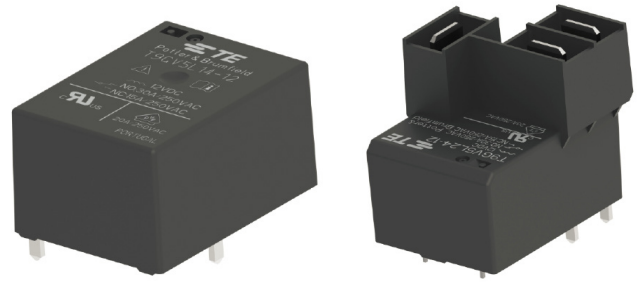


T9G series, DC coil 30A PCB Relay

- 30A switching in NO and 20A in CO
- 40A UL rating available
- Minimum Board space (29mm x 21.5mm)
- Meets UL 508 for clearance / creepage
- Meets IEC 61810-1 for reinforced insulation
- Option for load connections via 0.250" (6.3mm) quick connect terminals
- 4kV dielectric withstand and 8kV surge voltage between coil & contacts
- UL approved for 480 VAC switching



Typical applications
HVAC, Appliances, Industrial Controls, Energy Management



Approvals

UL 508; UL Listing #E214025
IEC 61810-1; VDE Listing #40045012; CQC 18002196927
Technical data of approved types on request

Contact Data

| | | | |
|---|--|-----|-----|
| Contact arrangement | 1 form A (NO), 1 form B (NC), 1 form C (CO) | | |
| Rated voltage | 250VAC | | |
| Max. switching voltage | 480VAC | | |
| Rated current | 30A | 20A | 20A |
| Contact material | AgSnO | | |
| Min. recommended contact load | 1A, 12VAC/VDC | | |
| Initial contact resistance | 300mΩ at 100mA/6VDC | | |
| Frequency of operation, with/without load | 360 cycles / hour = with 3600 cycles / hour = without | | |
| Operate/release time max., including bounce | 15/22ms | | |

Contact ratings ¹⁾

UL 508

| Type | Load | Cycles |
|------------------|---|---------------------|
| NO | 5A, 480VAC, General Purpose | 6x10 ³ |
| NO | 15,6A, 480VAC, Resistive | 100x10 ³ |
| NO | 30A, 277VAC, General Purpose, 85°C | 100x10 ³ |
| NO | 18A, 250VAC, Resistive, 105°C | 100x10 ³ |
| NO | 22A, 250VAC, Resistive | 250x10 ³ |
| NO | 22A FLA, 98A LRA, 120VAC, Def. Purpose | 100x10 ³ |
| NO | 14A FLA, 82A LRA, 250VAC, Def. Purpose, 70°C | 30x10 ³ |
| NO | 20A, 277VAC, Standard Ballast | 6x10 ³ |
| NO | 1HP, 125VAC | 100x10 ³ |
| NO ²⁾ | 40A, 277VAC, Resistive | 6x10 ³ |
| NO ²⁾ | TV8, 240VAC | 25x10 ³ |
| NC | 15A, 240VAC, General Purpose | 100x10 ³ |
| NC | 20A, 250VAC, Resistive (CO type only) | 20x10 ³ |
| NC | 30A LRA / 12A FLA, 250VAC, Definite Purpose | 30x10 ³ |
| NC | 1HP, 277VAC (CO type only) | 50x10 ³ |
| CO | 20A, 250VAC, Resistive | 15x10 ³ |
| CO | 20A /10A, 240VAC, Resistive | 100x10 ³ |
| CO | 30A / 15A Resistive, 250VAC | 20x10 ³ |
| CO | 30A FLA / 80A LRA (N.O.); 12A FLA, 30A LRA (N.C.) 250VAC, Definite Purpose | 30x10 ³ |
| CO | 80A LRA / 10A FLA (N.O.); 33A LRA / 10A FLA (N.C.) 250VAC, Definite Purpose | 30x10 ³ |

