

# SERIES A

## Power Industrial Relays

All-or-Nothing relays designed to switch up to 30A 250V AC1 loads with good reliability and minimum dimensions. Particularly suited for any high power application in heating, air conditioning, UPS, etc

Featuring a clear protective dust cover, printed circuit or 0.25" Faston terminals (6.3x0.8 mm) and thermosetting flame-resistant terminal block. Meeting IEC-UL-CSA standards.



### DIELECTRIC STRENGTH

|                             |                                  |
|-----------------------------|----------------------------------|
| Coil / contacts :           | <b>4000 V <sup>(1)</sup> RMS</b> |
| Between adjacent contacts : | <b>2500 V RMS</b>                |
| Between open contacts :     | <b>1500 V <sup>(2)</sup> RMS</b> |
| Ground / live parts :       | <b>2000 V RMS</b>                |

<sup>(1)</sup> 16A types only: 3000V RMS

<sup>(2)</sup> 3mm contact-gap types: 2500V RMS

### OPERATING TIMES (At Rated Voltage)

|                               |               |              |
|-------------------------------|---------------|--------------|
| Operate (excluding bounces) : | <b>max 10</b> | milliseconds |
| Release (excluding bounces) : | <b>max 12</b> | milliseconds |
| Bounces :                     | <b>max 10</b> | milliseconds |

### SPECIFICATION

Min. insulation resistance  
Pollution degree / voltage  
Environmental protection  
Enclosure classification  
Type of duty  
Mechanical life expectancy

Max ops./hour @ no load  
Max ops./hour @ rated load  
Surrounding operating temp  
Storage temperature  
Overvoltage category  
Impulse withstand voltage  
Minimum mounting distance  
Mounting position  
Weight

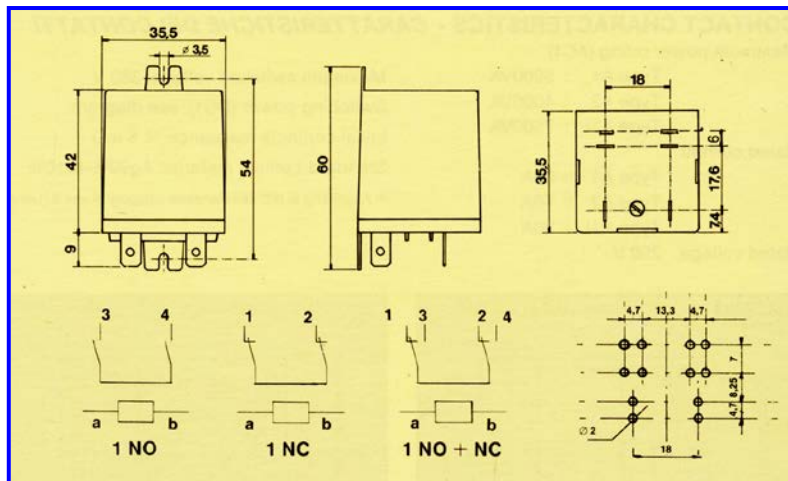
2x10<sup>3</sup> MΩ @ 500 VDC (all circuits)  
3 / 250 VAC (EN 61810-1)  
RT I - dust protected (EN 61810-1)  
IP40 (EN 60529)  
continuous  
2x10<sup>6</sup> operations (30A)  
5x10<sup>6</sup> operations (16/20A)  
3000 (AC / DC)  
500 (AC / DC)  
-40 to +70° C  
-40 to +80° C  
III  
6 KV  
10 mm  
any  
73 grams

### AVAILABLE TYPES

#### A1 Single pole - Double break contact

Contact types available:

- 1 Normally Open (NO) - **30A-250V AC**
- 1 Normally Closed (NC) - **20A-250V AC**
- 1 NO+NC - **20A-250V AC**



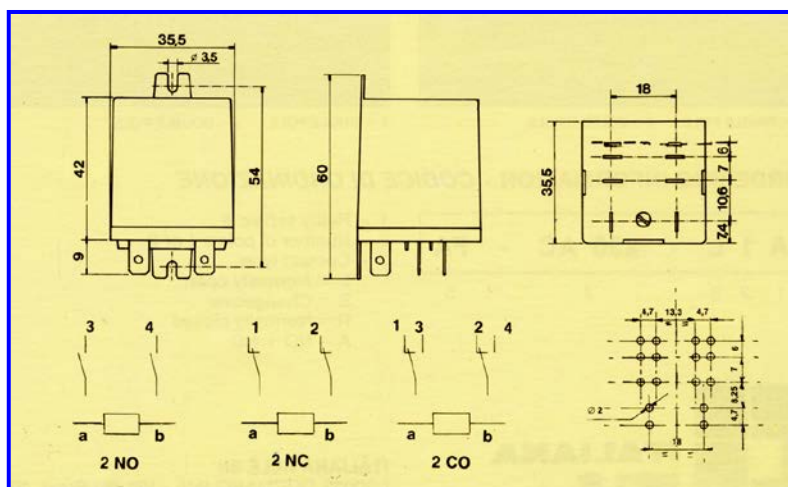
#### A2 Double pole - 16A-250V AC

Contact types available:

- 2 Normally Open (NO) \*
- 2 Normally Closed (NC)
- 2 Changeover (CO) \*\*

\* ≥ 3 mm contact-gap (standard)

\*\* ≥ 3 mm contact-gap (available on request for agreed quantities)



