

## Miniature PCB Relay PE bistable

- Polarized bistable version
- 1 pole 5 A, 1 form C (CO) or 6A, 1 form A (NO) contact
- Sensitive version with 200mW coil
- Ambient temperature 70°C
- Low height 10.0mm
- Plastic materials according to IEC 60335-1 (domestic appliances)

### Typical applications

Room thermostats, electricity meters, home automation, white goods, battery powered controls.



### Approvals

VDE Cert. No. 40011901 (for AgNi90/10 contacts only), UL E214025

Technical data of approved types on request.



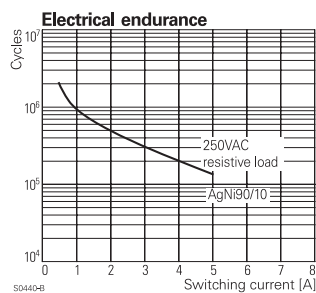
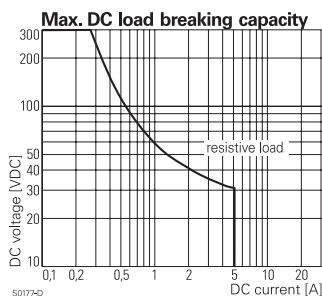
### Contact Data

|                                           |                                                                |
|-------------------------------------------|----------------------------------------------------------------|
| Contact arrangement                       | 1 form C (CO) or 1 form A (NO)                                 |
| Rated voltage                             | 250VAC                                                         |
| Max. switching voltage                    | 400VAC                                                         |
| Rated current                             | 5A (CO - types)<br>6A (NO - AgNi - types)                      |
| Breaking capacity max.                    | 1250VA (CO - types)<br>1500VA (NO AgNi - types)                |
| Contact material                          | AgNi 90/10, AgSnO <sub>2</sub><br>AgNi 90/10 HTV (gold plated) |
| Frequency of operation, with/without load | 360/72000 ops/h                                                |
| Set/reset time                            | typ. 8/8ms                                                     |
| Bounce time, form A/form B                | 4/7ms                                                          |

### Contact ratings

| Type             | Contact         | Load                              | Cycles              |
|------------------|-----------------|-----------------------------------|---------------------|
| <b>IEC 61810</b> |                 |                                   |                     |
| PE014            | C (CO)          | 5A, 250VAC, cosφ=1, 85°C          | 100x10 <sup>3</sup> |
| PE014            | A (NO)          | 5A, 30VDC, 0 ms, 85°C             | 100x10 <sup>3</sup> |
| PE034            | NO              | 6A, 250VAC cosφ=1, 70°C           | 20x10 <sup>3</sup>  |
| <b>UL 508</b>    |                 |                                   |                     |
| PE013            | C (CO)          | 5A, 240VAC, resistive, 85°C       | 30x10 <sup>3</sup>  |
| PE014            | NO (of CO) B300 |                                   | 6.000               |
| PE514            | NO (of CO) R300 |                                   | 6.000               |
| PE514            | C (CO)          | 5A, 250VAC, general purpose, 85°C | 6.000               |
| PE033            | N (NO)          | 5A, 240VAC, resistive, 85°C       | 50x10 <sup>3</sup>  |
| PE014            | C/A/B           | 5A, 250VAC, resistive, 85°C       | 100x10 <sup>3</sup> |
| PE034            | A (NO)          | 6A, 250VAC, resistive, 70°C       | 100x10 <sup>3</sup> |

Mechanical endurance >5x10<sup>6</sup> operations.



### Coil Data

|                                             |                                              |
|---------------------------------------------|----------------------------------------------|
| Magnetic system                             | bistable, polarized                          |
| Coil voltage range                          | 2.2 to 48VDC                                 |
| Operative range, IEC 61810                  | 2                                            |
| Reset voltage max., % of rated coil voltage | 120% at -40°C                                |
| Min./Max. energization duration             | 20ms <sup>1)</sup> /1min at <10% duty factor |

1) Information on reduced pulse duration with higher energization voltages on demand.

### Coil versions, bistable 1 coil

| Coil code <sup>2)</sup> | Rated voltage VDC | Set voltage VDC | Reset voltage VDC | Coil resistance Ω±10% | Rated coil power mW |
|-------------------------|-------------------|-----------------|-------------------|-----------------------|---------------------|
| F02 H02                 | 2.2               | 1.65            | 1.65              | 22                    | 220                 |
| F03 H03                 | 3                 | 2.25            | 2.25              | 41                    | 220                 |
| F05 H05                 | 5                 | 3.75            | 3.75              | 125                   | 200                 |
| F06 H06                 | 6                 | 4.5             | 4.5               | 180                   | 200                 |
| F12 H12                 | 12                | 9.0             | 9.0               | 650                   | 222                 |
| F24 H24                 | 24                | 18.0            | 18.0              | 2750                  | 209                 |

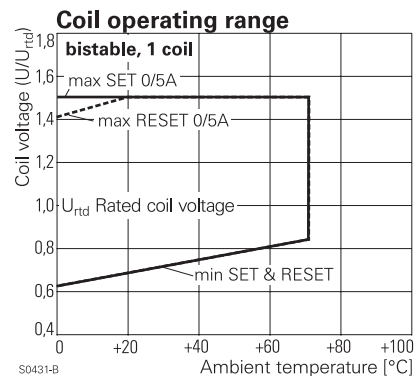
<sup>2)</sup> Coil codes F.. and H.. have opposite polarity; refer to coil operation table.