IEC 61810-1

| Type | Load | Cycles |
|------|---|---------------------|
| NO | 30A, 250VAC, Resistive, 85°C (PCB) | 75x10 ³ |
| NO | 20A, 250VAC, Resistive, 70°C (CO), 85°C (PCB) | 100x10 ³ |
| NO | 17A, 250VAC, Resistive, 105°C | 100x10 ³ |
| NO | 20A, 250VAC, Resistive, 85°C | 100x10 ³ |
| NO | 12A (12A), 250VAC, 60°C (per EN60730-1) | 150x10 ³ |
| NC | 10A, 250VAC, Resistive, 60°C (C.O. type only) | 50x10 ³ |
| CO | 20A, 250VAC, Resistive, 60°C (N.C.) | 10x10 ³ |
| CO | 20A/10A, 250VAC, Resistive, 60°C (N.O.) | 50x10 ³ |
| CO | 12A, 250VAC, Resistive, 85°C | 100x10 ³ |

- 1) Contact ratings at 40°C (unless otherwise noted) with relay properly vented.
Remove vent nib after soldering and cleaning.
- 2) Valid only for mounting and termination code 1.

| | |
|----------------------|-------------------------|
| Mechanical endurance | 10x10 ⁶ ops. |
|----------------------|-------------------------|

Coil Data

| | |
|-------------------------------------|-------------|
| Coil voltage range | 5 to 110VDC |
| Coil insulation system according UL | Class F |

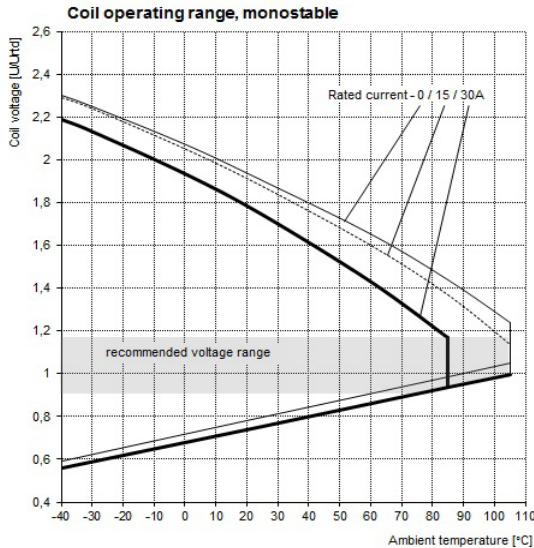
Coil versions, DC coil

| Coil code | Rated voltage VDC | Operate voltage VDC | Release voltage VDC | Coil resistance Ω±10% | Rated coil power mW |
|-----------|-------------------|---------------------|---------------------|-----------------------|---------------------|
| 5 | 5 | 3.75 | 0.5 | 28 | 900 |
| 9 | 9 | 6.75 | 0.9 | 90 | 900 |
| 12 | 12 | 9 | 1.2 | 160 | 900 |
| 15 | 15 | 11.25 | 1.5 | 249 | 900 |
| 18 | 18 | 13.5 | 1.8 | 360 | 900 |
| 22 | 22 | 16.5 | 2.2 | 538 | 900 |
| 24 | 24 | 18 | 2.4 | 640 | 900 |
| 48 | 48 | 36 | 4.8 | 2,560 | 900 |
| 110 | 110 | 82.5 | 11 | 13,444 | 900 |

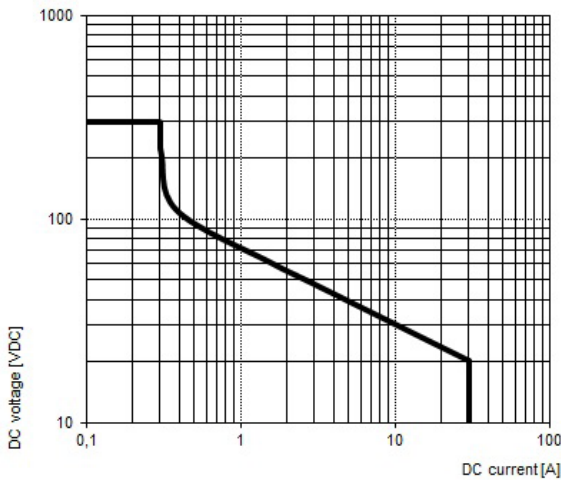
All figures are given for coil without preenergization, at ambient temperature +23°C.

