

- DC power relay with magnetic arc blowout
- Up to 10A 125VDC (DC1) rating
- Flat insert connectors - fast-on 6.35mm
- Optional DIN rail mount or PCB mounting
- >3mm contact gap (DPST-NO type)
- Meets IEC, CEI, VDE, UL and RoHS



### Contacts

Contact arrangement	DPST-NO, DPDT
Contact material	AgNi 90/10
Rated current	16A / 250VAC (AC1); 10A / 125VDC (DC1)
Max. switching voltage	400VAC / 125VDC
Max. breaking capacity	4000VA / 1250W
Initial contact resistance	Max: 50mΩ , typical: 5mΩ
Max. inrush current (30msec)	30A
Min. switched load	1000mW (10V/10mA)
Max. operating frequency	rated load 360 cycles/hour

### Coil

Operating range	AC or DC 6... 230VAC / 6... 110VDC See Tables 1 & 2
Rated power consumption	AC 50Hz: 2.2VA, DC: 1.3W

### Insulation

Coil insulation system	IEC 31, CLASS F 155°C
Insulation resistance	2 x 10 <sup>4</sup> MΩ at 500VDC
Pollution degree/voltage	3 / 250VAC (EN61810-1)
Dielectric strength	coil to contact 3000V <sub>rms</sub>
	open contacts DPDT: 1500V <sub>rms</sub> / DPST-NO: 2500V <sub>rms</sub>
between adjacent contacts sets	2500V <sub>rms</sub>
Impulse withstand voltage	6kV

### General Data

Operate time	max. 10ms (excluding bounce)
Release time	max. 12ms (excluding bounce)
Bounce time	max. 10ms
Electrical life	Resistive AC1 >1x10 <sup>5</sup> / DC1 >1x10 <sup>4</sup>
Mechanical life	cycles > 5 x 10 <sup>6</sup>

### Environmental

Environmental protection	RT1 dust protected (EN61810-1)/IP40 (EN60529)
Ambient temperature	operating -40 to +70°C
	storage -40 to +80°C
Vibration resistance	4g (NO contacts), 1g (NC contacts)
Dimensions	L x W x H 60 (over flanges) x 35.5 x 35.5 (approx) mm
Weight	approx. 75g depending on type

### Ordering Code

DA - M - 2 0 1 2 - 4 6 - 1 0 1 2

#### Series

-M: Magnetic arc blow out

#### Coil code:

see tables 1 & 2 page 2

#### Contact material

20: AgNi 90/10

#### Contact configuration

12: DPDT

22: DPST-NO

#### Mounting & terminations

2: Plain cover - for PCB mounting (i.e. 25)

4: Top & bottom flanges (standard)

H: Side DIN rail bracket

V: Top DIN rail bracket

#### Connection mode

5: PCB Mount

6: 6.35 x 0.8mm 'fast-on' terminal blade

DC Coil Data

Table 1

Coil code	Nominal voltage (VDC)	Must operate voltage max. (VDC @ 23°C)	Max. allowable voltage (VDC)	Must release voltage min. (VDC)	Minimum hold voltage (VDC)*	Coil resistance $\Omega \pm 10\%$ (at 23°C)	Coil Current (mA)
1006	6	4.8	6.6	0.3	3.6	22.5	273
1012	12	9.6	13.2	0.6	7.2	90	133
1024	24	19.2	26.4	1.2	14.4	360	67
1048	48	38.4	52.8	2.4	28.8	1440	33
1110	110	88.0	121.0	5.5	66.0	7900	14

AC Coil Data 50/60Hz

Table 2

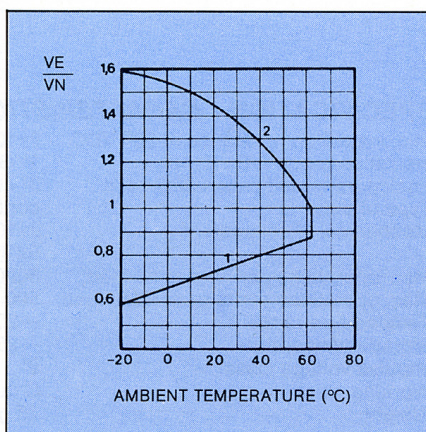
Coil code	Nominal voltage (VAC)	Must operate voltage max. (60Hz VAC @ 23°C)	Max. allowable voltage (VAC)	Must release voltage min. (VAC)	Minimum hold voltage (VAC)*	Coil resistance $\Omega \pm 10\%$ (at 23°C)	Coil Current (mA)
5006	6	5.1	6.6	0.9	4.8	5	400
5012	12	10.2	13.2	1.8	9.6	20	200
5024	24	20.4	26.4	3.6	19.2	80	100
5048	48	40.8	52.8	7.2	38.4	320	50
5110	110	93.5	121.0	16.5	88.0	1800	22
5230	230	195.5	253.0	34.5	184.0	7700	10

\* Minimum Hold Voltage specifies the point at which relays will start to "drop out". They will all have dropped out by the point the Must Release Voltage is reached.

### Electrical Performance

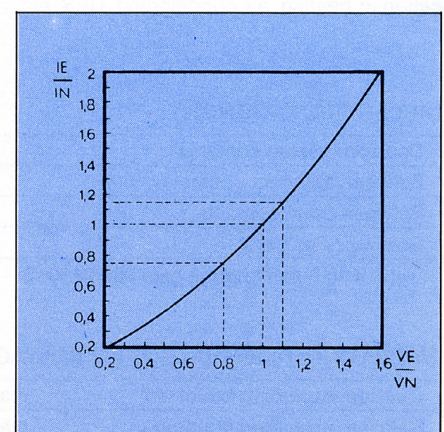
Fig 1

MINIMUM OPERATING VOLTAGE (DC) VERSUS AMBIENT TEMPERATURE



VE - Operating voltage  
VN - Rated voltage

VARIATION OF POWER CONSUMPTION VERSUS OPERATING RANGE (AC - 50 Hz)

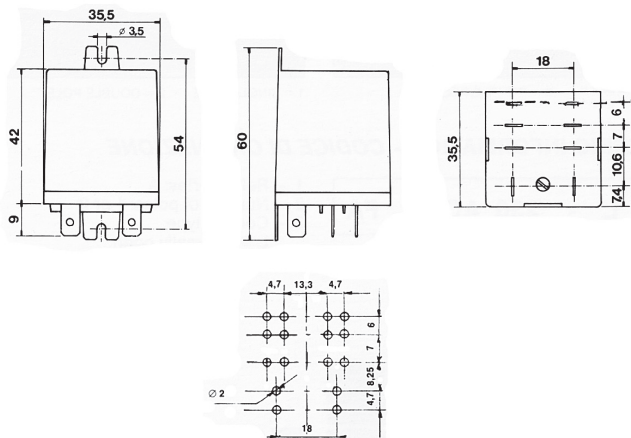


IE - Operating current  
IN - Rated current

VE - Operating voltage  
VN - Rated voltage

### Dimensions

Fig 2



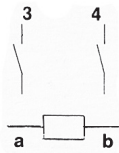
PCB Layout

Dimensions in mm

### Circuit diagrams

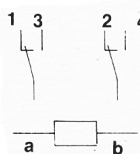
Fig 3

DA-M-2022-\*\*-\*\*\*\*



DPST-NO

DA-M-2012-\*\*-\*\*\*\*



DPDT



Top / Bottom Flange  
(Clear case standard)



PCB Mount



Top DIN Rail Mount



Side DIN Rail Mount

