

Features

- 20A switching capability
- Provide high sensitive type, coil power is 250mW
- Provide the product meet the standards of IEC60335-1, IEC60730-1, IEC62368-1
- Breakdown voltage(between coil and contacts):5KV
- Creep age distance and air distance $\geq$ 15mm
- Products with operating temperature of 105°C are available
- UL insulation system:Class F
- Environment- friendly product(RoHS compliant)
- Outline Dimensions:(29.0 $\times$ 12.7 $\times$ 15.7)mm
- Main application:Home appliance, Smart home, Industrial Control


TV-8 cUL[®] US

CHARACTERISTICS

Specifications	Item		
Contact Data	Contact arrangement		1A, 1B, 1C
	Contact resistance(initial)		≤100mΩ(6VDC 1A)
	Contact material		AgNi, AgSnO ₂
Rated value	Rated load(Resistance load)		16A 250VAC/30VDC(Standard) 20A 250VAC
	Max.switching voltage		400VAC/30VDC
	Max.switching current		20A
	Max.switching capacity		4000VA/480W
	Min.allowing load		5VDC 100mA
Electrical performance	Insulation resistance(initial)		1000MΩ (500VDC)
	Dielectric strength (initial)	Between open contacts	1000VAC,1 min
		Between coil&contacts	4000VAC,1 min
	Operate time		≤15ms
	Release time		≤10ms
Mechanical performance	Shock resistance	Functional	98m/s ² (10g)
		Destructive	980m/s ² (100g)
	Vibration resistance		10Hz~55Hz 1.5mm DA
Endurance	Mechanical		1×10 ⁶ ops
	Electrical(Room temperature)		20A 250VAC 5×10 ⁴ ops (ON/OFF=1s/9s)
			16A 250VAC/30VDC 1×10 ⁵ ops (ON/OFF=1s/9s)
			5A 400VAC 1×10 ⁵ ops (ON/OFF=1s/9s)
Operate condition	Ambient temperature		-40℃~85℃/105℃
	Humidity		5% to 90%
Termination			PCB
Unit weight			Approx.12g
Construction			Plastic sealed, Flux proofed

■ COIL DATA(23℃)

■ Standard Type

Nominal Voltage	Operate Voltage VDC	Release Voltage VDC	Rated Current (±10%)	Coil Resistance (±10%)	Nominal Power	Max Voltage
DC 3V	≤2.25	≥0.15	133.3mA	22.5Ω	400mW	DC 3.9V
DC 5V	≤3.75	≥0.25	80mA	62.6Ω		DC 6.5V
DC 6V	≤4.50	≥0.30	66.7mA	90Ω		DC 7.8V
DC 9V	≤6.75	≥0.45	44.4mA	202.5Ω		DC 11.7V
DC 12V	≤9.00	≥0.60	33.3mA	360Ω		DC 15.6V
DC 15V	≤11.25	≥0.75	26.7mA	562.5Ω		DC 19.5V
DC 18V	≤13.50	≥0.90	22.2mA	810Ω		DC 23.4V
DC 24V	≤18.00	≥1.20	16.7mA	1440Ω		DC 31.2V
DC 48V	≤36.00	≥2.40	8.3mA	5760Ω		DC 62.4V
DC 60V	≤45	≥3	6.67mA	9000Ω		DC 78V
DC 90V	≤67.5	≥4.5	4.44mA	20250Ω		DC 117V
DC 110V	≤82.5	≥5.5	3.64mA	30250Ω		DC 143V

■ Sensitive Type

Nominal Voltage	Operate Voltage VDC	Release Voltage VDC	Rated Current (±10%)	Coil Resistance (±10%)	Nominal Power	Max Voltage
DC 3V	≤2.4	≥0.15	83.3mA	36Ω	250mW	DC 3.9V
DC 5V	≤4.0	≥0.25	50mA	100Ω		DC 6.5V
DC 6V	≤4.8	≥0.30	41.7mA	144Ω		DC 7.8V
DC 9V	≤7.2	≥0.45	27.8mA	324Ω		DC 11.7V
DC 12V	≤9.6	≥0.60	20.8mA	576Ω		DC 15.6V
DC 15V	≤12.0	≥0.75	16.7mA	900Ω		DC 19.5V
DC 18V	≤14.4	≥0.90	13.9mA	1296Ω		DC 23.4V
DC 24V	≤19.2	≥1.20	10.4mA	2304Ω		DC 31.2V
DC 48V	≤38.4	≥2.40	5.2mA	9216Ω		DC 62.4V
DC 60V	≤45	≥3	4.17mA	14400Ω		DC 78V

ORDERING INFORMATION

W15 -1A 1 S T L -XXX DC12V

① Type

② Contact arrangement(1):1A=1 open contacts,

1B=1 close contacts, 1C=1 switched contacts

③ PCB mounting(2):1=1 type 1, 2=2 type 2

④ Construction(3):Nil=Flux proofed,S=Plastic sealed

⑤ Contact materia(4):Nil=AgNi, T=AgSnO₂

⑥ Coil power:Nil=Standard, L=Sensitive(The 16A is only available as standard type of 1A)

