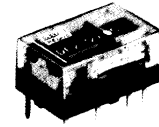


- High contact reliability
- 8cN bifurcated contact force
- Au/Ag bifurcated contact
- 1-2 μ V thermovoltage
- For switching dry loads or power
- Protection class IP67

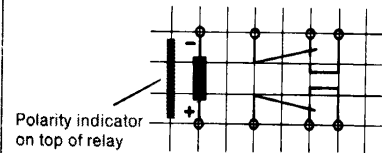


Weight 2.4 g

Data sheet

Characteristics		
Contact arrangement		2CO
Contact material		Gold-clad silver
Volumetric resistance	m Ω	< 50
Max. switching current	A	1
Max. rated current	A	1
Max. switching voltage	V	125
Max. switching power (resistive load)	W/VA	30/30
Nominal operating power	mW	200
Operational life ¹⁾ : mech. (180 ops./min.)	sw. ops.	5 · 10 ⁶
1 A/30 VDC, 0.5 A/30 VAC (20 ops./min.)	sw. ops.	10 ⁵
Breakdown voltage: open contact	V _{rms} ~	500
contact-coil	V _{rms} ~	1000
Pick up-, drop-out time	ms	3/1
Coil temperature rise max. (at nominal voltage)	°C	35
Ambient temperature	°C	-40 ... +70
Shock-, vibration resistance	g, g/Hz	30, 10/55
Insulation resistance (at 500 VDC)	M Ω	> 100
Non MBB operation with the contacts connected in parallel		

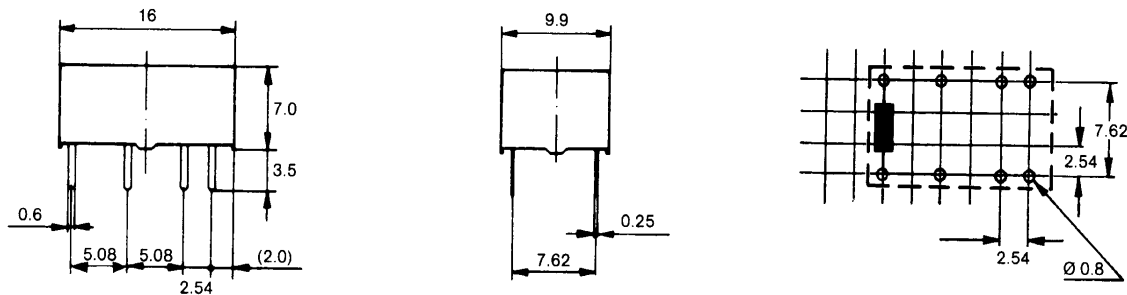
Connection diagram



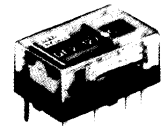
Coil data

Type & rated voltage V	Pick-up voltage at 20°C V	Drop-out voltage at 20°C V	Max. allowable voltage at 70°C V	Resistance \pm 10% at 20°C Ω
DF2-DC 4.5V-H1	2.93	0.45	5.4	101
DF2-DC 9V-H2	5.85	0.9	10.8	405
DF2-DC 12V-H3	7.8	1.2	14.4	720
DF2-DC 20V-H4	13.0	2.0	24.0	2000
DF2-DC 24V-H5	15.6	2.4	28.8	2880

Dimension drawing and pcb hole layout



- High contact reliability
- 8cN bifurcated contact force
- Au/Ag bifurcated contact
- 1-2 μ V thermovoltage
- For switching dry loads or power
- Protection class IP67
- Approvals: UL, CSA



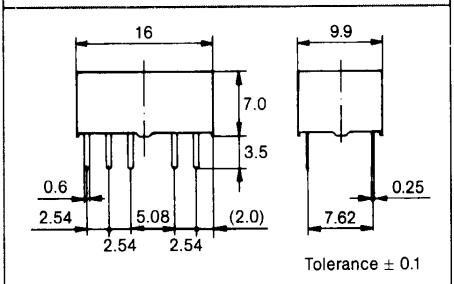
Weight 2.4 g

Data sheet

Characteristics

Contact arrangement	2CO	Capacitance cont./cont.-earth	pF	1.5/2.5
Contact material	Ag/Au plated	Pick up-/drop out-/bounce time	ms	3/2/1
Min. contact force	cN 8	Temperature limits	C	-40/+100
Contact-/volumetric resistance	m Ω 20/50	Shock-/vibration resistance	g.g/Hz	30, 10/55
Max. make-/rated-/break current	A -/1/1	Insulation resistance (at 500 VDC)	Ω	10 ⁸
Max. switched voltage	V-/-V~ 125	Test voltage contact/contact-coil	V _{rms}	500/1000
Max. switched load	W/VA 30/30	Max. switching frequency	Hz	50
Operational life ¹⁾ 1A, 30 VDC	sw. ops. 10 ⁵	Thermal resistance	K/W	123
	mech. monostable sw. ops. 5 x 10 ⁶	Degree of protection		IP 67
	mech. latching sw. ops. 10 ⁶	Approvals		UL, CSA

