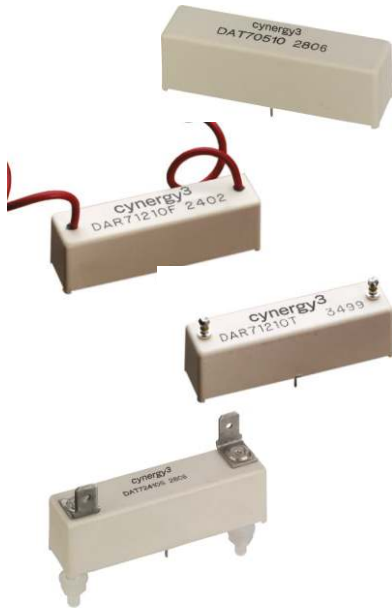


D Series

High Voltage relays 10kV & 15kV



Very high isolation voltages, up to 15kV, are achieved through the use of high vacuum reed switches with either rhodium or tungsten contacts and make these relays suitable for high reliability applications, such as cardiac defibrillators, test equipment and high voltage power supplies.

The rhodium contact relays have low contact resistance, while the tungsten contact relays can switch higher voltages.

PCB or panel mount, via nylon studs, versions are available.

Connection options, for the HV, include PCB, solder turret (wire wrap), flying lead and 0.25" spade terminals.

- 10kV or 15kV Isolation
- Low contact resistance
- PCB or panel mount
- HV connections via flying leads, solder turret (wire wrap), or 1/4" spade terminals
- Excellent AC characteristics

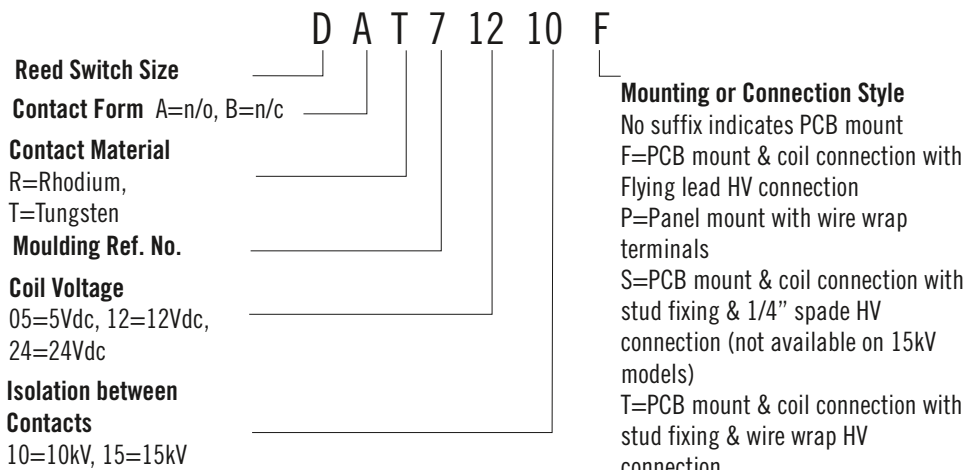
| Contact Specification | Unit | Condition | 10kV SPNO | | | 10kV SPNC | | | 15kV SPNO | | |
|-----------------------------|------|-------------------------|--------------------------------------|-----------------|-----|--------------------------------------|-----------------|-----|-----------|--------------------------------------|-----|
| Contact Material | | | Rhodium | Tungsten | | Rhodium | Tungsten | | | Tungsten | |
| Isolation across contacts | kV | DC or AC peak | 10 | 10 | | 10 | 10 | | | 15 | |
| Switching Power Max. | W | | 50 | 50 | | 50 | 50 | | | 50 | |
| Switching Voltage Max. | V | DC or AC peak | 1000 | 7000 | | 1000 | 7000 | | | 10000 | |
| Switching Current Max. | A | DC or AC peak | 3 | 2 | | 3 | 2 | | | 2 | |
| Carry Current Max. | A | DC or AC peak | 4 | 3 | | 4 | 3 | | | 2 | |
| Capacitance across contacts | pF | coil to screen grounded | <0.2 | <0.2 | | <0.2 | <0.2 | | | <0.2 | |
| Lifetime operations | | dry switching | 10 ⁹ | 10 ⁹ | | 10 ⁹ | 10 ⁹ | | | 10 ⁹ | |
| | | 50W switching | 10 ⁶ | 10 ⁶ | | 10 ⁶ | 10 ⁶ | | | 10 ⁶ | |
| Contact Resistance | mΩ | max (typical) | 50 (15) | 250(100) | | 50 (15) | 250(100) | | | 250 (100) | |
| Insulation Resistance | Ωmin | (typical) | 10 ¹⁰ (10 ¹³) | | | 10 ¹⁰ (10 ¹³) | | | | 10 ¹⁰ (10 ¹³) | |
| Coil Specification | | | 5V | 12V | 24V | 5V | 12V | 24V | 5V | 12V | 24V |
| Must Operate Voltage | V | DC | 3.7 | 9 | 20 | 3.7 | 9 | 20 | 3.7 | 9 | 20 |
| Must Release Voltage | V | DC | 0.5 | 1.25 | 4 | 0.5 | 1.25 | 4 | 0.5 | 1.25 | 4 |
| Operate Time | ms | diode fitted | 3.0 | 3.0 | 3.0 | 2.0 | 2.0 | 2.0 | 3.0 | 3.0 | 3.0 |
| Release Time | ms | diode fitted | 2.0 | 2.0 | 2.0 | 3.0 | 3.0 | 3.0 | 2.0 | 2.0 | 2.0 |
| Resistance | Ω | | 28 | 150 | 780 | 38 | 240 | 925 | 16 | 95 | 350 |

