

SENTRY SYSTEM



MO8608 - SINGLE CHANNEL SPEED MODULE



- * 4½ DIGIT LED DISPLAY
- * ECP or TTL INPUT
- * MODULAR, RACK MOUNTED
- * INDEPENDENT MICROPROCESSOR
- * PROGRAMMABLE SET-UP VIA RS232
- * INDEPENDENT POWER SUPPLY
- * MONITORS ROTATIONAL SPEED IN RPM or Hz
- * 4 or 6 ALARM RELAYS PER MODULE
- * 4 RECORDER OUTPUTS PER MODULE
- * DESIGNED TO MEET API 670
- * MONITORS OVER SPEED TRIP & MAXIMUM SPEED CONDITIONS
- * ZEROSPEED ALARM

The Sensonics MO8608 Module forms one of the SENTRY Microprocessor based series and is a signal conditioning unit for monitoring from the signal from an eddy current probe or external TTL source. 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. This will normally indicate speed in the selected units. Front panel buttons permit selected operational software settings to be viewed on the indicator/display. A "timeout" function ensures that the display will revert to the normal speed reading after a preset time.

Signal Conditioning

The module accepts a pulsed input signal with frequency proportional to rotational speed from an eddy current probe input or TTL source. This is conditioned to give a measurement of speed which may be displayed to an accuracy ± 0.1 RPM at speeds below 1000RPM, and ± 0.5 RPM at speeds above 1000RPM. The module also has an overspeed trip input for use during over speed testing.

Input signals from multi-toothed wheels may be frequency divided to provide a once-per-rev pulse output. The measured speed level may be displayed in units of RPM or Hertz.

For each channel there are four independent speed level alarms, A1+, A1-, A2+ and A2-. When the speed level exceeds a positive (+) alarm level for a specified period, the associated lamp will be illuminated on the display and the state of the appropriate relay changed. The negative (-) alarms work similarly for speed levels below the negative (-) alarm levels.

The module has four alarm relays as standard, each of which may be set independently to be either latching or non-latching, normally energised or de-energised and normally open or closed. There is a provision for two extra relays to be fitted allowing the settings of the positive (+) and negative (-) alarms to be independent.

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

An A4 alarm monitors the channel input and when tripped, indicates that a "zero speed" condition has occurred. An A4 alarm relay is available in addition to the front panel A4 indication LED.

The module can be operated in Over Speed Monitor Mode, selectable either from the front panel or automatically. This will cause the module to record maximum speed and trip speed levels during overspeed testing.

Signal Outputs

The module will provide up to four outputs in combinations of current and voltage outputs as required. The module provides two programmable, independently scaled dc output ranges (eg. one for the full speed range and one for the barring speed range), which can be directed to any combination of the four outputs. The range of the outputs may be set independently of the display and may also be set to decrease with increasing speed.

A switchable control line is also provided for operation in conjunction with the Sensonics MO8607 Dual Mode Eccentricity Module.

SENTRY SYSTEM

MO8608 - SINGLE CHANNEL SPEED MODULE

Front Panel Facilities and Functions

SPEED = SPEED SIGNAL (NORMAL OPERATION)
 GAP = PROBE GAP
 ZSPD = ZERO SPEED SETTING IN REVIEW MODE
 OR ZERO SPEED ALARM IN NORMAL RUNNING
 (LIGHTS RED)
 TEETH = NUMBER OF TEETH ON SPEED WHEEL

 EMODE = ECCENTRICITY MODE SWITCH LEVEL IN REVIEW MODE
 OR SHOWS ECCENTRICITY MODE HAS BEEN ENABLED
 IN NORMAL RUNNING
 M/SC = INDICATES MAXIMUM SCALE HAS BEEN REACHED

 AUTO = INDICATES WHETHER MODULE IS ON MANUAL OR
 MAN = AUTOMATIC SWITCH TO OVER SPEED MODE
 MSPD = MAXIMUM SPEED IN OSM
 TSPD = TRIP SPEED IN OSM
 OSM = OSM SWITCH LEVEL IN REVIEW MODE
 OR OSM ENABLED IN NORMAL RUNNING

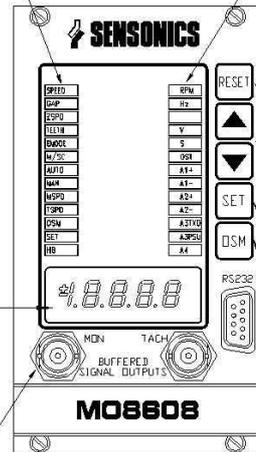
 SET = SETUP MODE IS ACTIVE
 HB = HEART BEAT (FLASHES GREEN IN NORMAL OPERATION)

NUMERIC DISPLAY OF SELECTED PARAMETER LEVEL
 MAY ALSO INDICATE LETTER CODES e.g. 'CAL'
 DURING CALIBRATE OPERATION

MON AND TACH BNC CONNECTORS FOR LOCAL MONITORING

4 OFF MODULE RETAINING SCREWS (CAPTIVE)

DISPLAYS ILLUMINATE TO INDICATE CURRENT
 OPERATING SETTINGS OR FUNCTIONS SELECTED
 DURING 'SET-UP' OR 'REVIEW'



RPM = REVOLUTIONS PER MINUTE
 Hz = FREQUENCY IN HERTZ
 V = VOLTS (PROBE GAP MEASUREMENT)
 S = SECONDS (ALARM DELAY)
 OST = OVER SPEED TRIP-LIGHTS RED WHEN OVER
 SPEED SIGNAL RECEIVED

A1+/- = SPEED ALARM-LIGHTS RED TO INDICATE ALARM
 OPERATION
 A2+/-

A3TXD = A3 TRANSDUCER INTEGRITY
 A3GSU = A3 POWER SUPPLY INTEGRITY

A4 = ZERO SPEED- LIGHTS RED TO INDICATE ALARM OPERATION

RESET BUTTON, PRESS AND RELEASE TO RESET LATCHED ALARMS

UP/DOWN BUTTONS
 (A) IN 'SET-UP' MODE INCREASES (OR DECREASES) DISPLAYED
 FUNCTION READING WITH EACH DEPRESSION
 (B) IN 'REVIEW' MODE SWITCHES DISPLAY UP (OR DOWN) THROUGH
 FRONT PANEL FUNCTIONS

SET BUTTON USED TO ENTER SET-UP MODE

OSM BUTTON SELECTS OVER SPEED MODE IN MANUAL OPERATION

RS232 CONNECTOR TO EXTERNAL PC FOR INITIAL SOFTWARE
 PROGRAMMING

SPECIFICATIONS

Input

Frequency Range 0 - 10 KHz
 Transducer Type Eddy current probe system (or TTL pulse)
 Power Supply 110V or 240V AC 50-60 Hz
 Operating temperature range 0°C to 50°C

Output

Display 4½ digit indicator
 Meter accurac..... +/- 0.5 RPM
 Recorder output..... Up to 4 voltage or current outputs per module
 Relays 4 alarm relays per module as standard
 A1+, A1-, A2+ and A2- level alarms
 A3 - Channel integrity alarm
 A4 - Zero Speed alarm
 Buffered output Two BNC connectors on front of panel and rear of rack

Dimensions

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

DS1038



Sensonics Ltd
 Northbridge Road
 Berkhamsted
 Herts, HP4 1EF
 United Kingdom
 Tel: +44 (0)1442 876833
 Fax: +44 (0)1442 876477
www.sensonics.co.uk