



# CALIBRATION CERTIFICATE

AANDERAA DATA INSTRUMENTS

Electronic board: 3623  
Electronic board serial: 289  
Reference reading: 320

Product: RCM 9 MkII  
Serial No: 259  
Calibration Date: February 17, 2011

For details; see the individual Calibration Sheets.

The calibration coefficients listed below are valid for sensors with the following serial numbers:

| Sensor                 | Type  | Serial No. | Range                 |
|------------------------|-------|------------|-----------------------|
| Doppler Current Sensor | 3920  | 633        |                       |
| Temperature Sensor     | 3621  | 288        |                       |
|                        |       |            | Arctic: -3.05 to 5.70 |
|                        |       |            | High: 9.73 to 36.64   |
|                        |       |            | Low: -2.74 to 21.72   |
|                        |       |            | Wide: -0.74 to 32.80  |
| Conductivity Sensor    |       |            |                       |
| Pressure Sensor        | 3615B | 344        | 0 - 3500 kPa          |
| Turbidity Sensor       | 3612  | 235        | 0 - 20 NTU            |
| Oxygen Sensor          |       |            |                       |

Calibration Coefficients:

| Ch. No. | Parameter         | A          | B         | C          | D          | Unit   |
|---------|-------------------|------------|-----------|------------|------------|--------|
| 1       | Reference         | 0.000E+00  | 1.00E+00  | 0.000E+00  | 0.000E+00  | -      |
| 2       | Current Speed     | 0.000E+00  | 2.93E-01  | 0.000E+00  | 0.000E+00  | cm/s   |
| 3       | Current Direction | 0.000E+00  | 3.52E-01  | 0.000E+00  | 0.000E+00  | Deg. M |
| 4       | Temperature Range |            |           |            |            |        |
|         | Arctic            | -3.050E+00 | 8.792E-03 | -3.476E-07 | 1.134E-10  | Deg. C |
|         | High              | 9.731E+00  | 2.397E-02 | -5.941E-07 | 2.820E-09  | Deg. C |
|         | Low               | -2.743E+00 | 2.405E-02 | -2.238E-06 | 2.056E-09  | Deg. C |
|         | Wide              | -7.378E-01 | 3.420E-02 | -6.292E-06 | 4.800E-09  | Deg. C |
|         | Other             |            |           |            |            |        |
| 5       | Conductivity      |            |           |            |            | mS/cm  |
| 6       | Pressure          | -8.229E+01 | 3.550E+00 | 3.343E-05  | 0.000E+00  | kPa    |
| 7       | Turbidity         | -9.825E-01 | 2.307E-02 | 1.248E-05  | -9.310E-09 | NTU    |
| 8       | Oxygen            |            |           |            |            | uM     |
|         |                   |            |           |            |            |        |

Date:  
February 17, 2011

Sign: Shawn A. Sneddon

  
Service and Calibration Engineer

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# TEST & SPECIFICATIONS

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## 1. Visual and Mechanical Checks:

- 1.1 Sensors fixed in correct position
- 1.2 Wire harness, screws and sensor plugs
- 1.3 Epoxy coating intact
- 1.4 Zinc anode installed
- 1.5 Clean and inspect O-ring groove

## 2. Performance Tests of complete instrument:

- 2.1 Current consumption at continuous operation, maximum 120 mA
- 2.2 Current consumption between measurements at 120 min. interval, maximum 1.0 mA average
- 2.3 Check operation with Test Unit 3751, -5C to +35C, (all channels tested, 16 hour run, data stored in DSU 2990)
- 2.4 Check remote start, PDC-4 output and external powering
- 2.5 Electrical isolation between system ground and Top end-plate
- 2.6 Compass verification every 15° (max error  $\pm 5^\circ$ )

## 3. Final Check prior to Shipment:

- 3.1 Doppler Current Sensor is tested with Test Unit 3731
- 3.2 Temperature readings correspond to room temperature
- 3.3 Conductivity Sensor reads correct with seawater loop
- 3.4 Check that the pressure sensor is oil filled
- 3.5 Pressure Sensor gives correct reading at air pressure
- 3.6 Turbidity reading increases when a reflector is placed 20cm in front of it
- 3.7 The oxygen sensor reads maximum in air
- 3.8 Erased DSU installed
- 3.9 Set temperature range switch to default setting and conductivity range to 0-74 mS/cm
- 3.10 Set to customer settings
- 3.11 Inspect O-ring groove and clean
- 3.12 Replace Top-End Plate and Receptacle O-ring

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# CALIBRATION CERTIFICATE

**Layout No:**  
**Range:** 0 - 3500 kPa

**Product:** Pressure Sensor 3615B  
**Serial No:** 344  
**Calibration Date:** February 15, 2011

## Calibration

The calibration of each sensor is carried out at the factory and the calibration is valid for all following data handling. The form below is filled in only where necessary, depending upon which type of sensor it concerns.

| Pressure |           | Coefficients (kPa) |            |
|----------|-----------|--------------------|------------|
| Bar      | Reading N |                    |            |
| Air      | 52        | A                  | -8.229E+01 |
| 7        | 248       | B                  | 3.550E+00  |
| 16       | 500       | C                  | 3.343E-05  |
| 24       | 723       | D                  | 0.000E+00  |
| 33       | 972       |                    |            |

Date:  
February 15, 2011

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