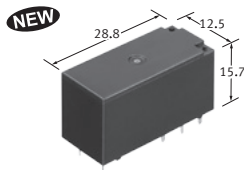




**EN60335-1 GWT compliant**  
**Low profile:**  
**15.7mm .618inch height**  
**1a/1c 16A power relay**

## LZ-N RELAYS(ALZN)

Protective construction : Flux-resistant type



(Unit : mm)

### FEATURES

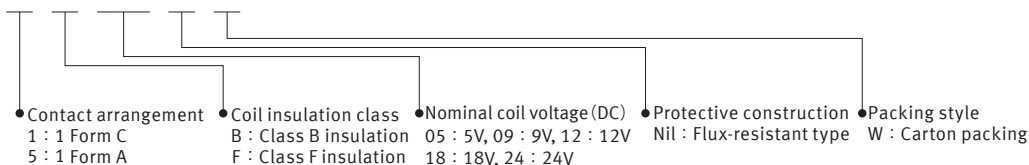
- 1. Low profile type with height of 15.7 mm .618 inch**  
 Slim, low profile type with dimensions of 12.5 (W)×28.8 (L)×15.7 (H) mm .492 (W)×1.134 (L)×.618 (H) inch.
- 2. High insulation resistance**  
 Superior insulation characteristics have been achieved by maintaining an insulation distance between 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 185°F for the class B and 105°C 221°F for the class F.
- 4. Superior heat resistance and tracking resistance**  
 EN60335-1 GWT compliant

### TYPICAL APPLICATIONS

- 1. Household electrical appliances**
- 2. Office equipment**
- 3. Industrial equipment**

## ORDERING INFORMATION

### ALZN



Notes : 1. The "W" at the end of the part No. only appears on the inner and outer packaging. It does not appear on the relay itself.  
 2. Tube packing type is also available. Please consult us.

## TYPES

| Contact arrangement | Rated coil voltage | Part No.           |                    | Standard packing |          |
|---------------------|--------------------|--------------------|--------------------|------------------|----------|
|                     |                    | Class B insulation | Class F insulation | Carton           | Case     |
| 1 Form C            | 5V DC              | ALZN1B05W          | ALZN1F05W          | 100 pcs.         | 500 pcs. |
|                     | 9V DC              | ALZN1B09W          | ALZN1F09W          |                  |          |
|                     | 12V DC             | ALZN1B12W          | ALZN1F12W          |                  |          |
|                     | 18V DC             | ALZN1B18W          | ALZN1F18W          |                  |          |
|                     | 24V DC             | ALZN1B24W          | ALZN1F24W          |                  |          |
| 1 Form A            | 5V DC              | ALZN5B05W          | ALZN5F05W          |                  |          |
|                     | 9V DC              | ALZN5B09W          | ALZN5F09W          |                  |          |
|                     | 12V DC             | ALZN5B12W          | ALZN5F12W          |                  |          |
|                     | 18V DC             | ALZN5B18W          | ALZN5F18W          |                  |          |
|                     | 24V DC             | ALZN5B24W          | ALZN5F24W          |                  |          |

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 ± 5% of rated coil voltage.
- 'Initial' means the condition of products at the time of delivery.

| Rated coil voltage | Operate voltage *1<br>(at 20°C 68°F)               | Release voltage *1<br>(at 20°C 68°F)               | Rated operating current<br>(±10%, at 20°C 68°F) | Coil resistance<br>(±10%, at 20°C 68°F) | Rated operating power | Max. allowable voltage                                                                                             |
|--------------------|----------------------------------------------------|----------------------------------------------------|-------------------------------------------------|-----------------------------------------|-----------------------|--------------------------------------------------------------------------------------------------------------------|
| 5V DC              | 70%V or less of<br>rated coil voltage<br>(Initial) | 10%V or more of<br>rated coil voltage<br>(Initial) | 80 mA                                           | 63 Ω                                    | 400mW                 | 120%V of rated coil<br>voltage<br>(at 85°C 185°F:<br>Class B insulation,<br>at 105°C 221°F:<br>Class F insulation) |
| 9V DC              |                                                    |                                                    | 44.4 mA                                         | 203 Ω                                   |                       |                                                                                                                    |
| 12V DC             |                                                    |                                                    | 33.3 mA                                         | 360 Ω                                   |                       |                                                                                                                    |
| 18V DC             |                                                    |                                                    | 22.2 mA                                         | 810 Ω                                   |                       |                                                                                                                    |
| 24V DC             |                                                    |                                                    | 16.7 mA                                         | 1440 Ω                                  |                       |                                                                                                                    |

