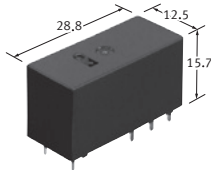


**Low profile:
15.7mm height
1a/1c 16A power relay**

LZ RELAYS(ALZ)

Protective construction : Flux-resistant type



(Unit : mm)

FEATURES

- 1. Low profile type with height of 15.7 mm .**
Slim, low profile type with dimensions of 28.8 (L)×12.5 (W)×15.7 (H) mm
- 2. High insulation resistance**
Superior insulation characteristics have been achieved by maintaining an insulation distance between coil and contacts of at least 10 mm for both creepage distance and clearances. Furthermore, anti-surge voltage is 10 kV and higher. (Supports European reinforced insulation requirement.)
- 3. Superior heat resistance**
Can be used in ambient temperatures up to 85°C for the class B and 105°C for the class F.
- 4. Low operating power**
Power saved with a nominal operating power of only 400 mW.

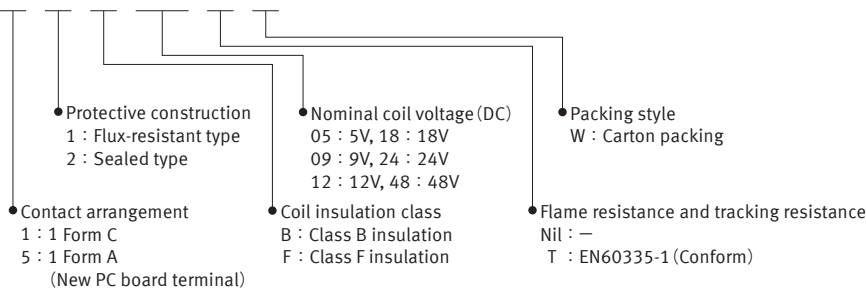
- 5. Conforms to the various safety standards:**
UL/C-UL, VDE approved.
- 6. Superior heat resistance and tracking resistance**
EN60335-1 GWT compliant (Tested by VDE) type available

TYPICAL APPLICATIONS

- 1. Household electrical appliances**
TV, CATV, Audio equipment, Microwave ovens, and Heaters, etc.
- 2. Office equipment**
Copy machines, Packaged air conditioners, and Vending machines
- 3. Industrial equipment**
Machine tools, Robots, and Temperature controllers

ORDERING INFORMATION

ALZ



- Notes : 1. Certified by UL/C-UL and VDE
2. Tube packing type is also available. Please consult us.

TYPES

Contact arrangement	Coil voltage	Flux-resistant type		Sealed type	
		Class B insulation	Class F insulation	Class B insulation	Class F insulation
		Part No.	Part No.	Part No.	Part No.
1 Form C	5 V DC	ALZ11B05W	ALZ11F05W	ALZ12B05W	ALZ12F05W
	9 V DC	ALZ11B09W	ALZ11F09W	ALZ12B09W	ALZ12F09W
	12 V DC	ALZ11B12W	ALZ11F12W	ALZ12B12W	ALZ12F12W
	18 V DC	ALZ11B18W	ALZ11F18W	ALZ12B18W	ALZ12F18W
	24 V DC	ALZ11B24W	ALZ11F24W	ALZ12B24W	ALZ12F24W
1 Form A	5 V DC	ALZ51B05W	ALZ51F05W	ALZ52B05W	ALZ52F05W
	9 V DC	ALZ51B09W	ALZ51F09W	ALZ52B09W	ALZ52F09W
	12 V DC	ALZ51B12W	ALZ51F12W	ALZ52B12W	ALZ52F12W
	18 V DC	ALZ51B18W	ALZ51F18W	ALZ52B18W	ALZ52F18W
	24 V DC	ALZ51B24W	ALZ51F24W	ALZ52B24W	ALZ52F24W

Standard packing: Carton: 100 pcs.; Case: 500 pcs.

Notes: 1. Tube packing type is also available. Please consult us.

