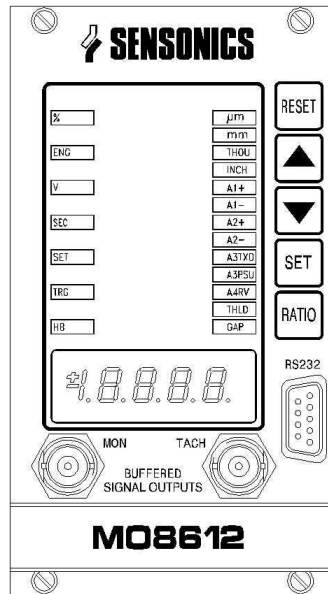


SENTRY SYSTEM



MO8612 – MARK SPACE RATIO, DIFFERENTIAL EXPANSION MODULE



- * EDDY CURRENT PROBE INPUT.
- * MODULAR, RACK MOUNTED.
- * INDEPENDENT MICROPROCESSOR.
- * PROGRAMMABLE SET UP VIA RS232
- * INDEPENDENT POWER SUPPLY.
- * HIGH VISIBILITY LED DISPLAY.
- * 4 ALARM RELAYS PER MODULE.
- * 6 RECORDER/SERIAL OUTPUTS.
- * DESIGNED TO MEET API 670.

The Sensonics MO8612 Module is one of the SENTRY series microprocessor based signal conditioning units that is used to measure shaft differential expansion by means of an eddy current probe and mark space plates fitted to a turbine shaft. The modules in the SENTRY series are designed to be housed in the Sensonics RA8600 series 19 inch 3U extended eurocard rack system.

The signal conditioning unit is fitted with an LED digital display and alarm indications. The former will normally indicate displacement in the selected engineering units (selectable from the front panel). The full scale range and other parameters can be set up in the windows based software on a laptop PC, stored then downloaded to the module via an RS 232 connection to the monitor module. Front panel buttons permit selected operational software settings to be viewed on the indicator/display without the need for a PC. A "time out" function ensures that the display will revert to the normal reading after a preset time.

The signal input to the module is a series of pulses per revolution derived from a specially-shaped target high/low pattern on the shaft of the machine being monitored. These pulses will normally be voltage pulses produced from a Sensonics eddy current probe mounted on the machine at right angles to the shaft axis and in proximity to the shaft target pattern. An associated EC driver unit provides the signal output to the mark-space module, the latter supplying -24V dc power to the driver unit.

The module has an adjustable or self-tracking threshold level through which the input signal pulses must pass to produce a trigger.

The module calculates the pulse width ratio of successive input pulses and uses the result to establish the axial relationship between the shaft target and the fixed structure on which the EC probe is mounted. During normal operation the HB LED (Heart Beat) on the front panel will flash rhythmically, which shows that the microprocessor is working.

Dual positive and negative going level alarms (A1 \pm and A2 \pm) and relays are fitted and red LED indicators on the module front panel will illuminate when the signal exceeds the level set by the software programming; after a delay of selectable time the A1 or A2 alarm relay will change state.

The module also has a transducer and system integrity alarm and relay fitted, with an internal microprocessor watchdog. Depressing the 'RATIO' button will cause the display to jump from the current engineering units of displacement display (μm , mm, thou, or inches) to ratio in percentage.

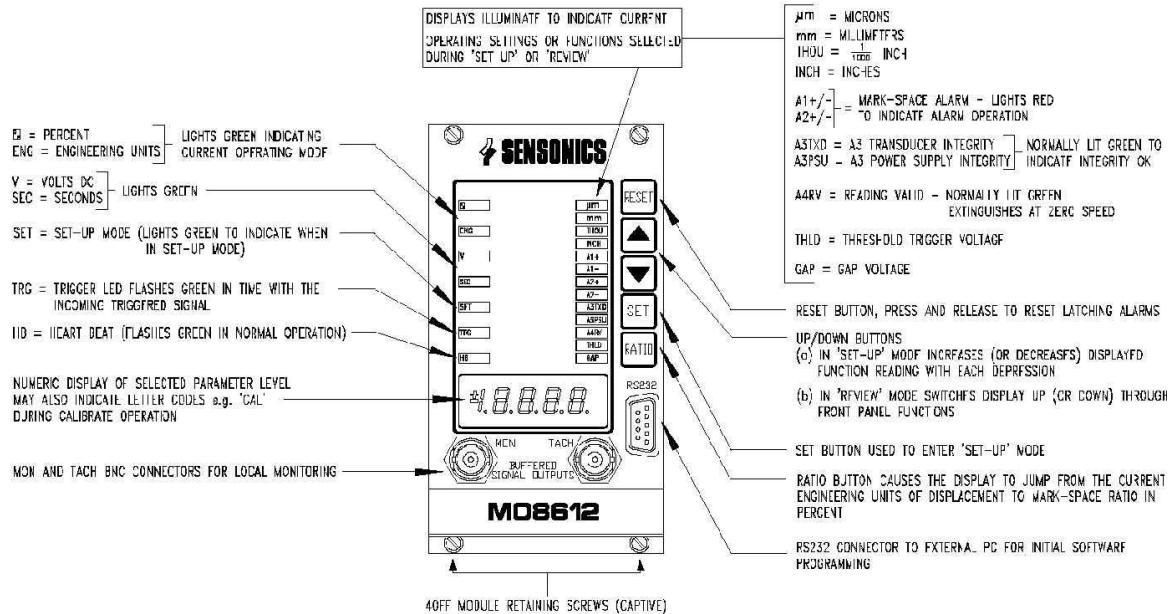
The 'MON' BNC connector mounted on the front panel is to provide information on the input signal. The signal level is the 'raw' input voltage direct from the module signal input from the transducer. The output is buffered and therefore an accidental overload or a short circuit will not affect the integrity of the module. Signal accuracy is nominally 1%.

The 'TACH' BNC connector at the front panel provides the conditioned tacho signal as seen by the microprocessor.

SENTRY SYSTEM

MO8612 – M.S.R. DIFFERENTIAL EXPANSION MODULE

Front Panel Facilities and Functions



SPECIFICATION

Input

Sensitivity	Programmable to suit measurement range
Transducer Type	Eddy current probe system
Power Supply	110V or 240V AC 50-60 Hz or DC

Output

Displays	4 1/2 digit indicator & 20 LED indicators
Meter accuracy	+/- 5% of true value
Recorder outputs	Up to 6 voltage or current outputs per module plus serial RS485
Relays	4 alarm relays per module as standard (6 optionally available) A1 and A2 - level alarms A3 - Channel integrity alarm A4 - Reading invalid alarm
Buffered transducer output	BNC connector on front of panel, and rear of rack.
Tach signal (TTL)	BNC connector on front of panel

Dimensions

Height	128.8mm (3U)
Width	70.7mm (14HP)

DS1145



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