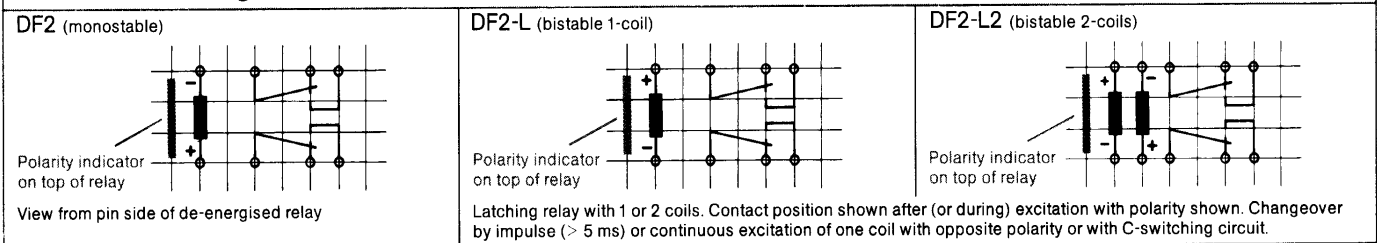
Dimensions



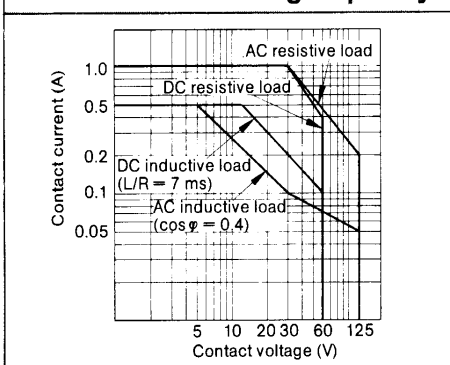
Coil data

Rated voltage V	DF2 monostable				DF2-L bistable 1-coil			DF2-L2 bistable 2-coils		
	Pick-up voltage at 25°C V	Drop-out voltage at 25°C V	Permissible voltage at 40°C V	Coil-resistance $\pm 10\%$ Ω	Pick-up voltage at 25°C V	Permissible voltage at 40°C V	Coil-resistance $\pm 10\%$ Ω	Pick-up voltage at 25°C V	Permissible voltage at 40°C V	Coil-resistance $\pm 10\%$ per coil Ω
1.5	1.05	0.15	2.6	11.25	1.2	3.6	22.5	1.2	2.6	11.25
3	2.1	0.3	5.1	45	2.4	7.2	90	2.4	5.1	45
5	3.5	0.5	8.5	125	4.0	12.0	250	4.0	8.5	125
6	4.2	0.6	10.2	180	4.8	14.4	360	4.8	10.2	180
9	6.3	0.9	15.3	405	7.2	21.6	810	7.2	15.3	405
12	8.4	1.2	20.4	720	9.6	28.8	1440	9.6	20.4	720
24	16.8	2.4	40.7	2880	19.2	57.6	5760	19.2	40.7	2880

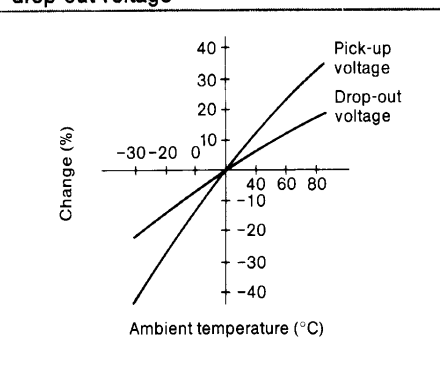
Connection diagram (viewed from wiring side; take note of polarity)



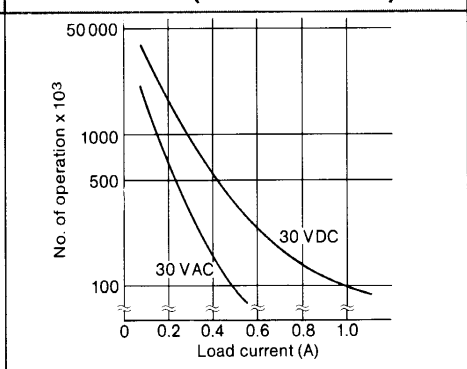
Maximum switching capacity



Temperature dependence of pick-up and drop-out voltage



Life curve ¹⁾ (resistive load)



Ordering example

Type DF2-L - 24V
Coil rated voltage _____

Prices (excl VAT) in £ per piece

	1	50	100	500	1000
DF2- 1.5 ... 24 V					
DF2-L- 1.5 ... 24 V					
DF2-L2- 1.5 ... 24 V					

Excitation voltage ripple should be maintained below 5% by use of appropriate smoothing.
If UL/CSA approved devices are required this must be stated at time of ordering. Refer to SDS for further technical information.
Suitable for most common washing methods except ultrasonic cleaning.
May also be supplied with "AROMAT", "MATSUSHITA" or "NATIONAL" brand names. Refer to SDS for further information.
Strong external magnetic fields influence relay data.
¹⁾ Data concerning operational life is based on resistive loads and ambient temperature of 20-30°C.

All features and specifications have been carefully tested using modern methods and represent the values which

operating features is available on request. We reserve the right to make alterations and changes to specifications

Matsushita Automation Controls Ltd.
Sunrise Parkway, Linford Wood