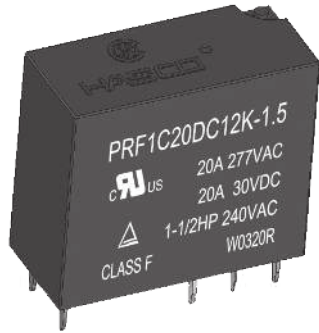




File No.:E75887



File No.:R 50261062



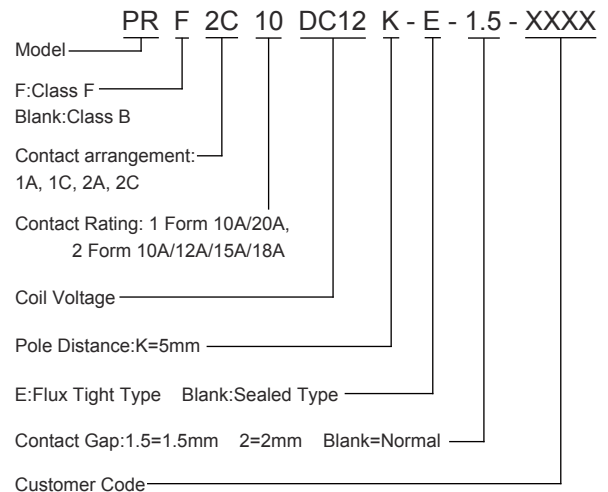
FEATURES

- High breakdown voltage (5000VAC between coil and contact)
- Large switching capacity (20A 277VAC)
- Typical Applications:
 - General electronic controls or systems, Machine tool controls, Energy control circuits, Industrial machinery controls, Consumer controls (Air-conditioner, Refrigerator, Microwave Oven, etc.), Vending machine, Office machine, etc.

CONTACT RATINGS

Contact Arrangement	1A, 1C	2A, 2C		
Contact Resistance	≤50mΩ(1A 24VDC)			
Contact Material	AgSnO ₂ , AgSnOIn			
Contact Rating(Resistive)	10A/277VAC 10A/30VDC	20A/277VAC 20A/30VDC	10A/277VAC 5A/30VDC	12A/277VAC 6A/30VDC 15A/277VAC 18A/277VAC
Max. Switching Voltage	277VAC/30VDC			
Max. Switching Current	10A	20A	10A	18A
Max. Switching Power	2770VA/300W	5540VA/600W	2770VA/300W	4986VA
Mechanical Life	Normal:1×10 ⁷ OPS 1.5mm:5×10 ⁵ OPS 2mm:3×10 ⁵ OPS			
Electrical Life	See more details at "safety approval ratings"			

ORDERING INFORMATION



- Notes:
1. PC board assembled with dust cover type and flux tight type relays can not be washed and/or coated.
 2. Dust cover type and flux tight type relays can not be used in the environment with dust, or H₂S, SO₂, NO₂ or similar gaseous environment etc.

CHARACTERISTICS

Insulation Resistance	1000MΩ (at 500VDC)	
Dielectric Strength	Between coil & contacts	5000VAC 1min
	Between open contacts	1000VAC 1min(Normal contact gap) 2000VAC 1min(1.5mm contact gap) 2500VAC 1min(2mm contact gap)
	Between contact sets	3000VAC 1min
Operate time (at nomi. volt.)	≤15ms	
Release time (at nomi. volt.)	≤5ms	
Humidity	98% RH	
Operation temperature	-40°C~+85°C	
UL Class B/F	Insulation System Class B/F	
Shock Resistance	Functional	98m/s ²
	Destructive	980m/s ²
Vibration resistance	10Hz ~ 55Hz 1.5mm DA	
Unit weight	Approx. 18g	
Construction	Sealed Type, Flux Tight Type	

Notes: The data shown above are initial values

This datasheet is for customers' reference. All the specifications are subject to change without notice.

COIL DATA at 25°C

Nominal Voltage VDC	Operate Voltage (Max.) VDC	Release Voltage (Min.) VDC	*Max. Allowable Voltage VDC	Coil Resistance Ω±10%		
				Normal	1.5mm	2mm
5	4.0	0.5	6.0	47	32	18
6	4.8	0.6	7.2	68	45	26
9	7.2	0.9	10.8	155	102	58
12	9.6	1.2	14.4	275	180	103
24	19.2	2.4	28.8	1100	720	412
48	38.4	4.8	57.6	4400	2880	1650
110	80.0	11.0	120.0	14400	—	—

Note: *Max Allowable Voltage*: The relay coil can endure max allowable voltage for a short period time only.



