

Features

- 40A switching capability
- We can provide the contact gap is 1.5mm
- Breakdown voltage(between contact and coil):4KV
- Provide the product meet the standards of IEC60335-1
- UL insulation system:Class F
- Environmental friendly product(RoHS compliant)
- Outline Dimensions:(31.6×27.2×18.4)mm
- Main application:Industrial Control, Photovoltaic Inverter



TV-10 cRU[®] US

CHARACTERISTICS

Specifications	Item	Standard	BG Type
Contact Data	Contact arrangement	1A, 1B, 1C	1A
	Contact resistance(initial)	≤100mΩ(6VDC 1A)	100mΩ(6VDC 1A)
	Contact material	AgNi, AgSnO ₂	
Rated value	Rated load(Resistance load)	30A(Standard)/40A 250VAC	30A 250VAC
		20A 30VDC	20A 48VDC
	Max.switching voltage	277VAC/30VDC	277VAC/48VDC
	Max.switching current	40A	
	Max.switching capacity	10000VA/600W	7500VA/960W
Electrical performance	Min.allowing load		5VDC 100mA
	Insulation resistance(initial)	1000MΩ(500VDC)	
		Dielectric strength (initial)	Between open contacts
	Between coil&contacts		2500VAC(Standard)/4000VAC, 1min
	Operate time	≤15ms	≤20ms
Release time	≤10ms	≤15ms	
Mechanical performance	Shock resistance	Functional	98m/s ² (10G)
		Destructive	980m/s ² (100G)
Vibration resistance		10Hz~55Hz 1.5mm DA	
Endurance	Mechanical		5×10 ⁶ ops
	Electrical(Room temperature)	40A 250VAC 2×10 ⁴ ops(ON/OFF=1s/9s)	40A 250VAC 2×10 ⁴ ops(ON/OFF=1s/9s)
		30A 250VAC 5×10 ⁴ ops(ON/OFF=1s/9s)	30A 250VAC 5×10 ⁴ ops(ON/OFF=1s/9s)
20A 30VDC 1×10 ⁵ ops(ON/OFF=1s/9s)		20A 48VDC 5×10 ⁴ ops(ON/OFF=1s/9s)	
Operate condition	Ambient temperature	-40℃~85℃	
	Humidity	5% to 90%	
Termination		PCB	
Unit weight		Approx.27g	
Construction		Plastic sealed,Flux proofed	

COIL DATA(23°C)

Standard Type

Nominal Voltage	Operate Voltage VDC	Release Voltage VDC	Rated Current ((±10%)	Coil Resistance (±10%)	Nominal Power	Max Voltage
DC 5V	≤3.75	≥0.25	180mA	27.8Ω	900 mW	DC 6.5V
DC 6V	≤4.50	≥0.30	150mA	40Ω		DC 7.8V
DC 9V	≤6.75	≥0.45	100mA	90Ω		DC 11.7V
DC 12V	≤9.00	≥0.60	75mA	160Ω		DC 15.6V
DC 15V	≤11.25	≥0.75	60mA	250Ω		DC 19.5V
DC 18V	≤13.50	≥0.90	50mA	360Ω		DC 23.4V
DC 24V	≤18.00	≥1.20	37.5mA	640Ω		DC 31.2V
DC 36V	≤27.00	≥1.80	25mA	1440Ω		DC 46.8V
DC 48V	≤36.00	≥2.40	18.75mA	2560Ω		DC 62.4V
DC 110V	≤82.50	≥5.50	8.19mA	13444.5Ω		DC 143V

BG Type

Nominal Voltage	Operate Voltage VDC	Release Voltage VDC	Rated Current (±10%)	Coil Resistance (±10%)	Nominal Power	Max Voltage
DC 5V	≤3.75	≥0.25	280mA	18Ω	1400 mW	DC 6.5V
DC 6V	≤4.50	≥0.30	233mA	26Ω		DC 7.8V
DC 9V	≤6.75	≥0.45	156mA	58Ω		DC 11.7V
DC 12V	≤9.00	≥0.60	116.7mA	103Ω		DC 15.6V
DC 15V	≤11.25	≥0.75	93.3mA	161Ω		DC 19.5V
DC 18V	≤13.50	≥0.90	77.3mA	231Ω		DC 23.4V
DC 24V	≤18.00	≥1.20	58.3mA	411Ω		DC 31.2V
DC 36V	≤27.00	≥1.80	38.9mA	926Ω		DC 46.8V
DC 48V	≤36.00	≥2.40	29.2mA	1646Ω		DC 62.4V
DC 110V	≤82.50	≥5.50	12.7mA	8663Ω		DC 143V

