. to IEC 61000-4-5       2 kV (line to ground)         • due to conductor-conductor surge acc. to IEC 61000-4-5       1 kV (line to line)         • due to conductor-conductor surge acc. to IEC 61000-4-5       6 kV contact discharge / 8 kV air discharge </td <td>• at 240 V Measuring circuit</td> <td></td>	• at 240 V Measuring circuit					
Measuring circuit     Duffering time in the event of power failure minimum     40 ms       Precision     2 %       Auxiliary circuit     2 %       material of switching contacts     AgSnO2       number of NC contacts for auxiliary contacts     0       number of NC contacts for auxiliary contacts     0       number of CO contacts for auxiliary contacts     2       Main circuit     0       operating frequency rated value     50 60 Hz       Outputs     3 A       ampacity of the output relay at AC-15 at 250 V at 50/60 Hz     3 A       ampacity of the output relay at DC-13     0.2 A       continuous current of the DIAZED fuse link of the output relay     6 A       conducted interference     0.2 kV (power ports) / 1 kV (signal ports)       e due to conductor-conductor surge acc. to IEC 61000-4-5     2 kV (line to ground)       e due to conductor-conductor surge acc. to IEC 61000-4-5     1 kV (line to line)	Measuring circuit	0.25 ms				
buffering time in the event of power failure minimum       40 ms         Precision       2 %         Auxiliary circuit       2 %         material of switching contacts       AgSnO2         number of NC contacts for auxiliary contacts       0         number of NO contacts for auxiliary contacts       0         number of CO contacts for auxiliary contacts       2         Main circuit       0         operating frequency rated value       50 60 Hz         Outputs       3 A         ampacity of the output relay at AC-15 at 250 V at 50/60 Hz       3 A         ampacity of the output relay at DC-13       1 A         • at 24 V       0.2 A         continuous current of the DIAZED fuse link of the output relay       6 A         continuous current of the DIAZED fuse link of the output relay       2 kV (power ports) / 1 kV (signal ports)         e due to burst acc. to IEC 61000-4-4       2 kV (power ports) / 1 kV (signal ports)         e due to conductor-earth surge acc. to IEC 61000-4-5       2 kV (line to ground)         • due to conductor surge acc. to IEC 61000-4-2       6 kV contact discharge / 8 kV air discharge		0.2 ms				
buffering time in the event of power failure minimum       40 ms         Precision       2 %         Auxiliary circuit       2 %         material of switching contacts       AgSnO2         number of NC contacts for auxiliary contacts       0         number of NO contacts for auxiliary contacts       0         number of CO contacts for auxiliary contacts       2         Main circuit       0         operating frequency rated value       50 60 Hz         Outputs       3 A         ampacity of the output relay at AC-15 at 250 V at 50/60 Hz       3 A         ampacity of the output relay at DC-13       1 A         • at 24 V       0.2 A         continuous current of the DIAZED fuse link of the output relay       6 A         continuous current of the DIAZED fuse link of the output relay       2 kV (power ports) / 1 kV (signal ports)         e due to burst acc. to IEC 61000-4-4       2 kV (power ports) / 1 kV (signal ports)         e due to conductor-earth surge acc. to IEC 61000-4-5       2 kV (line to ground)         • due to conductor surge acc. to IEC 61000-4-2       6 kV contact discharge / 8 kV air discharge						