2. Carton packing symbol "W" is not marked on the relay.

3. EN60335-1 GWT compliant types available. When ordering, please add suffix "T".

Ex. ALZ51F12TW

RATING

1. Coil data

• Operating characteristics such as 'Operate voltage' and 'Release voltage' are influenced by mounting conditions, ambient temperature, etc.

Therefore, please use the relay within $\pm 5\%$ of rated coil voltage.

• 'Initial' means the condition of products at the time of delivery.

Nominal coil voltage	Pick-up voltage (at 20°C)	Drop-out voltage (at 20°C)	Nominal operating current $[\pm 10\%]$ (at 20°C)	Coil resistance $[\pm 10\%]$ (at 20°C)	Nominal operating power (at 20°C)	Max. applied voltage (at 20°C)
5 V DC	Max. 70%V nominal voltage (Initial)	Min. 10%V nominal voltage (Initial)	80 mA	63Ω	400 mW	130%V of nominal voltage
9 V DC			44.4 mA	203Ω		
12 V DC			33.3 mA	360Ω		
18 V DC			22.2 mA	810Ω		
24 V DC			16.7 mA	1,440Ω		

2. Specifications

Characteristics	Item		Specifications
Contact	Arrangement		1 Form C, 1 Form A
	Contact resistance (Initial)		Max. 100 mΩ (By voltage drop 6V DC 1A)
	Contact material		AgSnO ₂ type
Rating	Nominal switching capacity (resistive load)		16A 250V AC
	Max. switching power (resistive load)		4,000V A
	Max. switching voltage		440V AC
	Max. switching current		16A
	Nominal operating power		400mW
	Min. switching capacity (reference value)* ¹		100mA 5V DC
	Electrical characteristics	Insulation resistance (Initial)	
Breakdown voltage (Initial)		Between open contacts	1,000 Vrms for 1 min. (Detection current: 10mA)
		Between contacts and coil	5,000 Vrms for 1 min. (Detection current: 10mA)
Temperature rise (coil)		Max. 55°C [with nominal coil voltage and at 16A contact carrying current (resistance method) at 20°C]	
Surge breakdown voltage* ² (Between contacts and coil) (Initial)		10,000 V	
Operate time (at nominal voltage) (at 20°C)		Max. 15ms (excluding contact bounce time)	
Release time (at nominal voltage) (at 20°C)		Max. 5ms (excluding contact bounce time, without diode)	
Mechanical characteristics	Shock resistance	Functional	100 m/s ² (Half-wave pulse of sine wave: 11ms; detection time: 10μs)
		Destructive	1,000 m/s ² (Half-wave pulse of sine wave: 6ms)
	Vibration resistance	Functional	10 to 55Hz at double amplitude of 1.5mm (Detection time: 10μs) (Only the N.C. side of 1 Form C is 0.8mm)
		Destructive	10 to 55Hz at double amplitude of 1.5mm
Expected life	Mechanical (at 180 times/min.)		Min. 10 ⁷
	Electrical (at 20 times/min.)* ³		N.O.: Min. 10 ⁵ , N.C.: Min. 5 × 10 ⁴
Conditions	Conditions for operation, transport and storage* ⁴ , * ⁵		Ambient temperature: −40°C to +85°C (Class B), Humidity: 5 to 85% R.H. (Not freezing and condensing at low temperature)
	Max. operating speed		20 times/min. (at nominal switching capacity)
Unit weight			Approx. 12 g

Notes: *1. This value can change due to the switching frequency, environmental conditions, and desired reliability level, therefore it is recommended to check this with the actual load.

*2. Wave is standard shock voltage of $\pm 1.2 \times 50\mu\text{s}$ according to JEC-212-1981.

*3. In order to obtain the full rated life cycles, the relay should be properly vented by removing the vent nib. More detail, please look at caution for NOTES.

*4. Class F type is ambient temperature 105°C.

*5. The upper limit of the ambient temperature is the maximum temperature that can satisfy the coil temperature rise value. Refer to Usage, transport and storage conditions in NOTES.

*Please note that some of the specifications listed above may not comply with overseas standards.