

Relè Series D

Relè Industriali



All-or-Nothing relays offering very high performance and compact size. Design includes a clear protective dust cover. Contact rating ranges from 6 to 12 Amps, depending upon contact configuration (up to four pole, changeover).

Variations available include a printed circuit and a solder/plug-in type, with AC or DC rated coils. A complete range of sockets is available for the plug-in types (see exclusive literature).

Specification

| | | |
|---|----------------|--------------------------|
| Insulation resistance @ 500 VDC | (all circuits) | >10.000 Mohm |
| Pollution degree / Insulation voltage | (2 pole) | 3 / 250 VAC (EN 61810-1) |
| | (4 pole) | 2 / 250 VAC (EN 61810-1) |
| Environmental protection | (EN 61810-1) | RT I (dust protected) |
| Enclosure classification | (EN 60529) | IP40 |
| Mechanical life expectancy | (AC / DC) | 20 milion operations |
| Electrical life expectancy | (AC / DC) | 100,000 operations |
| Max operating frequency @ no load | (AC / DC) | 18,000 operations /hour |
| Max operating frequency @ rated load | (AC / DC) | 1,200 operations /hour |
| Surrounding ambient temperature | (AC) | - 40... + 55° C |
| | (DC) | - 40... + 70° C |
| Storage temperature | (AC / DC) | - 40... + 85° C |
| Vibration resistance | (10-150 Hz) | 5g |
| Shock resistance | (NO / NC) | 10g / 5g |
| Min. creepage distance (coil-contacts) | (2 / 4 pole) | 4 mm / 3.2 mm |
| Min. insulation clearance (coil-contacts) | (2 / 4 pole) | 2.5 mm / 1.6 mm |
| Overvoltage class | (2 / 4 pole) | III / II |
| Impulse withstand voltage peak | (2 / 4 pole) | 4 / 2,5 KV |
| Type of duty | | continuous |
| Minimum mounting distance on PCB | | 5 mm |
| Max soldering time | | 5 sec. |
| Max soldering temperature | | 270° C |
| Mounting position | | any |
| Weight | (approx.) | 35 grams |
| | | |
| | | |
| | | |

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Environmental compatibility
(European Directive 2011/65/EU)

Relè Series D

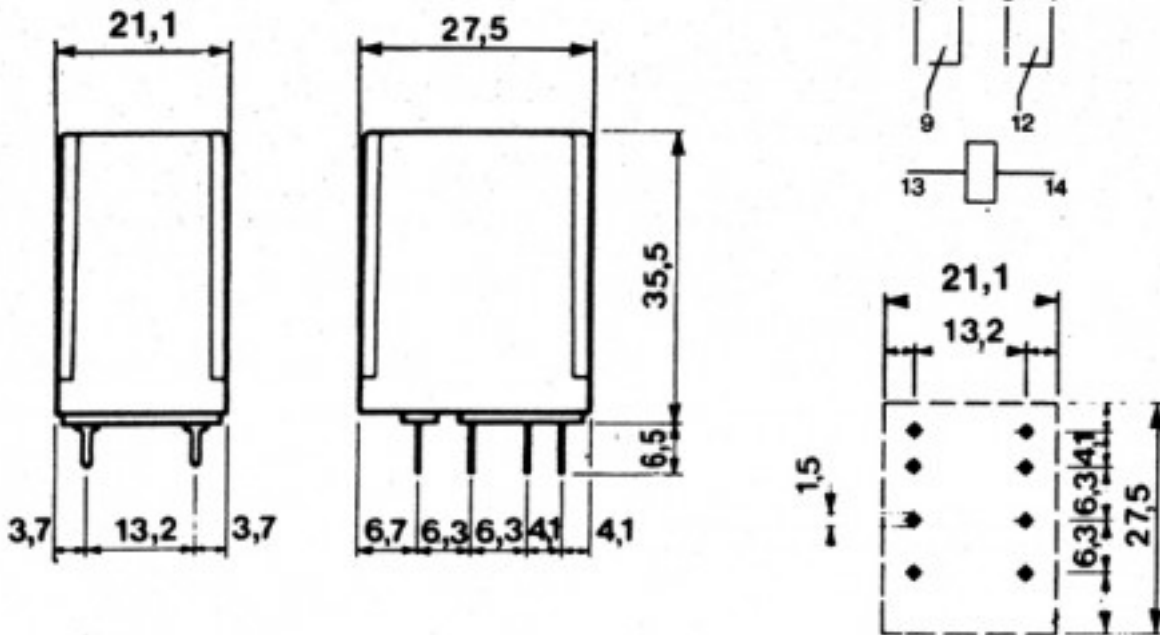
Proof Voltage & Times

| DIELECTRIC STRENGTH | | OPERATING TIMES | | |
|---------------------|---------------|---------------------|--------|--------------|
| | | @ Rated Voltage | | |
| Coil / contacts | 2.500V RMS | Operate (+ bounces) | max 13 | milliseconds |
| Adjacnt contacts | 2.500V(*) RMS | Release (+ bounces) | max 8 | milliseconds |
| Open contacts | 1.500V RMS | Bounces | max 7 | milliseconds |
| Ground / live parts | 2.000V RMS | | | |

