BX1 SERIES

<FEATURE>

- 1c/1a AC Load 60A single relay
- Insulation design consideration for NACS
- Compact size , small mounting space
- High heat resistance
- Flux tight / Plastic seal type
- Pb free



<APPLICATION>

- On Board Charger (OBC) of Electric Vehicle (PHEV and BEV)

<PART NUMBER SYSTEM>

BX1 - 12 H 2 U 1 A S

Enclosure	Nil:	Flux tight(Unsealed type)
	S:	Plastic seal(Sealed type)
Contact Form	A:	1 form A
	C:	1 form C
Must operate voltage	1:	9.6V
Contact Material	U:	Silver alloy (Standard)
Coil Resistance	2:	48Ω
Dielectric Strength (Between open contacts)	H:	3000Vac
Coil Nominal Voltage	12:	12V
Type	BX1:	60A

Contact Form	Rated Current	Coil Nominal Voltage	Coil Resistance	Dielectric Strength (Between open contacts)	Flux tight (Unsealed type)	Plastic seal (Sealed type)
1a	60A	12VDC	48Ω	3000VAC	BX1-12H2U1A	BX1-12H2U1AS
1c	60A	12VDC	48Ω	3000VAC	BX1-12H2U1C	BX1-12H2U1CS

<COIL>

(Ambient temperature: 20°C)

Coil Nominal Voltage	Coil Resistance (±10%)	Must Operate Voltage(1)	Must Release Voltage(1)	Holding Voltage(2)	Power consumption
12VDC	48Ω	9.6VDC	0.6VDC	30~35% of rated voltage	0.32W(Holding voltage) 3.0W(12V)

(1) Test by pulse voltage

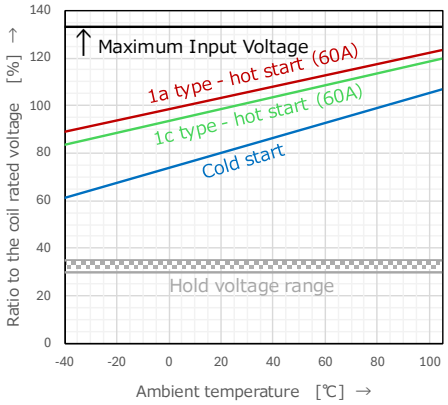
(2)After the rated voltage is applied to the coil for 200ms, the coil excitation voltage is reduced to the holding voltage.

<SPECIFICATIONS>

(Ambient temperature: 20°C)

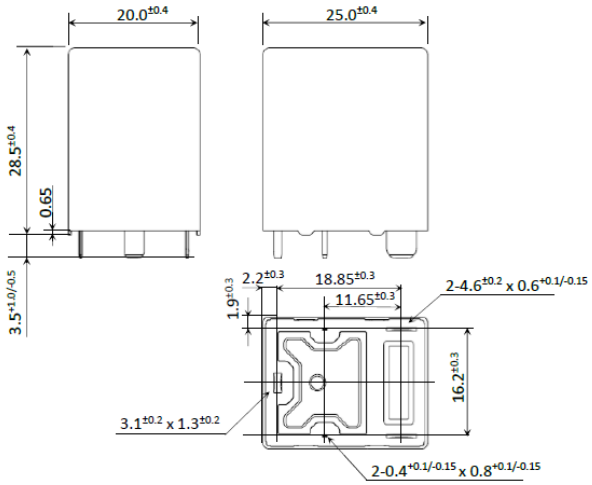
Items		Specifications	
Contact form		1 form A	1 form C
Contact rating	Max. switching voltage	600Vac	
	Max. breaking current	60A	
	Max. continuous current	60A (at 105°C, initial, Cable size 14mm^2)	
	Contact resistance	10mΩ max. (20A 6Vdc, initial)	
	Rated load	60A-277Vac, Resistive load	
Contact material		Silver alloy	
Operate time (3)		15ms max.	
Release time (3)		10ms max.	
Insulation resistance		1000MΩ min. at 1000Vdc	
Breakdown voltage	Between open contacts	3000Vac, 50/60Hz for 1minute	
	Between coil and contact	4000Vac, 50/60Hz for 1minute	
Shock resistance	Misoperation	98m/s^2	
	Destructive failure	980m/s^2	
Vibration resistance	Misoperation	10 to 55Hz, 1.5mm DA	
	Destructive failure		
Ambient temperature(4)		-40 to +105°C (no freezing and condensation)	
Life expectancy	Mechanical	300,000 cycles	
	Electrical	Making 0A/Carrying 60A/ Breaking 0A-277Vac at 105°C 100,000 cycles Making 2A/Carrying 60A/ Breaking 2A-277Vac at 105°C 50,000 cycles	
Weight		Approx. 19g	Approx. 25g

