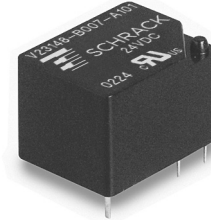


## Power PCB Relay U/UB

- 1 pole 7A, mono or bistable
- 1 form C (CO) or 1 form A (NO) or 1 form B (NC) contact
- Bistable and DC version
- Wash tight version
- Version for 10A on request



Typical applications  
Heating control, installation, battery powered equipment

F0153-C



### Approvals

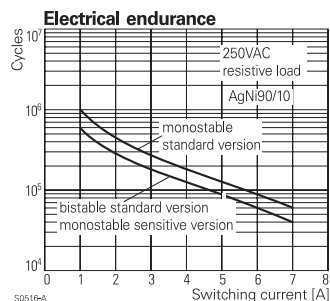
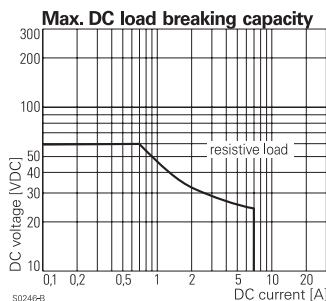
UL E214024  
Technical data of approved types on request

| Contact Data                                         | Standard                                              | Bistable   | Sensitive  |
|------------------------------------------------------|-------------------------------------------------------|------------|------------|
| Contact arrangement                                  | 1 form C (CO) or<br>1 form A (NO) or<br>1 form B (NC) |            |            |
| Rated voltage                                        | 250VAC                                                |            |            |
| Max. switching voltage                               | 400VAC                                                |            |            |
| Rated current                                        | 7A                                                    | 7A         | 5A         |
| Limiting making current,<br>max 4 s, duty factor 10% | 12A                                                   | 12A        | 12A        |
| Breaking capacity max.                               | 1750VA                                                | 1750VA     | 1250VA     |
| Contact material                                     | AgNi 90/10                                            | AgNi 90/10 | AgNi 90/10 |
| Frequency of operation,<br>with/without load         | 600/18000h <sup>-1</sup>                              |            |            |
| Operate/release time typ.                            | 5/ 3 ms                                               | -          | 7/3 ms     |
| Set/reset time typ.                                  | -                                                     | 5/ 3 ms    | -          |
| Bounce time typ., form A/form B                      | 2/10ms                                                | 2/10ms     | 2/10ms     |

### Contact ratings

| Type          | Contact    | Load                              | Cycles |
|---------------|------------|-----------------------------------|--------|
| <b>UL 508</b> |            |                                   |        |
| U/UB          | C/A/B      |                                   |        |
|               | (CO/NO/NC) | 7A, 250VAC, general purpose, 40°C | 6.000  |

Mechanical endurance, DC coil >20x10<sup>6</sup> operations

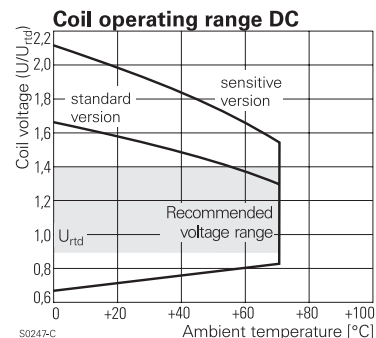


| Coil Data                                      | Standard    | Bistable            | Sensitive   |
|------------------------------------------------|-------------|---------------------|-------------|
| Coil voltage range                             | 6 to 48 VDC | 6 to 48 VDC         | 6 to 48 VDC |
| Operative range IEC 61810                      | 2           | 2                   | 2           |
| Reset voltage min.,<br>% of rated coil voltage | -           | 25%                 | -           |
| Reset voltage max.,<br>% of rated coil voltage | -           | 45%                 | -           |
| Rated operate power                            | -           | 900 to 1300 mW/20ms | -           |

