

R2M / RY2 / RUC

Industrial Electromagnetic Relays



- Relays of general application
- For plug-in sockets, 35 mm rail mount or on panel mounting
- Cadmium-free contacts
- R2M and RUC also for PCB and soldering connections
- AC and DC coils available

		R2M	RY2	RUC
Contact Data				
Number and type of contacts		DPDT	DPDT	DPDT. 3PDT. DPST. 3PST
Contact material		AgNi*	AgNi*	AgNi*
Rated / max. switching voltage	AC	250 V / 250 V	250 V / 440 V	400 V / 440 V
Min. switching voltage		5 V	5 V	5 V
Rated load	AC1	5 A / 250 V AC	12 A / 250 V AC	16 A / 250 V AC or 10 A / 400 V AC
	DC1	5 A / 24 V DC	12 A / 30 V DC	16 A / 24 V DC (see Fig. 3.3)
Min. switching current		5 mA	5 mA	5 mA
Max. inrush current			20 A	40 A
Rated current		5A	12A	16A
Max. breaking capacity	AC1	1250 VA	3000 VA	4000 VA
Min. breaking capacity		0.3 W	0.3 W	0.3 W
Contact resistance		≤ 100 mΩ	≤ 100 mΩ	≤ 100 mΩ
Max. operating frequency				
	AC1	1200 cycles/hour	1200 cycles/hour	1200 cycles/hour
	• at rated load			
	• no load	36000 cycles/hour	18000 cycles/hour	12000 cycles/hour
Coil Data				
Rated voltage	50/60 Hz AC	6 ... 240 V	6 ... 240 V	6 ... 240 V
	DC	6 ... 110 V	5 ... 220 V	6 ... 220 V
Must release voltage		≥ 0.05 U _n	AC: ≥ 0.2 U _n ; DC: ≥ 0.1 U _n	AC: ≥ 0.15 U _n ; DC: ≥ 0.1 U _n
Operating range of supply voltage		see page 62	see page 62	see page 62
Rated power consumption	AC	1.2 VA	1.6 VA	2.8 VA 50 Hz; 2.5 VA 60 Hz
	DC	0.9 W	0.9 W	1.5 W; 1.7 W with contact gap ≥ 3 mm
Insulation				
Insulation rated voltage		250 V AC	250 V AC	400 V AC
Rated surge voltage		2500 V 1.2 / 50 μs	4000 V 1.2 / 50 μs	4000 V 1.2 / 50 μs
Overvoltage category		II	III	III
Insulation pollution degree		3	3	3
Dielectric strength				
between coil and contacts		2000 V AC type of insulation: basic	2500 V AC type of insulation: basic	2500 V AC type of insulation: basic
• contact clearance		1000 V AC type of clearance: micro-disconnection	1000 V AC type of clearance: micro-disconnection	1500 V AC type of clearance: micro-disconnection
• pole - pole		2000 V AC type of insulation: basic	2500 V AC type of insulation: basic	2500 V AC with contact gap ≥ 3 mm.
Contact - coil distance				type of clearance: full-disconnection
• clearance		≥ 3 mm	≥ 2.6 mm	2500 V AC type of insulation: basic
• creepage		≥ 4 mm	≥ 4 mm	≥ 5 mm
				≥ 8 mm
General data				
Operating / release time (typical values)		AC: 8 ms / 7 ms; DC: 10 ms / 3 ms	15 ms / 10 ms	20 ms / 15 ms
Electrical life				
	• resistive AC1	> 2 x 10 ⁶ ; 5 A. 250 V AC	> 10 ⁶ ; 12 A. 250 V AC	> 10 ⁶ ; 16 A. 250 V AC; > 10 ⁶ ; 10 A. 400 V AC
	• cosφ	see Fig. 2.1	see Fig. 2.2	see Fig. 2.3
Mechanical life (cycles)		> 10 ⁷	> 10 ⁷	> 10 ⁷
Motor load according to UL 508		-	-	DPDT: 1/3 HP 120 V AC. single-phase motor 1/2 HP 240 V AC. single-phase motor 3PDT: 1/3 HP 120 V AC. single-phase motor 1/2 HP 240 V AC. single-phase motor 3PDT: 1/2 HP 240 V AC. three-phase motor
Dimensions (L x W x H)		27.5 x 14 x 32.9 mm	27.5 x 21.1 x 34.5 mm	36.1 x 38.6 x 45.5 mm
Weight		22 g	35 g	80 g
Ambient temperature				
	• storage	-40...+70 °C	-40...+70 °C	-40...+85 °C
	• operating	-40...+55 °C	-40...+55 °C	AC: -40...+55 °C 3PDT. 3PST (NO) / 16 A (+70 °C DPDT. DPST (NO) / 16 A) DC: -40...+55 °C 3PDT. 3PST (NO) / 16 A (+70 °C 3PDT. 3PST (NO) / 10 A; DPDT. DPST (NO) / 16 A)
Cover protection category		IP 40 PN-EN 60529	IP 40 PN-EN 60529	IP 00 PN-EN 60529
Shock resistance		10 g	10 g	10 g
Vibration resistance		5 g 10...150 Hz	5 g 15...150 Hz	5 g 10...150 Hz
Solder bath temperature		max. 270 °C	-	max. 270 °C
Soldering time		max. 5 s	-	max. 5 s

* Other contact materials (eg. gold plated) available, contact Altech Corp.