Precision       2 %         Auxiliary circuit       AgSnO2         material of switching contacts       AgSnO2         number of NC contacts for auxiliary contacts       0         number of NC contacts for auxiliary contacts       0         number of CO contacts for auxiliary contacts       2         Main circuit       0         operating frequency rated value       50 60 Hz         Outputs       3 A         ampacity of the output relay at AC-15 at 250 V at 50/60 Hz       3 A         ampacity of the output relay at DC-13       at 24 V         • at 24 V       0.2 A         continuous current of the DIAZED fuse link of the output relay       6 A         output relay       Electromagnetic compatibility         conducted interference       2 kV (power ports) / 1 kV (signal ports)         e due to burst acc. to IEC 61000-4-5       2 kV (line to ground)         electrostatic discharge acc. to IEC 61000-4-2       6 kV contact discharge / 8 kV air discharge	buffering time in the event of power failure minimum	40 ms				
relative metering precision       2 %         Auxiliary circuit       material of switching contacts       AgSnO2         number of NC contacts for auxiliary contacts       0         number of NO contacts for auxiliary contacts       0         number of CO contacts for auxiliary contacts       2         Main circuit       0         operating frequency rated value       50 60 Hz         Outputs       ampacity of the output relay at AC-15 at 250 V at 50/60 Hz       3 A         ampacity of the output relay at DC-13       3 A         e at 24 V       1 A       0.2 A         continuous current of the DIAZED fuse link of the output relay       0.2 A         conducted interference       6 A         oute to burst acc. to IEC 61000-4-4       2 kV (power ports) / 1 kV (signal ports)         e due to conductor-conductor surge acc. to IEC 61000-4-5       1 kV (line to ground)         electrostatic discharge acc. to IEC 61000-4-2       6 kV contact discharge / 8 kV air discharge						
Auxiliary circuit         material of switching contacts       AgSnO2         number of NC contacts for auxiliary contacts       0         number of NO contacts for auxiliary contacts       0         number of NO contacts for auxiliary contacts       2         Main circuit       operating frequency rated value       50 60 Hz         Outputs       ampacity of the output relay at AC-15 at 250 V at 50/60 Hz       3 A         ampacity of the output relay at DC-13       3 A         • at 24 V       1 A         • at 125 V       0.2 A         continuous current of the DIAZED fuse link of the output relay       6 A         conducted interference       2 kV (power ports) / 1 kV (signal ports)         • due to burst acc. to IEC 61000-4-4       2 kV (line to ground)         • due to conductor-conductor surge acc. to IEC 61000-4-5       1 kV (line to line)         61000-4-5       electrostatic discharge acc. to IEC 61000-4-2       6 kV contact discharge / 8 kV air discharge		2 %				
material of switching contacts       AgSnO2         number of NC contacts for auxiliary contacts       0         number of NO contacts for auxiliary contacts       0         number of CO contacts for auxiliary contacts       2         Main circuit       2         operating frequency rated value       50 60 Hz         Outputs       3 A         ampacity of the output relay at AC-15 at 250 V at 50/60 Hz       3 A         ampacity of the output relay at DC-13       3 A         • at 24 V       0.2 A         continuous current of the DIAZED fuse link of the output relay       6 A         output relay       2         Electromagnetic compatibility       2 kV (power ports) / 1 kV (signal ports)         • due to burst acc. to IEC 61000-4-4       2 kV (line to ground)         • due to conductor-conductor surge acc. to IEC 61000-4-5       2 kV (line to ground)         • due to conductor-conductor surge acc. to IEC 61000-4-5       4 kV (line to ground)         • due to conductor-conductor surge acc. to IEC 61000-4-5       6 kV contact discharge / 8 kV air discharge						
