



**INDUSTRIAL RELAYS**

UL & CUL File #E256619

**FEATURES**

1. Miniature package with universal terminal footprint.
2. High dielectric withstanding for transient protection. 10,000 V surge between coil and contact.

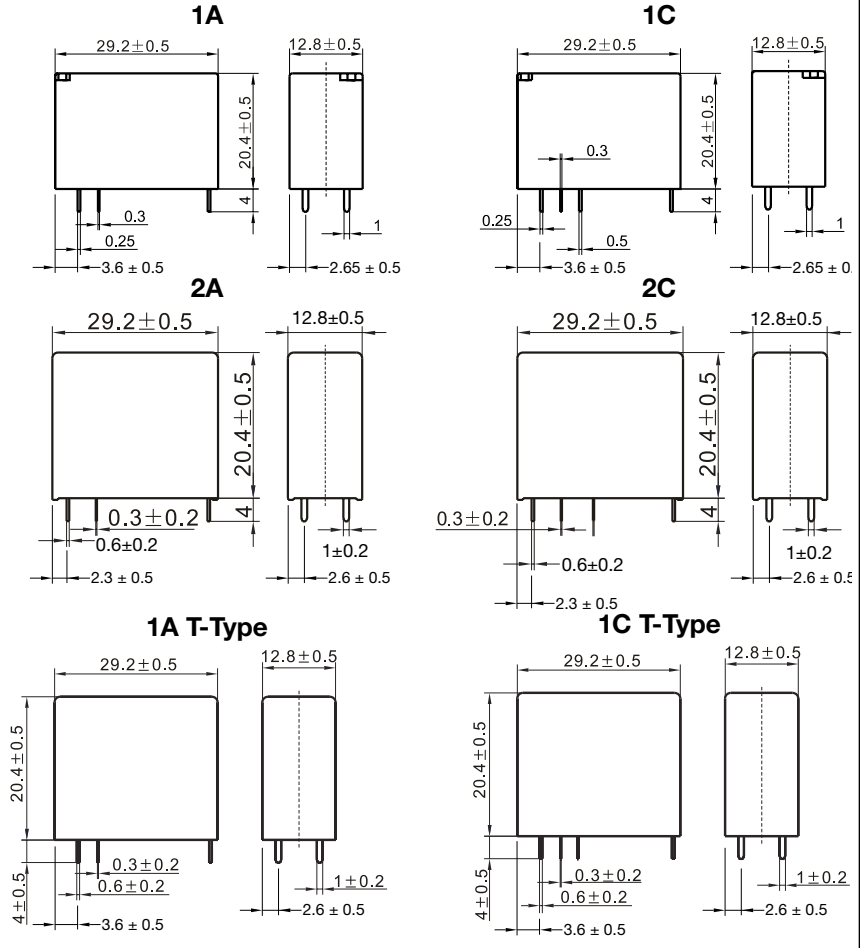
**ORDERING INFORMATION**

**RA 1A - 12 H S T F**  
**(1) (2) (3) (4) (5) (6) (7)**

- |   |  |
|---|--|
| <b>(1) Basic Designation</b><br>RA = RA Series  | <b>(4) Coil Sensitivity</b><br>Nil = 720mW<br>H = 540mW                          |
| <b>(2) Coil Arrangement</b><br>1A = 1 Form A<br>1C = 1 Form C<br>2A = 2 Form A<br>2C = 2 Form C | <b>(5) Enclosure</b><br>Nil = Unsealed type<br>S = Sealed type                   |
| <b>(3) Coil Voltage</b><br>3~48V  | <b>(6) Capacity</b><br>Nil = Standard<br>T = high Current<br>Note: 1FA, 1FC only |
|   | <b>(7) Insulation System</b><br>Nil = Standard<br>B = class B<br>F = class F     |

**DIMENSIONS**

Unit: mm



**SCHEMATICS**

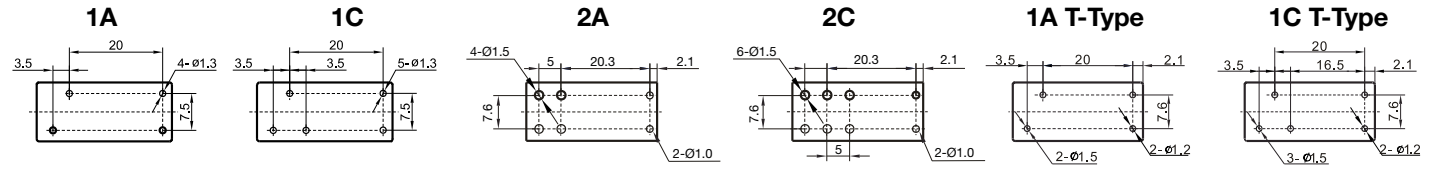
Bottom view



**PCB LAYOUT**

Bottom view

Unit: mm





**COIL RATINGS (AT 20°C)**

Type	Coil Nominal Voltage (VDC)	Nominal Current (mA)	Coil Resistance $\Omega(\pm 10\%)$	Drop-out Voltage (VDC) min.	Pick-Up Voltage (VDC) max.	Nominal Operating Power (W)	Max. Allowable Voltage (VDC)
Standard	3	240.00	12.5	5%	80%	0.72	130% of nominal voltage
	5	138.89	36				
	6	120.00	50				
	9	78.26	115				
	12	60.00	200				
	18	40.00	450				
	24	29.27	820				
High Sensitive	48	14.55	3300	5%	80%	0.54	130% of nominal voltage
	3	176.47	17				
	5	108.70	46				
	6	89.55	67				
	9	60.00	150				
	12	44.94	267				
	18	30.00	600				
24	22.49	1067					
	48	11.25	4267				

**CONTACT RATINGS**

Contact Arrangement	1A, 1C	2A, 2C	1A, 1C T-Type
Max. Switching Power	2,500VA 300W	1,200VA 120W	4,000VA 480W
Max. Switching Voltage	250VAC 30VDC	250VAC 30VDC	250VAC 30VDC
Max. Switching Current	10A	5A	16A
Contact Resistance (By voltage drop 1A 6VDC)	50m $\Omega$ max.		
UL/ C-UL Resistive Load (cos $\phi$ = 1)	10A / 250VAC 10A / 30VDC	5A / 250VAC 5A / 24VDC	16A / 250VAC
Inductive Load (cos $\phi$ = 0.75 ~ 0.8)	5A / 250VAC	2A / 240VAC 2A / 120VAC	8A / 250VAC
Contact Material	silver alloy		

**CHARACTERISTICS**

Type	Standard	High Sensitive
Electrical Life (at 20 cpm)	1 x 10 <sup>5</sup>	
Mechanical Life (at 180 cpm)	1 x 10 <sup>7</sup>	
Initial Insulation Resistance	1000M $\Omega$ 500VDC	
Operate Time	15 ms max.	20 ms max.
Release Time	8 ms max.	
Initial Breakdown Voltage	50/60Hz 1000VAC 1 min. (between open contacts) 50/60Hz 5000VAC 1 min. (between coil & contact)	
Vibration Resistance	Functional: 10 to 55Hz at double Amplitude of 1.5mm Destruction: 10 to 55Hz at double Amplitude of 1.5mm	
Shock Resistance	Functional: Min. 10G Destruction: Min. 100G	
Ambient Temperature	-40°C ~ +85°C	
Temperature Rise (max.)	45°	35°
Operating Humidity	45 to 80% RH	
Unit Weight	Approx. 15g	