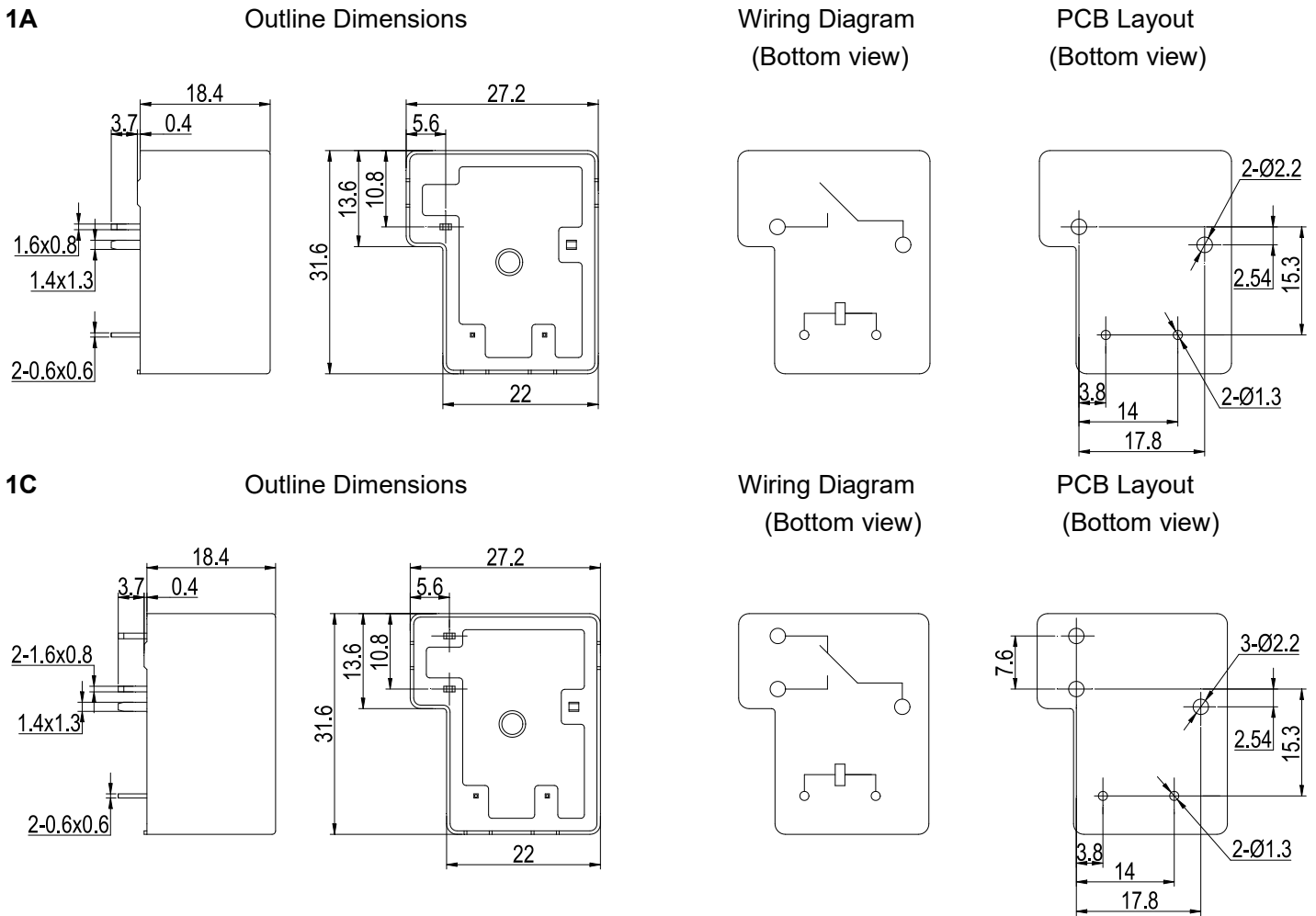
ORDERING INFORMATION

W12 -BG -1A S T F -XXX DC12V

- ① Type
- ② Contact gap: Nil=Standard, BG=2.0mm contact gap
- ③ Contact arrangement(1): 1A=1 open contacts, 1B=1 close contacts, 1C=1 switched contacts
- ④ Construction(2): Nil=Flux proofed, S=Plastic sealed
- ⑤ Contact material(3): Nil=AgNi, T=AgSnO₂
- ⑥ Insulation system: F=Class F
- ⑦ Customer special code: numbers or letters denote customer's requirements
- ⑧ Coil specification: DC5/6/9/12/15/18/24/36/48/110V