number of NC contacts for auxiliary contacts       0         number of NO contacts for auxiliary contacts       0         number of CO contacts for auxiliary contacts       2         Main circuit       2         operating frequency rated value       50 60 Hz         Outputs       3 A         ampacity of the output relay at AC-15 at 250 V at 50/60 Hz       3 A         ampacity of the output relay at DC-13       3 A         • at 24 V       1 A         • at 125 V       0.2 A         continuous current of the DIAZED fuse link of the output relay       6 A         conducted interference       4 Uk (power ports) / 1 kV (signal ports)         • due to conductor-conductor surge acc. to IEC 61000-4-5       2 kV (line to ground)         • due to conductor-conductor surge acc. to IEC 61000-4-5       1 kV (line to line)         • due to conductor-conductor surge acc. to IEC 61000-4-5       2 kV (sourtact discharge / 8 kV air discharge		AgSnO2				
number of NO contacts for auxiliary contacts       0         number of CO contacts for auxiliary contacts       2         Main circuit       2         operating frequency rated value       50 60 Hz         Outputs       3 A         ampacity of the output relay at AC-15 at 250 V at 50/60 Hz       3 A         ampacity of the output relay at DC-13       3 A         • at 24 V       1 A         • at 125 V       0.2 A         continuous current of the DIAZED fuse link of the output relay       6 A         Electromagnetic compatibility       6 A         conducted interference       2 kV (power ports) / 1 kV (signal ports)         • due to conductor-conductor surge acc. to IEC 61000-4-5       2 kV (line to ground)         • due to conductor-conductor surge acc. to IEC 61000-4-2       6 kV contact discharge / 8 kV air discharge		-				
number of CO contacts for auxiliary contacts       2         Main circuit       50 60 Hz         Outputs       3 A         ampacity of the output relay at AC-15 at 250 V at 50/60 Hz       3 A         ampacity of the output relay at DC-13       3 A         e at 24 V       1 A         e at 125 V       0.2 A         continuous current of the DIAZED fuse link of the output relay       6 A         cuput relay       Electromagnetic compatibility         conducted interference       2 kV (power ports) / 1 kV (signal ports)         e due to conductor-earth surge acc. to IEC 61000-4-5       2 kV (line to ground)         electrostatic discharge acc. to IEC 61000-4-2       6 kV contact discharge / 8 kV air discharge						
Main circuit       50 60 Hz         Outputs       ampacity of the output relay at AC-15 at 250 V at 50/60 Hz       3 A         ampacity of the output relay at DC-13       3 A         e at 24 V       1 A         e at 125 V       0.2 A         continuous current of the DIAZED fuse link of the output relay       6 A         conducted interference       6 A         e due to burst acc. to IEC 61000-4-4       2 kV (power ports) / 1 kV (signal ports)         e due to conductor-conductor surge acc. to IEC 61000-4-5       1 kV (line to ground)         electrostatic discharge acc. to IEC 61000-4-2       6 kV contact discharge / 8 kV air discharge	<b>*</b>					
operating frequency rated value       50 60 Hz         Outputs       ampacity of the output relay at AC-15 at 250 V at 50/60 Hz       3 A         ampacity of the output relay at DC-13       3 A         • at 24 V       1 A         • at 125 V       0.2 A         continuous current of the DIAZED fuse link of the output relay       6 A         Electromagnetic compatibility       6 A         conducted interference       4 U (power ports) / 1 kV (signal ports)         • due to burst acc. to IEC 61000-4-4       2 kV (power ports) / 1 kV (signal ports)         • due to conductor-conductor surge acc. to IEC 61000-4-5       2 kV (line to ground)         • due to conductor-conductor surge acc. to IEC 61000-4-5       1 kV (line to line)         6 Hz       6 kV contact discharge / 8 kV air discharge	-					
Outputs         ampacity of the output relay at AC-15 at 250 V at 50/60 Hz       3 A         ampacity of the output relay at DC-13       3 A         • at 24 V       1 A         • at 125 V       0.2 A         continuous current of the DIAZED fuse link of the output relay       6 A         Electromagnetic compatibility       6 A         conducted interference       4 U (power ports) / 1 kV (signal ports)         • due to burst acc. to IEC 61000-4-4       2 kV (power ports) / 1 kV (signal ports)         • due to conductor-conductor surge acc. to IEC 61000-4-5       1 kV (line to ground)         • due to conductor-conductor surge acc. to IEC 61000-4-2       6 kV contact discharge / 8 kV air discharge		50 60 Hz				