T9G series, DC coil 30A PCB Relay (Continued)

Coil Data (continued)

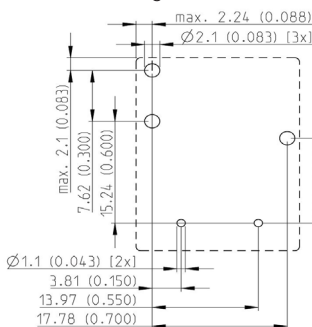


Max. DC load breaking capacity



PCB layout

Bottom view on pins
T9G - Mounting and termination code 1



Only necessary terminals are present on single throw models. Consequently, some holes will be unnecessary for single throw models.

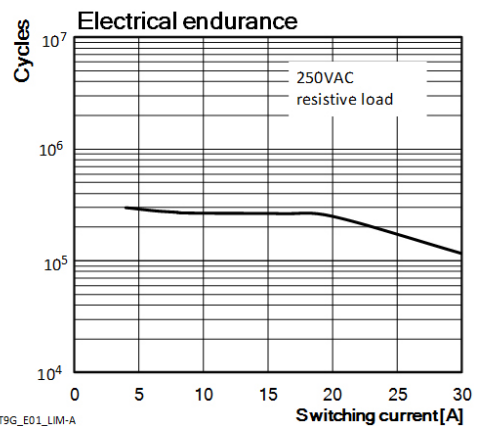
Insulation Data

| | |
|---------------------------------|-----------------------------|
| Initial dielectric strength | |
| between open contacts | 1500V _{rms} |
| between contact and coil | 4000V _{rms} |
| Initial surge withstand voltage | |
| between contact and coil | 8kV |
| Initial insulation resistance | |
| between insulated elements | 1x10 ⁹ Ω, 500VDC |
| Clearance/creepage | |
| between contact and coil | >6.4mm / >8mm |

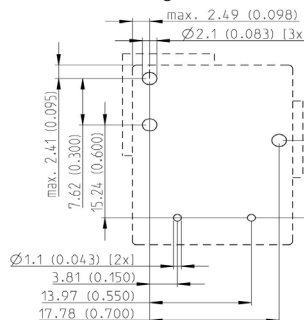
Other Data

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

| | |
|--------------------------------------|---|
| Ambient temperature | |
| DC coil | Storage -55°C to +130°C Operating -40 to +105°C at reduced current |
| Category of environmental protection | |
| IEC 61810 | RTII - flux proof RTIII - wash tight |
| Vibration resistance (functional) | Opening NO contact >10g Opening NC contact >7g |
| Shock resistance (functional) | 10g for 11msec |
| Shock resistance (destructive) | 100g |
| Terminal type | pcb-tht and pcb-tht + quick connect |
| Weight | 18g mounting code 1 23g mounting code 2 |
| Resistance to soldering heat THT | |
| IEC 60068-2-20 | 260°C/5s |
| Packaging/unit | 10/tube, 420/box (PCB + QC), 500/box (PCB) |



T9G - Mounting and termination code 2

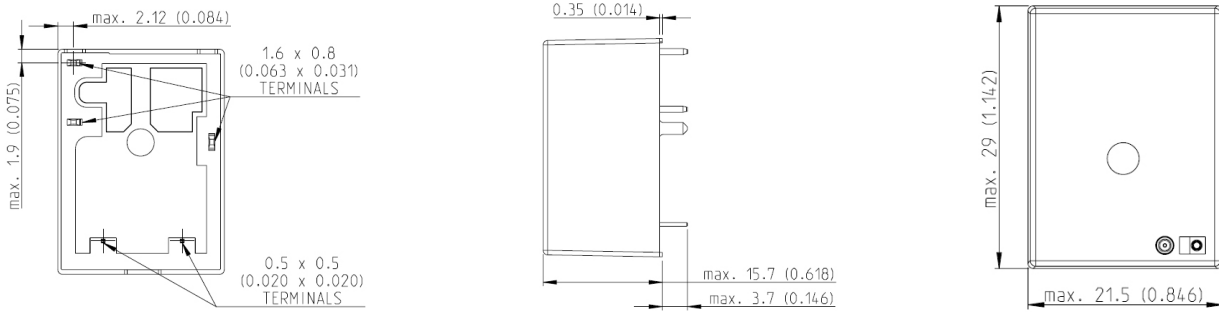


Only necessary terminals are present on single throw models. Consequently, some holes will be unnecessary for single throw models.