\*1: Square, pulse drive

2. Specifications

| Characteristics                     | Item                                              | Specifications                                                                                                                                                                                   |
|-------------------------------------|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Contact data                        | Arrangement                                       | 1 Form A, 1 Form C                                                                                                                                                                               |
|                                     | Contact resistance (initial)                      | Max. 100mΩ (By voltage drop 6V DC 1A)                                                                                                                                                            |
|                                     | Contact material                                  | AgSnO <sub>2</sub> type                                                                                                                                                                          |
|                                     | Contact rating (resistive)                        | 16 A 250 V AC                                                                                                                                                                                    |
|                                     | Max. switching power<br>(resistive)               | 4,000 VA                                                                                                                                                                                         |
|                                     | Max. switching voltage                            | 440 V AC                                                                                                                                                                                         |
|                                     | Max. switching current                            | 16 A                                                                                                                                                                                             |
|                                     | Min. switching load<br>(reference value)*1        | 100 mA 5 V DC                                                                                                                                                                                    |
| Insulation resistance (initial)     |                                                   | Min. 1,000MΩ (at 500V DC) Measured portion is the same as the case of dielectric strength                                                                                                        |
| Dielectric strength (initial)       | Between open contacts                             | AC 1,000 Vrms for 1 min. (detection current: 10 mA)                                                                                                                                              |
|                                     | Between contact and coil                          | AC 5,000 Vrms for 1 min. (detection current: 10 mA)                                                                                                                                              |
| Surge withstand voltage (initial)*2 | Between contact and coil                          | 10,000 V                                                                                                                                                                                         |
| Operate time (initial)              |                                                   | Max. 15 ms (at rated coil voltage, at 20°C 68°F, without bounce)                                                                                                                                 |
| Release time (initial)              |                                                   | Max. 5 ms (at rated coil voltage, at 20°C 68°F, without bounce, without diode)                                                                                                                   |
| Shock resistance                    | Functional                                        | 100 m/s <sup>2</sup> (half-sine shock pulse: 11 ms; detection time: 10μs)                                                                                                                        |
|                                     | Destructive                                       | 1,000 m/s <sup>2</sup> (half-sine shock pulse: 6 ms)                                                                                                                                             |
| Vibration resistance                | Functional                                        | 10 to 55 Hz at double amplitude of 1.5 mm (detection time: 10μs) (Only the NC contact of 1 Form C is 0.82mm)                                                                                     |
|                                     | Destructive                                       | 10 to 55 Hz at double amplitude of 1.5 mm                                                                                                                                                        |
| Expected life                       | Mechanical                                        | Min. 1×10 <sup>6</sup> (at 180 times/min.)                                                                                                                                                       |
| Conditions                          | Conditions for operation, transport and storage*3 | Ambient temperature: −40 to +85°C −40 to +185°F (Class B insulation), −40 to +105°C −40 to +221°F (Class F insulation), Humidity: 5 to 85% R.H. (Not freezing and condensing at low temperature) |
| Unit weight                         |                                                   | Approx. 11 g .39 oz                                                                                                                                                                              |

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 ±1.2×50μs according to JEC-212-1981

\*3. For the ambient temperature, please refer to Usage, transport and storage conditions in NOTES.

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

3. Expected electrical life

Condition: Resistive, at 20°C 68°F

| Type     |            | Switching capacity | Number of operations                        |
|----------|------------|--------------------|---------------------------------------------|
| 1 Form A |            | 16A 250V AC        | Min. 1×10 <sup>5</sup> (ON:OFF = 1.5s:1.5s) |
| 1 Form C | NO contact | 16A 250V AC        | Min. 5×10 <sup>4</sup> (ON:OFF = 1.5s:1.5s) |
|          | NC contact | 16A 250V AC        | Min. 1×10 <sup>4</sup> (ON:OFF = 1.5s:1.5s) |

For the operating ambient temperature, please read the notes