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SAMI² pH Validation Certificate

December 5, 2023

Serial Number: P0154
RMA Number: 280
Technician: BW
Reagent: pmcp1223

Table 1: SAMI² pH E-values.

| Ea ₄₃₄ | Eb ₄₃₄ | Ea ₅₇₈ | Eb ₅₇₈ |
|-------------------|-------------------|-------------------|-------------------|
| 17372.0 | 2284.0 | 94.1 | 38676.0 |

Validation Notes

Tris Batch: 111023

$\Delta T = 0.08^{\circ}\text{C}$

Tris Bottle: 4

N = 11

Validation Temp: 25.13 °C

$\Delta \text{pH} = -0.0042 \pm 0.0006$

Build Notes

Pressure Test: 200 psi – Passed

Modifications:

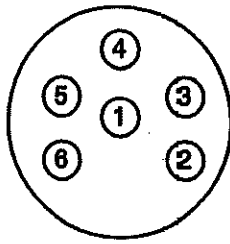
standard refurb

IR testing

2x sem u/g

INSULATION RESISTANCE TEST: OOI - UW/OSU UNITS

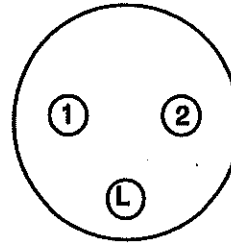
Communications and Power - TI Bulkhead



Top view of MCBH(WB)-FS-6-TI

| Pin | Connection | Switch | |
|-----|------------|--------|---|
| | | L | R |
| 1 | GND (pwr) | 1 | 0 |
| 2 | Rx (SAMI) | 2 | 0 |
| 3 | Tx (SAMI) | 3 | 0 |
| 4 | V+ (PWR) | 4 | 0 |
| 5 | RTS | 0 | 1 |
| 6 | GND (com) | 0 | 2 |

Pump Bulkhead



Top view of MCBH(WB)-FS-2-TI

| Pin | Connection | Switch | |
|-----|------------|--------|---|
| | | L | R |
| 1 | GND | 0 | 3 |
| 2 | PWR + | 0 | 4 |
| L | Locate | | |

1. Plug test cable(s) into SAMI bulkhead(s) and immerse unit past bulkhead connection. Allow to soak for at least 2 hours.
2. Plug anode into Common on Fluke 1507. Black jumper connects 'Insulation' to box banana receptacle.
3. Set Fluke 1507 to 50V range and proceed to test each switch position in table below by pressing the 'Test' button. Hold 'Test' button until reading stabilizes. Record the insulation resistance value in table. Note that one of the switches is zero in each condition.
4. If out of spec ($<10\text{ M}\Omega$), contact customer w/r/t replacement of suspected parts (typically penetrator, bulkhead or blofouling cable).
5. Replace suspected part and re-test if needed.

| Connection | Left switch | Right switch | Resistance (Megohms) | Re-test Resistance (Megohms) |
|------------|-------------|--------------|----------------------|------------------------------|
| GND | 1 | 0 | >55 | >55 |
| Rx | 2 | 0 | | |
| Tx | 3 | 0 | | |
| V+ | 4 | 0 | | |
| RTS | 0 | 1 | | |
| GND | 0 | 2 | | |
| GND - Pump | 0 | 3 | | |
| V+ - Pump | 0 | 4 | | |

UNIT # P154
DATE 12-5-23

Technician Signature

Notes: