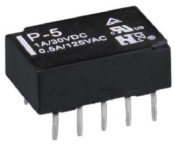


14.0×9.0×5.0

P

c UL us E158859 R5604271
Patent No：02217796.5

Features

- DIL Pitch Terminals .High Sensitivity :0.14W or 0.10W Nominal Power。
- Conforms to FCC Part 68 1.5kV Surge and Dielectric 1000VAC。
- Monostable or bistable relays Single and double Coil magnet latching Type available。
- Application for Telecommunication Equipment,Office Equipment,Security Alarm Systems, Measuring instruments, Medical Monitoring Equipment,Audio Visual Equipment, Flight Simulator,Sensor Control。

Ordering Information

P **L** **12** **W**
1 2 3 4

1 Part number：P 2 Operating function：NIL: Single Side Stable; L:1 Coil Latching; K:2 Coil Latching	3 Coil rated voltage(V)：DC:3,4.5,5,6,9,12,24 4 Contact material：NIL: AgPd; W: AgNi

Contact Data

Contact Arrangement		2C（DPDT(B-M)）（Bifurcated Crossbar）	
Contact Material		AgPd(Stationary Contact: Gold clad) AgNi(Gold clad）	
Contact Rating (resistive)		1A,2A/30VDC; 0.5A/125VAC	
Max. Switching Power		60W 62.5VA	Min. Switching load：0.01mA/10mV（Reference Value）
Max. Switching Voltage		220VDC 250VAC	Max. Switching Current:2A
Contact Resistance or Voltage drop		≤50mΩ	Item 4.12 of IEC 61810-7
Operation life	Electrical	1A/30VDC：2×10^5（Ag Ni：1×10^5） 0.5A/125VAC：1×10^5	Item 4.30 of IEC 61810-7
	Mechanical	10^8	Item 4.31 of IEC 61810-7

CAUTION:
Relays previously tested or used above 10mA resistive at 6V maximum （DC or peak AC） open circuit are not recommended for subsequent use in low level applications.

Coil Parameter

Dash numbers	Coil voltage VDC Rated	Coil voltage VDC Max.	Coil resistance Ω ±10%		Pick up voltage VDC(max) (75%of rated voltage)	Release voltage VDC(min) (10% of rated voltage)	Coil power W	Operate Time ms	Release /Reset Time ms
P-003	3	7.5	64.3		2.25	0.3	0.14		
P-004	4.5	11.25	144.6		3.38	0.45	0.14		
P-005	5	12.5	178		3.75	0.5	0.14		
P-006	6	15.0	257		4.50	0.6	0.14	Approx.2	Approx.1
P-009	9	22.5	579		6.75	0.9	0.14		
P-012	12	30.0	1028		9.00	1.2	0.14		
P-024	24	48.0	2880		18.0	2.4	0.20		
1 Coil Latching						Reset(Max)			Reset
PL-003	3	8.7	90		2.25	-2.25	0.10		
PL-004	4.5	13.0	202.5		3.38	-3.38	0.10		
PL-005	5	14.5	250		3.75	-3.75	0.10		
PL-006	6	17.4	360		4.50	-4.50	0.10	Approx.2	Approx.1
PL-009	9	26.1	810		6.75	-6.75	0.10		
PL-012	12	34.8	1440		9.00	-9.00	0.10		
PL-024	24	57.6	3840		18.0	-18.0	0.15		
2 Coil Latching			Set Coil	Reset Coil		Reset(Max)			Reset
PK-003	3	6	45	45	2.25	2.25	0.20		
PK-004	4.5	9	101	101	3.38	3.38	0.20		
PK-005	5	10	125	125	3.75	3.75	0.20		
PK-006	6	12	180	180	4.50	4.50	0.20	Approx.2	Approx.1
PK-009	9	18	405	405	6.75	6.75	0.20		
PK-012	12	24	720	720	9.00	9.00	0.20		
PK-024	24	36	1920	1920	18.0	18.0	0.30		

CAUTION: 1.The use of any coil voltage less than the rated coil voltage will compromise the operation of the relay.
2.Pickup and release(reset) voltage are for test purposes only and are not to be used as design criteria.
3.When latching relays are installed in equipment, the latch and reset coil should not be pulsed simultaneously. Coil should not be pulsed with less than the nominal coil voltage and pulse width should be a minimum of three times the specified operate time of the relay. If these conditions are not followed, it is possible for the relay to be in the magnetically neutral position .