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RELAYS

COIL

Coil Power	Normal Contact Gap: Approx. 530mW 1.5mm Contact Gap: 800mW 2mm Contact Gap: 1400mW 110V: 840mW
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SAFETY APPROVAL RATINGS

UL&CUL	Form 1	N.O./N.C.:16A/16A 277VAC, G.P., 1×10 ⁵ OPS N.O./N.C.:16A/16A 30VDC, 5×10 ⁴ OPS N.O./N.C.:1/2HP 120VAC, 6×10 ³ OPS N.O./N.C.:1-1/2HP 240VAC, 6×10 ³ OPS N.O.:10A 277VAC Tungsten, 2.5×10 ⁴ OPS N.O.:TV-10 277VAC, 2.5×10 ⁴ OPS N.O./N.C.:20A 277VAC/30VDC, 6×10 ³ OPS N.O./N.C.:10A/10A 277VAC, 6×10 ³ OPS N.O./N.C.:10A/10A 30VDC, 6×10 ³ OPS N.O./N.C.:1/4HP 120VAC, 6×10 ³ OPS N.O./N.C.:1/2HP 240VAC, 6×10 ³ OPS
	Form 2	N.O.:18A 277VAC, 85°C, 2.5×10 ⁴ OPS N.O.:15A 277VAC, G.P., 6×10 ³ OPS N.O.:12A 277VAC, 6×10 ³ OPS N.O./N.C.:10A/10A 277VAC, G.P., 6×10 ³ OPS N.O./N.C.:5A/5A 30VDC, 6×10 ³ OPS N.O./N.C.:1/8HP 120VAC, 6×10 ³ OPS N.O.:1/4HP 120VAC, 6×10 ³ OPS N.O.:1/2HP 240VAC, 6×10 ³ OPS N.O.:1/3HP 120VAC, 6×10 ³ OPS N.O.:3/4HP 240VAC, 6×10 ³ OPS N.O.:TV-5 120VAC/277VAC, 2.5×10 ⁴ OPS N.O.:TV-8 277VAC, 2.5×10 ⁴ OPS

TüV	Form 1	N.O.:20A 277VAC, 1×10 ⁵ OPS N.O./N.C.:16A/16A 277VAC, 1×10 ⁵ OPS N.O./N.C.:16A/16A 30VDC, 6×10 ⁴ OPS
	Form 2	N.O.:18A 277VAC, 85°C, 5×10 ⁴ OPS N.O.:15A 277VAC, 5×10 ⁴ OPS N.O.:10A 277VAC, 5×10 ⁴ OPS N.O./N.C.:12A/6A 277VAC, 2×10 ⁴ OPS N.O./N.C.:12A/6A 30VDC, 2×10 ⁴ OPS N.O.:12A 277VAC; N.C.:6A 277VAC, 5×10 ⁴ OPS N.O.:12A 30VDC; N.C.:6A 30VDC, 5×10 ⁴ OPS N.O./N.C.:5A/5A 250VAC, 5×10 ⁴ OPS N.O./N.C.:5A/5A 30VDC, 5×10 ⁴ OPS

NOTES:

1. All values without specified temperature are at 25°C.
2. The above lists the typical loads only. Other loads may be available upon request.

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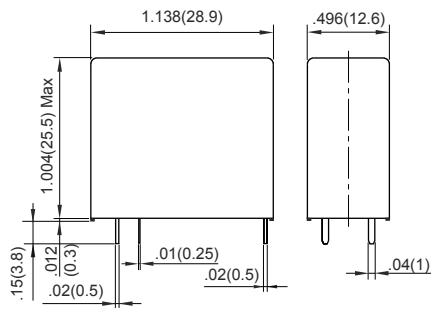
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RELAYS

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT.

Unit: inch(mm)

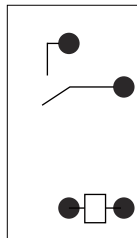
Outline Dimensions



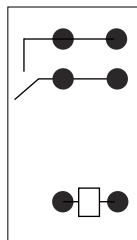
Contact Arrangement "A"

Wiring Diagram (Bottom view)