### Coil versions, DC coil

| Coil code             | Rated voltage VDC | Operate voltage VDC | Release voltage VDC | Coil resistance Ω±10% | Rated coil power mW |
|-----------------------|-------------------|---------------------|---------------------|-----------------------|---------------------|
| <b>Standard coil</b>  |                   |                     |                     |                       |                     |
| 003                   | 6                 | 4.2                 | 0.6                 | 80                    | 450                 |
| 005                   | 12                | 8.4                 | 1.2                 | 320                   | 450                 |
| 007                   | 24                | 16.8                | 2.4                 | 1280                  | 450                 |
| 008                   | 48                | 33.6                | 4.8                 | 3800                  | 606                 |
| <b>Sensitive coil</b> |                   |                     |                     |                       |                     |
| 103                   | 6                 | 4.4                 | 0.6                 | 110                   | 327                 |
| 105                   | 12                | 8.8                 | 1.2                 | 440                   | 327                 |
| 107                   | 24                | 17.5                | 2.4                 | 1780                  | 324                 |
| 108                   | 48                | 35.0                | 4.8                 | 4000                  | 576                 |

All figures are given for coil without pre-energization, at ambient temperature +23°C.  
Other coil voltages on request.



### Coil versions, bistable 1 coil

| Coil code | Rated voltage VDC | Set voltage VDC | Reset voltage VDC | Coil resistance Ω±10% | Rated coil power mW |
|-----------|-------------------|-----------------|-------------------|-----------------------|---------------------|
| 003       | 6                 | 4.7             | 1.5               | 33                    | 1091                |
| 005       | 12                | 9.4             | 3.0               | 119                   | 1210                |
| 007       | 24                | 18.7            | 6.0               | 475                   | 1213                |
| 008       | 48                | 37.4            | 12.0              | 1750                  | 1317                |

All figures are given for coil without pre-energization, at ambient temperature +23°C.  
Other coil voltages on request.

**Power PCB Relay U/UB (Continued)**

| Insulation Data                    | 2kV <sub>rms</sub>     | 4kV <sub>rms</sub>     |
|------------------------------------|------------------------|------------------------|
|                                    | Version<br>V23148-0*** | Version<br>V23148-1*** |
| Initial dielectric strength        |                        |                        |
| between open contacts              | 1000V <sub>rms</sub>   | 1000V <sub>rms</sub>   |
| between contact and coil           | 2000V <sub>rms</sub>   | 4000V <sub>rms</sub>   |
| Clearance/creepage                 |                        |                        |
| between contact and coil           | ≥2.5/2.5mm             | ≥3.5/3.5mm             |
| Material group of insulation parts | ≥IIIa                  | ≥IIIa                  |

**Other Data**

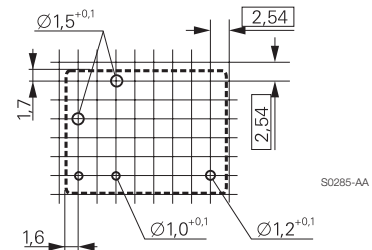
Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at [www.te.com/customersupport/rohssupportcenter](http://www.te.com/customersupport/rohssupportcenter)

|                                                  |                    |
|--------------------------------------------------|--------------------|
| Ambient temperature                              | -25 to +70°C       |
| Category of environmental protection             |                    |
| IEC 61810                                        | RTIII - wash tight |
| Vibration resistance (functional), form A/form B | 10/10g             |
| Shock resistance (functional), form A/form B     | 10/10g             |
| Terminal type                                    | PCB-THT            |
| Weight                                           | 9.5 g              |
| Resistance to soldering heat THT                 |                    |
| IEC 60068-2-20, wash tight version               | 260°C/5 s          |
| Packaging unit                                   | 25 pcs.            |

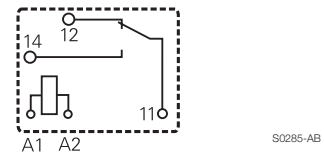
**PCB layout / terminal assignment**

Bottom view on solder pins

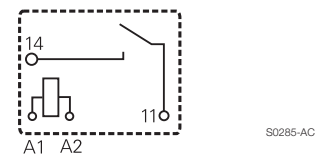
Monostable and bistable 1 coil



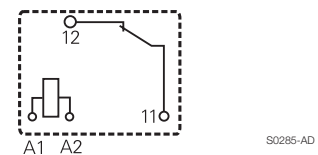
Form C contact (CO)



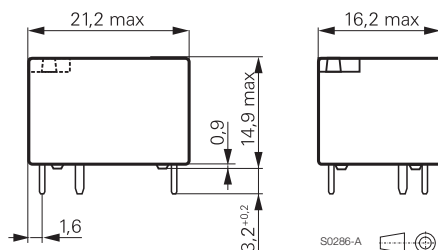
Form A contact (NO)