Characteristics

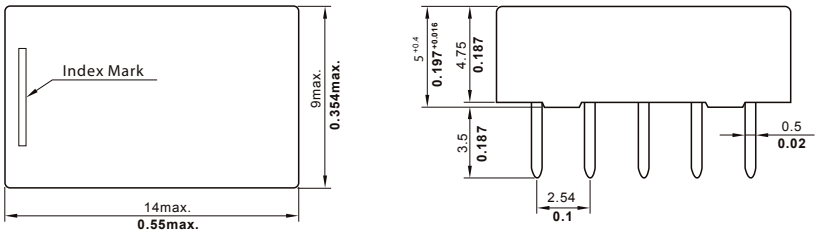
Electrostatic capacitance		
Between open Contacts	Approx.0.4pF	Item 4.41 of IEC 61810-7
Between coil & Contacts	Approx.0.9pF	Item 4.41 of IEC 61810-7
Between Contact Poles	Approx.0.2pF	Item 4.41 of IEC 61810-7
Insulation Resistance	1000MΩ min (at 500VDC)	Item 7 of IEC 60255-5
Dielectric Strength		
Between open Contacts Between coil & Contacts Between Contact Poles	1000VAC 1min 1000VAC 1min 1000VAC 1min	Item 6 of IEC 60255-5 Item 6 of IEC 60255-5 Item 6 of IEC 60255-5
Surge Withstand Voltage		
Between open Contacts Between coil & Contacts Between Contact Poles	1500V 1500V 2500V	FCC 68 FCC 68 FCC 68
Shock resistance	Functional:500m/s² 11ms; Survival:1000 m/s² 6ms	IEC 68-2-27 Test Ea
Vibration resistance	10~55Hz Double amplitude Functional: 3mm Survival:5mm	IEC 68-2-6 Test Fc
Terminals strength	5N	IEC 68-2-21 Test Ua1
Solderability	235℃ ±2℃ 3±0.5s	IEC 68-2-20 Test Ta method 1
Temperature Range	-40~70℃(-40~158° F)	
Mass	1.5g	

Safety approvals

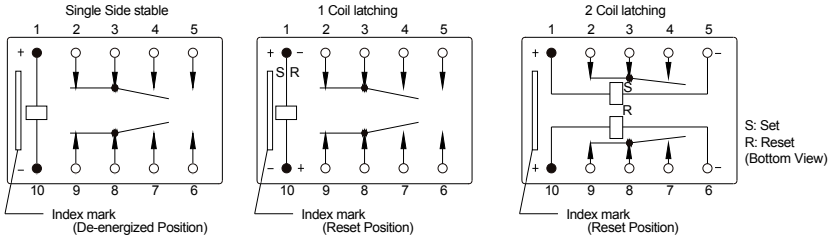
Safety approval	UL&CUR	TÜV
Load	1A,2A/30VDC, 0.5A/125VAC	1A/30VDC, 0.5A/125VAC

Dimensions

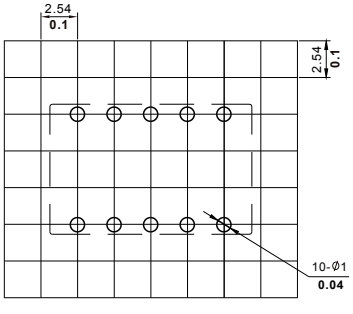
mm/inch



Dimensions



Wiring diagram
(Bottom view)



Mounting (Bottom view)

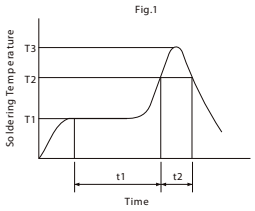
NOTES 1).Dimensions are in millimeters.
2).Inch equivalents are given for general information only.

