



IDRONAUT Srl

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CERTIFICATE OF CALIBRATION

Model:	Probe 316	Serial No.	0202229
Calibration date	6 June 2002	Client: National Institute Marin of Biology Piran - Slovenija	
Next Calibration date		End User:	

This is to certify that the equipment has been calibrated and is within the manufacturers specified accuracy.

Calibration results where appropriate are shown on the attached sheets
The equipment used for calibration was as follows:

Item	Model n°	Serial n°
Automatic thermometer bridge plus conductivity/ salinity adaptor	ATB1250 CSA1250	10072 10072
Dead weight tester Budenberg	580	26947
Pt 25 Hart Scientific	5680	1093

All the above equipment is within the manufacturers recommended calibration period and is traceable to the national standards except where no such standards exists.

Calibration Engineer signature

Date: 06-06-02

Quality control Engineer signature

Date: 06-06-02

Model:	IDRONAUT Seven rings		Serial No.	0202229		
Calibration date:	6 June 2002					
Conductivity sensor data			Measurement range (mS/cm) 0 – 64			
Data point	Temp. Observed (deg C°)	Salinity Observed (psu)	Cond. Observed (mS/cm)	Cond. Observed (Counts)	Cond. Calculated (mS/cm)	Cond. Error (mS/cm)
1	-0.2741	39.271	32.040	56.9342	32.043	+0.003
2	4.0437	39.271	36.2181	64.3523	36.2184	-
3	8.1727	39.271	40.3791	71.7494	40.3795	-
4	12.181	39.271	44.5633	79.1857	44.5623	-0.001
5	16.117	39.271	48.7988	86.7176	48.7985	-
6	20.0272	39.271	53.1203	94.4034	53.1207	-
7	23.9418	39.271	57.547	102.2753	57.5471	-
8						
9						
Maximum permitted conductivity error = 0.003 mS/cm						
Calibration coefficients						
A	-3.5498552e-5					
B	0.56306408					
C	-3.863964e-6					

Model:	IDRONAUT Pt100	Serial No.	0202229	
Calibration date:	6 June 2002			
Temperature sensor data		Measurement range (deg °C) -1 - 50		
Data point	Temp. Observed (deg °C)	Temp Observed (Counts)	Temp Calculated (deg °C)	Temp. Error (deg °C)
1	-0.2741	99.9587	-0.2741	-
2	4.0437	101.6468	4.0437	-
3	8.1727	103.2584	8.1727	-
4	12.181	104.8209	12.181	-
5	16.117	106.3536	16.117	-
6	20.0272	107.8741	20.0272	-
7	23.9418	109.3947	23.9418	-
8				
Maximum permitted temperature error = 0.003 deg °C				
Calibration coefficients				
A	-245.40711			
B	2.348132			
C	0.0010425075			

Model:	KELLER PA-10			Serial No.	XN 325	
Calibration date	6 June 2002					
Pressure sensor data				Full scale reading (FSR) bar - 4		
Data point	Pressure Applied (bar)	Atmos. Pressure (mbar)	Pressure Observed (counts)	Pressure Calculated (bar)	Pressure Error (bar)	Pressure Error (%FSR)
1	1.000	1011	11441.8	0.999	-0.001	-
2	2.000	1011	22886.1	2.000	-	-
3	3.000	1011	34324.1	3.000	-	-
4	4.000	1011	45752.0	3.999	-0.001	-
5						
6						
7						
8						
9						
10						
Maximum permitted pressure error = 0.05 %FSR						
Calibration coefficients						
A	0.0011670468					
B	0.00087348543					
C	1.6266515e-11					

OCEAN SEVEN CONFIGURATION Sheet

Serial Number : 0202229
Model : OCEAN SEVEN 316
Date : 6 June 2002
Customer :

