

Paroscientific, Inc.

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Redmond, WA 98052
Tel: (425) 883-8700 Fax: (425) 867-5407

Service Report Number: 12396

Rev. Initials:

Rev. Date

Date Received: 3/26/2021

Tel: 831-775-2003

Company: MBARI

Fax/Email: drthom@mbari.org

Serial Number	Part Number	Model Number	Warranty	NCR	Original Zero Date	Customer Comment/ Reason for Return
87760	1789-003-0	8CB4000-I-257	☐		11/5/2001	Evaluation and calibration

Customer Supplied Box

- ☐ YES
☒ NO

Accessories Returned

- ☐ Cable
☐ Manual

Other: None

MET Products

RH N/A
TEMP N/A

External Condition

- ☐ LIKE NEW
☐ FAIR
☒ POOR

Comments

Pressure Port

- ☐ BLOCKED
☒ PARTIALLY BLOCKED
☐ CLEAR
☐ N/A-ACCELEROMETER

Comments

Offset Error (ppm)

146

Current Draw (mA)

13.4

Firmware Version

R5.10

Oil Level

- ☐ FULL
☒ OIL VISIBLE
☐ LOW OIL
☐ NO OIL VISIBLE
☐ N/A

Elec. Isolation:

- ☒ PASS
☐ FAIL
☐ N/A

Analysis:

The housing and electrical connector exterior surfaces have rust stains, scratches and debris. The exterior surfaces were cleaned for inspection and handling. There are labels on both end caps. The anti-fouling port is tarnished with debris. The pressure port entry had debris that was cleaned off. The electrical connector pin base has grease. Incoming functional test was performed. RS-232/485 communications were established. The relative error of the pressure sensor is 146ppm when compared to a reference laboratory barometer. The unique status settings are; BR=115200, BL=1, UN=3, PR=10, TR=40, US=1, PS=65535, DL=1, PI=30 and TI=30. The electrical isolation measures >50G ohms at 500VDC (Pass).

*Quotation is valid for one month from the "Date Analysis Completed." Products remaining at Paroscientific after 2 months will be returned and an evaluation fee will be charged for each product.

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87761	1789-003-0	8CB4000-I-257	☐		11/6/2001	Evaluation and calibration
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Customer Supplied Box ☐ YES ☒ NO	External Condition ☐ LIKE NEW ☐ FAIR ☒ POOR Comments	Offset Error (ppm) 30 Current Draw (mA) 13.6 Firmware Version R5.10
Accessories Returned ☐ Cable ☐ Manual Other: None	Pressure Port ☐ BLOCKED ☒ PARTIALLY BLOCKED ☐ CLEAR ☐ N/A-ACCELEROMETER Comments	Oil Level ☒ FULL ☐ OIL VISIBLE ☐ LOW OIL ☐ NO OIL VISIBLE ☐ N/A
MET Products RH N/A TEMP N/A		Elec. Isolation: ☐ PASS ☒ FAIL ☐ N/A

Analysis:

The housing and electrical connector exterior surfaces have rust stains, scratches and debris. The exterior surfaces were cleaned for inspection and handling. The anti-fouling port is tarnished and clogged. The pressure port entry has debris and that was cleaned off. Incoming functional test was performed. RS -232/485 communications were established. The relative error of the pressure sensor is 30ppm when compared to a reference laboratory barometer. The unique status settings are BR=115200, BL=1, XM=1, MD=2, US=1, DL=1, UN=3, PR=30, TR=120, PI=100 and TI=100.

The electrical isolation test was performed and measured less than 1M ohms at 280VDC (failed). The electrical isolation specification is 100M ohms at 500VDC. After the electrical isolation test the pressure period output measured 41.XXXX microseconds (high). The unit was disassembled to determine the cause of failure. The electrical end cap mounting surface has rust stains. Inspection found that the inside of the pressure port and electrical isolation assembly has water, which caused the electrical isolation and oscillator board to fail. The oscillator board was replaced and tested. The new pressure period measured is 30.06575 microseconds. The inside of the pressure port and electrical isolation assembly need to be cleaned.

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Serial Number	Part Number	Model Number	Warranty	NCR	Original Zero Date	Customer Comment/ Reason for Return
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121194 1789-101-0 8CB1400-I-263 ☐ 12/1/2011 Evaluation and calibration

Customer Supplied Box ☐ YES ☒ NO	External Condition ☐ LIKE NEW ☐ FAIR ☒ POOR Comments:	Offset Error (ppm) 29 Current Draw (mA) 13.8 Firmware Version R5.10
Accessories Returned ☐ Cable ☐ Manual Other: None	Pressure Port ☐ BLOCKED ☐ PARTIALLY BLOCKED ☒ CLEAR ☐ N/A-ACCELEROMETER Comments:	Oil Level ☐ FULL ☒ OIL VISIBLE ☐ LOW OIL ☐ NO OIL VISIBLE ☐ N/A
MET Products RH N/A TEMP N/A		Elec. Isolation: ☐ PASS ☒ FAIL ☐ N/A

Analysis:

The housing and electrical connector exterior surfaces have rust stains, scratches and corrosion. The housing has debris on it that was cleaned. There are labels attached on both end caps. Incoming functional test was performed. RS-232/485 communications were established. The relative error of the pressure sensor is 29ppm when compared to a reference laboratory barometer. The unique status settings are BR=115200, BL=1, XM=1, MD=2, US=1, PS=1, DL=1, UN=3, PR=10, TR=40, PI=100 and TI=100.