⑦ Customer special code:numbers or letters denote customer's requirements, For example: WG products can meet IEC60335-1 test

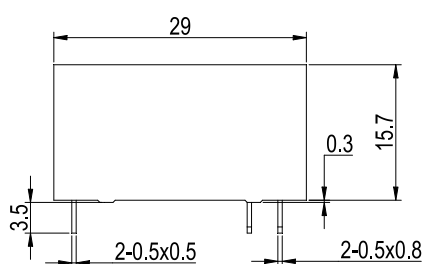
⑧ Coil specification:DC3/5/6/9/12/15/18/24/48/60/90/110V

- (1) If need the contact arrangement is 1B,please contact with the salesman to ask for the outline dimensions,wiring diagram and PC board layout.
- (2) If need the Products requiring a single 5mm mounting foot,please contact with the salesman to ask for the outline dimensions,wiring diagram and PC board layout.
- (3) When used in clean environment(excluding H₂S,SO₂,NO₂,dust and other pollutants), it is recommended to choose the Flux proofed type;When used in unclean environment(contain H₂S,SO₂,NO₂,dust and other pollutants), it is recommended to choose the Plastic sealed.
- (4) Due to the high surge current of relay connection,we propose to use AgSnO₂ contacts.

OUTLINE DIMENSIONS,WIRING DIAGRAM AND PC BOARD LAYOUT(Unit:mm)

1A1

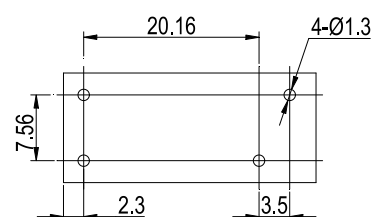
Outline Dimensions



Wiring Diagram (Bottom view)

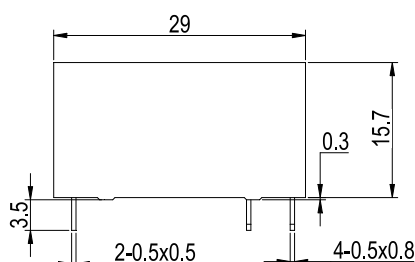


PCB Layout (Bottom view)

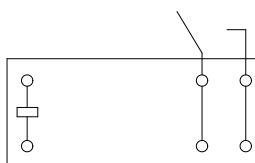


1A2

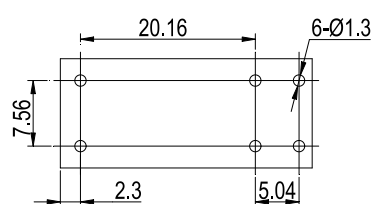
Outline Dimensions



Wiring Diagram (Bottom view)



PCB Layout (Bottom view)



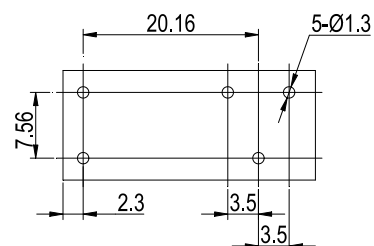
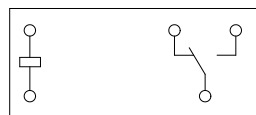
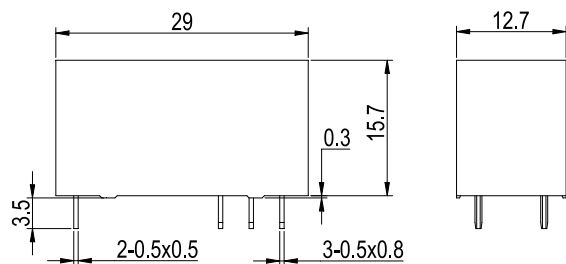
■ OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT (Unit:mm)

1C1

Outline Dimensions

Wiring Diagram
(Bottom view)

PCB Layout
(Bottom view)

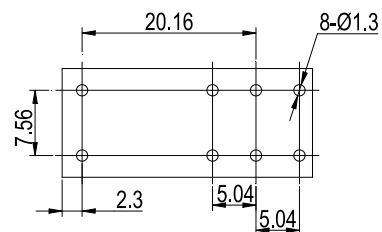
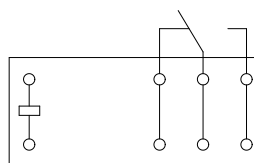
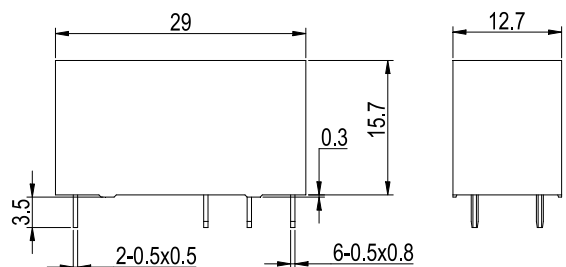


1C2

Outline Dimensions

Wiring Diagram
(Bottom view)

PCB Layout
(Bottom view)



Remark: (1) In case of no tolerance shown in outline dimension: outline dimension $\leq 1\text{mm}$, tolerance should be $\pm 0.2\text{mm}$; outline dimension $> 1\text{mm}$ and $< 5\text{mm}$, tolerance should be $\pm 0.3\text{mm}$; outline dimension $\geq 5\text{mm}$, tolerance should be $\pm 0.5\text{mm}$.