(*) 4 pole = 2,000V RMS

Relè Series D

Available Types



D2N - 2 pole changeover - 12A-250V AC
- plug-in/solder terminals (2.2x0.5 mm)

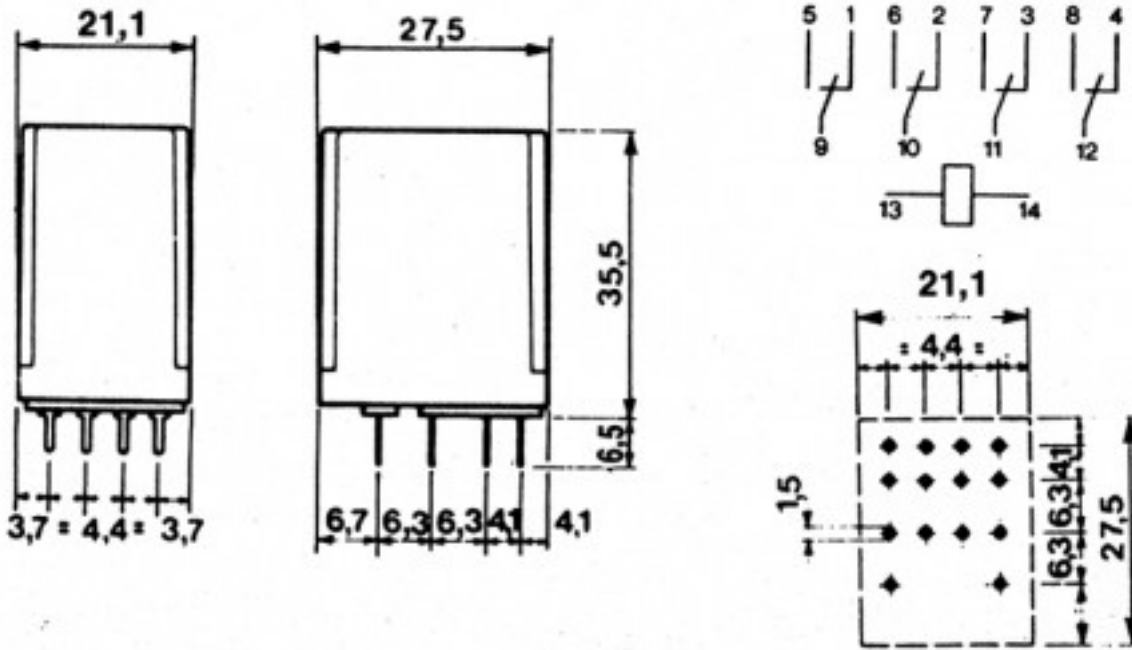
D2P - 2 pole changeover - 10A-250V AC
- printed circuit terminals (1x0.5 mm)

Push-to-test & Turn-to-lock button and flag indicator fitted as standard.

Cadmium-free contact material (Ag-Ni).

Special versions fitted with gold-plated contacts, LED indicator, ground bolt or fixing tabs available on request for agreed minimum quantities.

Relè Series D



D4N - 4 pole changeover - 6A-250V AC
- plug-in/solder terminals (2.2x0.5 mm)

D4P - 4 pole changeover - 6A-250V AC
- printed circuit terminals (1x0.5 mm)

Push-to-test & Turn-to-lock button and flag indicator fitted as standard.

Cadmium-free contact material (Ag-Ni).

Special versions fitted with gold-plated contacts, LED indicator, ground bolt or fixing tabs available on request for agreed minimum quantities.

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Coil Data

| Nominal Voltage | Direct | Current | Alternating | Current | |
|-------------------------------|-----------|-----------------------|------------------|------------------|------------------|
| | Current I | Resistance R (*) | Current I (50Hz) | Current I (60Hz) | Resistance R (*) |
| V | mA | ohm | mA | mA | ohm |
| 6 | 150 | 40 | 260 | 240 | 10 |
| 12 | 75 | 160 | 130 | 120 | 40 |
| 24 | 38 | 640 | 65 | 60 | 160 |
| 48 | 18 | 2600 | 33 | 30 | 640 |
| 60 | 15 | 4000 | - | - | - |
| 110 | 8,1 | 13600 | 14 | 13 | 3450 |
| 125 | 7,1 | 16000 | - | - | - |
| 220 | 4,1 | 54000 | - | - | - |
| 230 | - | - | 7 | 6,5 | 16100 |
| (*) Resistance values @ 23° C | | Tolerance on R and I: | +/- 10% | | |