Note: The operate / release voltage and coil resistance will change at a rate of 0.4% per degree C. Values are stated at room temperature (20 degrees C)

| Relay Specification | | | 10kV SPNO | | | 10kV SPNC | | | 15kV SPNO | | |
|--|------|---------------|--------------------------------------|--|--|--------------------------------------|--|--|--------------------------------------|--|--|
| Isolation contact/coil | kV | DC or AC peak | 17 | | | 17 | | | 17 | | |
| Insulation resistance contact to all terminals | Ωmin | (typical) | 10 ¹⁰ (10 ¹³) | | | 10 ¹⁰ (10 ¹³) | | | 10 ¹⁰ (10 ¹³) | | |
| Environmental Operating Temp range | °C | | -20 to +70 | | | -20 to +70 | | | -20 to +70 | | |

Please refer to this document for circuit design notes:-
<http://www.cynergy3.com/blog/application-notes-reed-relays-0>

Part Numbering System



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 Telephone: +44 (0)1202 897969 Email: c3w_sales@sensata.com

ISO9001 CERTIFIED

cynergy3-d-pm-v2



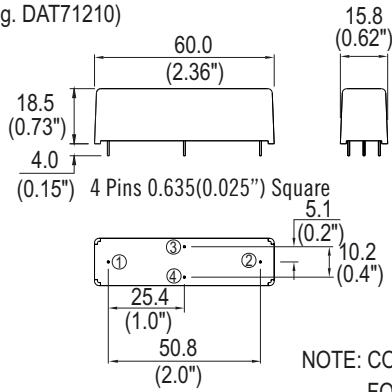
Made in the UK

www.cynergy3.com

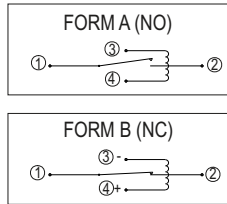
MECHANICAL

STANDARD

(e.g. DAT71210)



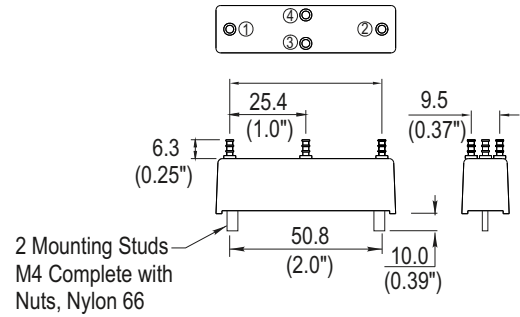
CIRCUIT DIAGRAMS (ALL VARIANTS)



NOTE: COIL POLARITY IS IMPORTANT FOR FORM B VARIANT ONLY.

PANEL MOUNT

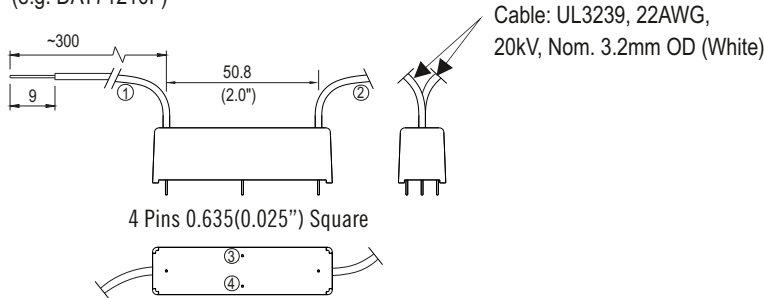
(e.g. DAT71210P)



2 Mounting Studs
M4 Complete with
Nuts, Nylon 66

FLYING LEAD

(e.g. DAT71210F)

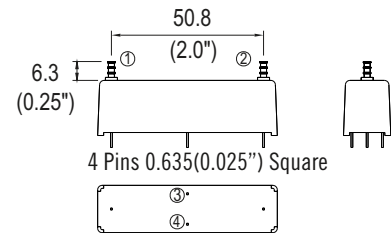


Cable: UL3239, 22AWG,
20kV, Nom. 3.2mm OD (White)

NOTE: PINS WHICH ARE NOT NUMBERED
HAVE NO ELECTRICAL CONNECTION.

TURRET (Wire Wrap)

(e.g. DAT71210T)

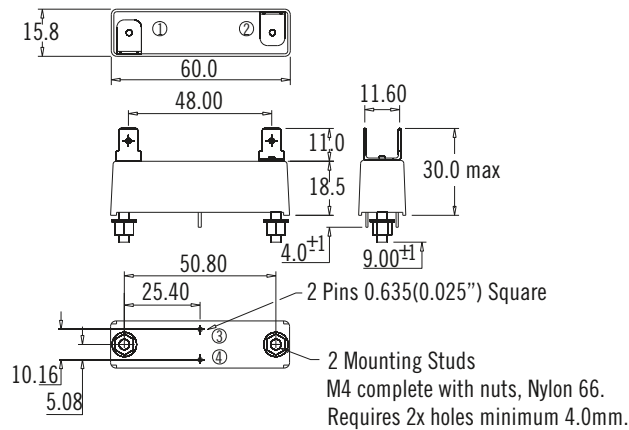


NOTE: PINS WHICH ARE NOT NUMBERED
HAVE NO ELECTRICAL CONNECTION.

SPADE TYPE

(e.g. DAT71210S)

'S' Suffix denotes the 0.250" 'Push On'
blade connectors, M4 fixing bolts and Epoxy potting.



2 Mounting Studs
M4 complete with nuts, Nylon 66.
Requires 2x holes minimum 4.0mm.

Please refer to this document for circuit design notes:-
<http://www.cynergy3.com/blog/application-notes-reed-relays-0>