(3) Excluding contact bounce without flywheel coil diode.
(4) When high-temperature operation or a hot start (transition to the ON state) is required, apply a voltage to the coil that exceeds the "ambient temperature and operate voltage" as the energization voltage before applying the holding voltage.
Please contact EM Devices Corporation for information regarding hot-start characteristics during energization at the end of life (EOL).
(5)EM Devices recommends that the usage of the coating agent close to the relay is to be avoided.
(6)Please take care of the relay orientation installed in a car to avoid the malfunction by the vibration, impact and so on. If you have any questions, please contact EM Devices Corporation.

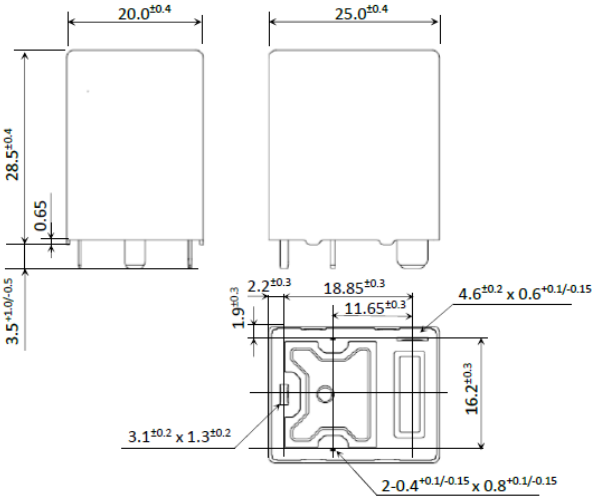


Ambient temperature and operate voltage

<DIMENSIONS> (in mm)



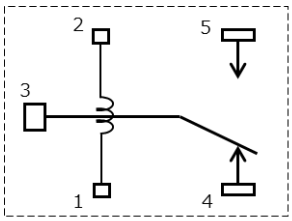
[1 form C]

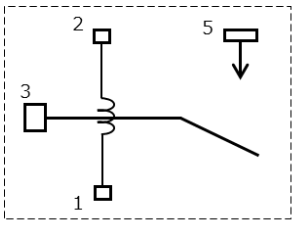


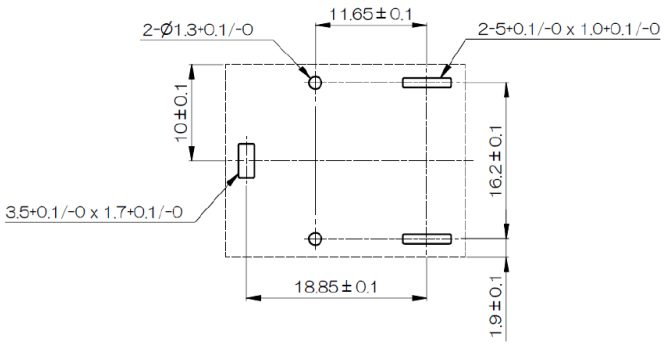
[1 form A]

** AFTER SOLDER DIP*

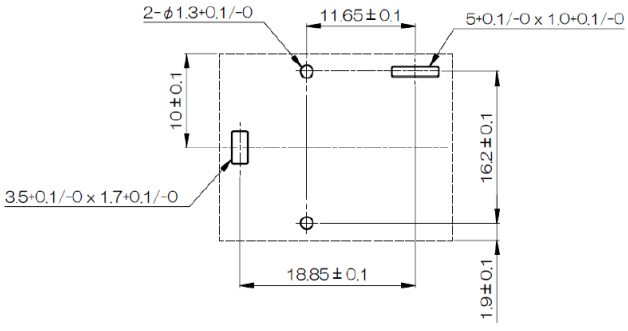
<SCHEMATIC AND PCB PAD LAYOUT (BOTTOM VIEW)> (in mm)







[1 form C]



[1 form A]

<NOTES>

- All specifications in this catalog and production status of products are subject to change without notice. Prior to the purchase, please contact EM Devices for updated product data.
- Please request for a specification sheet for detailed product data prior to the purchase.
- Before using the product in this catalog, please read “AUTOMOTIVE POWER RELAY USER’S MANUAL” in web site. (https://www.em-devices.com/en/)
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