

SUNVIC ENERGY REGULATORS TYPES ERY & ERX/L



Fig. 1 Type ERX/L

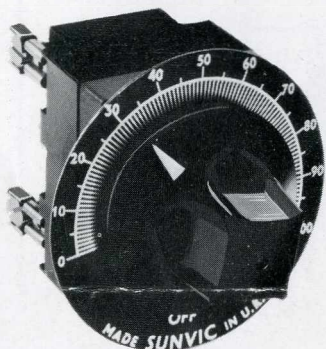


Fig. 2 Type ERY

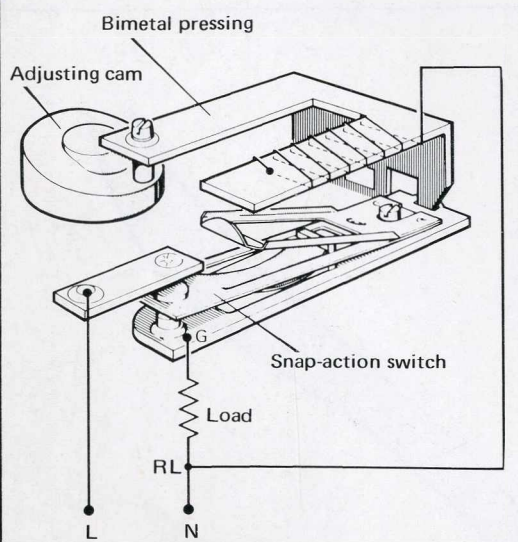


Fig. 3 Principle of operation

Energy regulators are small inexpensive controllers which can be applied to any heating load. Control is effected by periodically switching the power on and off, the average power input being determined by the ratio of the on time to the total time. The regulators are continuously variable from zero to full load and are independent of mains voltage variations to within 20%.

Principle of operation

The Sunvic energy regulator is essentially a bimetal pressing carrying a heater winding which, when energised causes the bimetal to deflect and operate a snap-action switch.

The contacts of this switch are normally closed, so that the load current flows through the heater winding and warms the bimetal. The bimetal is thus deflected and opens the switch contacts. This interrupts the load current and the heater winding is de-energised, allowing the bimetal to cool. In cooling, the bimetal straightens, the switch contacts close, and the cycle is repeated.

The ratio of the time during which the switch contacts are closed to the total time of the cycle determines the average power input.

This ratio can be set at the control knob which is keyed to the adjusting cam. The position of this cam governs the amount of deflection required by the bimetal to operate the switch contacts (Fig. 3). With the cam set so that the switch contacts remain closed with maximum deflection of the bimetal, the power will be permanently on; if the cam is rotated until the switch contacts are open when the bimetal is cold, the power will be permanently off. Between these two limits, the input is continuously adjustable. As the same voltage is applied to both the regulator and the load, any supply variation will affect the two similarly. The average input, therefore, is independent of the applied voltage.

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SUNVIC ENERGY REGULATORS

Specification

Rating	4.3 amps at 230V a.c. (resistive)
Supply voltage * ERY ERX/L	100/125 or 200/250V a.c. * 100/120 and 220/240V a.c.
Scale (2½" dia.)	0-100 divisions (linear) with positive "OFF" and "FULL" positions
Mounting	Panel
Dimensions ERY ERX/L	2" x 1½" (Back of panel space required) 2¾" x 1½" (Back of panel space required)
Amp terminals are standard; screw adaptors can be supplied as an extra.	

