



239 Series Meter Relay

Products Covered

239-30*

* = any letter or number

Installation

The 239 meter relay may be mounted in a panel of any thickness up to a maximum of 10mm. For thicker panels an accessory clamp band is available. Consideration should be given to the space required behind the unit to allow for connecting cables. Units should be mounted in a reasonably stable ambient temperature and in any event where the temperature is within the range 0 to 60°C. The unit should not be mounted where it is subjected to excessive sunlight and also vibration should be kept to a minimum. Connection wires should be sized to comply with local regulations and preferably should be terminated in tags for the terminals provided. Labels are fixed to the unit and carry connection information and data including input voltage, input current and supply and application as appropriate.

These products do not have internal fuses therefore external fuses **must** be used for safety protection under fault conditions.

Input signal conditioning

AC current transformers, dc shunts, resistors and diodes are used as appropriate to provide an input signal of 20mV for full-scale deflection. This is then amplified to supply a 1mA signal to the analogue meter.

Delays

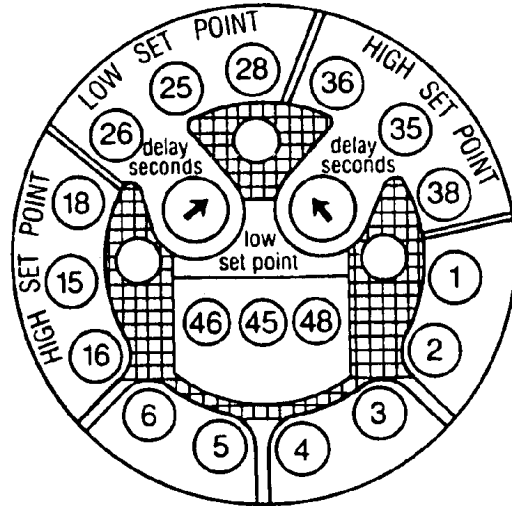
The comparator outputs are each passed to a time delay circuit with a delay time that can be varied over the range of 0.3 to 20 seconds. The purpose of these is to allow the user to arrange for a delay in relay operation should the monitored signal spuriously drop or rise around the set point. This avoids a false alarm being triggered.

Electromagnetic Compatibility (EMC) Installation Requirements

This product range has been designed to meet the certification requirements of the EU Directives when installed to a good code of practice for EMC in industrial environments. e.g.

1. Screen output and low signal input leads. In the event of RF fields causing problems where screened leads can not be used, provision for fitting RF suppression components, such as ferrite absorbers, line filters etc., must be made.
N.B. It is good practice to install sensitive electronic instruments that are performing critical functions, in EMC enclosures that protect against electrical interference causing a disturbance in function.
2. Avoid routing leads alongside cables and products that are, or could be, a source of interference.
3. To protect the product against permanent damage, surge transients must be limited to 2kV pk.
4. Electro Static Discharge (ESD) precautions must be taken at all times when handling this product. For assistance on protection requirements please contact you're local sales office.

Connection Diagram



Outputs

The delay circuits drive double pole double throw output relays. LEDs mounted on the front fascia show the operational state of the relays.

Terminal	1	Signal N or -VE input
	2	Signal L or +VE input
	3,4	RTD or thermocouple input
	4	Tap for dual auxiliary supply models
	5	Auxiliary Supply Neutral (-ve if D.C.)
	6	Auxiliary Supply Live (+ve if D.C.)

		One Setpoint		Two Setpoints	
		Upscale Setpoint	Downscale Setpoint	Upscale Setpoint	Downscale Setpoint
High Relay	(16)	NC		NC	NC
	(15)	C		C	C
	(18)	NO		NO	NO
	(36)	NC		NC	NC
	(35)	C		C	C
	(38)	NO		NO	NO
Low Relay	(26)		NC	NC	NC
	(25)		C	C	C
	(28)		NO	NO	NO
	(46)		NC	NC	NC
	(45)		C	C	C
	(48)		NO	NO	NO

Power supply

Normally provided by a multi-tapped transformer, which also provides isolation of the input from ground or the supply.

