General Purpose Relays
Power Relays

T9A Series, DC Coil 30A PCB or Panel Mount Relay

- 30A switching in 1 form A (NO) and 20A in 1 form C (CO)
- Plastic sealed case available
- Meets UL 508 and 873 spacing - 3.18mm through air, 6.36mm over surface
- Option for load connections via 0.250”” (6.35mm) Q.C. terminals
- UL class F insulation system standard

Typical applications
HVAC, Appliances, Industrial Controls

Approvals
UL E58304; CSA LR48471
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 277VAC
Max. switching voltage 277VAC
Rated current 30A 15A 20A/10A
Limiting continuous current 30A
Contact material AgSnO1.0, AgCdO
Min. recommended contact load 1A, 5VDC or 12VAC
Initial contact resistance 75 mΩ at 1A at 5VDC or 12VAC
Frequency of operation, with/without load 360/3600hr
Operate/release time max., including bounce 15/15ms

Contact ratings 1)
Type Load Cycles

Factory
AgCdO, 1W coil
NO 30A, 240VAC, general purpose 100x10³
NO 25A, 240VAC, resistive 6x10³
CO 20A/10A, 240VAC, general purpose 100x10³
CO 20A/10A, 240VAC, resistive 100x10³
CO 20A/10A, 28VDC, resistive 100x10³

UL 508/873
AgCdO, 1W coil
NO 30A, 240VAC, general purpose 100x10³
NC 15A, 240VAC, general purpose 100x10³
CO 20A/10A, 240VAC, general purpose 100x10³
NO 25A, 240VAC, resistive 6x10³
NC 20A, 240VAC, resistive 6x10³
CO 16.75A/13.4A, 240VAC, resistive 6x10³
NO 80LRA/30FLA, 240VAC 30x10³
NC 30LRA/16FLA, 240VAC 30x10³
CO 53.6LRA/20FLA / 20LRA/8FLA, 240VAC 30x10³
CO 98LRA/22FLA, 120VAC 100x10³
NO 2HP , 240VAC 1x10³
NC 1/2HP , 240VAC 1x10³
NO 1HP, 125VAC 1x10³
NC 1/4HP, 125VAC 1x10³
NO 10A, 277VAC, ballast 6x10³
NC 3A, 277VAC, ballast 6x10³
NO 3.3A, 120VAC, tungsten 6x10³
NC 5.5A, 277VAC, tungsten 6x10³
NO 470VA, 120VAC, pilot duty 30x10³
NC 20A, 28VDC, resistive 100x10³
NC 10A, 28VDC, resistive 100x10³

AgCdO - Enhanced Version Only, 1W coil
NO 21A, 250VAC, resistive 250x10³
NO 25A, 277VAC, resistive 100x10³

1) Contact ratings at 25°C (unless otherwise noted) with relay properly vented. Remove vent nib after soldering and cleaning.

Coil Data
Coil voltage range 5 to 110VDC
Max. coil power 110% of nominal
Max. coil temperature 155°C
Coil insulation system according UL Class F

Coil versions, DC coil

Type Voltage Code Rated voltage Rated voltage Rated voltage Rated coil Rated coil power
VDC VDC VDC resistance resistance W

UL 508/873
AgSnO1.0, 1W coil
NO 30A, 240VAC, general purpose 100x10³
NO 80LRA/30FLA, 240VAC 30x10³
NC 10A, 250VAC, resistive 50x10³
AgCdO, 900mW coil
NO 30A, 240VAC, general purpose 100x10³
NC 10A, 240VAC, resistive, 105°C 100x10³
NC 15A, 240VAC, resistive 6x10³
NO 30LRA/16FLA, 240VAC 100x10³
NO 50LRA/16FLA, 120VAC 100x10³
NO 30LRA/11FLA, 120VAC 200x10³

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

Mechanical endurance 10x10⁶ ops.

Contact ratings (continued)
Type Load Cycles

UL 508/873
AgSnO1.0, 1W coil
NO 30A, 240VAC, general purpose 100x10³
NO 18A, 240VAC, resistive, 105°C 100x10³
NC 15A, 240VAC, resistive 6x10³
NO 30LRA/11FLA, 240VAC 100x10³
NO 50LRA/16FLA, 120VAC 100x10³
NO 30LRA/11FLA, 120VAC 200x10³

1) Contact ratings at 25°C (unless otherwise noted) with relay properly vented. Remove vent nib after soldering and cleaning.

