



UNIVERSAL POWER RELAY

DE-Relays

- Small dimensions
- High switching capability (16A)
- High impulse voltage withstand (12kV)
- 8mm air gaps and creepage distances
- Monostable or bistable (Latching)

- Approvals (expected)
 - VDE 0435 General specification for electrical relays
 - VDE 0700 For use in house-hold appliances
 - VDE 0631 For use in temperature sensing appliances
 - VDE 0805 For use in electrical business equipment
 - VDE 0860 For use in entertainment electronics (radio, HiFi-sets)
 - VDE 0160 For use in industrial range
 - UL, CSA



Tentative data sheet

SPECIFICATIONS (CONTACT AND CHARACTERISTICS)									
Type	DE1a	DE2a	DE1a1b	Type	DE1a	DE2a	DE1a1b		
Contact arrangement	a	2a	ab	Surge voltage betw. coil and contact $\pm(1,2 \times 50) \mu\text{V}$	12000				
Contact material	AgSnO ₂			Electrical life ¹⁾ 16A/250VAC, 8A/250VAC operations	25000, 100000				
Initial contact resistance, typ.	m	6		Operate/velease/bounce time (typ.)	ms		5 / 3 / 1		
Max. switching current	A	8 – 16		Ambient temperature	°C		-40 to +70		
Max. switching voltage	V	440		Initial breakdown voltage cont./cont.-coil	V _{rms}		1000 / 5000		
Max. switching power	W (VA)	480 (4000)		Shock and vibration resistance	g, g/Hz		20, 12/55		
Mechanical life	Min. operations	5 · 10 ⁷		Degree of protection	IP67				

¹⁾ Under test, data for resistive load

TYPES AND COIL DATA									
Single side stable, DE1a, DE2a, DE1a1b				1 coil latching, DE1a-L, DE2a-L, DE1a1b-L			2 coil latching, DE1a-L2, DE2a-L2, DE1a1b-L2		
Nominal voltage, VDC	Pick-Up voltage, VDC	Drop-out voltage, VDC	Coil resistance ($\pm 10\%$)	Nominal voltage, VDC	Pick-Up voltage, VDC	Coil resistance ($\pm 10\%$)	Nominal voltage, VDC	Pick-up-voltage, VDC	Coil resistance ($\pm 10\%$)
1.5	1.05	0.15	11.3	1.5	1.05	22.5	1.5	1.05	11.3
3	2.1	0.3	45	3	2.1	90	3	2.1	45
4.5	3.15	0.45	101	4.5	3.15	202	4.5	3.15	101
5	3.5	0.5	125	5	3.5	250	5	3.5	125
6	4.2	0.6	180	6	4.2	360	6	4.2	180
9	6.3	0.9	405	9	6.3	810	9	6.3	405
12	8.4	1.2	720	12	8.4	1440	12	8.4	720
24	16.8	2.4	2880	24	16.8	5760	24	16.8	2880

* 48V type on request

SCHEMATIC (BOTTOM VIEW)									
DE1a	DE2a	DE1a1b	DE1a-L	DE2a-L	DE1a1b-L	DE1a-L2	DE2a-L2	DE1a1b-L2	
Monostable relay, shown de-energised. Switched by application of polarity shown.			Bistable relay with 1 or 2 coils. Contact position shown after or during excitation by indicated polarity. Switched after impulse or permanent excitation of a coil with opposite polarity (or c-circuit*).						

* on request

DIMENSIONS			
single side stable / 1 coil latching		2 coil latching	
"dummy" terminals for 1a-version		"dummy" terminals for 1a-version	

ORDERING INFORMATION		
Ex. DE 1a - L2 - 12V		
Contact arrangement	Operating function	Coil voltage
1a: 1 Form A 1a1b: 1 Form A1 Form B 2a: 2 Form A	Nil: Single side stable L: 1 coil latching L2: 2 coil latching	1.5, 3, 4.5, 5, 6, 9, 12, 24, 48* V
* 48V on request		