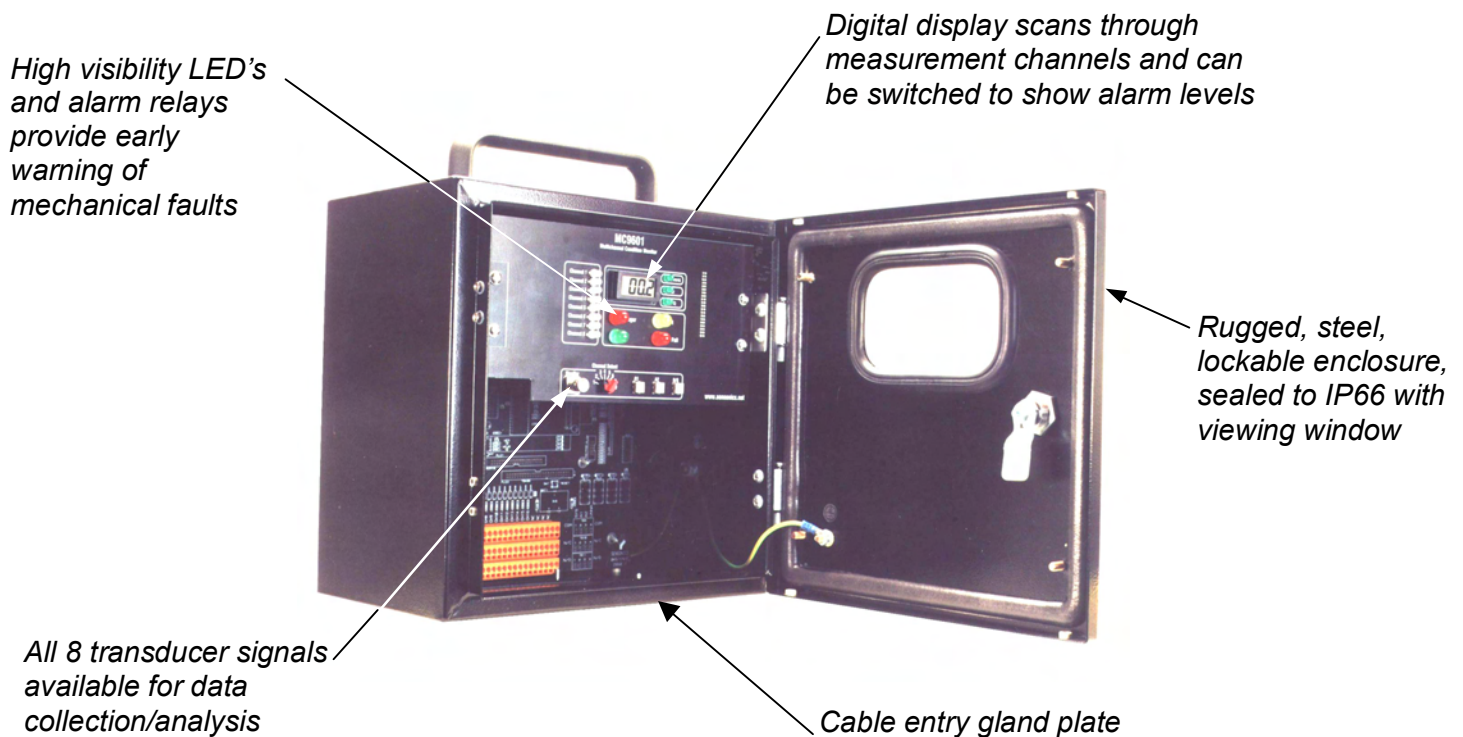


# **Plantscan** Multichannel Vibration & Temperature Monitor

Protect rotating equipment from mechanical breakdown and reduce maintenance costs with this easy to use, effective condition monitor



The **Plantscan MC9601** is a self contained, on-line plant condition monitor, providing real time protection of rotating machines such as pumps, mills, motors, compressors etc. from mechanical breakdown.

The unit is available in various configurations from 2 to 8 channels of vibration and/or temperature and is particularly suited to monitoring machines with rotational speeds of between 20 and 10000 rpm and incorporating either sleeve or rolling element bearings.

