

Miniature PCB Relay PCH

- 5 to 10A rating
- 1 form A (NO) and 1 form C (CO) contact arrangements
- Sensitive coil available for 1 form A type

Typical applications
Appliances, HVAC, refrigerators, microwave ovens



F_PCH_B



Approvals

VDE 119568, UL E82292, CQC08001023449
Technical data of approved types on request

Contact Data

| | |
|-------------------------------|--------------------|
| Contact arrangement | 1 Form A (NO) |
| Rated voltage | 30VDC, 277VAC |
| Max. switching voltage | 30VDC, 277VAC |
| Rated current | 5 to 10A |
| Contact material | AgSnO ₂ |
| Min. recommended contact load | 100mA, 5VDC |
| Frequency of operation | 360 ops./h |
| Operate/release time max. | 10/5ms |
| Electrical endurance | |

D type: 5A, 277VAC resistive, -30°C to +70°C 100x10³ ops.
L type: 5A, 277VAC resistive, -30°C to +70°C 30x10³ ops.
D/L-WG type: 5A, 250VAC resistive, -40°C to +85°C 100x10³ ops.

Contact ratings

| Type | Contact | Load | Cycles |
|------------------|---------|-----------------------------|---------------------|
| IEC 61810 | | | |
| PCH-..2M-WG | A (NO) | 5A 250VAC res, 85°C | 100x10 ³ |
| PCH-..D2-WG | A of C | 5A 250VAC res, 85°C | 100x10 ³ |
| PCH-..D2M | A (NO) | 5A 250VAC res, 70°C | 100x10 ³ |
| PCH-..L2M | A (NO) | 5A 250VAC res, 70°C | 30x10 ³ |
| PCH-..D2 | C (CO) | 5A/3A 250VAC res, 40°C | 30x10 ³ |
| UL 508 | | | |
| PCH | A (NO) | 10A 125VAC res, 85°C | 100x10 ³ |
| PCH | A (NO) | 5A 250VAC general use, 85°C | 100x10 ³ |

Mechanical endurance, DC coil 10x10⁶ operations

Coil Data

| | |
|-------------------------------------|------------|
| Coil voltage range | 3 to 48VDC |
| Operative range, IEC 61810 | 2 |
| Coil insulation system according UL | Class F |

Coil Data (continued)

Coil versions, DC coil

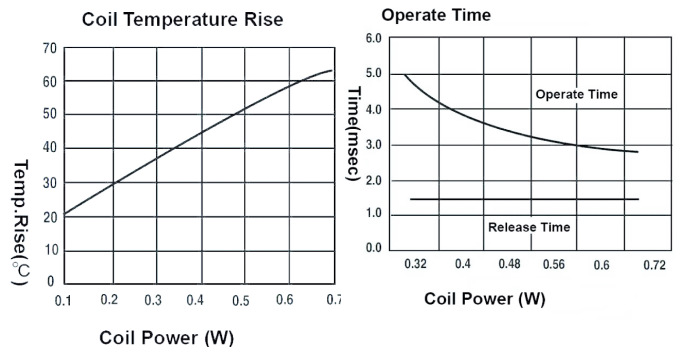
| Coil code | Rated voltage VDC | Operate voltage VDC | Release voltage VDC | Coil resistance Ω±10 % | Rated coil power mW |
|--|-------------------|---------------------|---------------------|------------------------|---------------------|
| Sensitive type (for form A type only) | | | | | |
| 003 | 3 | 2.25 | 0.15 | 45 | 200 |
| 005 | 5 | 3.75 | 0.25 | 125 | 200 |
| 006 | 6 | 4.50 | 0.30 | 180 | 200 |
| 009 | 9 | 6.75 | 0.45 | 405 | 200 |
| 012 | 12 | 9.00 | 0.60 | 720 | 200 |
| 018 | 18 | 13.50 | 0.90 | 1620 | 200 |
| 024 | 24 | 18.00 | 1.20 | 2880 | 200 |
| 048 | 48 | 36.00 | 2.40 | 11520 | 200 |