Probe configuration

Probe Identification code: 229
Data processing/Sensor conditioning revision: 6.0 /6.0
Firmware release: 7.0_04
Power ON operating mode: Verbose Non-Verbose
Software packages: IDRO316
Telemetry type: None ASK FSK
Deck unit: Portable Rack
Voltage: 220VDC 30 VDC _____ VDC
RS232 cable length : **50 mt**
Coaxial cable length: m: None 7mm 5mm 3.2mm
Magnetic power ON/OFF switch: None Rotary Pin
Battery package: None Internal External Both
Test Battery voltage: No Yes Min. battery voltage: **9.000 V**
Battery type: 10 " AA " Cell
Housing: 75mm AISI-316L 100mm PPS 100mm AISI-316L
Upper cap: Standard Extended
Battery housing: 75mm AISI-316L 34mm AISI-316L
RS232 main port : Baud rate : **9600** Data bit : **8** Stop bit : 1 Parity : **None**
RS232 auxiliary port 1 : None RS232C Insulated
Baud rate : Data bit : Stop bit : Parity :
RS232 auxiliary port 2 : None RS232C Insulated
Baud rate : Data bit : Stop bit : Parity :
AUX. Analogue expansion: No Yes Multiplexer channels:
Optical sensor scale control: No Yes Altimeter interface: No Yes
Rosette interface: None G.O. 1015 G.O. 1016/1014 Both

OCEAN SEVEN CALIBRATION Sheet

Serial Number : 0202229
Model : Probe 316
Calibration Date : 6 June 2002
Customer :

Sensors

Depth range : 4 BAR S/N: XN 325 Model: KELLER PA-10

Calibration coefficients: $a + bx + cx^2 + dx^3...$

a: 0.0011670468 b: 0.00087348543 c: 1.6266515e-11
d: e:..... f:

Temperature (IPTS-68)

Calibration coefficients: $a + bx + cx^2 + dx^3...$

a: -245.40711 b: 2.348132 c: 0.0010425075
d: e:..... f:

Conductivity

range: 0-64 mS cm-1 Cell type: IDRONAUT 7-Rings

Calibration coefficients: $a + bx + cx^2 + dx^3...$

a: -3.5498552e-5 b: 0.56306408 c: -3.863964e-6
d: e:..... f:

Oxygen DC Sensor offset: /

pH pH to counts coefficient: /

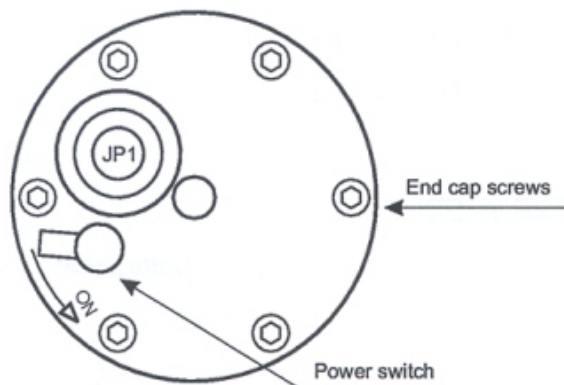
eH Sensor calibrations: offset: /
slope: /

2nd Temperature (IPTS-68)

Calibration coefficients: $a + bx + cx^2 + dx^3...$

a: b: c:
d: e:..... f:

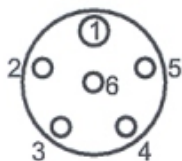
OCEAN SEVEN 316_229 - TOP END CAP - CONNECTOR



The drawing shows the bulkhead connector arrangement at the upper end cap where the auxiliary sensors, sea cable, and optional rosette connections are made.

JP1 - SERIAL INTERFACE & BATTERY CONNECTOR

SEA CON XSG-6-BCL
(mating connector RMG-6-FS)



- 1 = - VDC from external battery pack
- 2 = + VDC from external battery pack
- 3 = GND Serial
- 4 = RS232, Rx signal (to probe)
- 5 = RS232, Tx signal (from probe)
- 6 = n.c.

NOTE: ALL SEA-CON BULKHEAD CONNECTORS
ARE MODIFIED BY IDRONAUT

NOTE: ALL SEA-CON BULKHEAD CONNECTORS
ARE MOUNTED WITH A DROP OF *Loctite 242*



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