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

### Coils - operation

| Version        | F.. |    | H.. |    |
|----------------|-----|----|-----|----|
| Coil terminals | A1  | A2 | A1  | A2 |
| Operate        | +   | -  | -   | +  |
| Reset          | -   | +  | +   | -  |

Contact position not defined at delivery



## Miniature PCB Relay PE bistable (Continued)

### Insulation Data

|                                    |                       |
|------------------------------------|-----------------------|
| Initial dielectric strength        |                       |
| between open contacts              | 1000V <sub>rms</sub>  |
| between contact and coil           | 4000V <sub>rms</sub>  |
| Initial insulation resistance      |                       |
| open contact circuit               | >10x10 <sup>9</sup> Ω |
| coil-contact circuit               | >10x10 <sup>9</sup> Ω |
| Clearance/creepage                 |                       |
| between contact and coil           | ≥3.2/4mm              |
| Material group of insulation parts | IIIa                  |
| Tracking index of relay base       | PTI250V               |

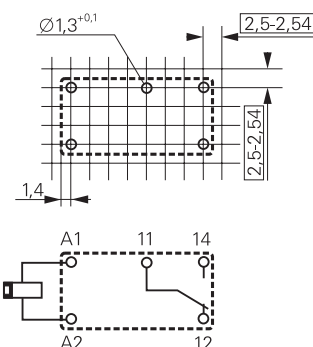
### Other Data

|                                                                      |                                                                                                                                                                    |
|----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content | refer to the Product Compliance Support Center at <a href="http://www.te.com/customer-support/rohssupportcenter">www.te.com/customer-support/rohssupportcenter</a> |
| Resistance to heat and fire                                          | according EN60335, par.30                                                                                                                                          |
| Ambient temperature                                                  | -40 to 85°C<br>70°C at 100% duty factor                                                                                                                            |
| Category of environmental protection                                 | IEC 61810<br>RTII - flux proof<br>RTIII - wash tight on request                                                                                                    |
| Shock resistance (destructive)                                       | >100g                                                                                                                                                              |
| Shock resistance (functional/ 11ms), form A/form B                   | >15/5g                                                                                                                                                             |
| Terminal type                                                        | PCB-THT                                                                                                                                                            |
| Resistance to soldering heat THT                                     | IEC 60068-2-20<br>260°C/10s (flux proof version)<br>260°C/5s (wash tight version)                                                                                  |
| Packaging/unit                                                       | tube/25 pcs., box/500 pcs.                                                                                                                                         |

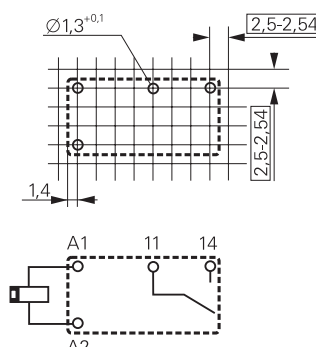
### PCB Layout / terminal assignment

Bottom view on solder pins

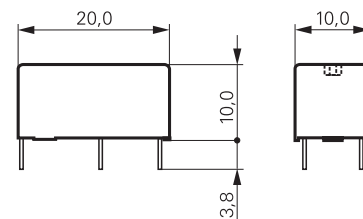
1 form C (CO) version



1 form A (NO) version



### Dimensions



### Product code structure

Typical product code **PE 0 1 4 F12**

|                       |                                                |  |                           |  |                                |
|-----------------------|------------------------------------------------|--|---------------------------|--|--------------------------------|
| Type                  | PE Miniature PCB Relay PE bistable             |  |                           |  |                                |
| Version               | 0 Flux proof                                   |  | 5 Wash tight (on request) |  |                                |
| Contact configuration | 1 1 form C (CO) contact                        |  | 3 1 form A (NO) contact   |  |                                |
| Contact material      | 4 AgNi 90/10                                   |  | 3 AgSnO <sub>2</sub>      |  | 5 AgNi 90/10 HTV (gold plated) |
| Coil                  | Coil code: please refer to coil versions table |  |                           |  |                                |

| Product code | Version    | Contacts                 | Contact material | Coil                   | Part number |
|--------------|------------|--------------------------|------------------|------------------------|-------------|
| PE514F03     | wash tight | 1 form C<br>1 CO contact | AgNi 90/10       | bistable<br>polarity F | 2-1415539-0 |
| PE014F02     | flux proof |                          |                  |                        | 9-1415389-1 |
| PE014F03     |            |                          |                  |                        | 1415390-1   |
| PE014F05     |            |                          |                  |                        | 1-1415390-1 |
| PE014F06     |            |                          |                  |                        | 2-1415390-1 |
| PE014F12     |            |                          |                  |                        | 3-1415390-1 |
| PE014F24     |            |                          |                  |                        | 5-1415390-1 |
| PE014H02     |            |                          |                  | bistable<br>polarity H | 7-1415390-1 |
| PE014H03     |            |                          |                  |                        | 8-1415390-1 |
| PE014H05     |            |                          |                  |                        | 9-1415390-1 |
| PE014H06     |            |                          |                  |                        | 1415391-1   |
| PE014H12     |            |                          |                  |                        | 1-1415391-1 |
| PE014H24     |            |                          |                  |                        | 2-1415391-1 |
| PE015F05     |            | 1 form C                 | AgNi 90/10 HTV   | bistable<br>polarity F | 3-1415542-4 |
| PE034F09     |            | 1formA                   | AgNi 90/10       |                        | 1415543-7   |
| PE034F12     |            | 1 NO contact             |                  |                        | 1415544-4   |



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- Защита от снятия компонента с производства.



#### Как с нами связаться

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