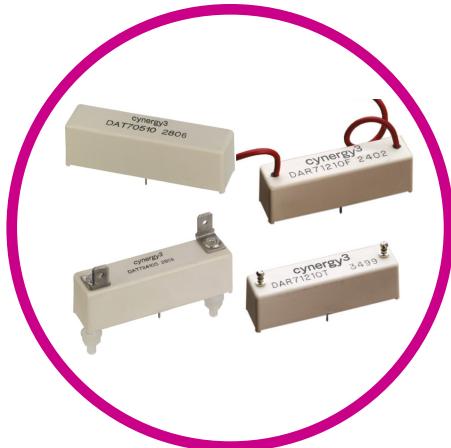




## D SERIES

### 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.

#### Features

- 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

## SPECIFICATIONS

Contact	Units	Condition	10kV SPNO		10kV SPNC		15kV SPNO
<b>Contact Material</b>			Rhodium	Tungsten	Rhodium	Tungsten	Tungsten
<b>Isolation Across Contacts</b>	kV	DC or AC peak	10	10	10	10	15
<b>Switching Power Max.</b>	W		50	50	50	50	50
<b>Switching Voltage Max.</b>	V	DC or AC peak	1000	7000	1000	7000	10000
<b>Switching Current Max.</b>	A	DC or AC peak	3	2	3	2	2
<b>Carry Current Max</b>	A	DC or AC peak	4	3	4	3	2
<b>Capacitance Across Contacts</b>	pF	coil to screen grounded	<0.2	<0.2	<0.2	<0.2	<0.2
<b>Lifetime</b>	operations	dry switching	$10^9$	$10^9$	$10^9$	$10^9$	$10^9$
		50W switching	$10^6$	$10^6$	$10^6$	$10^6$	$10^6$
<b>Contact Resistance</b>	$\text{m}\Omega$	max (typical)	50 (15)	250 (100)	50 (15)	250 (100)	250 (100)
<b>Insulation Resistance</b>	$\Omega$	min (typical)	$10^{10}(10^{13})$		$10^{10}(10^{13})$		$10^{10}(10^{13})$

	Units	Condition	10kV SPNO			10kV SPNC			15kV SPNO		
Coil			5V	12V	24V	5V	12V	24V	5V	12V	24V
<b>Must Operate Voltage</b>	V	DC	3.7	9	20	3.7	9	20	3.7	9	20
<b>Must Release Voltage</b>	V	DC	0.5	1.25	4	0.5	1.25	4	0.5	1.25	4
<b>Operate Time</b>	ms	diode fitted	3.0	3.0	3.0	2.0	2.0	2.0	3.0	3.0	3.0
<b>Release Time</b>	ms	diode fitted	2.0	2.0	2.0	3.0	3.0	3.0	2.0	2.0	2.0
<b>Resistance</b>	$\Omega$		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							
<b>Isolation Contact/Coil</b>	kV	DC or AC peak		17		17	17
<b>Insulation Resistance Contact to all Terminals</b>	$\Omega$	min (typical)		$10^{10}(10^{13})$		$10^{10}(10^{13})$	$10^{10}(10^{13})$
<b>Environmental Conditions</b>							
<b>Operating Temp Range</b>	$^{\circ}\text{C}$			-20 to +70		-20 to +70	-20 to +70

Please refer to this document for circuit design notes:

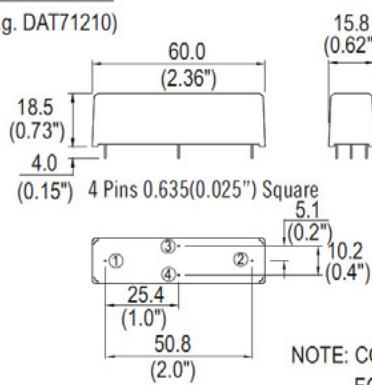
<https://www.cynergy3.com/blog/reed-relay-application-notes>

## DIMENSIONS

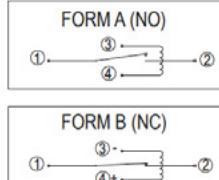
All dimensions are in millimeters.

