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[V23148-B0008-A1](#)  
[01](#)

[1-1393203-1](#)

[1-1393204-3.](#)

[2-1393203-4](#)

[1393204-7](#)

**EN**

This Datasheet is presented by  
the manufacturer

**DE**

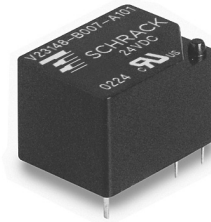
Dieses Datenblatt wird vom  
Hersteller bereitgestellt

**FR**

Cette fiche technique est  
présentée par le fabricant

## Power PCB Relay U/UB (V23148)

- 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



### Approvals

UL E214024

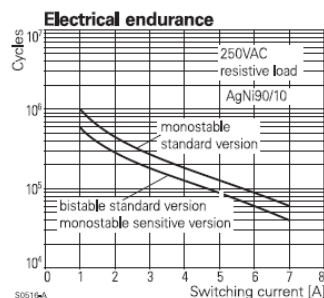
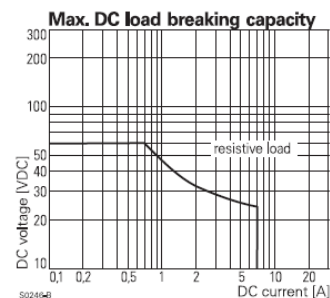
Technical data of approved types on request

| 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.                            | 5/3ms      | -                                                     | 7/3 ms     |
| Set/reset time typ.                                  | -          | 5/3 ms                                                | -          |
| Bounce time typ., form A/form B                      | 2/10 ms    | 2/10 ms                                               | 2/10 ms    |
| Mechanical endurance                                 |            | >20x10 <sup>6</sup> operations                        |            |

### Contact ratings

| Type         | Contact                                      | Load | Cycles |
|--------------|----------------------------------------------|------|--------|
| <b>UL508</b> |                                              |      |        |
| U/UB C/A/B   | (CO/NO/NC) 7A, 250VAC, general purpose, 40°C |      | 6.000  |

| Coil Data                                      | Standard             | Bistable    | Sensitive   |
|------------------------------------------------|----------------------|-------------|-------------|
| Coil voltage range                             | 5 to 48 VDC          | 3 to 48 VDC | 5 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 1300mW/20ms | -           | -           |

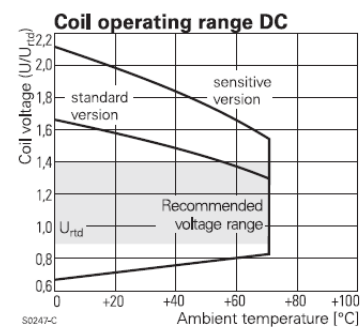


### Coil versions, DC coil

| Coil code             | Rated voltage VDC | Operate voltage VDC | Release voltage VDC | Coil resistance $\Omega \pm 10\%$ | Rated coil power mW |
|-----------------------|-------------------|---------------------|---------------------|-----------------------------------|---------------------|
| <b>Standard coil</b>  |                   |                     |                     |                                   |                     |
| 002                   | 5                 | 3.5                 | 0.5                 | 56                                | 446                 |
| 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> |                   |                     |                     |                                   |                     |
| 102                   | 5                 | 3.7                 | 0.5                 | 80                                | 313                 |
| 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.



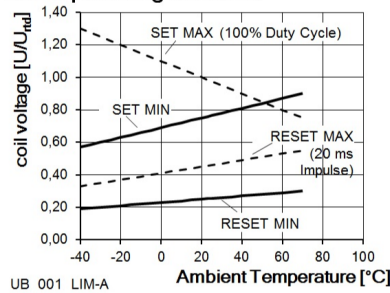
**Power PCB Relay U/UB (V23148) (Continued)**

**Coil versions, bistable 1 coil**

| Coil code | Rated voltage VDC | Set voltage VDC | Reset voltage VDC | Coil resistance $\Omega \pm 10\%$ | Rated coil power mW |
|-----------|-------------------|-----------------|-------------------|-----------------------------------|---------------------|
| 001       | 3                 | 2.3             | 0.75              | 8                                 | 1125                |
| 002       | 5                 | 3.9             | 1.25              | 22                                | 1136                |
| 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.

