

**VALEPORT LIMITED**

**Model 620 CT sensor**

**Operating Manual**

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## 1 INTRODUCTION

The Model 620 CT probe is based on Valeport's proven Conductivity and Temperature sensors, and provides high accuracy real time CT data to other instrumentation packages.

Designed with ease of interface in mind, the sensor requires a 9 - 15 volt DC power input and ASCII text data output in RS232 at user selectable rates.

## 2 SPECIFICATIONS

### Sensor:

#### Conductivity:

Range: 0 – 80mS/cm  
Accuracy: +/- 0.01mS/cm  
Resolution: 0.002mS/cm

#### Temperature:

Range: -5 deg C to 35 deg C  
Accuracy: +/- 0.005 deg C  
Resolution: 0.001 deg C

**Materials:** 500m version: Acetal and 316 grade stainless steel.  
6000m version: Acetal and titanium.

**Power:** Requires 9 – 15V DC input. Nominal 30mA @ 12 volts.

**Output:** RS232 ASCII text string, 8 data bits, 1 stop bit, no parity, no flow control. Baud rate selectable from 4800, 9600, 19200 or 38400. Maximum sampling rate is dependent on baud rate:

4800	10Hz
9600	12Hz
19200	15Hz
38400	16Hz

### 3 OPERATION

The Model 620 will begin sampling immediately on power up, in whichever mode was previously used. The unit will also automatically begin sampling if interrupted and left inactive for 5 minutes. The unit can be interrupted by sending the command:

#

until it responds with a NAK (\$) or ACK (♣).

The user may then change the following parameters by sending the appropriate commands:

#034 nnnnn<Enter> to set the baud rate (eg #034 19200<cr><lf>)

#036 to read the baud rate

#010 nn<Enter> to set the sampling frequency (1,2,4,8 or 16Hz, eg #010 8<Enter> sets sample rate to 8Hz. Note that 16Hz output is only possible with a baud rate of 38400. Sending the 16Hz sampling command at lower baud rates will result in the sensor outputting data as fast as possible, at the nominal rates indicated in Section 2.)

#011 to read the sample frequency

#### Data output format

T=<tab>nn.nnn<tab>C=<tab>nn.nnn<cr><lf>

Where: T is temperature in °C  
C is conductivity in mS/cm

The string is NOT fixed length. There are no leading zeroes or spaces, and the data will be signed only if negative. Out of range data is signified as “-99.999”

## 4 WIRING INFORMATION

Subconn 6 pin male line Pin	Function	9 Way D Type	4mm Banana Plugs	
		Pin	Pin	Wire colour
1	RS232 GND	5 (Link to 1,6,8,9)		
2	RS232 Tx (Out of sensor)	2		
3	RS232 Rx (Into sensor)	3		
4	+V (8 – 15VDC)		Red Plug	Red, linked inside D type hood
5	N/C			
6	Power GND		Black Plug	Black, linked inside D type hood

**NB: RS232 and Power grounds are isolated.**

5 CALIBRATION CERTIFICATE

Calibration certificate  
inserted after this page

6 EQUIPMENT CHECKLIST

Customer	Contract No.	
	Customer Ref.	
	Delivery Note	
	Calibration Certificate	

Item	Items Req		Qty	Serial No.
	Yes	No		
Model 620 System Order Code:				
Housed Sensor				
50 cm pigtail				
Operating Manual				
Transit Box				



## 7 GUARANTEE CERTIFICATE

The following guarantee periods shall apply:

<i>Semiconductors</i>	<i>12 months from date of despatch</i>
<i>All other system components</i>	<i>36 months from date of despatch</i>

During the above periods, Valeport Limited warrants that (at their option), they will replace or repair any faulty items caused by bad workmanship or materials.

Any such claims must be submitted in writing during the above warranty periods.

Valeport Limited shall be under no liability for:

- 1) Any consequential loss or damage of any kind whatsoever.
- 2) For any defect or deficiency judged by Valeport Limited to be caused by wear and tear or of improper or unskilled handling of the goods or by any repair or attempted repair or dismantling by any one other than Valeport Limited or persons authorised to do so by Valeport Limited.
- 3) Batteries and other consumables supplied with the equipment, which are not covered by this guarantee.

Due to the specialised nature of the instrument it should, if possible, be returned to the factory for repair or servicing. The type and serial numbers of the instrument should always be quoted, together with full details of any fault or the service required.

Equipment returned to Valeport Limited for servicing must be adequately packed, preferably in the special box supplied and shipped with transportation charges prepaid. Return transport charges are also to the account of the customer.

Note: Any items supplied as part of a system which are not manufactured by Valeport Limited are covered by the individual manufacturer's guarantee of the equipment supplied.

MODEL NUMBER..... SERIAL NUMBER .....

DATE OF DESPATCH ..... SIGNATURE .....