



## INDUSTRIAL RELAYS

UL & CUL File #E223388

### FEATURES

- High switching capability: 16A.
- Small size for density PCB mounting.
- Dielectric strength: 5000V.
- Quick connect terminal construction.

### TYPICAL APPLICATIONS

Home Appliances, Air Conditioner, Microwave Oven, Audio Equipment, Monitor, Industrial Control Equipment, Instrument, etc.

### ORDERING INFORMATION

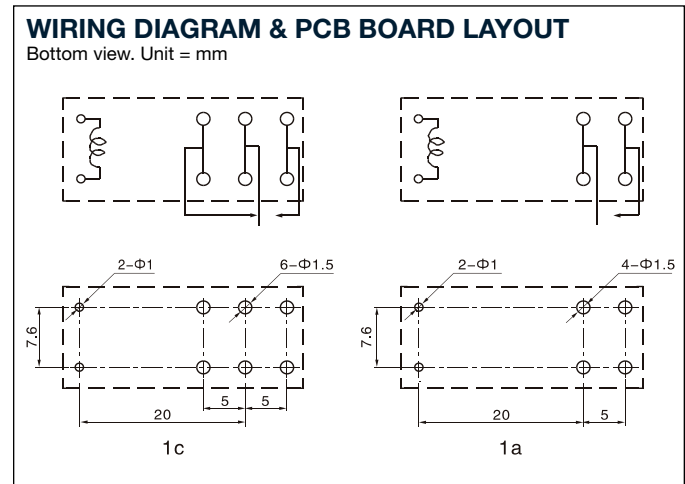
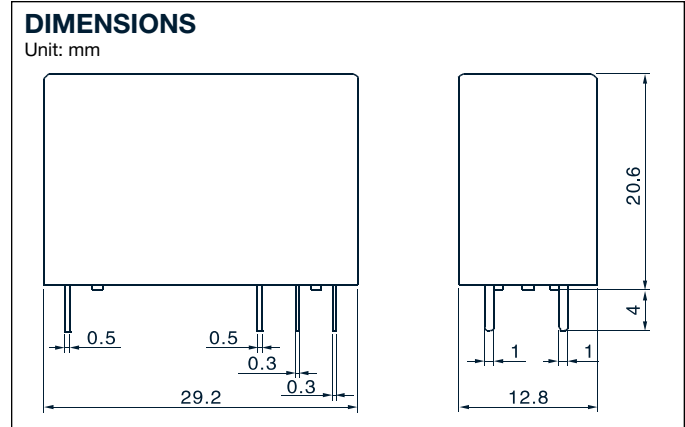
**RY -S -1 12 D M 1 -F -XX**  
**(1) (2) (3) (4) (5) (6) (7) (8) (9)**

- |  |   |
|--|---|
| <p><b>(1) Type Designation</b><br/>RY = RY Series</p> <p><b>(2) Protective Construction</b><br/>S = Flux proofed<br/>SH = Sealed type washable</p> <p><b>(3) Number of Poles</b><br/>1 = 1 pole</p> <p><b>(4) Coil Voltage (VDC)</b><br/>03, 05, 06, 09, 12, 15, 18, 24, 48</p> <p><b>(5) Coil Power</b><br/>D = 0.72W<br/>L = 0.54W</p> | <p><b>(6) Contact Form</b><br/>Nil = Form C<br/>M = Form A</p> <p><b>(7) Contact Material</b><br/>Nil = AgSnO2<br/>1 = AgCdO</p> <p><b>(8) Insulation System</b><br/>Nil = Standard<br/>B = Class B <sup>(1)</sup><br/>F = Class F <sup>(2)</sup></p> <p><b>(9) Special Parameter</b><br/>Nil = Standard type<br/><b>Letter or Number = Special Requirement</b></p> |
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**Note 1:** Heat resistivity = -40°C to +130°C.  
**Note 2:** Heat resistivity = -40°C to +155°C.

### SAFETY APPROVAL RATINGS

UL/CUL
E256619
20A 120VAC, Resistive
16A 125VAC, Resistive
16A 240VAC, General Use, N.O.
5A 120VAC, General Use
5A 24VDC, Resistive
1HP 240VAC
1/2HP 120VAC, N.C.
TV-8 240VAC, N.O.
TV-3 240VAC, N.C.
<b>Pilot Duty:</b>
720VA, 240VAC, N.O.
240VA 240VAC, N.C.



