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FR70 Flashing Relay
Pulse Unit (D4970/FR70)

- A self-contained pulse unit version of the high integrity D2600 Relay used extensively throughout the power industry for power, switchgear and safety related systems.
- Operation **NOT** dependant on programming or integrated circuits.
- Fully compatible with the D2600 system of sockets and mounting frames options.
- All relays and sockets can be fitted with fouling pins to prevent interchangeability between different relays.

1. Technical Data

Operate Supply:	DC or AC input:	Diode protected from DC supply reversal. Diode rectification for AC operation.
	Voltage Tolerances:	±20% DC or AC 50Hz
	Operating voltages available: (Select when ordering)	24V DC (or 50V AC) 50V DC (or 110V AC) 110V DC (or 250V AC)
Pulse Rate:	Adjustable preset range:	Typically between 60 to180 pulses/min.
On/Off ratio:		Typically adjustable between 3:1 and 1:3
Voltage Withstand: (IEC 255-5:1977)	1KV rms 50Hz for 1 minute across open contacts. 2KV rms 50Hz for 1 minute between:	a) current carrying parts and frame b) contact sets c) coil and contacts.
Insulation: (IEC 225-5:1977)	Greater than 100MΩ @ 500VDC.	

Environment: (IEC 68-2-2)	Temperature:	Operating: -20°C to +55°C, Storage -20°C to +70°C
	Humidity:	12 Cycles to 55°C and 93% RH.
	Shock:	Operational: 11ms duration, 100m/s2 peak (10g), 10 pulses in each plane, no contact separation.
	Survival:	11ms duration, 150m/s2 peak (15g) 10 pulses in 3 directions.
	Vibration:	IEC 255-21-1, Class 1.
	Seismic:	IEEE 344-1975 para 6.3.1.

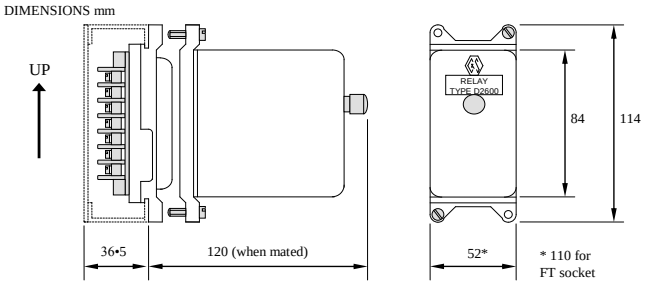
Electro Magnetic: Radiated Immunity & Fast Transient: EN 50082-1 & EN 50082-2

Compatibility: Radiated & Conducted Emissions: EN 50081-1 & EN 50081-2.

Mechanical Life: 6×10^6 operations for standard relay

Weight: 750g (Standard Relay with D2600/RT socket).

For Mounting Racks and other Socket types see D2600 Relay Datasheet.



RELAY OUTLINE DRAWING (shown with RT SOCKET AND 35mm RACK)

2. Setting and Configuration

2.1 General Description

The relay is supplied with one set of volt free changeover (C/O) contacts mounted in a D2600 Relay case. Two preset potentiometer are provided to set the (On/Off) pulse rate and the switching ratio of the changeover contacts (see figure1). Interrupting or disconnecting the operate supply to the relay will return the relay to the initial de-energised state i.e. contact 7 open, contacts 3 and 5 closed to maintain a path for the alarm condition. Relays are constructed as keycode 29 (2x C/O contacts); one set of contacts (not shown) are used to control the relay's function and are not available to the user.

2.2 Operating Voltage

Each relay can be operated from a DC or AC power supply. The three operating voltage options available are stated below (specified at time of ordering).

- 24VDC (or 50VAC)
- 50VDC (or 110VAC)
- 110VDC (or 250VAC)

For DC operation +VE must be connected to Pin 1 (–VE to pin 2). The relay is diode protected from DC supply reversal.

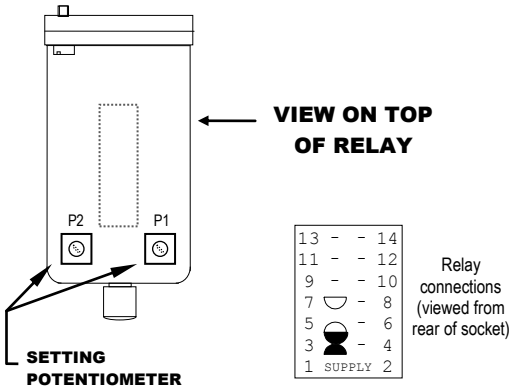
2.3 Non-interchangeability

The standard range of fouling pins may be used, with the exception of: 6, 12, 18, 24, 30, 36, 42, 48, 54, 60, 66 & 72.

2.4 Setting

CAUTION HIGH VOLTAGE observe electrical safe handling precautions at all times. High voltages may be present inside the cover of the relay irrespective of the operating voltage of the relay. **DO NOT TOUCH** any of the internal contacts or conductors. Use an insulated trimming tool to adjust the potentiometers. It is recommended that only qualified personnel be authorised to remove the cover of the relay or make setting adjustments.

To set the relay, remove the cover by unscrewing the black knob that secures the cover. Connect the operate power supply by suitable means (test socket recommended) to input pins 1 & 2 of the relay. Adjust potentiometer P1 to sets the time period that the relay coil is energised (contact 3-5 open 5-7 closed). Adjust potentiometer P2 to sets the time period that the relay coil is de-energised (contact 3-5 closed 5-7 open); refit and secure relay cover.



Remove transparent cover to set potentiometers

Figure 1

2.5 Contact material.

The volt free changeover contacts are made from Silver Cadmium Oxide (D54X). This is a hard sintered alloy suitable for AC and intermittent DC loads and is recommended for heavy duty applications and inductive loads. Refer to D2600 Relay datasheet for full details of contact ratings and contact life.

2.6 Arc Suppression

Magnetic Bow-outs cannot be fitted to the FR70 Flashing Relay. External arc suppression (e.g. diodes or VDR's) should be considered for inductive loads where contact arcing is likely to occur.

2.7 Relay identification.

Relays are allocated a unique computer code (e.g. 2SD260016) that will be quoted on our order acknowledgment. This will be marked on the relay as a shortened reference code (e.g. 6S0016). These codes must be quoted whenever possible to ensure that the correct relay is supplied, particularly for replacement or spares orders. If fouling pins are specified, the FP code will be marked on both the relay and the socket. For advice and assistance on selecting and identifying relays contact Sales.