Form B contact (NC)



**Dimensions**



**Power PCB Relay U/UB** (Continued)

**Product code structure**

Typical product code **V23148 -A 0 0 07 -A 101**

|                                                          |  |                           |  |  |  |  |  |
|----------------------------------------------------------|--|---------------------------|--|--|--|--|--|
| <b>Type</b><br>V23148 Power PCB Relay U/UB               |  |                           |  |  |  |  |  |
| <b>Version</b>                                           |  |                           |  |  |  |  |  |
| A Monostable (Miniature power relay U)                   |  |                           |  |  |  |  |  |
| B Bistable (Miniature power relay UB, remanence version) |  |                           |  |  |  |  |  |
| <b>Dielectric strength coil-contact</b>                  |  |                           |  |  |  |  |  |
| 0 2kV <sub>rms</sub>                                     |  | 1 4kV <sub>rms</sub>      |  |  |  |  |  |
| <b>Version</b>                                           |  |                           |  |  |  |  |  |
| 0 Monostable                                             |  | 0 Bistable                |  |  |  |  |  |
| 1 Standard                                               |  | 0 Standard                |  |  |  |  |  |
| 1 Sensitive                                              |  |                           |  |  |  |  |  |
| <b>Coil</b>                                              |  |                           |  |  |  |  |  |
| 03 6VDC                                                  |  | 07 24VDC                  |  |  |  |  |  |
| 05 12VDC                                                 |  | 08 48VDC                  |  |  |  |  |  |
| <b>Contact configuration</b>                             |  |                           |  |  |  |  |  |
| A 1 form C contact (1 CO)                                |  | C 1 form B contact (1 NC) |  |  |  |  |  |
| B 1 form A contact (1 NO)                                |  |                           |  |  |  |  |  |
| <b>Contact material</b>                                  |  |                           |  |  |  |  |  |
| 101 AgNi10                                               |  |                           |  |  |  |  |  |

Other types on request

| Product code      | Version                           | Dielectric                            | Version   | Arrangement   | Part number |
|-------------------|-----------------------------------|---------------------------------------|-----------|---------------|-------------|
| V23148-A0003-A101 | Monostable<br>relay ,U'<br>AgNi10 | 2000 V <sub>rms</sub><br>contact-coil | Standard  | 1 form C (CO) | 1393203-4   |
| V23148-A0003-B101 |                                   |                                       |           | 1 form A (NO) | 1393203-5   |
| V23148-A0005-A101 |                                   |                                       |           | 1 form C (CO) | 1393203-8   |
| V23148-A0005-B101 |                                   |                                       |           | 1 form A (NO) | 1393203-9   |
| V23148-A0007-A101 |                                   |                                       |           | 1 form C (CO) | 1-1393203-1 |
| V23148-A0007-B101 |                                   |                                       |           | 1 form A (NO) | 1-1393203-2 |
| V23148-A0008-A101 |                                   |                                       |           | 1 form C (CO) | 1-1393203-4 |
| V23148-A0105-A101 |                                   |                                       | Sensitive |               | 2-1393203-1 |
| V23148-A0107-A101 |                                   |                                       |           |               | 2-1393203-4 |
| V23148-A1005-A101 |                                   | 4000 V <sub>rms</sub><br>contact-coil | Standard  |               | 2-1393203-7 |
| V23148-A1007-A101 |                                   |                                       |           |               | 2-1393203-8 |
| V23148-A1105-A101 |                                   |                                       |           | Sensitive     |             |
| V23148-A1107-A101 |                                   |                                       |           |               | 3-1393203-1 |
| V23148-B0003-A101 | Bistable<br>relay ,UB'<br>AgNi10  | 2000 V <sub>rms</sub><br>contact-coil | Standard  |               | 1393204-4   |
| V23148-B0005-A101 |                                   |                                       |           |               | 1393204-7   |
| V23148-B0007-A101 |                                   |                                       |           |               | 1-1393204-0 |
| V23148-B0008-A101 |                                   |                                       |           |               | 1-1393204-3 |
|                   |                                   |                                       |           |               |             |

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