### STANDARD

(e.g. DAT71210)



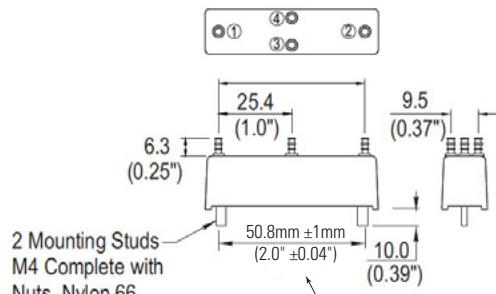
### CIRCUIT DIAGRAMS (ALL VARIANTS)



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

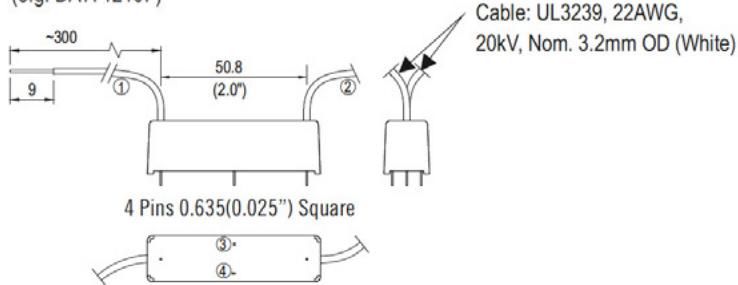
### PANEL MOUNT

(e.g. DAT71210P)



### FLYING LEAD

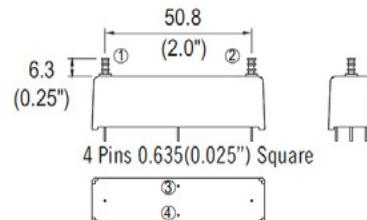
(e.g. DAT71210F)



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

### TURRET (Wire Wrap)

(e.g. DAT71210T)

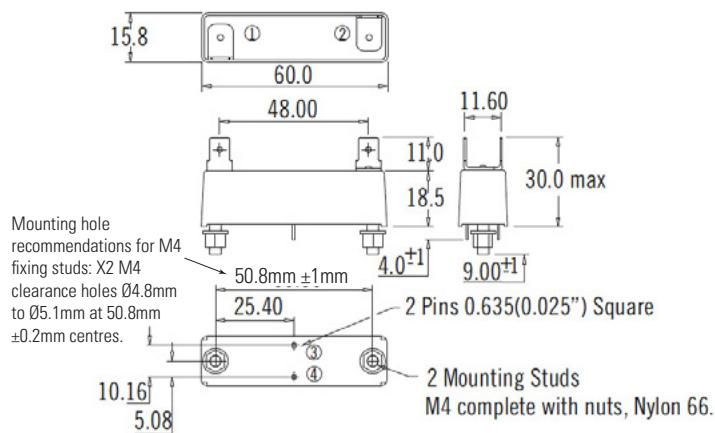


NOTE: PINS WHICH ARE NOT NUMBERED HAVE NO ELECTRICAL CONNECTION.

## SPADE TYPE

(e.g. DAT71210S)

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



Please refer to this document for circuit design notes:

<https://www.cynergy3.com/blog/reed-relay-application-notes>



## ORDERING OPTIONS

Example : DAT71210F

	D	A	T	7	12	10	F
<b>Reed Switch Size</b>	<input type="text"/>						
<b>Contact Form</b>	<input type="text"/>						
<b>A</b> = n/o <b>B</b> = n/c							
<b>Contact Material</b>	<input type="text"/>						
<b>R</b> = Rhodium <b>T</b> = Tungsten							
<b>Moulding Ref. No.</b>	<input type="text"/>						
<b>Coil Voltage</b>	<input type="text"/>						
<b>05</b> = 5Vdc <b>12</b> = 12Vdc <b>24</b> = 24Vdc							
<b>Isolation Between Contacts</b>	<input type="text"/>						
<b>10</b> = 10kV <b>15</b> = 15kV							
<b>Mounting or Connection Style</b>	<input type="text"/>						
<b>No suffix indicates PCB mount</b> <b>F</b> = PCB mount & coil connection with Flying lead HV connection <b>P</b> = Panel mount with wire wrap terminals <b>S</b> = PCB mount & coil connection with stud fixing & 1/4" spade HV connection (not available on 15kV models) <b>T</b> = PCB mount & coil connection with stud fixing & wire wrap HV connection							

Made in the UK

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