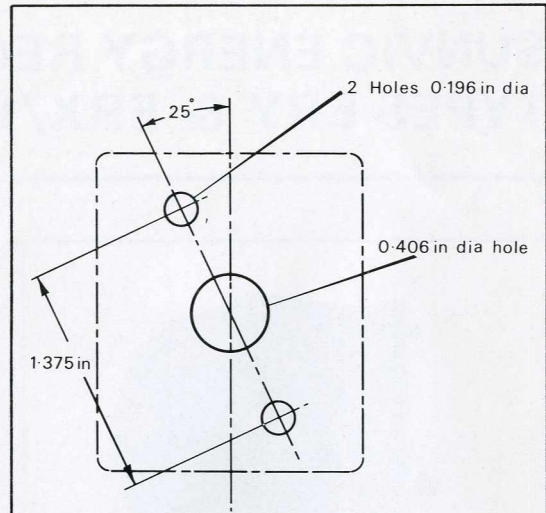


Fig. 4 Panel drilling

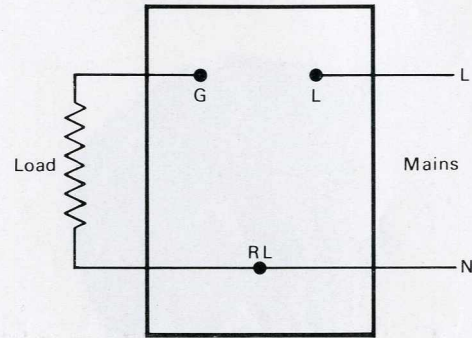


Fig. 5 Connections

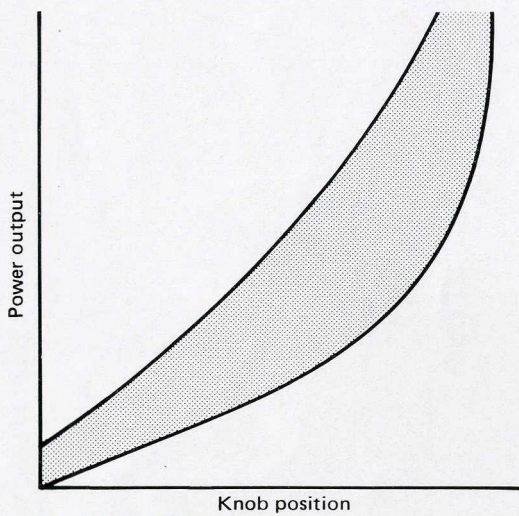


Fig. 6 Type ERY

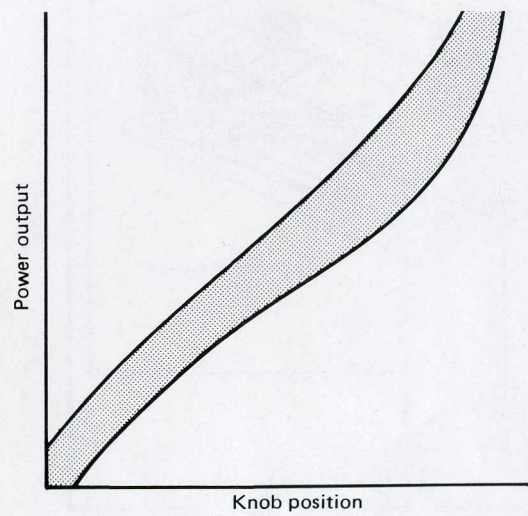


Fig. 7 Type ERX/L

To suit the varying requirements of the scientific and industrial markets, the energy regulator can be supplied with two different control characteristics.

Fig. 7 shows the approximate relationship between percentage power output and the knob position for a typical energy regulator where linear increase in energy output with rotation of the knob is desired.

Fig. 6 relates to the energy regulators where the ratio of change of power output is proportional to the knob position.

Connections for energy regulators and hotwire vacuum switches for controlling higher outputs

