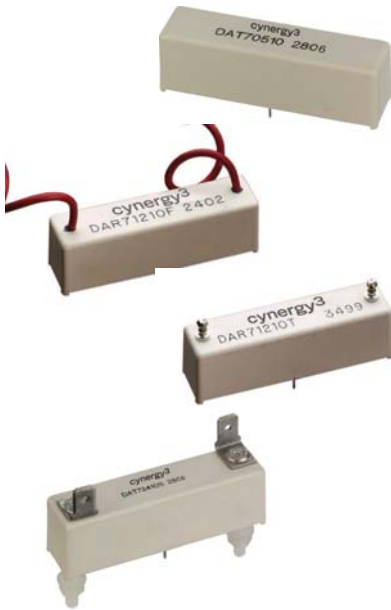


# D Series

## 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.

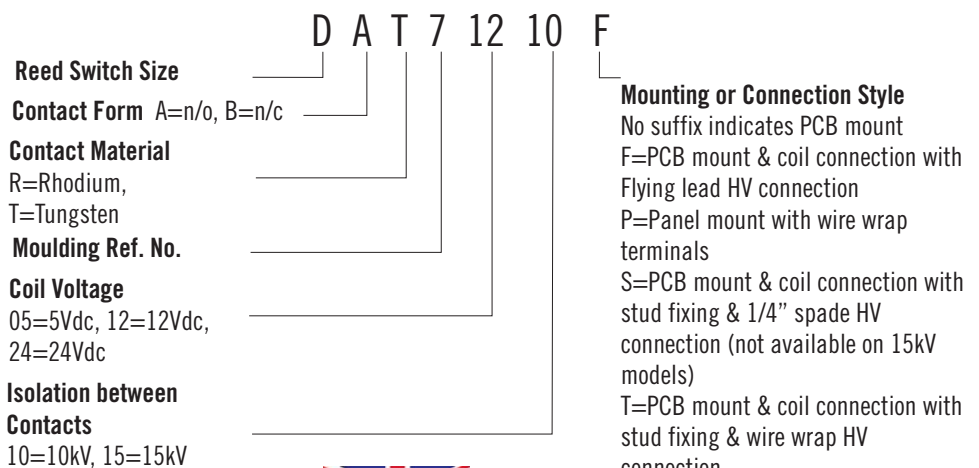
Connection options, for the HV, include PCB, solder turret(wire wrap), flying lead and 0.25" spade terminals.

- 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	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 <sup>9</sup>	10 <sup>9</sup>	10 <sup>9</sup>	10 <sup>9</sup>		10 <sup>9</sup>			
	50W switching		10 <sup>6</sup>	10 <sup>6</sup>	10 <sup>6</sup>	10 <sup>6</sup>		10 <sup>6</sup>			
Contact Resistance	mΩ max (typical)		50 (15)	250(100)	50 (15)	250(100)		250 (100)			
Insulation Resistance	Ωmin (typical)		10 <sup>10</sup> (10 <sup>13</sup> )		10 <sup>10</sup> (10 <sup>13</sup> )			10 <sup>10</sup> (10 <sup>13</sup> )			
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
<small>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)</small>											
Relay Specification											
Isolation contact/coil	kV		17			17			17		
Insulation resistance contact to all terminals	Ωmin (typical)		10 <sup>10</sup> (10 <sup>13</sup> )			10 <sup>10</sup> (10 <sup>13</sup> )			10 <sup>10</sup> (10 <sup>13</sup> )		
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

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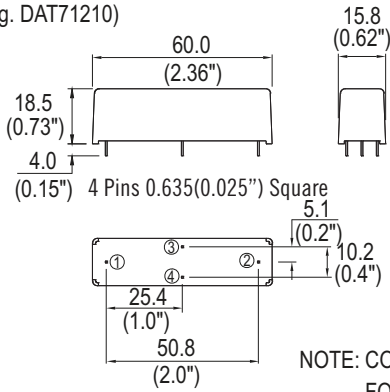
www.cynergy3.com



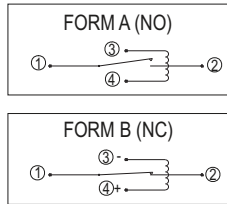
## MECHANICAL

### STANDARD

(e.g. DAT71210)



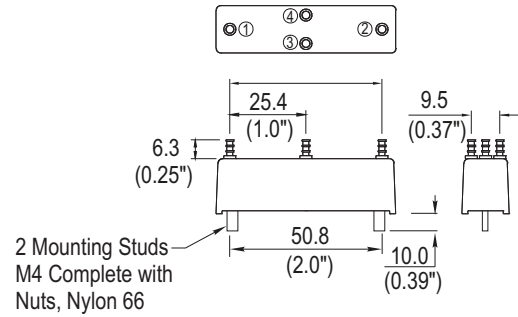
### CIRCUIT DIAGRAMS (ALL VARIANTS)



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

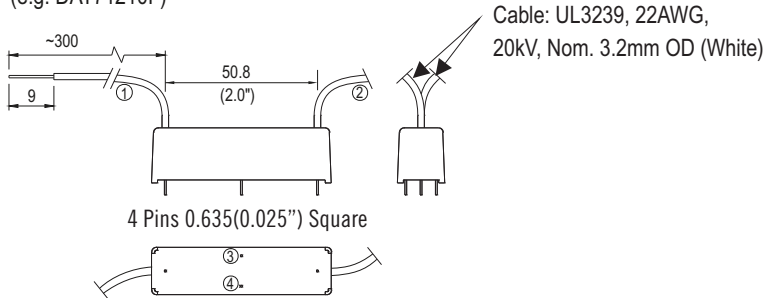
### PANEL MOUNT

(e.g. DAT71210P)



### FLYING LEAD

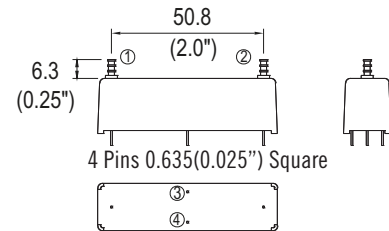
(e.g. DAT71210F)



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

### TURRET (Wire Wrap)

(e.g. DAT71210T)

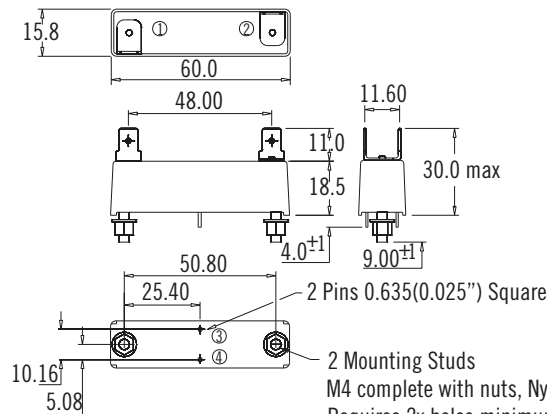


NOTE: PINS WHICH ARE NOT NUMBERED HAVE NO ELECTRICAL CONNECTION.

### SPADE TYPE

(e.g. DAT71210S)

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



Cynergy3 Components Ltd.  
7 Cobham Road  
Ferndown Industrial Estate  
Wimborne, Dorset BH21 7PE  
Telephone +44 (0) 1202 897969  
Email: sales@cynergy3.com

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

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