ampacity of the output relay at AC-15 at 250 V at 50/60 Hz       3 A         ampacity of the output relay at DC-13       1 A         • at 24 V       0.2 A         continuous current of the DIAZED fuse link of the output relay       0.2 A         Electromagnetic compatibility       6 A         conducted interference       4 U (power ports) / 1 kV (signal ports)         • due to burst acc. to IEC 61000-4-4       2 kV (power ports) / 1 kV (signal ports)         • due to conductor-conductor surge acc. to IEC 61000-4-5       1 kV (line to ground)         • due to ischarge acc. to IEC 61000-4-2       6 kV contact discharge / 8 kV air discharge						
ampacity of the output relay at DC-13       1 A         • at 24 V       1 A         • at 125 V       0.2 A         continuous current of the DIAZED fuse link of the output relay       6 A         Electromagnetic compatibility       6 A         conducted interference       2 kV (power ports) / 1 kV (signal ports)         • due to burst acc. to IEC 61000-4-4       2 kV (line to ground)         • due to conductor-conductor surge acc. to IEC 61000-4-5       2 kV (line to line)         • flood-4-5       6 kV contact discharge / 8 kV air discharge		3.4				
<ul> <li>at 24 V</li> <li>at 125 V</li> <li>Continuous current of the DIAZED fuse link of the output relay</li> <li>Conducted interference         <ul> <li>due to burst acc. to IEC 61000-4-4</li> <li>due to conductor-earth surge acc. to IEC 61000-4-5</li> <li>due to conductor-conductor surge acc. to IEC 61000-4-5</li> <li>two conductor discharge acc. to IEC 61000-4-2</li> </ul> </li> <li>Electrostatic discharge acc. to IEC 61000-4-2</li> <li>two contact discharge / 8 kV air discharge</li> </ul>						
• at 125 V       0.2 A         continuous current of the DIAZED fuse link of the output relay       6 A         Electromagnetic compatibility       6 A         conducted interference       2 kV (power ports) / 1 kV (signal ports)         • due to burst acc. to IEC 61000-4-4       2 kV (power ports) / 1 kV (signal ports)         • due to conductor-earth surge acc. to IEC 61000-4-5       2 kV (line to ground)         • due to conductor-conductor surge acc. to IEC       1 kV (line to line)         electrostatic discharge acc. to IEC 61000-4-2       6 kV contact discharge / 8 kV air discharge		1 Δ				
continuous current of the DIAZED fuse link of the output relay       6 A         Electromagnetic compatibility       6 A         conducted interference       2 kV (power ports) / 1 kV (signal ports)         • due to burst acc. to IEC 61000-4-4       2 kV (power ports) / 1 kV (signal ports)         • due to conductor-earth surge acc. to IEC 61000-4-5       2 kV (line to ground)         • due to conductor-conductor surge acc. to IEC 61000-4-5       1 kV (line to line)         electrostatic discharge acc. to IEC 61000-4-2       6 kV contact discharge / 8 kV air discharge						
output relay       Electromagnetic compatibility         conducted interference <ul> <li>due to burst acc. to IEC 61000-4-4</li> <li>due to conductor-earth surge acc. to IEC 61000-4-5</li> <li>due to conductor-conductor surge acc. to IEC</li> <li>61000-4-5</li> <li>electrostatic discharge acc. to IEC 61000-4-2</li> <li>6 kV contact discharge / 8 kV air discharge</li> </ul>						
conducted interference       2 kV (power ports) / 1 kV (signal ports)         • due to burst acc. to IEC 61000-4-4       2 kV (power ports) / 1 kV (signal ports)         • due to conductor-earth surge acc. to IEC 61000-4-5       2 kV (line to ground)         • due to conductor-conductor surge acc. to IEC 61000-4-5       1 kV (line to line)         • electrostatic discharge acc. to IEC 61000-4-2       6 kV contact discharge / 8 kV air discharge						