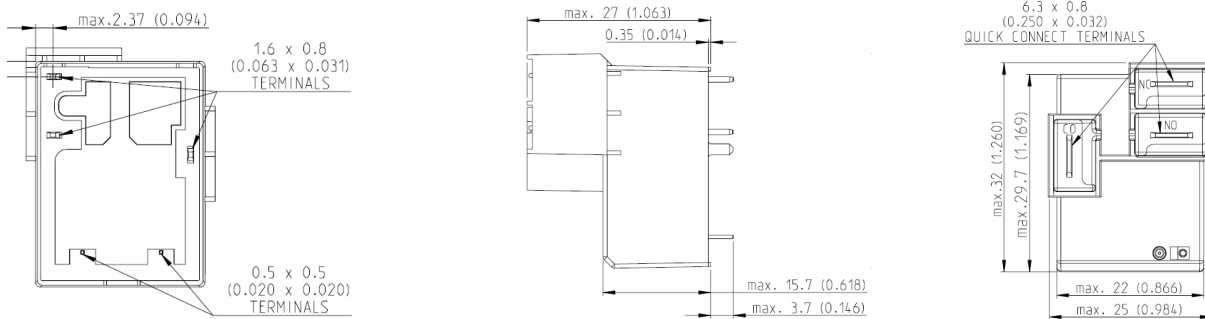
T9G series, DC coil 30A PCB Relay (Continued)

Dimensions

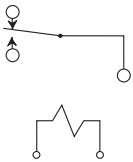
Mounting and termination code 1



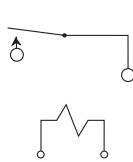
Mounting and termination code 2



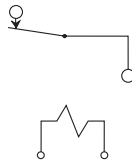
1 Form C (CO)



1 Form A (NO)



1 Form B (NC)



Product code structure

Typical product code

T9G S 5 L 2 4 -12

Type

T9G Power PCB or panel mount relay T9G

Enclosure

S Wash-tight plastic case with knock off nib (requires mounting code 1 or 2)
V Flux-proof plastic case (requires mounting code 1 or 2)

Contact arrangement

1 1 form A (1 NO) **2** 1 form B (1 NC) **5** 1 form C (1 CO)

Coil Input

L DC voltage, 900mW

Mounting and termination

1 PCB mounting; PCB terminals for coil and contacts
2 PCB mounting; PCB term. for coil and contacts; 6.35mm (.250in) quick connect for contacts (only available with enclosure code N, S or V)

Contact material

4 AgSnO (RoHS compliant)

Coil voltage

Coil code: please refer to coil versions table

T9G series, DC coil 30A PCB Relay (Continued)