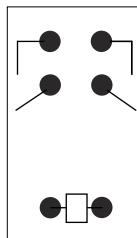
1A10



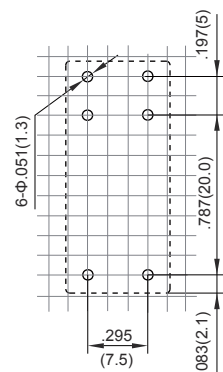
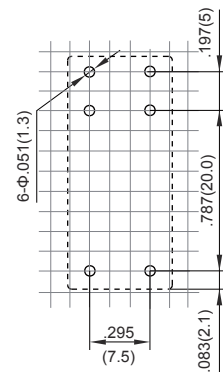
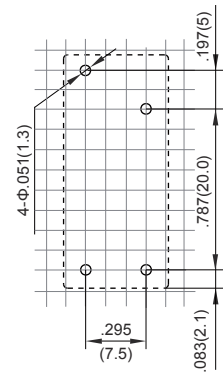
1A20



2A



PCB Layout (Bottom view)



Unless otherwise specified tolerances are:

≤1mm	>1mm and ≤5mm	>5mm
±0.2mm	±0.3mm	±0.4mm

* The tolerance without indicating for PCB layout is always ±0.1mm.

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RELAYS

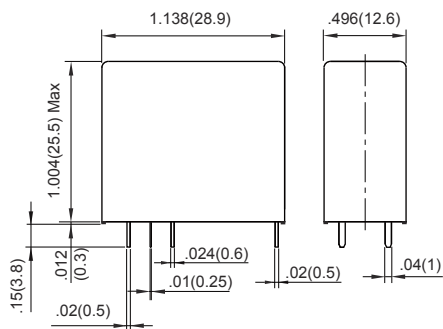
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OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT.

Unit: inch(mm)

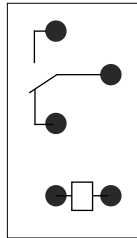
Outline Dimensions



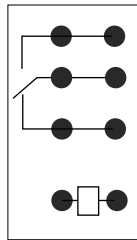
Contact Arrangement "C"

Wiring Diagram (Bottom view)

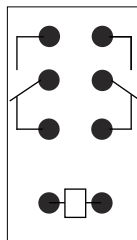
1C10



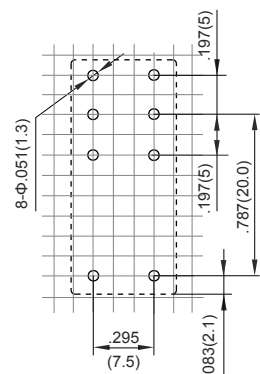
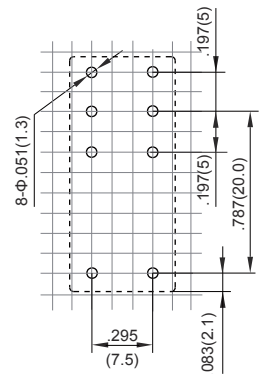
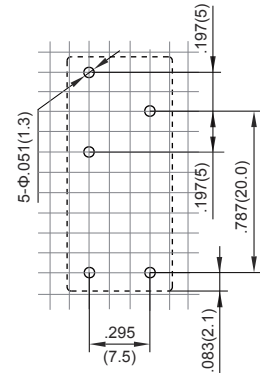
1C20



2C



PCB Layout (Bottom view)



Unless otherwise specified tolerances are:

≤1mm	>1mm and ≤5mm	>5mm
±0.2mm	±0.3mm	±0.4mm

* The tolerance without indicating for PCB layout is always ±0.1mm.

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RELAYS

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PACKAGING SPECIFICATION

BLISTER BOX	INNER CARTON	OUTER CARTON	OUTER CARTON SIZE
30PCS	600PCS	1200PCS	L475mm*W275mm*H290mm

APPLICATION GUIDELINES

Automatic Soldering

- * Flow solder is the optimum method for soldering.
- * Adjust the level of solder so that it does not overflow onto the top of the PC board.
- * Unless otherwise specified, solder under the following conditions depending on the type of relay.

Preheat time 20°C-100°C	Rising slope 20°C-120°C	Decreasing slope Peak-150°C	Welding temperature 255°C-265°C
90±5 seconds	< 3°C/s	< 4°C/s	3~5s

Hand Soldering

- * Keep the tip of the soldering iron clean.

Solder Iron	30W or 60W
Iron Tip Temperature	Approx. 350°C 662°F
Solder Time	Within approx. 3 seconds

- * Immediate air cooling is recommended to prevent deterioration of the relay and surrounding parts due to soldering heat.
- * Although the sealed type relay can be cleaned, avoid immersing the relay into cold liquid (such as washing solvent) immediately after soldering. Doing so may deteriorate the sealing performance.

Discard the dropped product

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