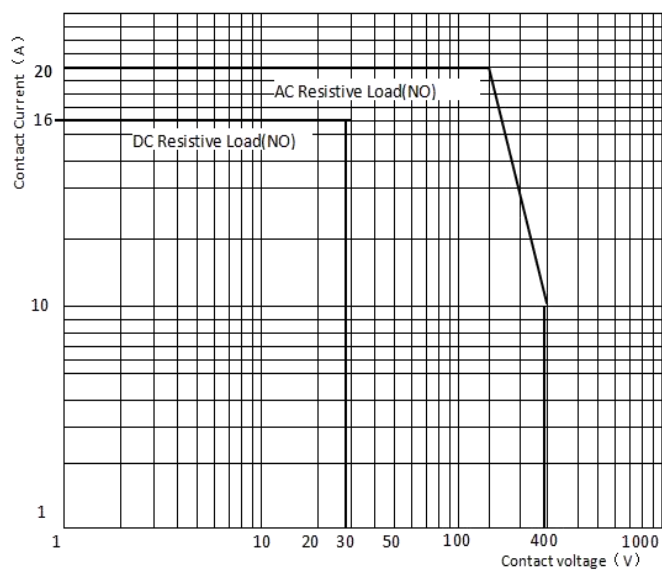
(2) The tolerance without indicating for PCB layout is always $\pm 0.1\text{mm}$.

SAFETY APPROVAL RATINGS

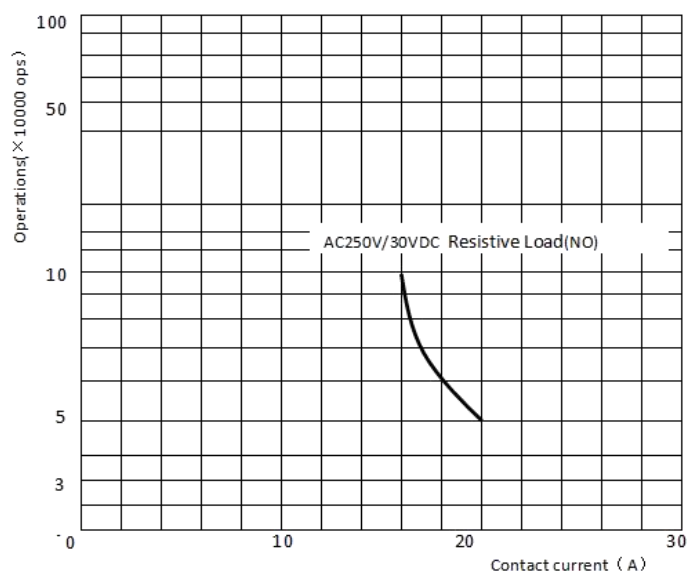
Approval	File No.	Contact arrangement	Contact material	Approved ratings
UL/C-UL	E475405	1A, 1C(NO)	AgNi AgSnO ₂	Standard(1A1, 1C1): 12A 250VAC/30VDC 85℃ Standard(1A2, 1C2): 16A 250VAC/30VDC 105℃ 12A 250VAC 105℃ 5A 400 VAC 85℃ 18A 125VAC 85℃ 1HP 250VAC 85℃ 10A 250VAC (PF=0.6) 85℃ TV-8 125VAC 85℃ 2000W 250VAC (Tungsten) 85℃ 20A(1A2) 250VAC 85℃ Sensitive(1A1, 1C1): 12A 250VAC/30VDC 85℃ Sensitive(1A2, 1C2): 16A 250VAC/30VDC 85℃
		1B, 1C(NC)		Standard(1B1, 1C1): 12A 250VAC/30VDC 85℃ Standard(1B2, 1C2): 16A 250VAC/30VDC 85℃ Sensitive(1B1, 1C1): 12A 250VAC/30VDC 85℃ Sensitive(1B2, 1C2): 16A 250VAC/30VDC 85℃
TUV	R 50332875	1A(NO)	AgSnO ₂	20A 250VAC 85℃ 16A 250VAC 105℃ 16A 250VAC/30VDC 85℃
		1B(NC)		16A 250VAC/30VDC 85℃
		1C(CO)		10A/10A 250VAC/30VDC 85℃
CQC	CQC15002137649	1A, 1B, 1C	AgSnO ₂	16A 250VAC/30VDC 85℃

■ PERFORMANCE CURVES

MAXIMUM SWITCHING POWER



ENDURANCE CURVE



■ NOTICE

- ① In order to maintain the initial performance parameters of the relay, please be careful not to drop the product;
- ② The specification is for reference only. Specifications subject to change without notice.