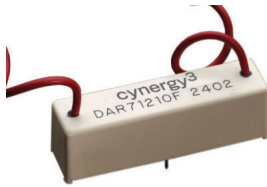




# D-HR Series

## High Insulation Resistance, High Voltage Relays -10kV & 15kV



- 10kV or 15kV Isolation
- Low Contact Resistance
- $1 \times 10^{14}$  Ohms Minimum Insulation Resistance
- PCB or Flying Leads Connections
- Ideal for sensitive test and measurement circuits which require low leakage current losses

Very high isolation voltages - up to 15kV - are achieved through the use of high vacuum reed switches with either rhodium or tungsten contacts which 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.

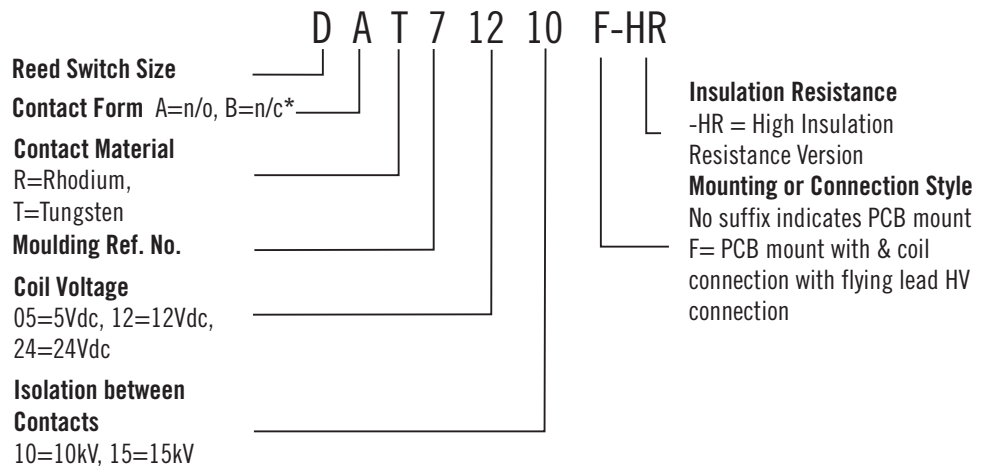
| Contact Specification       |            | Unit                           | Condition | 10kV SPNO          |                  | 10kV SPNC          |                  | 15kV SPNO*         |  |
|-----------------------------|------------|--------------------------------|-----------|--------------------|------------------|--------------------|------------------|--------------------|--|
| 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<br>50W switching |           | $10^9$<br>$10^6$   | $10^9$<br>$10^6$ | $10^9$<br>$10^6$   | $10^9$<br>$10^6$ | $10^9$<br>$10^6$   |  |
| Contact Resistance          | mΩ         | max (typical)                  |           | 50 (15)            | 250(100)         | 50 (15)            | 250(100)         | 250 (100)          |  |
| Insulation Resistance       | Ωmin       |                                |           | $1 \times 10^{14}$ |                  | $1 \times 10^{14}$ |                  | $1 \times 10^{14}$ |  |

| Coil Specification   |    |              | 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 |

| Relay Specification                            |                |  | 5V                 |  |  | 12V                |  |  | 24V                |  |  |
|--|----------------|--|--------------------|--|--|--------------------|--|--|--------------------|--|--|
| Isolation contact/coil                         | kV             |  | 17                 |  |  | 17                 |  |  | 17                 |  |  |
| Insulation resistance contact to all terminals | Ωmin (typical) |  | $1 \times 10^{14}$ |  |  | $1 \times 10^{14}$ |  |  | $1 \times 10^{14}$ |  |  |
| 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



Cynergy3 Components Ltd.  
 7 Cobham Road  
 Ferndown Industrial Estate  
 Wimborne, Dorset BH21 7PE  
 Telephone +44 (0) 1202 897969

Email:sales@cynergy3.com

ISO9001 CERTIFIED

D-HR 2016

© 2016 Cynergy3 Components, All Rights Reserved. Specifications are subject to change without prior notice. Cynergy3 Components and the Cynergy3 Components logo are trademarks of Cynergy3 Components Limited.