• due to burst acc. to IEC 61000-4-4       2 kV (power ports) / 1 kV (signal ports)         • due to conductor-earth surge acc. to IEC 61000-4-5       2 kV (line to ground)         • due to conductor-conductor surge acc. to IEC 61000-4-5       1 kV (line to line)         • electrostatic discharge acc. to IEC 61000-4-2       6 kV contact discharge / 8 kV air discharge	Electromagnetic compatibility					
• due to conductor-earth surge acc. to IEC 61000-4-5     • due to conductor-conductor surge acc. to IEC     61000-4-5     electrostatic discharge acc. to IEC 61000-4-2     6 kV contact discharge / 8 kV air discharge	conducted interference					
• due to conductor-conductor surge acc. to IEC     61000-4-5 electrostatic discharge acc. to IEC 61000-4-2     6 kV contact discharge / 8 kV air discharge	<ul> <li>due to burst acc. to IEC 61000-4-4</li> </ul>	2 kV (power ports) / 1 kV (signal ports)				
61000-4-5         electrostatic discharge acc. to IEC 61000-4-2         6 kV contact discharge / 8 kV air discharge	<ul> <li>due to conductor-earth surge acc. to IEC 61000-4-5</li> </ul>	2 kV (line to ground)				
electrostatic discharge acc. to IEC 61000-4-2 6 kV contact discharge / 8 kV air discharge		1 kV (line to line)				
Galvanic isolation		6 kV contact discharge / 8 kV air discharge				
design of the electrical isolation galvanic isolation		galvanic isolation				
galvanic isolation	•					
between input and output     Yes						
between the outputs     Yes						
		res				
	between the voltage supply and other circuits					
	between the voltage supply and other circuits Connections/ Terminals					
	between the voltage supply and other circuits Connections/ Terminals product component removable terminal for auxiliary	Yes				
	between the voltage supply and other circuits Connections/ Terminals product component removable terminal for auxiliary and control circuit					
	between the voltage supply and other circuits Connections/ Terminals product component removable terminal for auxiliary and control circuit type of electrical connection	Push-in terminal				
• solid 0.5 4 mm <sup>2</sup>	between the voltage supply and other circuits Connections/ Terminals product component removable terminal for auxiliary and control circuit					
• finely stranded with core end processing 0.5 2.5 mm <sup>2</sup>	between the voltage supply and other circuits Connections/ Terminals product component removable terminal for auxiliary and control circuit type of electrical connection     for auxiliary and control circuit type of connectable conductor cross-sections	Push-in terminal spring-loaded terminals (push-in)				
• finely stranded without core end processing 0.5 4 mm <sup>2</sup>	between the voltage supply and other circuits Connections/ Terminals product component removable terminal for auxiliary and control circuit type of electrical connection     for auxiliary and control circuit type of connectable conductor cross-sections     solid	Push-in terminal spring-loaded terminals (push-in) 0.5 4 mm <sup>2</sup>				
• at AWG cables solid 20 12	between the voltage supply and other circuits Connections/ Terminals product component removable terminal for auxiliary and control circuit type of electrical connection     for auxiliary and control circuit type of connectable conductor cross-sections     solid     finely stranded with core end processing	Push-in terminal spring-loaded terminals (push-in) 0.5 4 mm <sup>2</sup> 0.5 2.5 mm <sup>2</sup>				
at AWG cables stranded 20 12	between the voltage supply and other circuits Connections/ Terminals product component removable terminal for auxiliary and control circuit type of electrical connection     for auxiliary and control circuit type of connectable conductor cross-sections     solid     finely stranded with core end processing     finely stranded without core end processing	Push-in terminal spring-loaded terminals (push-in) 0.5 4 mm <sup>2</sup> 0.5 2.5 mm <sup>2</sup> 0.5 4 mm <sup>2</sup>				
