



- General purpose relays
- Good inrush current resistance
- 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	SPST-NO, DPST-NO, DPDT, SPST-NC, DPST-NC, SPST-NO + SPST-NC
Contact material	AgNi 90/10
Rated current	DA30: 30A / DA20: 20A / DA16: 16A
Rated voltage / Max. switching voltage	250Vac / 400Vac
Max. breaking capacity	DA30: 7500VA / DA20: 5000VA / DA16: 4000VA
Initial contact resistance	Max: 50mΩ , typical: 5mΩ
Max. inrush current (30msec))	DA30: 40A / DA16: 30A
Min. switched load	1000mW (10V/10mA)
Max. operating frequency	no load 3000 cycles/hour
	rated load 500 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	2 x 10 ⁴ MΩ at 500VDC
Dielectric strength	coil to contact DA16: 3000V _{rms} / DA20 & DA30: 4000V _{rms}
	open contacts 1500V _{rms} / 3mm contact gap types: 2500V _{rms}
between adjacent contacts sets	2500V _{rms}
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 >10 ⁵ (see graph Page 2)
Mechanical life	cycles DA30: 2 x 10 ⁶ / DA16 & DA20: 5 x 10 ⁶

Environmental

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. 73g depending on type

Ordering Code

D A 1 6 - 2 0 1 2 - 4 6 - 2 0 1 2 - ****

Series

16: 16A contact rating
20: 20A contact rating
30: 30A contact rating

Contact material

20: AgNi 90/10

Contact configuration

12: DPDT ** :DA16 only
21: SPST-NO :DA30 only
22: DPST-NO * :DA16 only
31: SPST-NC :DA20 only
32: DPST-NC :DA16 only
SPST-NO + SPST-NC :DA20 only

3mm contact gap: * Standard/ ** upon request (custom)

Mounting & terminations (IP40)

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

Coil Code:
See tables
1 & 2 page 2

Reserved for
custom modifications

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

Table 2

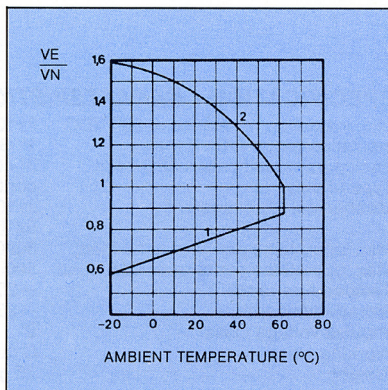
Coil code	Nominal voltage (VAC)	Must operate voltage max. (60Hz VAC @ 23°C)	Max. allowable voltage (VAC)	Must release voltage min. (VAC)	Minimum hold voltage (VAC)*	Coil resistance $\Omega \pm 10\%$ (at 23°C)	Coil Current (mA)
5006	6	5.1	6.6	0.9	4.8	5	400
5012	12	10.2	13.2	1.8	9.6	20	200
5024	24	20.4	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

20* 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.80

Electrical Performance

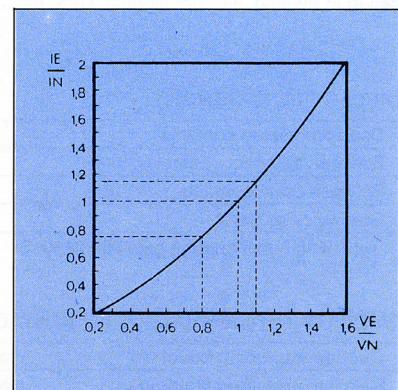
Fig 1

MINIMUM OPERATING VOLTAGE (DC) VERSUS AMBIENT TEMPERATURE



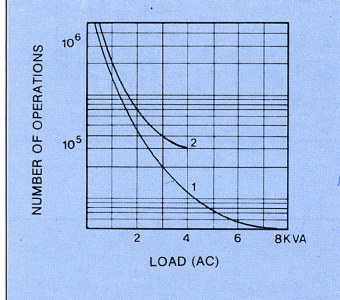
VE - Operating voltage
VN - Rated voltage

