



## SIRIUS 3RB12 Solid State Overload Relays

General Data	
Tripping	On overload, phase failure, and current unbalance as well as on response of thermistor motor protection and on ground fault
Release time classification	Selectable: CLASS 5, 10, 15, 20, 25, 30
Operation	Combined TEST/RESET button with function test; auto and remote RESET possible: Dial for current setting $I_n$ ; 6 step dial for trip class setting
Indicators	Green "Ready" LED                      On: "Ready" OFF: "No control supply voltage" or "Function test negative: unit disabled"
	Red "Overload" LED                      Continuous On: "Overload trip due to current and/or thermistor" Flashing: "Overload warning"
	Red "Ground Fault" LED                On: "Ground Fault"
Perm. ambient/storage temperature	-25°C to +70°C/-40°C to +85°C
Installation altitude	Up to 2000 meters above sea level
Degree of protection (per IEC529)	3RB1246 - IP20                      3RB1253, 57, 62 - IP00
Shock resistance (sine-wave)	15g/11ms
Design	sensing current transformers are integrated in all sizes
Mounting position	Any position
Mounting	3RB1246: snap-on mounting onto 35 mm DIN rail or panel mounting with accessory 3RB1253, 57, 62: panel mounting
EMC noise immunity	Conducted disturbance injection, burst per IEC 801-4: 2k                      (corresponds to Severity 3)
	Conducted disturbance injection, surge per IEC 801-5: 2k                      (corresponds to Severity 3)
	Electrostatic discharge per IEC 801-2: 8kV                                      (corresponds to Severity 3)
	Field disturbance injection per IEC 801-3: 10V/m                                (corresponds to Severity 3)
EMC emitted interference	Limit value Class B per DIN VDE 0875 Part 11/EN 55011

Main/Power circuit	
Rated insulation voltage $U_i$	690V (with Pollution Severity 3)
Rated operational voltage $U_{in}$	690V
Rated impulse withstand voltage $U_{imp}$	6kV
Rated frequency and type of current	50/60Hz; three-phase AC
Dia. of CT Windows	10 mm (units with 25A max. current setting $I_n$ )
(3RB1246)	15 mm (units with 100A max. current setting $I_n$ )
Bus connection (100 A max. $I_n$ )	3RB 1253                      3RB 1257                      3RB 1262
Tightening torque (lb in)/(Nm)	M8: 89 to 124/10 to 14                      M10: 124 to 210/14 to 24                      M12: 177 to 310/20 to 35
Fine-stranded with cable lug (AWG)/(mm <sup>2</sup> )	2 to 4/0/35 to 95                      1/0 to 500 MCM/50 to 240                      1/0 to 500 MCM/50 to 240
Stranded with cable lug (AWG)/(mm <sup>2</sup> )	1/0 to 250 MCM/50 to 120                      2/0 to 500 MCM/70 to 240                      2/0 to 500 MCM/70 to 240

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IEC Control

Auxiliary/Control circuit		
Auxiliary contacts (met. separated)	1 NO/1 NC for overload trip due to current and/or thermistor; 1 NO/1 NC for ground fault trip	
Recovery time	5 min (fixed), after trip by overcurrent	
Rated insulation voltage $U_i$	3000V (with Pollution Severity 3)	
Rated impulse withstand voltage $U_{imp}$	4kV	
Rated continuous current	5A	
Switching capacity	AC=B300 AC-15: 6A/24V; 6A/120V; 3A/230V DC=R300 DC-13: 2A/24V; 0.55A/60V; 0.25A/125V	
Rated control supply voltage $U_c$	AC 50/60Hz: 110V-220V-240V; DC: 24V	
Operating range	AC 50/60Hz: 0.85 to 1.1 × $U_c$ ; 2VA 24V DC: 0.85 to 1.2 × $U_c$ (DIN 19 240); 2W	
Mains buffering range	200 ms	
Thermistor motor protection	Total cold resistance: 1.5kΩ	
(PTC thermistor detector)	Response value: 2.7kΩ to 3.1kΩ; release value: 1.5kΩ to 1.75kΩ	
Short circuit protection	Fuse-links Utilization Category gLgA 6A, UL: 6A; Circuit-breaker 2A, C characteristic	
Conductor sizes	Tightening torque lb-in/(NM) solid and stranded (AWG)/(mm <sup>2</sup> )	7 to 11/0.8 to 1.2 1 (12 to 20); 2 (14 to 20)/1 × (0.5 to 4.0); 2 × (0.5 to 2.5)
	fine-stranded with; without end sleeve (AWG)/(mm <sup>2</sup> )	1 (14 to 20); 2 (15 to 20)/1 × (0.5 to 2.5); 2 × (0.5 to 1.5)

Analog output	
Output signal	4 to 20 mA
Measurement range	0 to 1.25 · $I_n$
	4 mA ± 0 · $I_n$
	16.8 mA ± 1.0 · $I_n$
	20 mA ± 1.25 · $I_n$
Resolution	10 bit (approx. 1/8%)