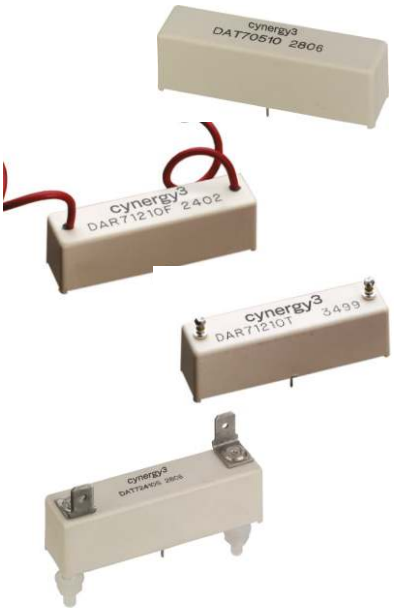
Sensata Technologies

D Series

High Voltage relays 10kV & 15kV



- *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											
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		

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.

[Please refer to this document for circuit design notes:-
http://www.cynergy3.com/blog/application-notes-reed-relays-0](http://www.cynergy3.com/blog/application-notes-reed-relays-0)

Part Numbering System

D A T 7 12 10 F

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

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ISO9001 CERTIFIED

cynergy3-d-pm-v2

Made in the UK

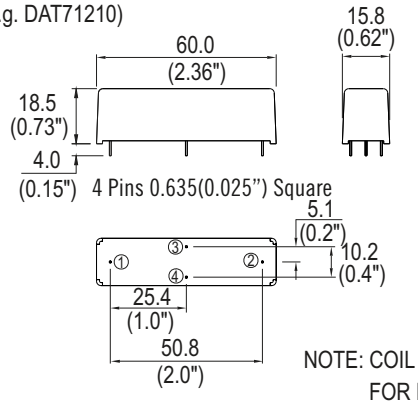
www.cynergy3.com

Sensata Technologies

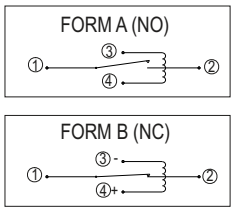
MECHANICAL

STANDARD

(e.g. DAT71210)



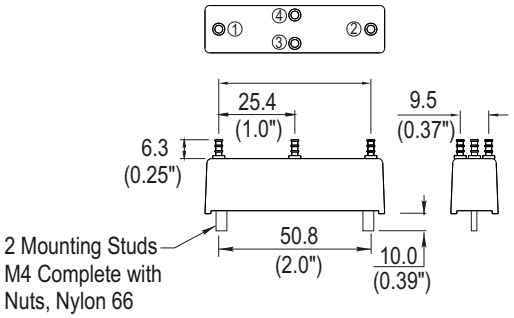
CIRCUIT DIAGRAMS
(ALL VARIANTS)



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

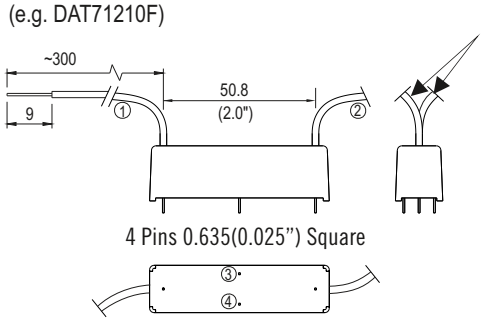
PANEL MOUNT

(e.g. DAT71210P)



FLYING LEAD

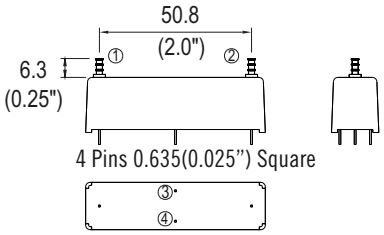
(e.g. DAT71210F)



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

TURRET (Wire Wrap)

(e.g. DAT71210T)

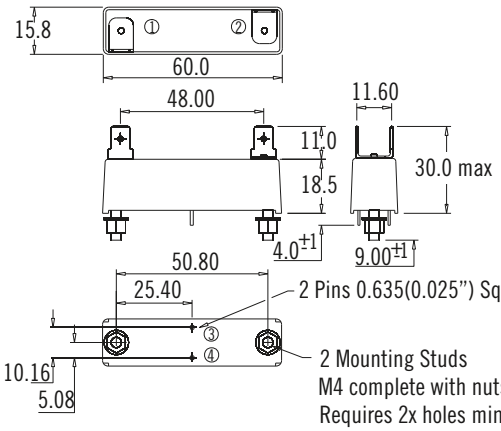


NOTE: PINS WHICH ARE NOT NUMBERED HAVE NO ELECTRICAL CONNECTION.

SPADE TYPE

(e.g. DAT71210S)

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



Please refer to this document for circuit design notes:-
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