



RS stock numbers : 1245102, 1245103, 1245104,
1245111, 1245112, 1245113



DB(UL) Series

UL Approved* Normally Closed, High Voltage Relays - 10kV

- 10kV 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



Recently approved by UL, very high isolation voltages (up to 10kV) are achieved through the use of high vacuum reed switches with Tungsten contacts and make these relays suitable for high reliability applications, such as cardiac defibrillators, test equipment and high voltage power supplies.

The Tungsten contact relays can switch higher voltages, up to 7000Vdc/ac peak to peak

PCB or Panel Mount, via Nylon studs, versions are available, contact Cynergy3 for details

Connection options, for the HV, include PCB, solder turret(wire wrap), flying lead and 0.25" spade terminals. Contact Cynergy3 for details.

Contact Specification	Unit	Condition	10kV SPNC		
Contact Form			N/C (normally closed)		
Contact Material			Tungsten		
Isolation across contacts	kV	DC or AC peak	10		
Switching Power Max.	W		50		
Switching Voltage Max.	V	DC or AC peak	7000		
Switching Current Max.	A	DC or AC peak	2		
Carry Current Max	A	DC or AC peak	3		
Capacitance across contacts	pF	coil to screen grounded	<0.2		
Lifetime operations		dry switching	10 ⁹		
		50W switching	10 ⁶		
Contact Resistance	mΩ	max (typical)	250(100)		
Insulation Resistance	Ωmin	(typical)	(10 ¹⁵)		
Coil Specification			5V	12V	24V
Must Operate Voltage	V	DC	3.7	9	20
Must Release Voltage	V	DC	0.5	1.25	4
Operate Time	ms	diode fitted	2.0	2.0	2.0
Release Time	ms	diode fitted	3.0	3.0	3.0
Resistance	Ω		38	240	925
Relay Specification					
Isolation contact/coil	kV		17		
Insulation resistance contact to all terminals	Ωmin	(typical)	10 ¹⁰ (10 ¹⁵)		
Environmental					
Operating Temp range	°C		-20 to +70		

RS Stock No	Standard Part	Contact Material	Coil Voltage (Vdc)	Mount type
1245102	DBT70510U/RS	Tungsten	5	PCB
1245103	DBT71210U/RS	Tungsten	12	PCB
1245104	DBT72410U/RS	Tungsten	24	PCB
1245111	DBT70510FU/RS	Tungsten	5	PCB with flying lead coil connection
1245112	DBT71210FU/RS	Tungsten	12	PCB with flying lead coil connection
1245113	DBT72410FU/RS	Tungsten	24	PCB with flying lead coil connection

*Consult factory for UL ratings

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

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

ISO9001 CERTIFIED
DB(UL) 2016

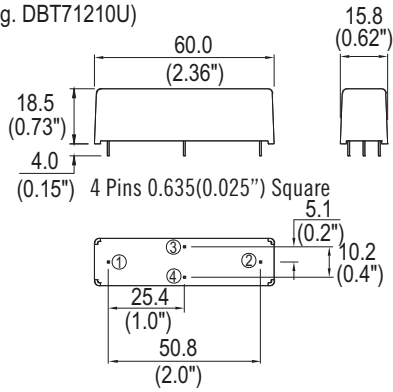


www.cynergy3.com

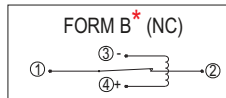
MECHANICAL

STANDARD

(e.g. DBT71210U)



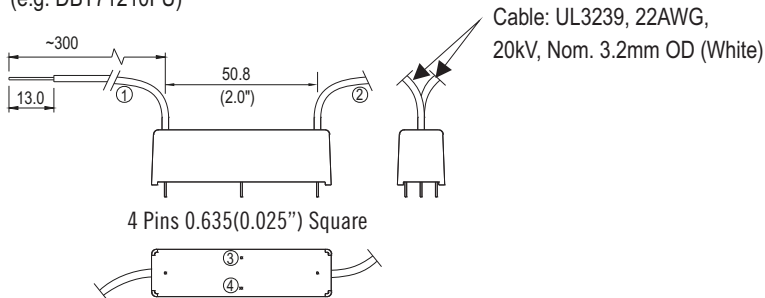
CIRCUIT DIAGRAMS (ALL VARIANTS)



NOTE: COIL POLARITY IS IMPORTANT

FLYING LEAD

(e.g. DBT71210FU)



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