

SENTRY SYSTEM

MO8602 - DUAL CHANNEL VIBRATION MODULE



- * 2 EDDY PROBE INPUTS
- * MODULAR, RACK MOUNTED
- * INDEPENDENT MICROPROCESSOR
- * PROGRAMMABLE SET UP VIA RS232
- * INDEPENDENT POWER SUPPLY
- * MONITORS IN DISPLACEMENT
- * HIGH VISIBILITY DISPLAY
- * 4 ALARM RELAYS PER MODULE
- * 6 RECORDER OUTPUTS PER MODULE
- * DESIGNED TO MEET API 670

The Sensonics MO8602 Module forms one of the SENTRY Microprocessor based series and is a signal conditioning unit for monitoring two eccentricity signals from eddy current probes. 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 a digital indicator and a dual bar graph display. The former will normally indicate vibration in the selected units (selectable on the front panel) from either channel. The bar graphs will display the levels of vibration as a percentage of the full scale range which has been set up in the software. Front panel buttons permit selected operational software settings to be viewed on the indicator/display. A "time out" function ensures that the display will revert to the normal vibration reading after a preset time.

Signal Conditioning

The module accepts 2 eccentricity signals from Eddy current probes. These are conditioned to give two independent measurements of Eccentricity accurate to within +/- 0.5% of the true level. The inputs are conditioned to measure in displacement and the reading displayed in terms of Pk to Pk, Pk or RMS. The signals may be displayed in one of four selectable ranges using metric or imperial units.

For each channel there are 2 independent eccentricity level alarms, A1 and A2. When the signal level exceeds an alarm level for a specified period the associated lamp will be illuminated on the display and the state of the appropriate relay changed. The module has four alarm relays as standard each of which may be set independently to be latching or non-latching, normally energised or de-energised and normally open or closed. There is provision for two extra relays to be fitted allowing the settings of the A1 and A2 alarm relays for each channel to be independent. A control input is provided which will cause the alarm levels to be multiplied by a factor of 2 or 3 as selected to prevent tripping during machine start-up.

A channel integrity alarm A3 monitors the Transducer/PSU and Microprocessor for each channel and a common A3 alarm relay is provided. A green A3 TXD and A3 PSU "OK" LED illuminates on the front panel for each channel. If the TXD or PSU are faulty (green LED unlit) then the associated A3 relay will change state.

An A4 Reading Invalid alarm monitors the gap between each probe and the shaft, the A4 alarm relay tripped will indicate that the reading is "not valid", ie the probe is out of range. A common A4 alarm relay is available, and an individual indication is available for each channel by the illumination of a red A4 LED. The main filtering is performed by a 6 pole low pass filter, the cut off of which may be fixed or may track the rotational speed of the shaft from 50 - 4000rpm. The module can accept a TTL "tacho" signal and when present an indication of shaft speed will be available. When the tracking option is selected a constant ratio will be maintained between filter cut off and shaft speed.

The module can also be configured to a dual path module with one transducer input signal applied to both channels.

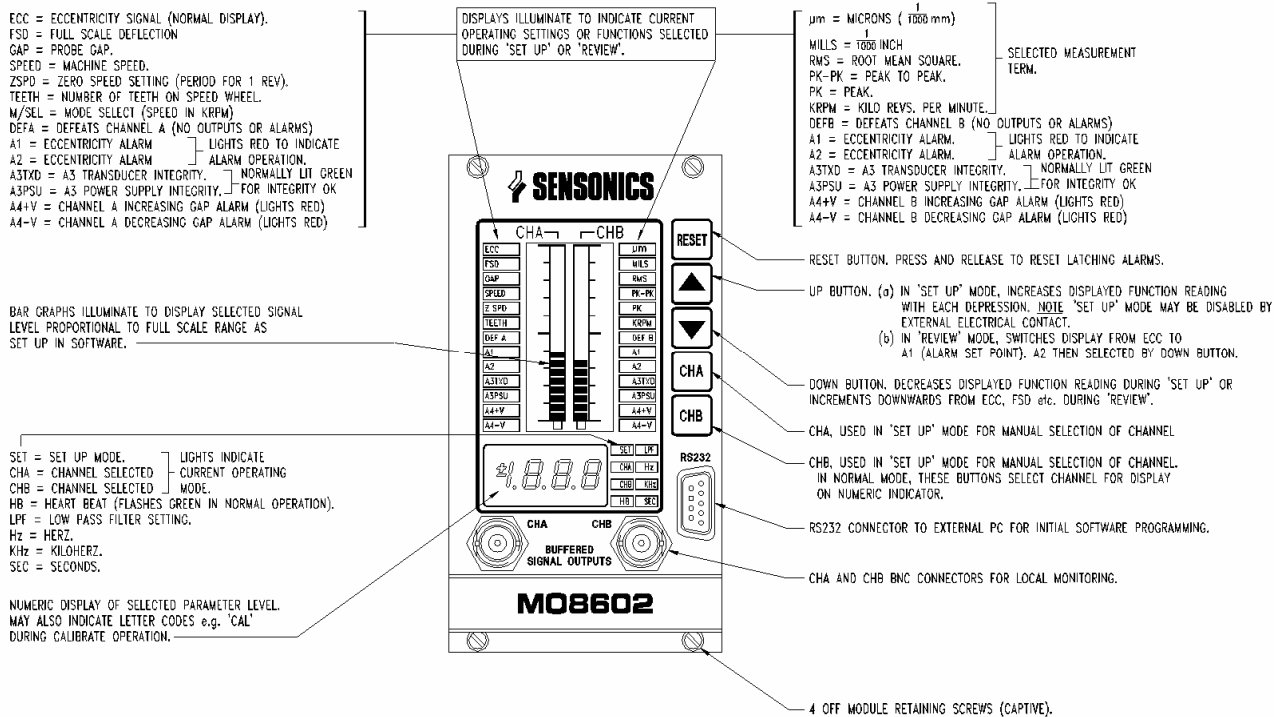
Signal Outputs

The module will provide up to 3 outputs per channel of a combination of current and voltage outputs as required. The range of the outputs may be set independently of the display and may also be set to increase or decrease with an increasing vibration.

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Front Panel Facilities and Functions



SPECIFICATIONS

Input

Sensitivity	100 mV/ thou or 100mV/ thou
Transducer Type	Eddy current probe system
Frequency Range	DC to 10 KHz
Power Supply	110V or 240V AC 50-60 Hz
Operating temperature range	0°C to 50°C

Output

Displays	21 segment bargraph and 3 1/2 digit indicator.
Meter accuracy	+/- 5% of true value
Recorder outputs	Up to 6 voltage or current outputs per module
Relays	4 alarm relays per module as standard A1 and A2 - level alarms A3 - Channel integrity alarm A4 - Reading invalid alarm
Buffered output	BNC connector on front of panel, and rear of rack.

Dimensions

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

DS1032



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