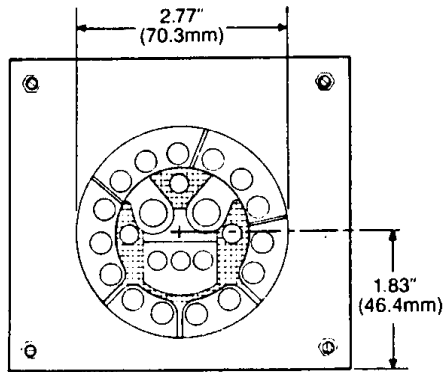
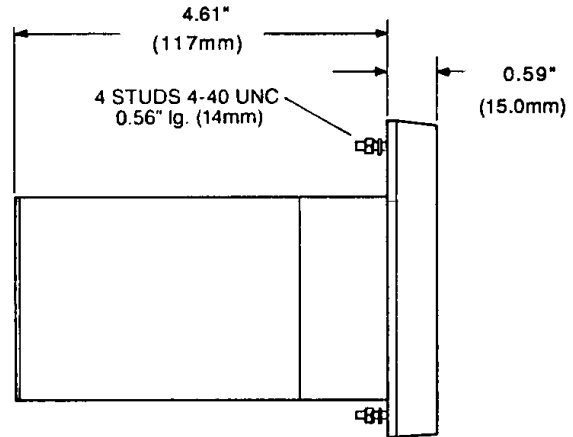
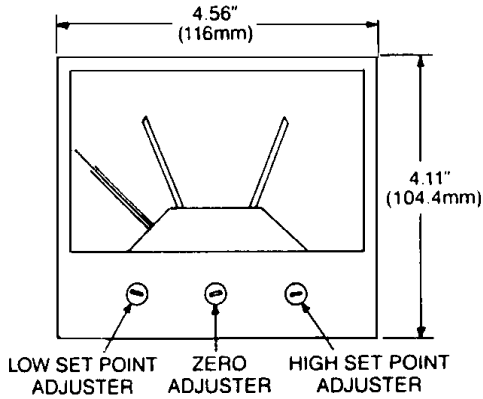
For dc power operation, either:-

- a) An inverter board is wired internally to provide the supplies required, or
- b) A 12V-0V-12V ac or dc source may be used. This option uses no inverter and avoids any problems associated with the switching noise generated by it. It should be noted that this option does not isolate the input from the external signal.

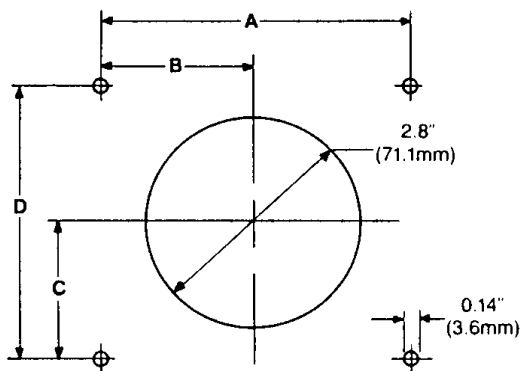
Installation Instructions



Dimensions



A = 101.6mm
B = 50.8mm
C = 39.1mm
D = 90.4mm



Maintenance

Unless a fault develops, the unit requires little attention. During routine servicing and inspection of the associated equipment, the device should be inspected to normal standards for this class of equipment. For example remove accumulations of dust and check all connections for tightness and corrosion. In the event of a repair being necessary it is recommended that the transducer be returned to the factory or to the nearest Crompton Instruments Sales Centre.

Should repair be attempted then replacement components must be of the same rating and tolerance as those used on the original circuit.

Low Voltage Directive:- This product complies with BS EN61010-1

WARNING

Voltages dangerous to human life may be present at some of the terminals of this unit. Ensure all supplies are de-energised before attempting any connection/disconnection. If it is necessary to make adjustments with the power connected then exercise extreme caution.

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