The electrical isolation measured less than 1M ohms at 300VDC (failed). The electrical isolation specification is 100M ohms at 500VDC. The unit was de-oiled and re-oil filled, and the electrical isolation test was repeated. The unit failed the second test. The unit was disassembled to investigate the cause of failure. The electrical end cap mounting surface have rust stains. Inspection found that the pressure end cap and electrical isolation assembly have brown stains, debris and water which caused the electrical isolation test to fail. The pressure port end cap and electrical isolation assembly need to be cleaned.

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Serial Number	Part Number	Model Number	Warranty	NCR	Original Zero Date	Customer Comment/ Reason for Return
140355	1789-103-0	8CB4000-I-263	☐		11/17/2017	Evaluation and calibration

Customer Supplied Box ☐ YES ☒ NO	External Condition ☐ LIKE NEW ☒ FAIR ☐ POOR Comments	Offset Error (ppm) 25 Current Draw (mA) 13.8 Firmware Version R5.24
Accessories Returned ☐ Cable ☐ Manual Other: None	Pressure Port ☐ BLOCKED ☐ PARTIALLY BLOCKED ☒ CLEAR ☐ N/A-ACCELEROMETER Comments	Oil Level ☒ FULL ☐ OIL VISIBLE ☐ LOW OIL ☐ NO OIL VISIBLE ☐ N/A
MET Products RH N/A TEMP N/A		Elec. Isolation: ☒ PASS ☐ FAIL ☐ N/A

Analysis:

The housing and electrical connector exterior surfaces are clean. Incoming functional test was performed. RS-232/485 communications were established. The relative error of the pressure sensor is 25ppm when compared to a reference laboratory barometer. The unique status settings are MD=2, US=1, DL=1, ZI=1, PI=100 and TI=100. The electrical isolation measures >50G ohms at 500VDC (Pass).

Recommendations:

S/N 87761 – Model 8CB4000-I-257

Replace oscillator board (performed during service evaluation) – No Charge. Replace housing and anti-fouling port. Clean electrical connector, electrical isolation assembly, pressure end cap, electrical end cap. Reassemble and test per drawing. Vacuum oil fill and perform external pressure test. Perform zero adjust which includes NIST certificate. Return with unique status settings; MD=2, US=1, DL=1, UN=3, PR=30, TR=120, PI=100 and TI=100. \$3,025.00

S/N 121194 – Model 8CB1400-I-263

Replace housing. Clean electrical connector, electrical isolation assembly, pressure end cap and electrical end cap. Reassemble and test per drawing. Vacuum oil fill and perform external pressure test. Perform zero adjust which includes NIST certificate. Return with unique status settings; MD=2, US=1, DL=1, PS=1, UN=3, PR=10, TR=40, PI=100 and TI=100. \$2,950.00

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S/N 87760 – Model 8CB4000-I-257

Option 1 - Replace anti-fouling port. Clean inside of the pressure port and electrical connector. Vacuum oil fill. Perform zero adjust which includes NIST certificate. Return with unique status settings; UN=3, PR=10, TR=40, US=1, PS=65535, DL=1, PI=30 and TI=30. \$1,425.00

Option 2 - Replace anti-fouling port. Clean inside of the pressure port and electrical connector. Vacuum oil fill. Perform zero and span calibration which includes AS FOUND and AS LEFT data with NIST certificate. Return with unique status settings; UN=3, PR=10, TR=40, US=1, PS=65535, DL=1, PI=30 and TI=30. \$3,525.00

S/N 140355 – 8CB4000-I-263

Option 1 - Vacuum oil fill. Perform zero adjust which includes NIST certificate. Return with unique status settings; MD=2, US=1, DL=1, ZI=1, PI=100 and TI=100. \$1,350.00

Option 2 - Vacuum oil fill. Perform zero and span calibration which includes AS FOUND and AS LEFT data with NIST certificate. Return with unique status settings; Return with unique status settings; MD=2, US=1, DL=1, ZI=1, PI=100 and TI=100. \$3,450.00

**Date Analysis
Completed:**

4/28/2021

Completed By:

M. Hao

Charges:*

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