Unless otherwise specified:  
If dimension < 1mm, tolerance: ±0.2mm;  
If dimension 1~5mm, tolerance: ±0.3mm;  
If dimension > 5mm, tolerance: ±0.4mm.  
Note: 1. Extended terminal dimension is dimension before soldering.  
2. Tolerance of P C B layout: ±0.1mm





**CHARACTERISTIC DATA**

<b>Contact Material</b>	Silver Alloy	
<b>Initial contact resistance (@ 6VDC 1A)</b>	50mΩ Max.	
<b>Operate time (@ nominal voltage)</b>	20msec. Max.	
<b>Release Time (@ nominal voltage)</b>	8msec. Max.	
<b>Initial insulation resistance</b>	100M Ω Min. (DC500V)	
<b>Initial dielectric strength</b>	Between open contacts: AC1000V, 50/60Hz 1 Min.	
	Between coil and contact: AC5000V, 50/60Hz 1Min.	
<b>Vibration Resistance</b>	<b>Functional</b>	10 ~ 55Hz @ double amplitude of 1.5mm
	<b>Destructive</b>	10 ~ 55Hz @ double amplitude of 1.5mm
<b>Shock Resistance</b>	<b>Functional</b>	10G Min.
	<b>Destructive</b>	100G Min.
<b>Endurance (operations)</b>	<b>Mechanical (@7200 ops./h)</b>	10,000,000
	<b>Electrical (@900 ops./h)</b>	100,000
<b>Ambient Temperature</b>	-40°C to +105°C (no condensation)	
<b>Unit Weight</b>	Approximately 12.8g	

**CONTACT CAPACITY**

Model	Nominal Switching Capacity (res. load)	Max. Switching Current	Max. Switching Voltage	Max. Switching Power
<b>RY-DM &amp; LM</b>	16A 250VAC	20A	250VAC	4000VA
<b>RY- D &amp; L</b>	N.O./N.C.: 16A/10A 250VAC	16A	250VAC	4000VA

**COIL DATA (AT 20°C)**

Nominal Voltage (VDC)	Nominal Current (mA)	Coil Resistance ± 10% (Ω)	Max. Allowable Voltage	Pick-up Voltage (Max.)	Drop-Out Voltage (VDC)	Nominal Operating Power
3	240.00	12.5	130% of Nominal Voltage	80% of Nominal Voltage	5% of Nominal Voltage	Approx. 0.72W
5	144.00	36				
6	120.00	50				
9	80.00	112				
12	60.00	200				
18	40.00	450				
24	30.00	820				
48	14.50	3300				

**DATE CODE DEFINITION**

R X X X

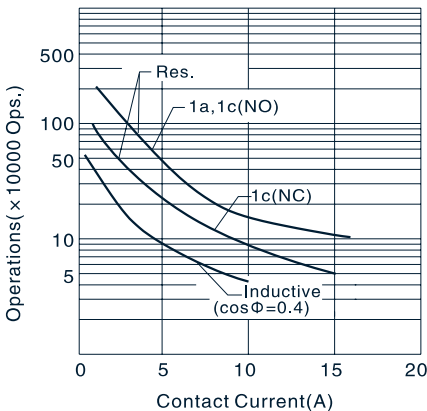
- LOT NUMBER: Starts from A.
- Year: 0-9 indicates year 2010 to 2019.
- Month: 1 through 9 represents the first to the ninth month.
- RoHS

**COIL DATA (AT 20°C)**

Nominal Voltage (VDC)	Nominal Current (mA)	Coil Resistance ± 10% (Ω)	Max. Allowable Voltage	Pick-up Voltage (Max.)	Drop-Out Voltage (VDC)	Nominal Operating Power
3	180.00	17	130% of Nominal Voltage	80% of Nominal Voltage	5% of Nominal Voltage	Approx. 0.54W
5	108.00	47				
6	90.00	68				
9	60.00	150				
12	45.00	270				
18	30.00	600				
24	22.50	1100				
48	10.90	4400				

**CHARACTERISTIC CURVES**

Endurance Curve



Coil Temp. Rise