**Coil operating bistable**



UB 001 LIM-A

**Insulation Data**

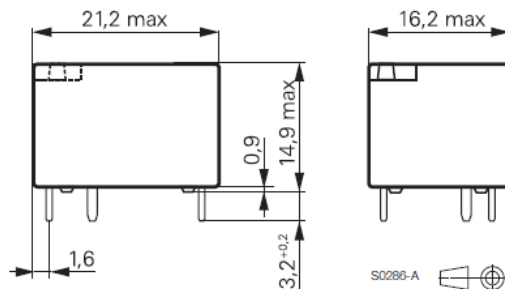
|                                    | 2kV <sub>rms</sub><br>Version<br>V23148-*0*** | 4kV <sub>rms</sub><br>Version<br>V23148-*1*** |
|------------------------------------|-----------------------------------------------|-----------------------------------------------|
| Initial dielectric strength        |                                               |                                               |
| 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 | ≥IIa                                          | ≥IIa                                          |

**Other Data**

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

|                                                  |                    |
|--------------------------------------------------|--------------------|
| Ambient temperature                              | -25 to +70°C       |
| Category of environmental protection             |                    |
| IEC 61810                                        | RTIII - wash tight |
| Terminal type                                    | PCB-THT            |
| Weight                                           | 8.7g               |
| Vibration resistance (functional), form A/form B | 10/10g             |
| Shock resistance (functional), form A/form B     | 10/10g             |
| Resistance to soldering heat THT                 |                    |
| IEC 60068-2-20                                   | 260°C/5s           |
| Packaging/unit                                   | 25 pcs.            |

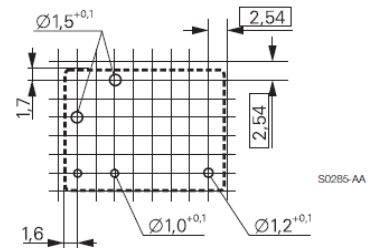
**Dimensions**



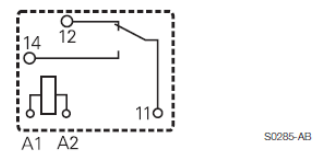
**PCB layout / terminal assignment**

Bottom view on solder pins

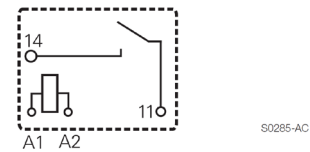
Monostable and bistable 1 coil



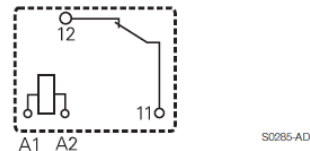
Form C contact (CO)



Form A contact (NO)



Form B contact (NC)



**Power PCB Relay U/UB (V23148) (Continued)**
**Product code structure**

Typical product code

**V23148**
**-A**
**0**
**0**
**07**
**-A**
**101**
**Type**
**V23148** Power PCB Relay U/UB

**Version**

- A** Monostable (Miniature power relay U)  
**B** Bistable (Miniature power relay UB, remanence version)

**Dielectric strength coil-contact**
**0** 2kV<sub>rms</sub> **1** 4kV<sub>rms</sub>
**Version**

- 0** Monostable Standard **0** Bistable Standard  
**1** Sensitive

**Coil**

Coil code: please refer to coil versions table

**Contact configuration**

- A** 1 form C contact (1 CO) **C** 1 form B contact (1NC)  
**B** 1 form A contact (1 NO)