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



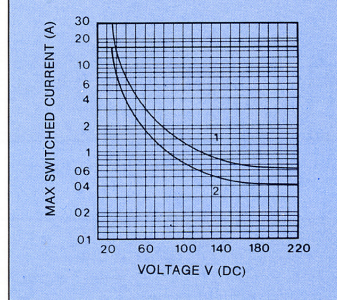
IE - Operating current
IN - Rated current
VE - Operating voltage
VN - Rated voltage

CONTACT LIFE VERSUS AC1 LOAD AT 500 OPERATIONS PER HOUR



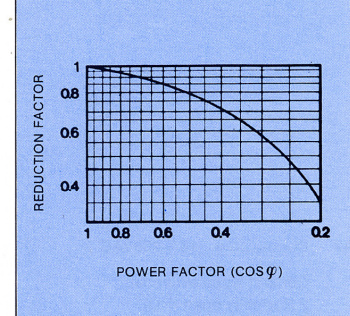
1 = SINGLE POLE 2 = DOUBLE POLE

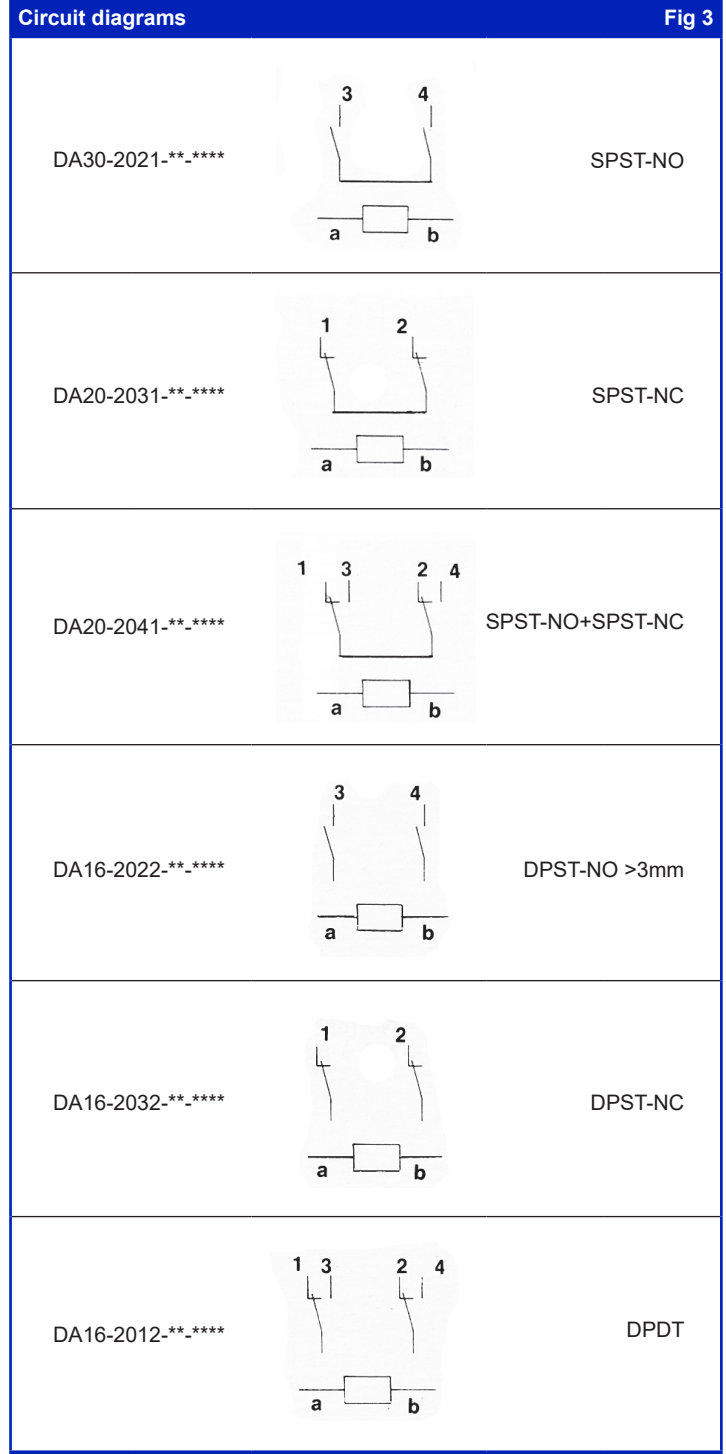
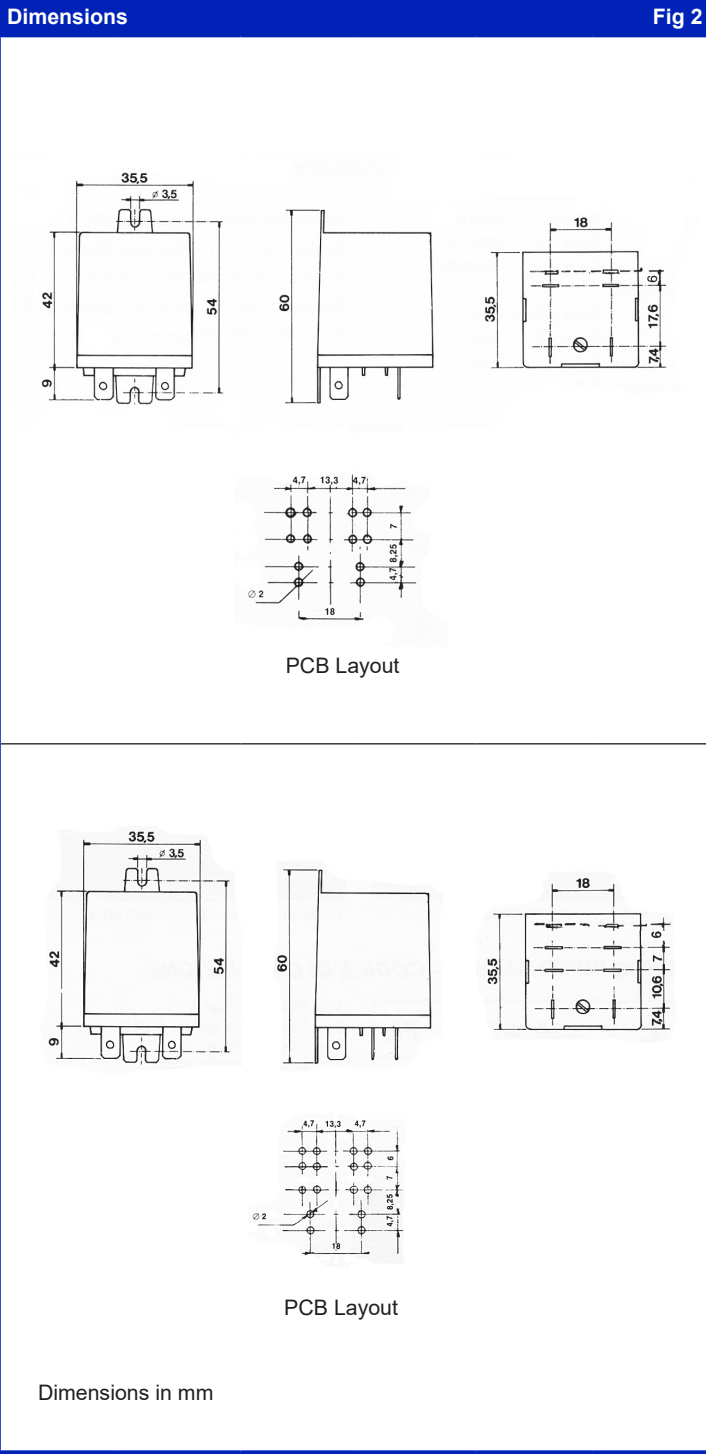
SWITCHING POWER (DC) AT 500 OPERATIONS PER HOUR



1 = SINGLE POLE 2 = DOUBLE POLE

REDUCTION FACTOR FOR INDUCTIVE AC LOAD





Top / Bottom Flange
(Clear case standard)



PCB Mount



Top DIN Rail Mount



Side DIN Rail Mount