### APPROVALS



All dimensions in mm

## COIL CHARACTERISTICS

| DC              |                  |                       | AC               |                       |
|-----------------|------------------|-----------------------|------------------|-----------------------|
| Rated Voltage V | Rated Current mA | Resistance R $\Omega$ | Rated Current mA | Resistance R $\Omega$ |
| 6               | 273              | 22.5                  | 400              | 5                     |
| 12              | 133              | 90                    | 200              | 20                    |
| 24              | 67               | 360                   | 100              | 80                    |
| 48              | 33               | 1440                  | 50               | 320                   |
| 110             | 14               | 7900                  | 22               | 1800                  |
| 230             | -                | -                     | 10               | 7700                  |

Coil values at 23°C ambient temperature

Tolerance on R =  $\pm 10\%$

Power supply voltage:

AC: 6-12-24-48-110-230V (50-60Hz)

DC: 6-12-24-48-60-110V

Rated power:

1.3W (DC) ; 2.2 VA (AC)

Operating range:

(DC & AC-50Hz): -20% to +10% Vn

(AC-60Hz): -15% to +10% Vn

Minimum hold voltage:

80% of nominal (AC)

60% of nominal (DC)

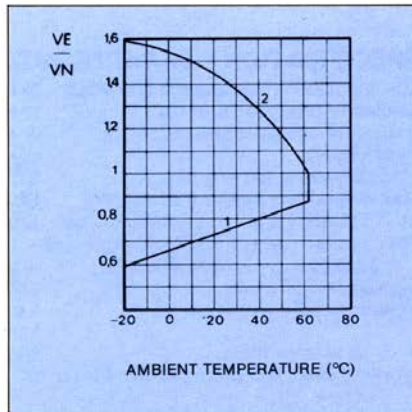
Must release voltage:

15% of nominal (AC)

5% of nominal (DC)

Thermic insulation class of winding (IEC 317): F (155°C)

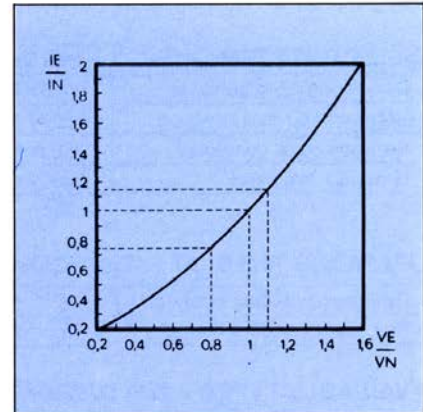
MAX ADMITTED OPERATING RANGE (DC) VERSUS AMBIENT TEMPERATURE



Curve 1: Min. coil operation voltage at stabilized temperature  
Curve 2: Max. coil operation voltage at rated load.

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 CHARACTERISTICS

Power rating (AC1) : Type A1-NO 7500 VA

Type A1 5000 VA

Type A2 4000 VA

Rated current : Type A1-NO 30 A

("Resistance only") Type A1 20 A

Type A2 16 A

Max instantaneous current <sup>(1)</sup>: A1 40A

A2 30A

Min switched load : 1000 mW (10V/10 mA)

Rated voltage : 250VAC

Max switched voltage : 400 VAC

Switching power (DC1) : see diagram

Initial contact resistance <sup>(2)</sup>: max. 50 m $\Omega$

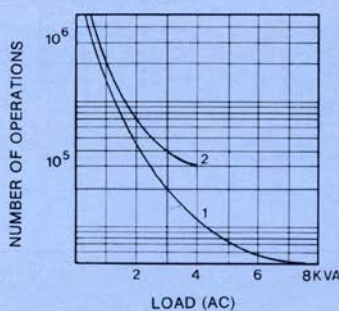
Contact material : Ag90% - Ni10%

<sup>(1)</sup> Max time = 0.5" - ED = 0.1

<sup>(2)</sup> Contact Category: CC2 (1A-30V) - (EN61810-7)

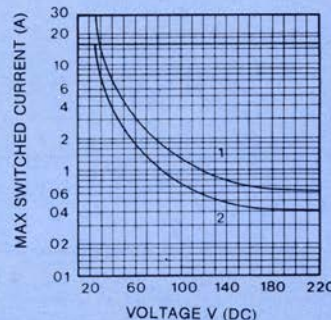
"Only for use with suitably sized, quality external connections to avoid overheating of relay terminals"

CONTACT LIFE VERSUS AC1 LOAD AT 500 OPERATIONS PER HOUR



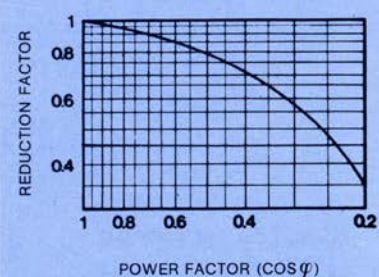
1 = SINGLE POLE 2 = DOUBLE POLE

SWITCHING POWER (DC1) AT 500 OPERATIONS PER HOUR



1 = SINGLE POLE 2 = DOUBLE POLE

REDUCTION FACTOR FOR INDUCTIVE AC LOAD



## ORDERING INFORMATION

**A2L - 230 AC - FA**

1 2 3 4 5

- Relay Series: A
- Number of poles: 1 or 2
- Contact configuration:  
L = 2 Normally Open contacts  
S = 2 Changeover contacts  
R = 2 Normally Closed contacts  
O = 1 Normally Open contact  
C = 1 Normally Closed contact  
B = 1 NO+NC contact

4 - Coil supply voltage: AC or DC

5 - Connection options:

FA = 0.25" Faston terminals(6.3x0.8mm)

CS = Printed Circuit

AD = Faston + DIN-rail flange