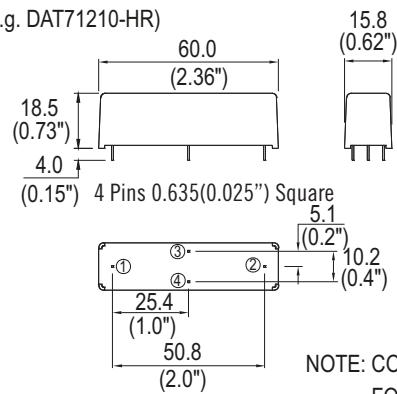
\* Form B (n/c) is not available on 15kV models

www.cynergy3.com

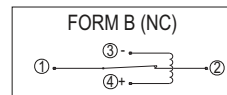
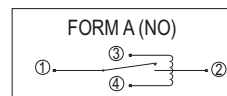
**MECHANICAL**

**STANDARD**

(e.g. DAT71210-HR)



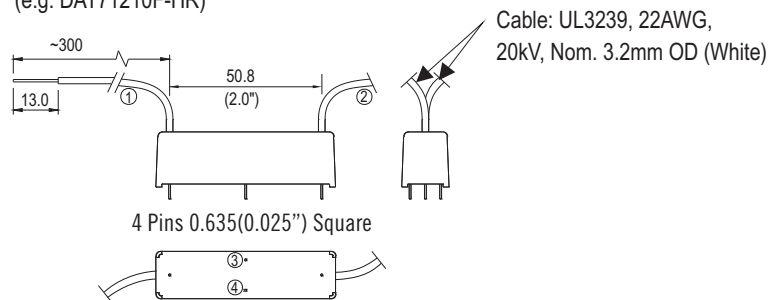
**CIRCUIT DIAGRAMS  
(ALL VARIANTS)**



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

**FLYING LEAD**

(e.g. DAT71210F-HR)



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

Cynergy3 Components Ltd.  
7 Cobham Road  
Ferndown Industrial Estate  
Wimborne, Dorset BH21 7PE  
Telephone +44 (0) 1202 897969

Email:sales@cynergy3.com

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

ISO9001 CERTIFIED

www.cynergy3.com

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [Reed Relays](#) category:*

*Click to view products by [Cynergy3](#) manufacturer:*

Other Similar products are found below :

[CUPE001A624](#) [CUPE004A605](#) [8000-0217](#) [922A06C4C](#) [PRMA1A24B](#) [HGS1021](#) [HGS1048](#) [HGZM1C24](#) [HGZM2C05](#) [HGZM2C12](#)  
[HGZM2C48](#) [134MPCX-3](#) [MSS62A05](#) [MSS71A05](#) [MSS71A05B](#) [MSS71A12](#) [MSS71A12B](#) [MSS71A24](#) [HYR2001-1520](#) [9000-0153](#) [2600-0308](#) [2653-12-310](#) [2610-12-310](#) [2611-05-310](#) [PRMA1B05B](#) [2653-05-310](#) [HGP1005](#) [HGS1019](#) [HGS2M5114](#) [HGZM1C05](#) [HGZM1C12](#)  
[HGZM1C48](#) [3-1393771-5](#) [3432-12-91](#) [CUPV50020](#) [HYR2031-1520](#) [V23100V4305C11](#) [W107DIP-43](#) [W193RE1C3-12G](#) [W193RE2A3-12G](#)  
[W193RE2C3-24G](#) [W193RE3A3-24G](#) [W193RE3C3-24G](#) [W193RE4C3-12G](#) [5000-0242](#) [W193RE4C3-24G](#) [W193RE4A3-24G](#) [W193RE4A3-12G](#) [W193RE2C3-12G](#) [W193RE2A3-24G](#)