Meter Relays

Series 239 Analog Meter Relay Specification

KEY FEATURES

- Class 1.5 Accuracy
- Stable electronic switching circuit does not use lamps, photocells, inductors or capacitors
- Isolated input signal
- Control function continues if the indicator becomes damaged
- Rugged, shock and vibration resistant design
- LED relay status indicators

Series 239 meter relays combine a highly accurate indicator with High and Low set point relays. The relays can operate alarm and control devices when the monitored signal value moves outside the chosen set point limits shown by adjustable red index pointers. A single compact case houses the unit which requires only the input signal and power supply thus saving space and installation time.

Applications

- Liquid level control
- Load shedding
- Power factor correction
- High & Low alarms
- Shutdown
- Frequency monitoring
- Temperature indication and control

Accessories

- Relay latching
- External reset switch
- Finger knob setpoint adjusters
- Hysteresis
- Panel mounting gasket

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Product Technical and Performance Specifications

Adjustments	
Front panel	Set-point potentiometer(s)
Rear panel	Delay potentiometer(s)
Measuring Inputs	
AC Voltage	10V to 600V RMS (Sensitivity 1Kohm/V to 100Kohm/V, max 2.5Mohm
AC Current	1mA to 15A RMS (20mV drop)
DC Voltage	10mV to 600V RMS (Sensitivity 1Kohm/V to 100Kohm/V)
DC Current	100uA to 15A (20mV drop) Center zero option up to 15/015 amps
Max continuous input voltage	1.2x rating (600V max.)
Max continuous input current	1.2x nominal (15A max.)
Max short duration input current	6x nominal for 6 sec. (30A max.)
Freq. monitoring	50 to 60Hz +/-10%
Burden	<0.5VA
Damping Time	1 second
4" Scale	100 deg. Deflection
Panel Material	Ferrous or non-ferrous
Dielectric Test	2600V RMS for 1 min.
Auxiliary Supply Burden	<1.5W
Enclosure	
Flammability	UL94V1
Terminal capacities	1 to 4mm2 solid or stranded conductors

Accuracy	
Indicator accuracy	Class 1.5
Set-point range	98% of scale
Set-point accuracy	1% of range
Set-point hysteresis	2% of range
Trip repeatability	0.5% of range
Relay trip-time	<1 second
Time delay	0-20 seconds, adjustable by potentiometer on rear panel. Option: 0-10 sec & 0-40 sec.
Indication	Single red LED, per set-point, to indicate trip condition
Outputs	
Relays	DPCO contacts rated 5A @ 250VAC 5A @ 30VDC resistive electrical life >10 to the 4th power operations @ 5A, 250VAC Contact class IIB (IEC 60255-0-20)
Relay logic	Configurable to energize or de-energize on trip
Environmental & Mechanical	
Ambient temperature	
reference range	+15 deg C to +30 deg C
nominal range of use	0 deg C to +60 deg C
Storage temperature	-20 deg C to +70 deg C
Relative humidity	<90%, non condensing
Shock	15g/6ms (EN 60068-2-27)
Bumping	40g/6ms (EN 60058-2-29)
Vibration	10-300Hz (EN 60068-2-6)
Protection Class (BS EN 60529)	Terminals to IP20 Enclosure to IP50

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Applications

- Liquid level control
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- Power factor correction
- High & Low alarms
- Shutdown
- Frequency monitoring
- Temperature indication and control

Accessories

The following optional accessories are also available for the 239 Meter Relay:

- Relay latching
- External reset switch
- Finger knob setpoint adjusters
- Hysteresis
- Panel mounting gasket

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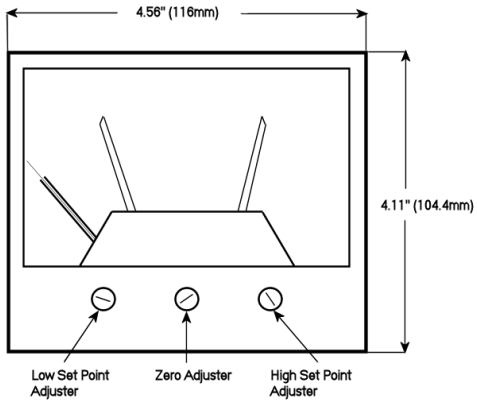
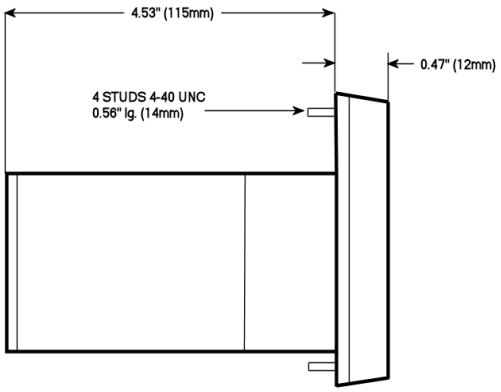
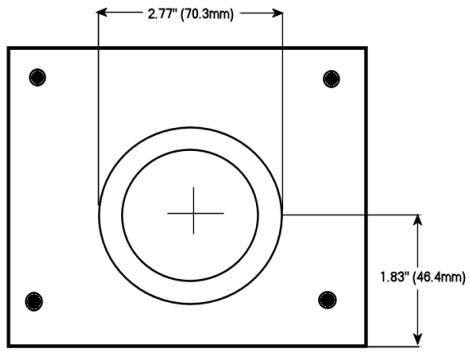
Product Coding System		
Model	**No. Relays & Setpoints**	**Function**
239-300A	One relay, two setpoints	Upscale de-energized, downscale energized
239-301A	One relay, one setpoint	Upscale energized, downscale de-energized
239-302A	Two relays, two setpoints	Mid band de-energized, outside band energized
239-303A	Two relays, two setpoints	Both upscale energized, downscale de-energized
239-304A	Two relays, two setpoints	High and low midband energized, outside band de-energized – no time delay
239-305A	Two relays, two setpoints	Both upscale de-energized, downscale energized
239-307A	One relay, one setpoint	Upscale de-energized, downscale energized
239-30RA	Two relays, two setpoints	Midband de-energized, outside band energized – operates from 2, 3 or 4 wire RTD
239-30TA	Two relays, two setpoints	Midband de-energized, outside band energized – operates from thermocouple input

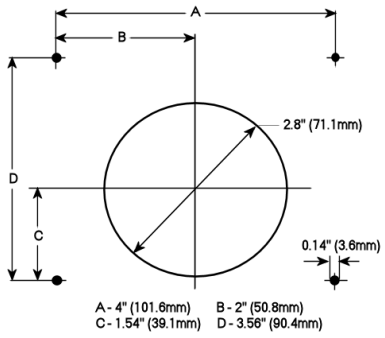
Dimensions:







Panel Cutout



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