| Product Code | Enclosure | Contacts | Mounting | Contact Material | Coil | Part Number | | |
|--------------|---|----------|---------------|------------------|-----------|-------------|--------|-----------|
| T9GV5L14-5 | Flux-proof plastic case (requires mounting code 1 or 2) | 1 CO | pcb terminals | AgSnO | 5VDC | 1558660-1 | | |
| T9GV5L14-9 | | | | AgSnO | 9VDC | 1558660-2 | | |
| T9GV5L14-12 | | | | AgSnO | 12VDC | 1558660-3 | | |
| T9GV5L14-15 | | | | AgSnO | 15VDC | 1558660-4 | | |
| T9GV5L14-18 | | | | AgSnO | 18VDC | 1558660-5 | | |
| T9GV5L14-22 | | | | AgSnO | 22VDC | 1558660-6 | | |
| T9GV5L14-24 | | | | AgSnO | 24VDC | 1558660-7 | | |
| T9GV5L14-48 | | | | AgSnO | 48VDC | 1558660-8 | | |
| T9GV5L14-110 | | | | AgSnO | 110VDC | 1558660-9 | | |
| T9GV1L14-5 | | 1 NO | | AgSnO | 5VDC | 1558661-1 | | |
| T9GV1L14-9 | | | | AgSnO | 9VDC | 1558661-2 | | |
| T9GV1L14-12 | | | | AgSnO | 12VDC | 1558661-3 | | |
| T9GV1L14-15 | | | | AgSnO | 15VDC | 1558661-4 | | |
| T9GV1L14-18 | | | | AgSnO | 18VDC | 1558661-5 | | |
| T9GV1L14-22 | | | | AgSnO | 22VDC | 1558661-6 | | |
| T9GV1L14-24 | | | | AgSnO | 24VDC | 1558661-7 | | |
| T9GV1L14-48 | | | | AgSnO | 48VDC | 1558661-8 | | |
| T9GV1L14-110 | | | | AgSnO | 110VDC | 1558661-9 | | |
| T9GV2L14-5 | | 1 NC | | AgSnO | 5VDC | 1558662-1 | | |
| T9GV2L14-9 | | | | AgSnO | 9VDC | 1558662-2 | | |
| T9GV2L14-12 | | | | AgSnO | 12VDC | 1558662-3 | | |
| T9GV2L14-15 | | | | AgSnO | 15VDC | 1558662-4 | | |
| T9GV2L14-18 | | | | AgSnO | 18VDC | 1558662-5 | | |
| T9GV2L14-22 | | | | AgSnO | 22VDC | 1558662-6 | | |
| T9GV2L14-24 | | | | AgSnO | 24VDC | 1558662-7 | | |
| T9GV2L14-48 | | | | AgSnO | 48VDC | 1558662-8 | | |
| T9GV2L14-110 | | | | AgSnO | 110VDC | 1558662-9 | | |
| T9GV5L24-5 | | 1 CO | pcb + QC | AgSnO | 5VDC | 1558670-1 | | |
| T9GV5L24-9 | | | | AgSnO | 9VDC | 1558670-2 | | |
| T9GV5L24-12 | | | | AgSnO | 12VDC | 1558670-3 | | |
| T9GV5L24-15 | | | | AgSnO | 15VDC | 1558670-4 | | |
| T9GV5L24-18 | | | | AgSnO | 18VDC | 1558670-5 | | |
| T9GV5L24-22 | | | AgSnO | 22VDC | 1558670-6 | | | |
| T9GV2L24-24 | | | | 1 NC | | AgSnO | 24VDC | 1558672-7 |
| T9GV2L24-48 | | | | | | AgSnO | 48VDC | 1558672-8 |
| T9GV2L24-110 | | | | | | AgSnO | 110VDC | 1558672-9 |

T9G series, DC coil 30A PCB Relay (Continued)