	between the voltage supply and other circuits Connections/ Terminals product component removable terminal for auxiliary and control circuit type of electrical connection     for auxiliary and control circuit type of connectable conductor cross-sections     solid     finely stranded with core end processing     finely stranded without core end processing	Push-in terminal spring-loaded terminals (push-in) 0.5 4 mm <sup>2</sup> 0.5 2.5 mm <sup>2</sup> 0.5 4 mm <sup>2</sup>				
• at AWG cables stranded     20 12       connectable conductor cross-section     20 12	between the voltage supply and other circuits Connections/ Terminals product component removable terminal for auxiliary and control circuit type of electrical connection     for auxiliary and control circuit type of connectable conductor cross-sections     solid     finely stranded with core end processing     finely stranded without core end processing     at AWG cables solid     at AWG cables stranded	Push-in terminal spring-loaded terminals (push-in) 0.5 4 mm <sup>2</sup> 0.5 2.5 mm <sup>2</sup> 0.5 4 mm <sup>2</sup> 20 12				
	between the voltage supply and other circuits Connections/ Terminals product component removable terminal for auxiliary and control circuit type of electrical connection     for auxiliary and control circuit type of connectable conductor cross-sections     solid     finely stranded with core end processing     finely stranded without core end processing     at AWG cables solid     at AWG cables stranded connectable conductor cross-section	Push-in terminal spring-loaded terminals (push-in) 0.5 4 mm <sup>2</sup> 0.5 2.5 mm <sup>2</sup> 0.5 4 mm <sup>2</sup> 20 12 20 12				
connectable conductor cross-section	<ul> <li>between the voltage supply and other circuits</li> <li>Connections/ Terminals</li> <li>product component removable terminal for auxiliary and control circuit</li> <li>type of electrical connection         <ul> <li>for auxiliary and control circuit</li> </ul> </li> <li>type of connectable conductor cross-sections         <ul> <li>solid</li> <li>finely stranded with core end processing</li> <li>at AWG cables solid</li> <li>at AWG cables stranded</li> </ul> </li> <li>connectable conductor cross-section         <ul> <li>solid</li> <li>stranded without core end processing</li> <li>at AWG cables solid</li> <li>solid</li> </ul> </li> </ul>	Push-in terminal spring-loaded terminals (push-in) 0.5 4 mm <sup>2</sup> 0.5 2.5 mm <sup>2</sup> 0.5 4 mm <sup>2</sup> 20 12 20 12 0.5 4 mm <sup>2</sup>				
connectable conductor cross-section       • solid       0.5 4 mm <sup>2</sup>	<ul> <li>between the voltage supply and other circuits</li> <li>Connections/ Terminals</li> <li>product component removable terminal for auxiliary and control circuit</li> <li>type of electrical connection         <ul> <li>for auxiliary and control circuit</li> </ul> </li> <li>type of connectable conductor cross-sections         <ul> <li>solid</li> <li>finely stranded with core end processing</li> <li>at AWG cables solid</li> <li>at AWG cables stranded</li> </ul> </li> <li>connectable conductor cross-section         <ul> <li>at AWG cables stranded</li> <li>connectable conductor cross-section</li> <li>solid</li> <li>at AWG cables stranded</li> </ul> </li> </ul>	Push-in terminal spring-loaded terminals (push-in) 0.5 4 mm <sup>2</sup> 0.5 2.5 mm <sup>2</sup> 0.5 4 mm <sup>2</sup> 20 12 20 12 0.5 4 mm <sup>2</sup> 0.5 4 mm <sup>2</sup>				
connectable conductor cross-section       • solid       • finely stranded with core end processing       0.5 4 mm <sup>2</sup> 0.5 2.5 mm <sup>2</sup>	<ul> <li>between the voltage supply and other circuits</li> <li>Connections/ Terminals</li> <li>product component removable terminal for auxiliary and control circuit</li> <li>type of electrical connection         <ul> <li>for auxiliary and control circuit</li> </ul> </li> <li>type of connectable conductor cross-sections         <ul> <li>solid</li> <li>finely stranded with core end processing</li> <li>at AWG cables solid</li> <li>at AWG cables stranded</li> </ul> </li> <li>connectable conductor cross-section         <ul> <li>solid</li> <li>at AWG cables stranded</li> </ul> </li> <li>connectable