SOLDERING and MOUNTING RECOMMENDATIONS

1. Conditions for Terminal Soldering by reflow soldering method

a. In case of Infrared Soldering

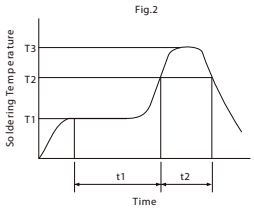
Fig.1



T1:+120 to+150 °C(+248 to+302 °F)
T2:+180 to+200 °C(+356 to+392 °F)
T3:+245 °C(+473 °F)Max.
t1:60 to 90 Sec.
t2:+30Sec.Max.

b. In case of Vapor Phase Soldering

Fig.2

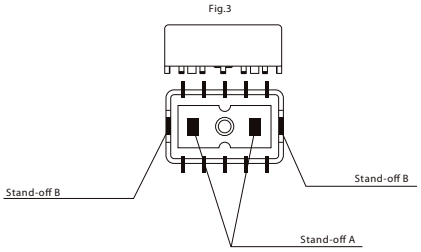


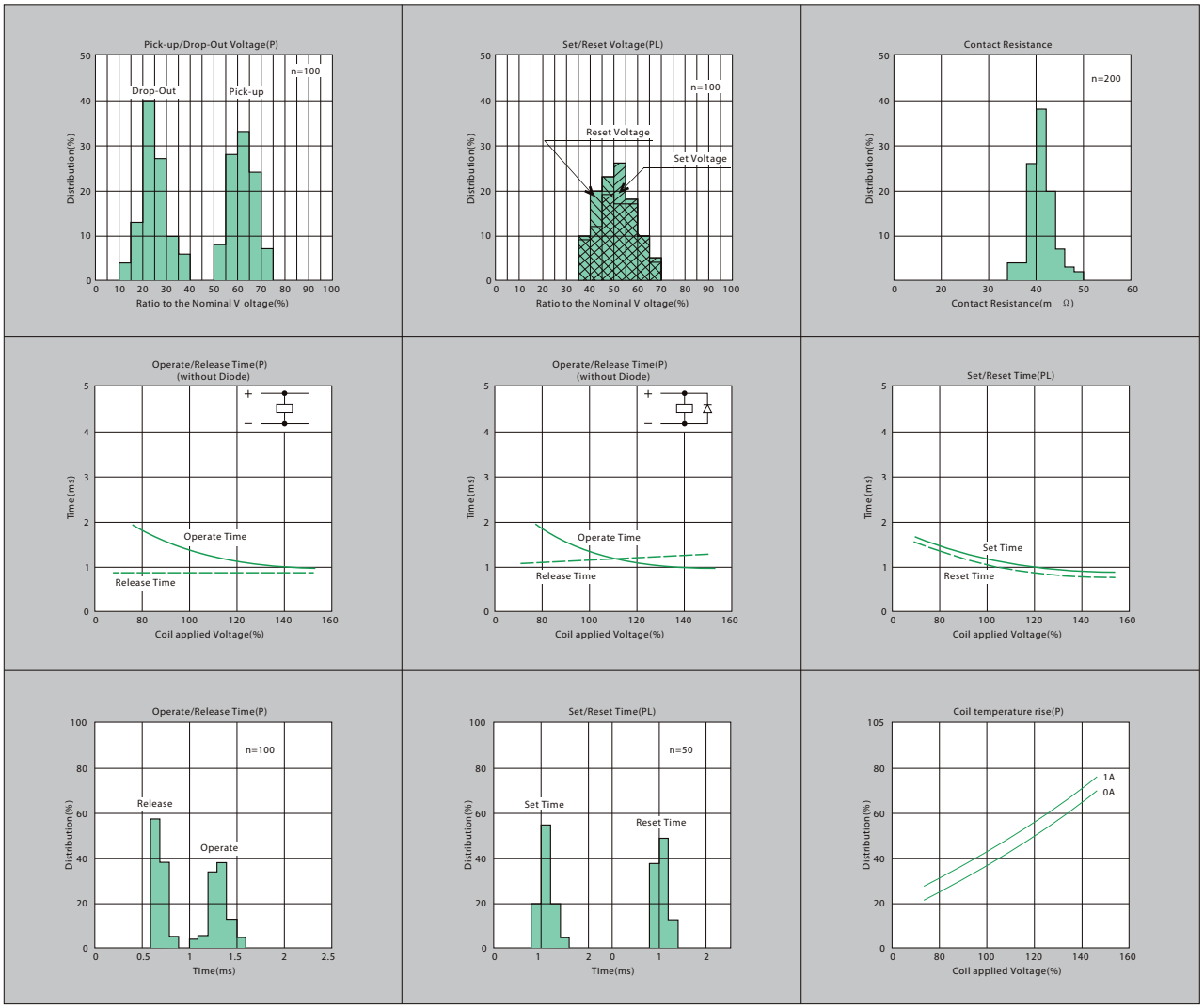
T1:+120 to+150 °C(+248 to+302 °F)
T2:+180 to+200 °C(+356 to+392 °F)
T3:+215 °C(+419 °F)Max.
t1:+40 to 60Ses
t2:+60Sec.Max.

