Hybrid Relay 1-Phase Solid State Relay with electromechanical bypass relay Type RMD (for resistive loads)

Product Description

The RMD houses semiconductor triacs and mechanical contacts and reduces heating of the Number of Poles that compliment each other. On triacs. The same principle Switching mode applying the control voltage, tri- applies during removal of Rated operational voltage acs are activated. After a short the control input. The result Control voltage delay, an electromechanical is millions of trouble-free Rated operational current relay is activated. This switching cycles in a compact and

the electromechanical relay Hybrid Relay method protects the contacts of modular switching package.

•	Hybrid relay: Solid State Relay /
	Electromechanical Relay

- · Operational ratings up to 230V, 20A ACrms
- · Integral bypassing of semiconductors
- Internal over-temperature protection
- Compact 17.5mm wide housing
- · Standard modular design
- DIN rail mounting
- · No need for external heatsink
- · Minimum audible noise
- · Fit and forget: millions of switching cycles
- · Ideal for switching of resistive single phase loads in residential buildings

Ordering Key

Type Selection

Switching mode	Rated operational voltage	Rated operational current	Control voltage
H: Hybrid Switching	23:230 VAC	20: 20AACrms	D: 4-32 VDC A: 24-275VAC/ 24-190VDC
Selection Guid	le		
Rated operational voltage	Blocking voltage	Control voltage	Rated operational current * 20 AACrms
230 VAC	600 V _P	4-32 VDC	RMD1H23D20
		24-275 VAC	RMD1H23A20
		24-190 VDC	

* refer to Current Derating Curve

General Specifications

Operational voltage range	195 - 253 VACrms
Blocking voltage	600Vp
Zero voltage turn-on	<15V
Operational frequency range	45-65Hz
Power factor	≥ 0.9 @ 230VACrms



RMD 1 H 23 D 20



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Output Specifications

Rated opertional current	
AC1/AC51/AC7a @ 25°C	20AACrms,(16AACrms UL rating)
@ 40°C	16AACrms
@ 55°C	11.5AACrms
Assigned load rating (resistive)	4.5kW @ 25°C
Rep. overload current t=1s	37AACrms
Non-rep. surge current, t=10ms	200A _p
l²t for fusing, t=10ms	200A ² s
Critical dV/dt off state min.	500 V/µs

6.4W
6
100mA
3mA
Normally open
AgCdO
660 gRB 10-20
Fuse type ST10

Input Specifications

	RMD1H23D20	RMD1H23A20
Control voltage	4-32VDC	24-275VAC/ 24-190VDC
Pick-up voltage	2VDC	9VAC/ 12VDC
Drop-out voltage	1VDC	5VAC/ 4VDC
Reverse voltage	32VDC	-
Max. input current	5mADC	2.5mAAC
Response time pick-up	≤ 40ms	40ms
Response time drop-out	≤ 70ms	≤ 100ms

Connection Diagram



Dimensions



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Standards

Approvals	UR, cUR	
Markings	CE	
Emission		
RMD1H23D20	EN55011/CISPR11 Class B	
RMD1H23A20	EN55011/CISPR11 Class B1	
Immunity		
Conducted immunity		
EN 61000-4-6	Performance criteria 1 @ 10 V/m	
Radiated immunity		
EN 61000-4-3	Performance criteria 1 @10 V/m	
Surge EN 61000-4-5	Performance criteria 1 @ 2kV L-E	
	Performance criteria 1 @1kV L-L	
ESD EN 61000-4-2	Performance criteria 1 @ 4kV & 8 kV	
Burst EN 61000-4-4	Performance criteria 1 @ 2 kV	

Pollution degree	2
Degree of protection	IP20 (IEC 60529)
Numbers of cycles	> 5,000,000
Audible noise	< 40dB at 1m
Control status indication	LED, Green
Dielectric withstand voltage	
input to output	2.5kVACrms
EMC emissions Discontinued clicks	
EN 55014-1	Pass ²
Harmonic current	
EN 61000-3-2	Pass
Fluctuations and flicker	
EN 61000-3-3	Pass ^{2,3}

Control input conditions apply
Results dependent on 'starts per hour' rate

3. Load conditions apply

Housing Specifications

Weight	60g (approx)
Housing material	self extinguishing UL94V0
Potting compound	none
Terminals	
Tightening screws	M3

Max. terminal tightening	
torque	0.6Nm (5.3 lb.in)
Max. cross-sectional area	
of cable (stranded)	4.0mm ² (AWG 12)
	2.5mm ² (AWG12) accord. to
	IEC 60947-1

Thermal Specifications

Operating temperature	-5° to +55°C
Storage temperature	-40° to +85°C
Relative humidity	< 95% non-condensing

Over Temperature Protection

Over-temperature indication	LED intermittent
Reset	Switch OFF supply and
	switch back ON in > 100ms
Temperature limit	100°C

Current Derating



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Carlo Gavazzi: RMD1H23A20 RMD1H23D20