conductor cross-section         <ul> <li>solid</li> <li>at AWG cables stranded</li> </ul> </li> <li>connectable conductor cross-section         <ul> <li>solid</li> <li>finely stranded with core end processing</li> <li>finely stranded with core end processing</li> <li>finely stranded with core end processing</li> <li>Ainely stranded with core end processing</li> <li>finely stranded without core end processing</li> </ul> </li> <li>AWG number as coded connectable conductor cross</li> </ul>	Push-in terminal spring-loaded terminals (push-in) 0.5 4 mm <sup>2</sup> 0.5 2.5 mm <sup>2</sup> 0.5 4 mm <sup>2</sup> 20 12 20 12 0.5 4 mm <sup>2</sup> 0.5 4 mm <sup>2</sup>				
connectable conductor cross-section       0.5 4 mm²         • solid       0.5 4 mm²         • finely stranded with core end processing       0.5 2.5 mm²         • finely stranded without core end processing       0.5 4 mm²         AWG number as coded connectable conductor cross       0.5 4 mm²	<ul> <li>between the voltage supply and other circuits</li> <li>Connections/ Terminals</li> <li>product component removable terminal for auxiliary and control circuit</li> <li>type of electrical connection         <ul> <li>for auxiliary and control circuit</li> </ul> </li> <li>type of connectable conductor cross-sections         <ul> <li>solid</li> <li>finely stranded with core end processing</li> <li>at AWG cables solid</li> <li>at AWG cables stranded</li> </ul> </li> <li>connectable conductor cross-section         <ul> <li>solid</li> <li>finely stranded with core end processing</li> <li>finely stranded with core end processing</li> <li>at AWG cables stranded</li> </ul> </li> <li>connectable conductor cross-section         <ul> <li>solid</li> <li>finely stranded with core end processing</li> <li>at AWG cables stranded</li> </ul> </li> <li>AWG runded with core end processing</li> <li>finely stranded without core end processing</li> <li>AWG number as coded connectable conductor cross section</li> </ul>	Push-in terminal spring-loaded terminals (push-in) 0.5 4 mm <sup>2</sup> 0.5 2.5 mm <sup>2</sup> 0.5 4 mm <sup>2</sup> 20 12 20 12 0.5 4 mm <sup>2</sup> 0.5 4 mm <sup>2</sup> 0.5 4 mm <sup>2</sup> 0.5 4 mm <sup>2</sup>				

stallation/ mountin mounting position			any			
fastening method				an-on mound	ting onto 35 mm stand	ard mounting rail
neight		screw and snap-on mounting onto 35 mm standard mounting rail 100 mm				
vidth			22.5 mm			
lepth			90 mm			
equired spacing						
<ul> <li>with side-by-si</li> </ul>	de mounting					
— forwards	0		0 mm			
— backward	ls		0 mm			
— upwards			0 mm			
- downwar	ds		0 mm			
— at the sid	e		0 mm			
<ul> <li>for grounded p</li> </ul>	parts					
— forwards			0 mm			
— backward	ls		0 mm			
— upwards			0 mm			
— at the sid	e		0 mm			
— downwar	ds		0 mm			
<ul> <li>for live parts</li> </ul>						
- forwards			0 mm			
— backward	ls		0 mm			
— upwards			0 mm			
— downwar	ds		0 mm			
— at the sid	e		0 mm			
bient conditions						
stallation altitude a	t height above sea level	maximum	2 000 m			
mbient temperatu	re					
<ul> <li>during operation</li> </ul>	on		-25 +60 °C	;		
<ul> <li>during storage</li> </ul>			-40 +85 °C	;		
during transport		-40 +85 °C				
relative humidity during operation		70 %				
rtificates/ approva	ls					
General Product Approval					EMC	Declaration of Conformity
(SP)		(h) u	I	AC	RCM	CE EG-Konf.
Declaration of Conformity	Test Certificates	Marine / Ship	pping			other
<u>Miscellaneous</u>	<u>Type Test Certific-</u> ates/Test Report	Lloyd's Register us		PRS	DNV-GL	<u>Confirmation</u>
ttps://www.siemens idustry Mall (Onlir	ne ordering system)			0.0014/04		
ax online generat	siemens.com/mall/en/en or ation.siemens.com/WW/				2012-2BW31	

Service&Support (Manuals, Certificates, Characteristics, FAQs,...) https://support.industry.siemens.com/cs/ww/en/ps/3RN2012-2BW31

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RN2012-2BW31&lang=en Characteristic: Derating https://support.industry.siemens.com/cs/ww/en/ps/3RN2012-2BW31/manual





last modified:

5/1/2021 🖸