Supply voltages:

6-12-24-48-110-230 VAC (50-60Hz) / 6-12-24-48-60-110-125-220 VDC

Rated power:

1.6 VA @ 50Hz (AC) / 1.4 VA @ 60Hz (AC) / 0.9 W (DC)

Operating range:

- 20%... + 10% (DC & AC-50Hz) / - 15%... + 10% (AC-60Hz)

Minimum hold voltage:

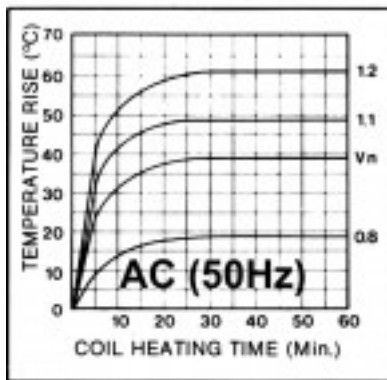
> 80% V_n (AC & DC)

Must release voltage:

< 20% V_n (AC) / < 10% V_n (DC)

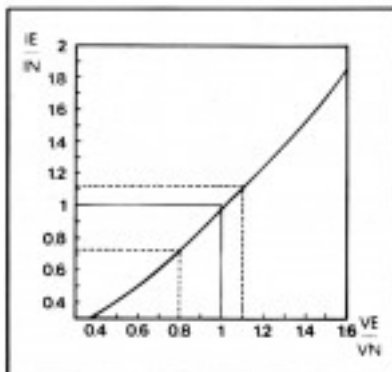
Thermic insulation class of winding (IEC 317):

F (155°C)



Temperature rise Vs. operating voltage

V_n = rated voltage



Power variation Vs. operating voltage (AC - 50/60Hz)

IE = operating current
IN = rated current
VE = operating voltage
VN = rated voltage

Relè Series D

Contact Data

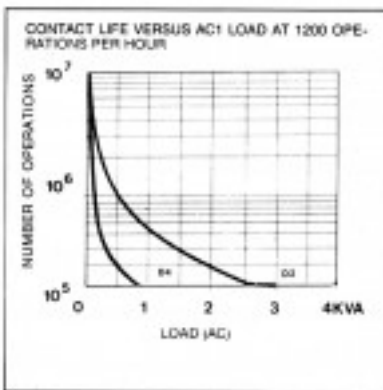
| | | | | |
|-------------------------------|-----------|-----------|---------------------------|-------------------|
| Power rating (AC1) | (tipo D2) | 3 KVA (*) | Rated voltage | 250 VAC |
| | (tipo D4) | 1.5 KVA | Max Voltage | 400 VAC |
| Rated current | (tipo D2) | 12 A (*) | Minimum voltage | 5 VAC |
| ("Resistance only") | (tipo D4) | 6 A | Switching power (DC1) | see diagram |
| Max instant. current (**) | (tipo D2) | 24 A | Min. switched load | 300 mW |
| | (tipo D4) | 12 A | Min. switched current | 5 mA |
| Single-phase motor load (***) | (tipo D2) | 1/3 HP | Initial resistance (****) | Max. 100 milliohm |
| | (tipo D4) | 1/10 HP | Standard material | Ag90%-Ni10% |

(*) PCB subtype = 10A - 2.5 KVA

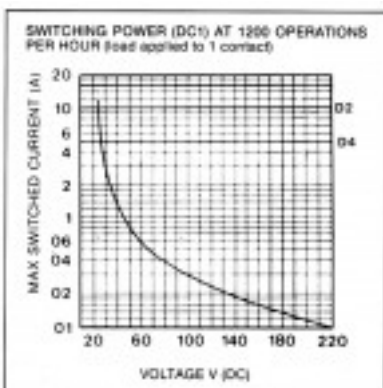
(**) Maximum admitted time 0.5 seconds - ED = 0.1

(***) Cosphi 0.7 - 250VAC Max

(****) Contact category (EN 61810-7): CC2 (1A-30V)

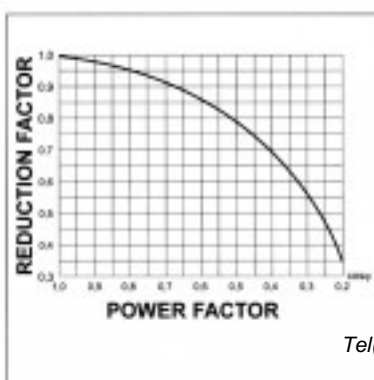


Contact life Vs. AC1 load
@ 1200 ops. per hour



Switching power (DC1)
@ 1200 ops.per hour

Load applied to 1 contact



Reduction factor for
inductive AC loads

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Approvals

