

# SERIES F

## Low Profile PCB Relays

All-or-Nothing relays ideally suited for modern electronic applications demanding low-profile design and minimum power consumption. Design offering sealed IP67 construction, suitable for any automatic soldering process. The cover incorporates a special device that, easily pierced after

PCB washing, avoids internal ozone formation. Contact rating is 8 A and a complete range of DC coil supply voltages is available. Terminations are for printed circuit board mounting, either directly (all main international pin configurations available), or by exclusive sockets.



### DIELECTRIC STRENGTH

Coil springset to contacts : **4000 V RMS**  
 Between open contacts : **1000 V RMS**  
 Ground / live parts : ground insulated from outside

### OPERATING TIMES (At Rated Voltage)

Operate (excluding bounces) : **max 9** milliseconds  
 Release (excluding bounces) : **max 3** milliseconds  
 Bounces : **max 3** milliseconds

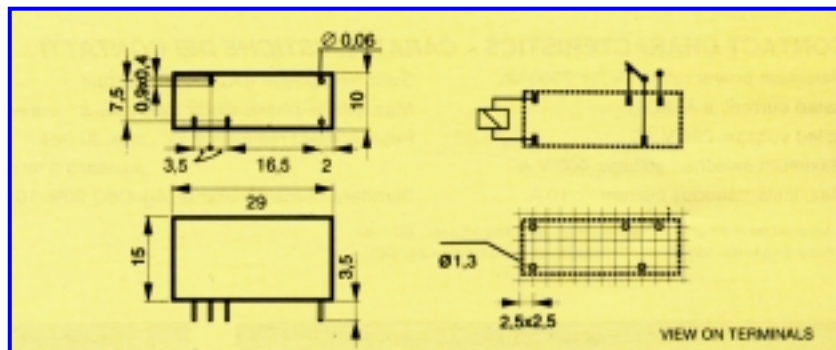
### SPECIFICATION

Min. insulation resistance	2x10 <sup>7</sup> MΩ @ 500 VDC (all circuits)
Insulation group (VDE 110)	1° Gr. C 250 VAC
Enclosure classification	IP67 sealed (IEC 144)
Type of duty	continuous
Mechanical life expectancy	30x10 <sup>6</sup> operations
Max ops./hour @ no load	20000
Max ops./hour @ rated load	360
Temperature range	-40 to +70° C
Storage temperature	-40 to +80° C
Vibration	10 g 45-100 Hz
Impulse voltage class	0
Operating class (CEI 41-1)	C
Weight	10 grams
Min. creepage dist./ air gap	8 mm between coil / contacts (VDE 0730)

### AVAILABLE TYPES

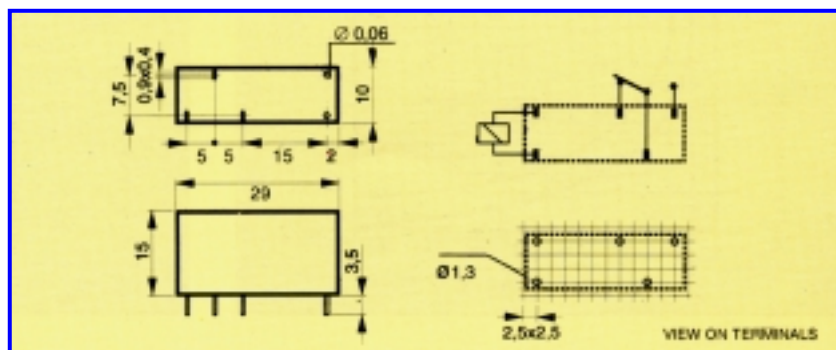
**F15A** - 3.5 mm pin-spacing **8A-250V AC**  
 1 pole changeover.  
 Printed circuit terminations.

Standard contact material Ag-CdO 10%.  
 Normally open, alternative material and gold plated contact versions available on request for agreed quantities.



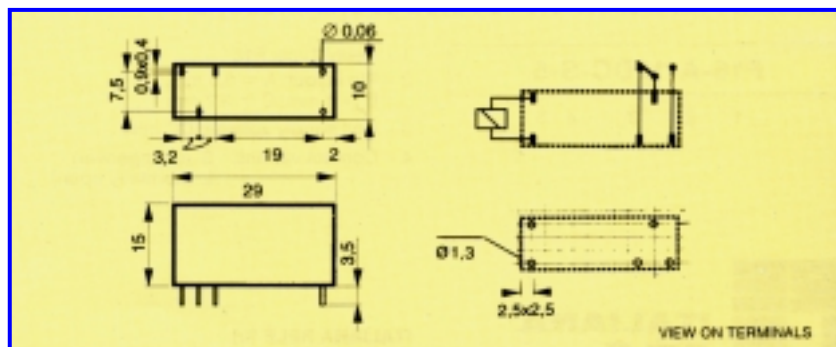
**F15B** - 5 mm pin-spacing **8A-250V AC**  
 1 pole changeover.  
 Printed circuit terminations.