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

Coil versions, DC coil

| Coil code | Rated voltage VDC | Operate voltage VDC | Release voltage VDC | Coil resistance Ω±10 % | Rated coil power mW |
|----------------------|-------------------|---------------------|---------------------|------------------------|---------------------|
| Standard type | | | | | |
| 003 | 3 | 2.10 | 0.15 | 23 | 400 |
| 005 | 5 | 3.50 | 0.25 | 63 | 400 |
| 006 | 6 | 4.20 | 0.30 | 90 | 400 |
| 009 | 9 | 6.30 | 0.45 | 202 | 400 |
| 012 | 12 | 8.40 | 0.60 | 360 | 400 |
| 018 | 18 | 12.60 | 0.90 | 810 | 400 |
| 024 | 24 | 16.80 | 1.20 | 1440 | 400 |
| 048 | 48 | 33.60 | 2.40 | 5760 | 400 |

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



Miniature PCB Relay PCH (Continued)

Insulation Data

| | |
|---------------------------------|-----------------------|
| Initial dielectric strength | |
| between open contacts | 750V _{rms} |
| between contact and coil | 4000V _{rms} |
| Initial surge withstand voltage | |
| between contact and coil | 10000V _{rms} |
| Clearance/creepage | |
| between contact and coil | NO: ≥ 4.9mm / 6.6mm |
| between contact and coil | CO: ≥ 4mm / 5mm |
| Tracking index of relay base | |
| standard type | PTI 175 |
| WG ttype | PTI 250 |

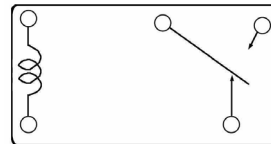
Other Data

| | |
|---|-------------------------------------|
| Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at www.te.com/customersupport/rohssupportcenter | |
| Ambient temperature | -40°C to +85°C |
| Category of environmental protection | IEC 61810 |
| | RTII - flux tight |
| | RTIII - wash tight |
| Shock resistance (functional) | 10g |
| Shock resistance (destructive) | 100g |
| Weight | 7g |
| Resistance to soldering heat THT | |
| IEC 60068-2-20 | RTII: 270°C/10s |
| | RTIII: 260°C/5s |
| Packaging unit | tray/100 pcs., carton box/1000 pcs. |

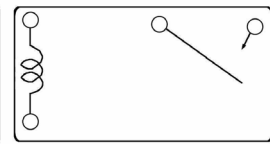
Terminal assignment

Bottom view on solder pins

1 form C (CO)



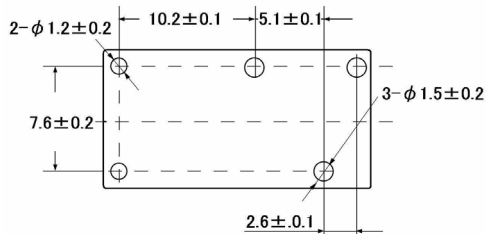
1 form A (NO)



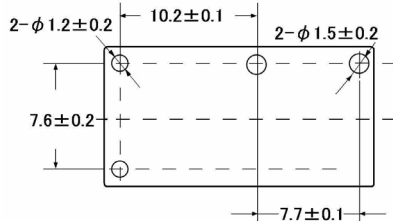
PCB layout

Bottom view on solder pins

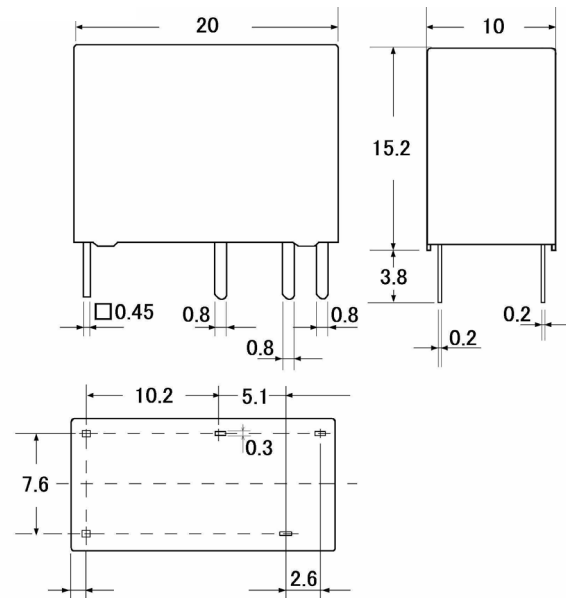
1 form C (CO)



1 form A (NO)



Dimensions



*1a Outline dimensions is omitted.