Transducers, (accelerometers for vibration or RTD's for temperature) fitted to the machine, are powered by the plantscan and their signals scanned for approximately 5 seconds each and the level compared to pre-defined alarm levels. If these are exceeded an alarm relay ( volt free contact) is triggered and a highly visible LED illuminated on the front panel.

Both A1 (alert) and A2 (danger) alarm levels are individually adjustable for each channel and activate common alarm relays. The unit can be fitted with individual relays for each channel when required for example when one unit is used to monitor and trip more than one plant item.

The steel, lockable enclosure is sealed to IP66 and is suited to installation in hostile plantside environments, the door of the enclosure has an integrated viewing window through which the high visibility LED's and digital LCD display can be viewed.

Each accelerometer signal is available on a switched BNC connector on the display panel for data collection/analysis, in the same way as a standard switch box.

Continuous analogue outputs from each channel are available for data recording.

## Ordering information

- 1) Choose the number and type of channels to be monitored from the table to the left.
- 2) State the make and type of transducers to be used if not purchased with the plantscan. NB Plantscan will work with any loop powered accelerometer but may require some pre delivery adjustment.
- 3) Choose the power supply to the unit, either 110 or 220 Vac.
- 4) State the required temperature monitoring range (full scale),  
Choose from: 0 - 100°C, 0 - 150°C, 0 - 200°C or other (please state when ordering).
- 5) Plantscan can monitor vibration in either acceleration or velocity, choose the required monitoring range from the following:  
Velocity ; 0 –10mm/s, 0 – 15mm/s, 0 –20mm/s, 0 – 25mm/s, 0 – 50mm/s,  
Acceleration ; 0 –1g, 0 –2g, 0 – 5g, 0 – 10g, 0 –20g or other ( please state when ordering).
- 6) State the type of analogue output required, ( 1 for each channel ) choose from: 4 – 20mA, 0 – 10mA, 0 – 5V, 0 – 10V or other ( please state when ordering ).

**NB** Vibration is measured in overall level, RMS terms between the frequencies of 10Hz and 1kHz. This is generally regarded to be the best indicator of potential failure in rotating plant with speeds of between 600 and 5000 RPM but plantscan can be set up in the factory to monitor other frequencies.

## Possible Channel Configurations

Vib'n	Temp
2	-
4	-
6	-
8	-
-	2
-	4
-	6
-	8
2	2
2	4
4	2
4	4

## Installation Requirements

The plantscan enclosure is 300 mm square by 239 mm deep and sealed to IP 66 by means of a lockable hinged door, so is suitable for mounting in most plant environments or outdoors. The unit is secured by 4 off brackets (supplied), which take M8 sized bolts.



**Setting up the plantscan is quick and easy to do on site.**

The unit requires an ac power supply, either 110 or 220 V. The power, transducer signals, analogue outputs and alarm cables all enter the unit via a gland plate situated on the under side of the unit. Cable glands can be supplied if required, please order separately. All cable connections are made via Klippon screw type terminals fitted inside the box, which are all clearly and permanently identified by channel number and connection type.

Terminals are provided to allow the common alarm to be connected to normally open, (close to alarm) or normally closed, (open to alarm) relay.

The unit is supplied calibrated and ready to operate. On completion of installation the alarm levels can be set to the desired set point by moving the 8 position "channel select" rotary switch on the display panel, to the desired channel number and then depressing the A1 or A2 button. The current setting of the alarm for the selected channel is then shown in the display and can be adjusted by turning the corresponding potentiometer, which is also situated on the display board.

The alarms for the next channel can then be set by turning the channel select switch to the next position and repeating the procedure.

## Operation

Each monitored channel is scanned for approximately 5 seconds, so for a fully populated 8 channel plantscan each transducer will be monitored once every 40 seconds. A green channel identification LED illuminates to indicate which reading is currently displayed, when an alarm situation occurs this LED will become amber or red in colour depending on the level of alarm reached. The larger alarm LED situated directly beneath the display will illuminate continuously whenever an alarm condition is present on any channel. The unit also has transducer integrity alarms which are annunciated by a green LED on the display panel.

Transducer buffered raw signals can be collected for analysis/trending purposes via the BNC connector on the display panel by selecting the desired channel on the rotary switch.

**SENSONICS LTD SL009**