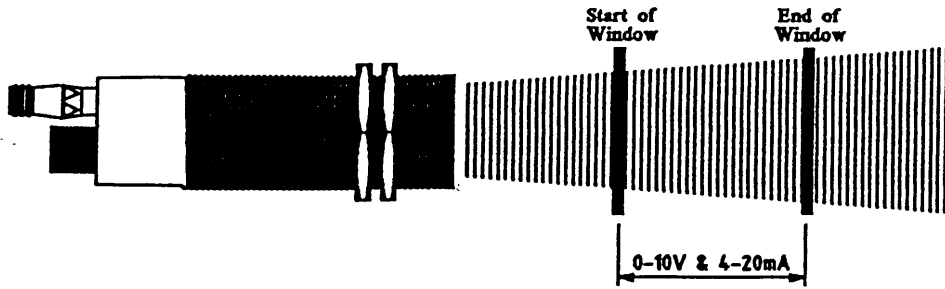# PRODUCT OPERATION GUIDE No. 11
ULTRASONIC SENSORS UC500/2000/4000/6000-30GM-IU-V1

GENERAL

The UC500/2000/4000/6000-30GM-IU-V1 series of ultrasonic sensor can be set up to provide an analogue output (both voltage and current), for a user definable window, as shown below.

The setting of the "window" is achieved by using the programming insert supplied, which is fitted at the rear of the unit.

The 4 units have different range characteristics, as follows:

Model	Nominal Range	Dead Band	Usable Range
UC500	500 mm	0 - 60 mm	60 - 500 mm
UC2000	2 metres	0 - 200 mm	200 - 2000 mm
UC4000	4 metres	0 - 500 mm	500 - 4000 mm
UC6000	6 metres	0 - 800 mm	800 - 6000 mm

At the rear of the unit, as shown in the diagram on the right, is an M12 4 pin V1 connector, a plug-in programming insert, and an array of different coloured LEDs.

The LED array from left to right is:

1. Yellow LED marked 'A1 / E2'
2. Red / Green dual colour LED
3. Yellow LED marked 'A2 / E3'
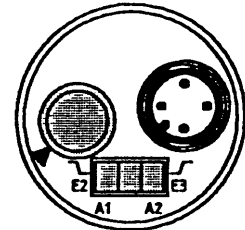
The function of these LEDs are detailed in a table on page 2.

SETTING-UP PROCEDURE

1. Switch OFF the power to the sensor, and remove the programming insert from the rear of the sensor.

2. Switch ON the power to the sensor - the red LED at the rear of unit will illuminate to indicate the unit is ready for programming (if an object is being detected by the sensor, both yellow LEDs may also be illuminated).

   NOTE: If the programming insert is not re-fitted after 5 minutes of applying power, programming of the sensor will be inhibited.

3. Place the "target" the desired distance away for the start of the window point, and place the insert into position "A1" (align the A1 arrow on the insert with the arrow on the sensor). If the range is acceptable, the green LED at the rear of the sensor will flash along with the yellow A1/E2 LED.

4. **DO NOT** move the sensor or target. Remove the insert to program the start point.

5. Place the "target" the desired distance away for the end of the window point, and place the insert into position "A2" (align the A2 arrow on the insert with the arrow on the sensor). If the range is acceptable, the green LED at the rear of the sensor will flash along with the yellowA2/E3 LED.

6. **DO NOT** move the sensor or target. Remove the insert to program the switching point.

7. Place the insert into position "E2/E3" (align the E2/E3 arrow on the insert with the arrow on the sensor) and one of the yellow LEDs at the rear of the sensor will be illuminated to indicate the current output function, as follows:

   A1/E2 LED illuminated - the analogue output will fall as the distance to target increases.
   A2/E3 LED illuminated - the analogue output will rise as the distance to target increases.