Tolerance: 0.99mm Max.: +/-0.1mm, 1-2.99mm: +/-0.2mm, 3mm Min.: +/-0.3r

Miniature PCB Relay PCH (Continued)

| | | | | | | | | |
|--------------------------------------|---|------------|--|--|----------|----------|----------|-------------|
| Product code structure | Typical product code | PCH | -1 | 12 | D | 2 | H | ,000 |
| Type | PCH Miniature PCB Relay PCH | | | | | | | |
| Number of poles | 1 1 pole | | | | | | | |
| Coil voltage | Coil code: please refer to coil versions table (e.g. 05=5VDC) | | | | | | | |
| Coil sensitivity | D Standard 400mW | | L 200mW (for 1 form A contact only) | | | | | |
| Contact material | 2 AgSnO | | | | | | | |
| Contact arrangement | Blank 1 form C (CO) contact | | | M 1 form A (NO) contact | | | | |
| Category of protection | Blank Flux proof, vented cover | | | H Wash tight, sealed plastic cover | | | | |
| Insulation system designation | Blank Class F system | | | WG Class F system and for domestic appliances (IEC 60335-1, 4 Edition); | | | | |
| Suffix | ,000 Standard type | | | | | | | |

Other types on request

| Product code | Coil | Sensitivity | Cont.material | Arrangement | Enclosure | Insulation | Part number |
|-----------------|-------|-------------|--------------------|---------------|------------|--------------------|-------------|
| PCH-105D2H,000 | 5VDC | Standard | AgSnO ₂ | 1 form C (CO) | Wash tight | Class F | 9-1440003-0 |
| PCH-105L2M,000 | | Sensitive | | | Flux proof | | 1461352-2 |
| PCH-105L2MH,000 | 6VDC | Standard | | 1 form C (CO) | Wash tight | Cl. F, IEC 60335-1 | 1461353-2 |
| PCH-105L2M-WG | | | | | Flux proof | | 1721768-2 |
| PCH-106D2,000 | 9VDC | | | | Wash tight | Class F | 9-1440003-8 |
| PCH-109D2H,000 | 12VDC | | | | Flux proof | | 9-1440003-2 |
| PCH-112D2,000 | | | | | Wash tight | | 1440004 |
| PCH-112D2H,000 | | | | 1 form A (NO) | Wash tight | | 9-1440003-3 |
| PCH-112D2M,000 | | | | | Flux proof | | 1461350-5 |
| PCH-112D2M-WG | | | | 1 form C (CO) | Flux proof | Cl. F, IEC 60335-1 | 1721767-5 |
| PCH-112D2-WG | | | | | | 1721766-5 | |
| PCH-112L2M,000 | | Sensitive | | 1 form A (NO) | | Class F | 1461352-5 |
| PCH-112L2MH,000 | | | | | Wash tight | 1461353-5 | |
| PCH-112L2M-WG | 24VDC | Standard | | 1 form C (CO) | Flux proof | Cl. F, IEC 60335-1 | 1721768-5 |
| PCH-124D2,000 | | | | | | Class F | 1440004-1 |
| PCH-124D2H,000 | | | | 1 form A (NO) | Wash tight | | 9-1440003-5 |
| PCH-124D2M,000 | | | | | Flux proof | | 1461350-6 |
| PCH-124D2MH,000 | | | | | Wash tight | | 1461351-6 |
| PCH-124L2M,000 | | | | | Flux proof | | 1461352-6 |
| PCH-124L2MH,000 | 48VDC | Standard | | 1 form C (CO) | Wash tight | | 1461353-6 |
| PCH-124L2M-WG | | | | | Flux proof | | 1721768-6 |
| PCH-148D2,000 | | | | | Flux proof | Cl. F, IEC 60335-1 | 1721768-6 |
| | | | | | | Class F | 1461410-2 |