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.

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 pF | coil to screen | <0.2 | <0.2 | <0.2 | <0.2 | <0.2
contacts grounded | | | | | |
Lifetime operation dry switching 10^6 | 10^6 | 10^6 | 10^6 | 10^6
50W switching 10^6 | 10^6 | 10^6 | 10^6 | 10^6
Contact Resistance mΩ max (typical) | | 50 | 50 | 250 | 250
Insulation Resistance kΩmin (typical) | | 10^10 | 10^10 | 10^10 | 10^10
Coil Specification | V | 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 | 28 | 150 | 780 | 28 | 150 | 780
Relay Specification | | | | | | | | | | |
Isolation contact/coil kV | | | 17 | 17 | 17
Insulation resistance contact to all terminals mΩmin (typical) | | 10^10 | 10^10 | 10^10
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

Reed Switch Size
Contact Form A=n/o, B=n/c
Contact Material R=Rhodium, T=Tungsten
Moulding Ref. No.
Coil Voltage 05=5Vdc, 12=12Vdc, 24=24Vdc
Isolation between Contacts 10=10kV, 15=15kV

Mounting or Connection Style
No suffix indicates PCB mount
F=PCB mount & coil connection with flying lead HV connection
P=Panel mount with wire wrap terminals
S=PCB mount & coil connection with stud fixing & 1/4” spade HV connection (not available on 15kV models)
T=PCB mount & coil connection with stud fixing & wire wrap HV connection

www.cynergy3.com
MECHANICAL

STANDARD
(e.g. DAT71210)

<table>
<thead>
<tr>
<th>Pin</th>
<th>Width</th>
<th>Diameter</th>
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<tbody>
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<td>(2.36&quot;)</td>
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<tr>
<td>2</td>
<td>18.5</td>
<td>(0.73&quot;)</td>
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<tr>
<td>3</td>
<td>4.0</td>
<td>(0.15&quot;)</td>
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4 Pins 0.635(0.025") Square

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

CIRCUIT DIAGRAMS
(ALL VARIANTS)

FORM A (NO)

FORM B (NC)

PANEL MOUNT
(e.g. DAT71210P)

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<tbody>
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<tr>
<td>2</td>
<td>25.4</td>
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<td>(0.4&quot;)</td>
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<td>(0.08&quot;)</td>
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2 Mounting Studs M4 Complete with Nuts, Nylon 66

FLYING LEAD
(e.g. DAT71210F)

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<td>(2.0&quot;)</td>
</tr>
<tr>
<td>2</td>
<td>25.4</td>
<td>(1.0&quot;)</td>
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<tr>
<td>3</td>
<td>10.2</td>
<td>(0.4&quot;)</td>
</tr>
<tr>
<td>4</td>
<td>2.0</td>
<td>(0.08&quot;)</td>
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</table>

4 Pins 0.635(0.025") Square

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

TURRET (Wire Wrap)
(e.g. DAT71210T)

<table>
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<th>Diameter</th>
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<tbody>
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<tr>
<td>2</td>
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<tr>
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<td>(0.08&quot;)</td>
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<tr>
<td>4</td>
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<td>(0.08&quot;)</td>
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4 Pins 0.635(0.025") Square

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

SPADE TYPE
(e.g. DAT71210S)

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<tr>
<td>4</td>
<td>30.0</td>
<td>max</td>
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</table>

2 Pins 0.635(0.025") Square

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

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ISO9001 CERTIFIED

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