**Contact configuration**
**101** AGNI10

Other types on request

| Product code      | Version                | Dielectric                | Version   | Arrangement   | Part Number |
|-------------------|------------------------|---------------------------|-----------|---------------|-------------|
| V23148-A0005-C101 | Monostable<br>relay ,U | 2000 Vrms<br>contact-coil | Standard  | 1 form B (NC) | 1-1393203-0 |
| V23148-A0007-A101 |                        |                           |           | 1 form C (CO) | 1-1393203-1 |
| V23148-A0007-B101 |                        |                           |           | 1 form A (NO) | 1-1393203-2 |
| V23148-A0007-C101 |                        |                           |           | 1 form B (NC) | 1-1393203-3 |
| V23148-A0008-A101 |                        |                           |           | 1 form C (CO) | 1-1393203-4 |
| V23148-A0002-A101 |                        |                           |           | 1 form C (CO) | 1393203-1   |
| V23148-A0002-B101 |                        |                           |           | 1 form A (NO) | 1393203-2   |
| V23148-A0002-C101 |                        |                           |           | 1 form B (NC) | 1393203-3   |
| V23148-A0003-A101 |                        |                           |           | 1 form C (CO) | 1393203-4   |
| V23148-A0003-B101 |                        |                           |           | 1 form A (NO) | 1393203-5   |
| V23148-A0004-A101 |                        |                           |           | 1 form C (CO) | 1393203-7   |
| V23148-A0005-A101 |                        |                           |           | 1 form C (CO) | 1393203-8   |
| V23148-A0005-B101 |                        |                           |           | 1 form A (NO) | 1393203-9   |
| V23148-A0102-A101 |                        |                           | Sensitive | 1 form C (CO) | 1-1393203-5 |
| V23148-A0102-B101 |                        |                           |           | 1 form A (NO) | 1-1393203-6 |
| V23148-A0102-C101 |                        |                           |           | 1 form B (NC) | 1-1393203-7 |
| V23148-A0103-A101 |                        |                           |           | 1 form C (CO) | 1-1393203-8 |
| V23148-A0103-B101 |                        |                           |           | 1 form A (NO) | 1-1393203-9 |
| V23148-A0103-C101 |                        |                           |           | 1 form B (NC) | 2-1393203-0 |
| V23148-A0105-A101 |                        |                           |           | 1 form C (CO) | 2-1393203-1 |
| V23148-A0105-B101 |                        |                           |           | 1 form A (NO) | 2-1393203-2 |
| V23148-A0105-C101 |                        |                           |           | 1 form B (NC) | 2-1393203-3 |
| V23148-A0107-A101 |                        |                           |           | 1 form C (CO) | 2-1393203-4 |
| V23148-A0107-B101 |                        |                           |           | 1 form A (NO) | 2-1393203-5 |
| V23148-A0107-C101 |                        |                           |           | 1 form B (NC) | 2-1393203-6 |
| V23148-A1005-A101 |                        | 4000 Vrms<br>contact-coil | Standard  | 1 form C (CO) | 2-1393203-7 |
| V23148-A1007-A101 |                        |                           |           | 1 form C (CO) | 2-1393203-8 |
| V23148-A1105-A101 |                        |                           |           | 1 form C (CO) | 2-1393203-9 |
| V23148-A1105-B101 |                        |                           |           | 1 form A (NO) | 3-1393203-0 |
| V23148-A1107-A101 |                        |                           |           | 1 form C (CO) | 3-1393203-1 |
| V23148-B0007-A101 | Bistable<br>relay ,UB  | 2000 Vrms<br>contact-coil |           | 1 form C (CO) | 1-1393204-0 |
| V23148-B0007-B101 |                        |                           |           | 1 form A (NO) | 1-1393204-1 |
| V23148-B0007-C101 |                        |                           |           | 1 form B (NC) | 1-1393204-2 |
| V23148-B0008-A101 |                        |                           |           | 1 form C (CO) | 1-1393204-3 |
| V23148-B1001-A101 |                        |                           |           | 1 form C (CO) | 1-1393204-5 |
| V23148-B0001-A101 |                        |                           |           | 1 form C (CO) | 1393204-1   |
| V23148-B0002-A101 |                        |                           |           | 1 form C (CO) | 1393204-2   |
| V23148-B0002-B101 |                        |                           |           | 1 form A (NO) | 1393204-3   |
| V23148-B0003-B101 |                        |                           |           | 1 form A (NO) | 1393204-5   |
| V23148-B0003-C101 |                        |                           |           | 1 form B (NC) | 1393204-6   |
| V23148-B0005-A101 |                        |                           |           | 1 form C (CO) | 1393204-7   |
| V23148-B0005-B101 |                        |                           |           | 1 form A (NO) | 1393204-8   |
| V23148-B0005-C101 |                        |                           |           | 1 form B (NC) | 1393204-9   |

This list represents the most common types and does not show all variants covered by this data sheet.

Other types on request

1-1393204-3

1393204-7

1-1393204-0

1-1393203-8.

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