- (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) 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.
- (3) 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)



Remark: (1) In case of no tolerance shown in outline dimension: outline dimension ≤ 1 mm, tolerance should be ± 0.2 mm; outline dimension > 1 mm and < 5 mm, tolerance should be ± 0.3 mm; outline dimension ≥ 5 mm, tolerance should be ± 0.5 mm.

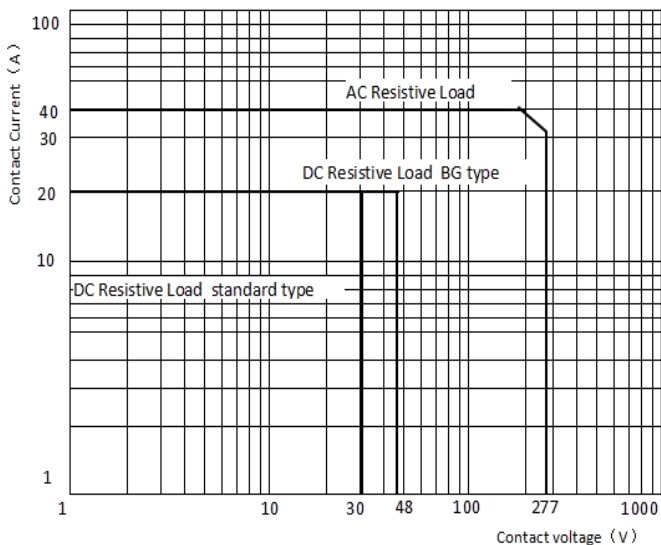
(2) The tolerance without indicating for PCB layout is always ± 0.1 mm.

SAFETY APPROVAL RATINGS

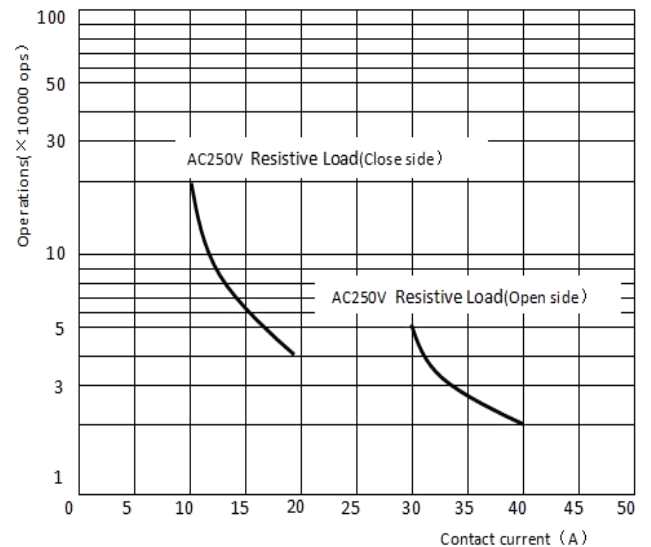
Approval	File No.	Contact arrangement	Contact material	Approved ratings		
UL/C-UL	E475405	1A, 1C(NO)	AgNi, AgSnO ₂	20A	30VDC	85°C
				40A/30A	250VAC	85°C
				2HP	250VAC	85°C
				20A	250VAC(PF=0.6)	85°C
		AgSnO ₂	TV-10	125VAC	85°C	
			20A	48VDC	85°C	
TUV	R 50338930	1A(NO)	AgNi, AgSnO ₂	40A	250VAC	85°C
		1B(NC)		20A	30VDC	85°C
				20A	250VAC	85°C
1C(NO/NC)	15A	30VDC		85°C		
	20A/10A	250VAC		85°C		
CQC	CQC16002140939	1A, 1C(NO)		AgNi, AgSnO ₂	40A	250VAC
			20A		30VDC	85°C
		1B, 1C(NC)	20A		250VAC	85°C
			15A		30VDC	85°C
		1C(NO/NC)	20A/10A		250VAC	85°C
			10A/10A		30VDC	85°C

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.