



## Laser Altimeter ALTM 400

Laser MEASUREMENT TECHNOLOGY

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1. Standard
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The Distance meter has been supplied with the following:-

- A digital RS232 output.
- A flying lead interface power and control cable.

A Gallium Arsenide (invisible) eyesafe diode laser for measuring distances. Using the very latest components and techniques the laser module is extremely compact and consumes very little power. No harmful emissions of electromagnetic energy are emitted and the unit complies with the CE directives.

The measuring beam transmitter and receiver axis are factory calibrated (using proprietary methods) to be coincident at infinity.

## 2 Operation

The unit is powered by a 12V D.C power supply.

The target - the object under observation, for example a car, lorry or motorcycle - reflects the impinging laser pulse, and a small part is collected by the instruments receiver optics. With the help of the built-in microprocessor, the range to the target is on the RS232 data line.

With the application of power the instrument automatically switches on. After the initial power up delay the laser will continuously make range measurements and output the range data at a rate of 300 hertz.

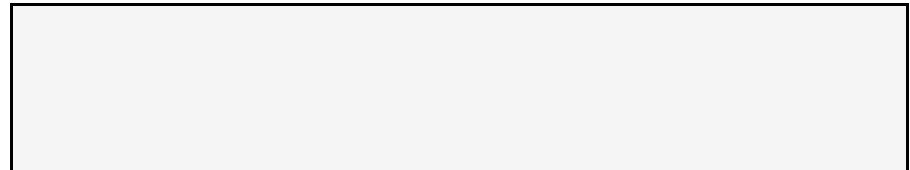
## 3. Cable connections

### Power connection

The power supply should be connected to the two wires marked with VSS and VDD.

There are only two conductors used for RS232

- Data out (TXD)
- Signal GND (GND)



#### 4. Operation / Data format

When power is applied to the laser it will go through a start up routine and then start to take range measurements at a rate of 300 hz. A range measurement consists of a single laser pulse, the received signal from this pulse is processed and the corresponding range data is sent out in serial RS232 format.

The module comes supplied with the following data output format:-

ASCII 57.600 baud 8 bits no parity 1 stop bit.

The range data is sent in two 8 bit bytes as a 12 bit binary word. The first byte contains the 6 MSB's and the second byte contains the 6 LSB's of the word. The two most significant bits are set to a "1" for the most significant byte and to a "0" for the least significant byte.

Example :

MSB	LSB	Range
11101001	00010111	2647 dm
11101011	00111110	2814 dm
11000011	00101100	193 dm
11001101	00101100	876 dm

Technical details about ALTM 400

Range 4-400 meter to a white gray surface

Speed 1000 Hz

Single shot accuracy +- 10 -20 cm

Averaged accuracy +- 5 cm all over range

Beam diameter at exit 2 cm

Beam diameter at 100 meter 25 cm

Pulse mode first reflexion triggering

Weight 950 gram

Encapsulation IP 65

Operating temperature with full specifications – 10 to + 50 degree

Operating temperature with reduced specifications – 20 to + 70 degree C

Lasersafety class Class 1

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