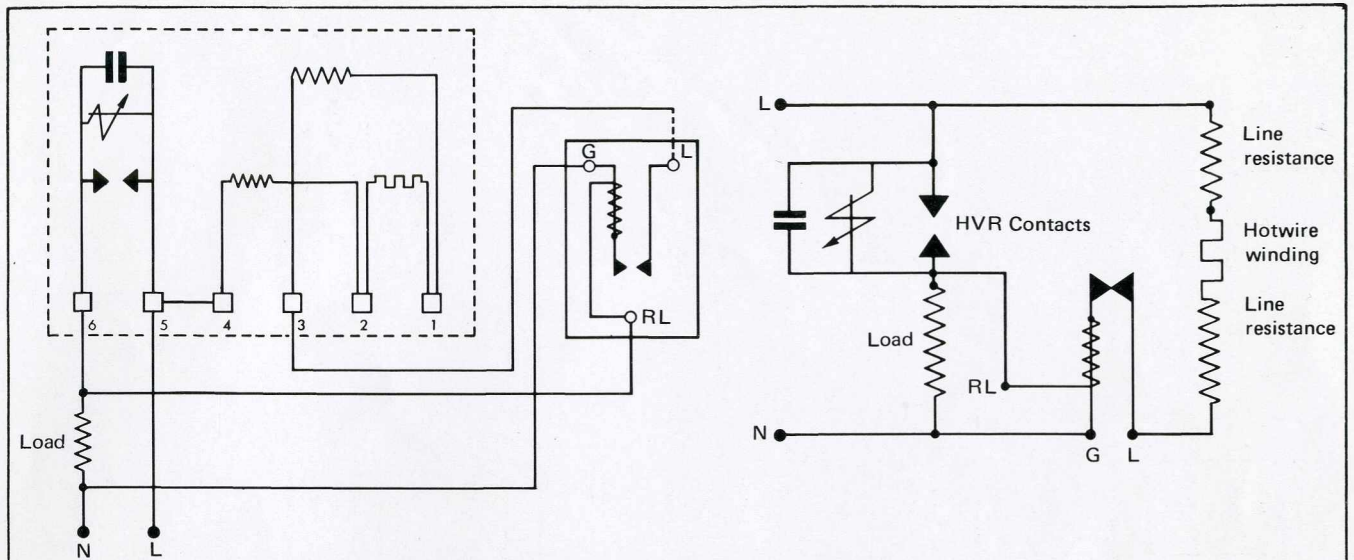


Fig. 8 An energy regulator with HVR relay controlling circuits up to 2kw a.c or d.c.
(For details of HVR relay see publication 2475-1/2.)

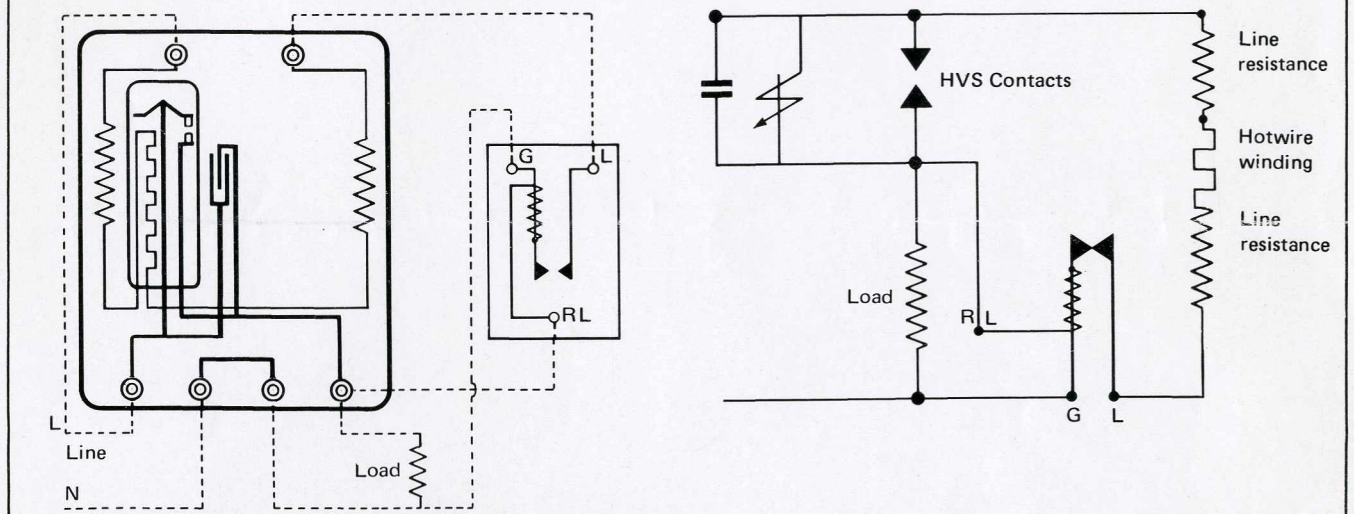


Fig. 9 An energy regulator with HVS relay controlling up to 6kw. (For details of HVS relay see publication 2475-1/2.)
Three such relays with control circuits paralleled can be used to control three phase four wire loads up to 18kw (3 x 6 kw).
Contact the Technical Sales Department for further details.