2. Usage of Stand-Off A & B in Base Area

The Stand-Offs shown in the Fig. 3 are designed to Anchor Relays temporarily to PC Board with glue before Terminal Soldering.

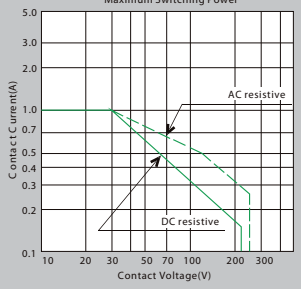
Fig.3



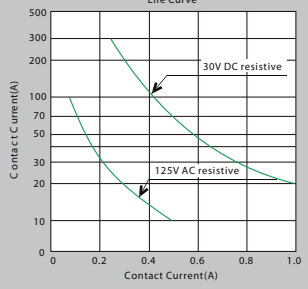


P Series Data

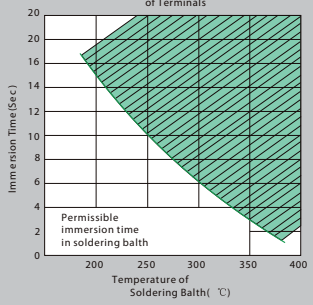
Maximum Switching Power



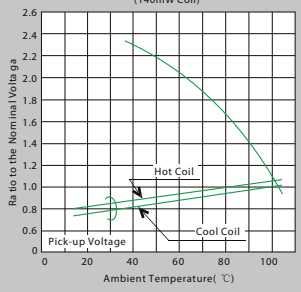
Life Curve



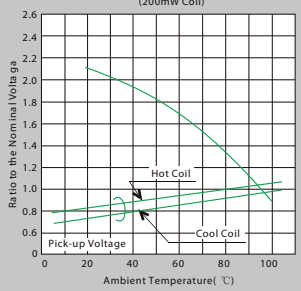
Soldering Condition of Terminals



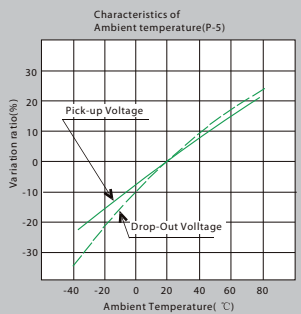
Operating range(P) (140mW Coil)



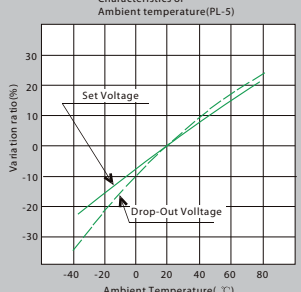
Operating range(P) (200mW Coil)



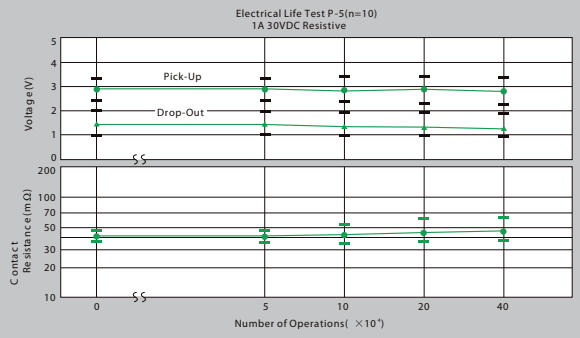
Characteristics of Ambient temperature(P-5)



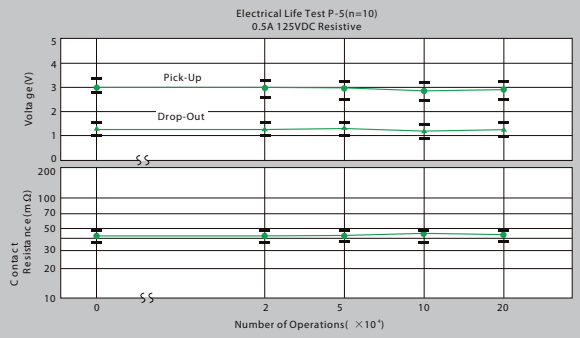
Characteristics of Ambient temperature(PL-5)



Electrical Life Test P-5(n=10) 1A 30VDC Resistive



Electrical Life Test P-5(n=10) 0.5A 125VDC Resistive



Mechanical Life Test P -5(n=10)