Standard contact material Ag-CdO 10%.  
 Normally open, alternative material and gold plated contact versions available on request for agreed quantities.



**F15C** - 3.2 mm pin-spacing **8A-250V AC**  
 1 pole changeover.  
 Printed circuit terminations.

Standard contact material Ag-CdO 10%.  
 Normally open, alternative material and gold plated contact versions available on request for agreed quantities.



### APPROVALS

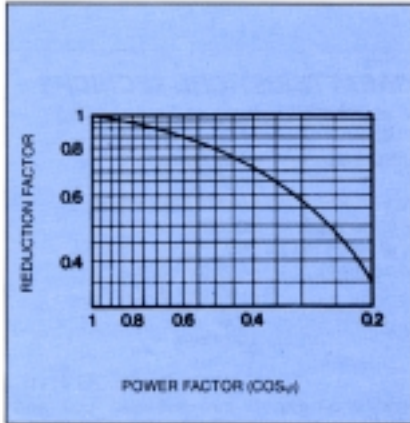


## COIL CHARACTERISTICS

Rated Voltage V	DC		OPERATING VOLTAGE	
	Rated Current mA	Resistance R $\Omega$	V Min.	V Max.
5	43.5	115	3.4	9
6	37.5	160	4	10.5
12	18.7	640	8	21
24	9.4	2550	16	42
48	4.7	10250	32	84
110	3.5	31000	73	147

Resistance values at 20°C ambient temp.

Tolerance on R:  $\pm 10\%$



Reduction factor for inductive AC load

Power supply voltages: 5-6-12-24-48-110 VDC  
 Rated power: 225 mW  
 Operating range: -33% to +75% of nominal  
 Minimum hold voltage: 66% of nominal  
 Must release voltage: 5% of nominal  
 Thermic insulation class of winding (IEC 317): F (155°C)

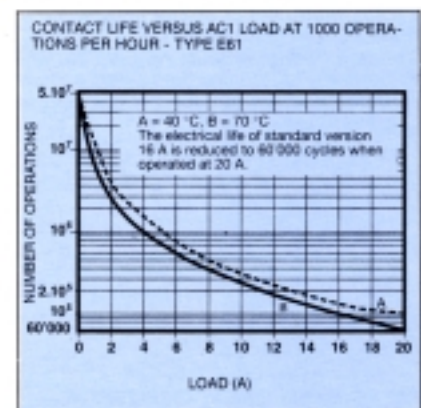
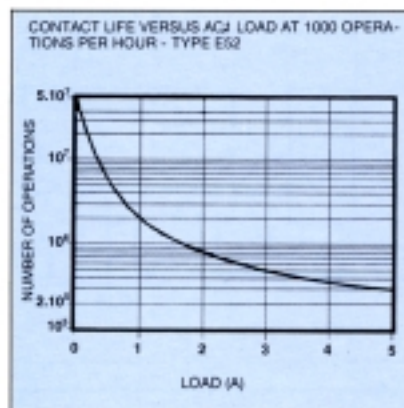
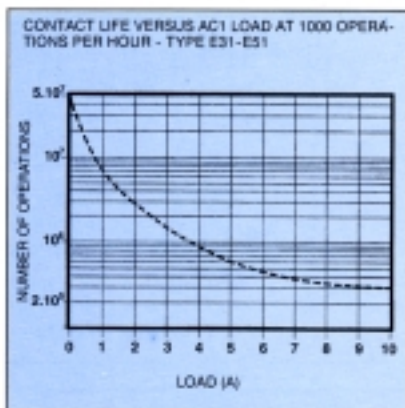
## CONTACT CHARACTERISTICS

Maximum power rating (AC1) : 2000 VA  
 Rated current : 8 A (AC1)  
 Rated voltage : 250 VAC  
 Maximum switched voltage : 400 VAC  
 Maximum instantaneous current<sup>(1)</sup> : 10 A  
 Switching power (DC1) : see diagram

Maximum single-phase motor load  
 ( $\cos\phi$  0.7 – 250VAC max.) : ¼ HP  
 Initial contact resistance<sup>(2)</sup> : max. 30 m $\Omega$   
 standard 8 m $\Omega$   
 Standard material: Ag-CdO 90%-10%

<sup>(1)</sup> Make & maintaining only - max. 0.5 sec.

<sup>(2)</sup> Category of application (EN 60255) : 3



## ORDERING INFORMATION

**F15 - A - 12 DC - S - 5**

1      2      3      4      5

- 1 – Relay type: F15
- 2 – Pin layout: A = 3.5 mm  
B = 5 mm; C = 3.2 mm
- 3 – Coil supply voltage: DC only
- 4 – Contact configuration:  
S = changeover (standard)  
L = normally open (on request)

- 5 – Alternative contact materials:  
None = standard material  
1 = Silver / Nickel (Ag-Ni 10%)  
4 = Silver / Tin Oxide (Ag-SnO<sub>2</sub> 12%)  
5 = Gold plated silver (Ag-Ni + 3 $\mu$  Au)

Groups 4 & 5 of code are normally omitted, concerning special types available only on request for agreed quantities.