Datasheets and product data is subject to the terms of the disclaimer and all chapters of the ‘Definitions’ section, available at http://relays.te.com/definitions
Coil Data (continued)

Ambient temperature vs. coil voltage – 1W coil

Data below are average values and should be verified in application. Tests were conducted within a 2' (6 m) cube (still air); at nominal coil power @ 25°C; with normally open contact loaded; and with 4' (1.22 m) long, #10 AWG load wires. P.C. board relays were mounted to a 30A, single side P.C. board. Coil rise test conducted with a 30A PC board to maintain 20°C max. rise at 30°C. The relay connections and wiring must be designed with an adequate cross section to ensure proper current flow and heat dissipation.

Insulation Data

Initial dielectric strength between open contacts 1500Vrms
between contact and coil  2500Vrms

Initial surge withstand voltage between contact and coil  6kV

Initial insulation resistance between insulated elements 1x10⁹Ω

Clearance/creepage between contact and coil  3.18mm clearance/6.3638mm

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
DC coil  -55°C to 85°C
105°C models available

Category of environmental protection
IEC 61810 RT0 - open, RTI - dust protected, RTII - flux proof, RTIII - wash tight

Vibration resistance (functional) 1.65mm max excursions, 10-55 Hz
Shock resistance (functional) 10g for 11msec
Shock resistance (destructive) 100g

Terminal type  pcb-tht and pcb-tht + quick connect
Weight 26g  mounting code 1
33g mounting codes 2 and 5

Resistance to soldering heat  THT
IEC 60068-2-20  250°C

Packaging/unit  tray/50 pcs., bundle/250 pcs., box/500 pcs.

Dimensions

T9AS – Mounting and termination code 2

T9AP – Mounting and termination code 5

Note: Recommended mounting screw torque is 4.0-5.0 lbs.in when #6 screw is used.
General Purpose Relays
Power Relays
Potter & Brumfield

T9A Series, DC Coil 30A PCB or Panel Mount Relay (Continued)

Dimensions

Plain case

Bracket mount case

Terminal assignment
Bottom view on pins

1 Form A

1 Form B

1 Form C

PCB layout
Bottom view on pins

T9AP/S - Mounting and termination code 2

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

T9AS/V - Mounting and termination code 1

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

Product code structure

Typical product code

<table>
<thead>
<tr>
<th>Type</th>
<th>Enclosure</th>
<th>Contact arrangement</th>
<th>DC Input</th>
<th>Mounting and termination</th>
<th>Contact material</th>
<th>DC voltage</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>T9A</td>
<td>N</td>
<td>1 form A (1 NO)</td>
<td>1W</td>
<td>1 PCB mounting; PCB terminals for coil and contacts (only available with enclosure code N, S or V)</td>
<td>AgCdO</td>
<td>12</td>
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<td></td>
<td>P</td>
<td>1 form B (1 NC)</td>
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<td>2 PCB mounting; PCB term. for coil and contacts; 6.35mm (.250in) QC for contacts (only available with enclosure code S or V)</td>
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<td>S</td>
<td>1 form C (1 CO)</td>
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<td>5 Flanged mounting; 4.75mm (.187) QC for coil; 6.35mm (.250in) QC for contacts (only available with enclosure code P)</td>
<td>AgCdO (Enhanced version)</td>
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### T9A Series, DC Coil 30A PCB or Panel Mount Relay

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Enclosure</th>
<th>Contacts</th>
<th>Coil</th>
<th>Contact Material</th>
<th>Part Number</th>
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<tr>
<td>T9AN1L22-24</td>
<td>Open (no cover)</td>
<td>1 form A, 1 NO</td>
<td>900mW</td>
<td>pcb + QC</td>
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<td>1 form C, 1 CO</td>
<td>1 W</td>
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<td>T9AP1D52-24</td>
<td>1 form C, 1 CO</td>
<td>18VDC</td>
<td>5-1419102-9</td>
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