| Product Code | Enclosure | Contacts | mounting | Contact Material | Coil | Part Number | | |
|--------------|--|----------|---------------|------------------|-----------|-------------|-----------|-----------|
| T9GS5L14-5 | Wash-tight plastic case with knock off nib (requires mounting code 1 or 2) | 1 CO | pcb terminals | AgSnO | 5VDC | 1558665-1 | | |
| T9GS5L14-9 | | | | AgSnO | 9VDC | 1558665-2 | | |
| T9GS5L14-12 | | | | AgSnO | 12VDC | 1558665-3 | | |
| T9GS5L14-15 | | | | AgSnO | 15VDC | 1558665-4 | | |
| T9GS5L14-18 | | | | AgSnO | 18VDC | 1558665-5 | | |
| T9GS5L14-22 | | | | AgSnO | 22VDC | 1558665-6 | | |
| T9GS5L14-24 | | | | AgSnO | 24VDC | 1558665-7 | | |
| T9GS5L14-48 | | | | AgSnO | 48VDC | 1558665-8 | | |
| T9GS5L14-110 | | | | AgSnO | 110VDC | 1558665-9 | | |
| T9GS1L14-5 | | | | 1 NO | | AgSnO | 5VDC | 1558666-1 |
| T9GS1L14-9 | | | | | | AgSnO | 9VDC | 1558666-2 |
| T9GS1L14-12 | | | | | | AgSnO | 12VDC | 1558666-3 |
| T9GS1L14-15 | | | | | | AgSnO | 15VDC | 1558666-4 |
| T9GS1L14-18 | | | | | | AgSnO | 18VDC | 1558666-5 |
| T9GS1L14-22 | AgSnO | 22VDC | 1558666-6 | | | | | |
| T9GS1L14-24 | AgSnO | 24VDC | 1558666-7 | | | | | |
| T9GS1L14-48 | AgSnO | 48VDC | 1558666-8 | | | | | |
| T9GS1L14-110 | AgSnO | 110VDC | 1558666-9 | | | | | |
| T9GS2L14-5 | 1 NC | | AgSnO | | | 5VDC | 1558667-1 | |
| T9GS2L14-9 | | | AgSnO | | | 9VDC | 1558667-2 | |
| T9GS2L14-12 | | | AgSnO | | | 12VDC | 1558667-3 | |
| T9GS2L14-15 | | | AgSnO | | | 15VDC | 1558667-4 | |
| T9GS2L14-18 | | | AgSnO | | | 18VDC | 1558667-5 | |
| T9GS2L14-22 | | | AgSnO | 22VDC | 1558667-6 | | | |
| T9GS2L14-24 | | | AgSnO | 24VDC | 1558667-7 | | | |
| T9GS2L14-48 | | | AgSnO | 48VDC | 1558667-8 | | | |
| T9GS2L14-110 | | | AgSnO | 110VDC | 1558667-9 | | | |
| T9GS5L24-5 | | | 1 CO | pcb + QC | AgSnO | 5VDC | 1558675-1 | |
| T9GS5L24-9 | | | | | AgSnO | 9VDC | 1558675-2 | |
| T9GS5L24-12 | | | | | AgSnO | 12VDC | 1558675-3 | |
| T9GS5L24-15 | | | | | AgSnO | 15VDC | 1558675-4 | |
| T9GS5L24-18 | | | | | AgSnO | 18VDC | 1558675-5 | |
| T9GS5L24-22 | AgSnO | 22VDC | | | 1558675-6 | | | |
| T9GS5L24-24 | AgSnO | 24VDC | | | 1558675-7 | | | |
| T9GS5L24-48 | AgSnO | 48VDC | | | 1558675-8 | | | |
| T9GS5L24-110 | AgSnO | 110VDC | | | 1558675-9 | | | |
| T9GS1L24-5 | 1 NO | | | | AgSnO | 5VDC | 1558676-1 | |
| T9GS1L24-9 | | | | | AgSnO | 9VDC | 1558676-2 | |
| T9GS1L24-12 | | | | | AgSnO | 12VDC | 1558676-3 | |
| T9GS1L24-15 | | | | | AgSnO | 15VDC | 1558676-4 | |
| T9GS1L24-18 | | | | | AgSnO | 18VDC | 1558676-5 | |
| T9GS1L24-22 | | | AgSnO | 22VDC | 1558676-6 | | | |
| T9GS1L24-24 | | | AgSnO | 24VDC | 1558676-7 | | | |
| T9GS1L24-48 | | | AgSnO | 48VDC | 1558676-8 | | | |
| T9GS1L24-110 | | | AgSnO | 110VDC | 1558676-9 | | | |
| T9GS2L24-5 | | | 1 NC | | AgSnO | 5VDC | 1558677-1 | |
| T9GS2L24-9 | | | | | AgSnO | 9VDC | 1558677-2 | |
| T9GS2L24-12 | | | | | AgSnO | 12VDC | 1558677-3 | |
| T9GS2L24-15 | | | | | AgSnO | 15VDC | 1558677-4 | |
| T9GS2L24-18 | | | | | AgSnO | 18VDC | 1558677-5 | |
| T9GS2L24-22 | AgSnO | 22VDC | | | 1558677-6 | | | |
| T9GS2L24-24 | AgSnO | 24VDC | | | 1558677-7 | | | |
| T9GS2L24-48 | AgSnO | 48VDC | | | 1558677-8 | | | |
| T9GS2L24-110 | AgSnO | 110VDC | | | 1558677-9 | | | |

Note. This list represents the most common types and does not show all variants covered by this datasheet. Other types on request.