

Project Number: Design Qualification Test Report	Tracking Code: 188757_Report_Rev_2		
Requested by: Travis Newton	Date: 7/2/2012	Product Rev: N/A	
Part #: ACP-22-03-H-00.35-T-T-M-3\ACR-22-03-H-00.25-S-BC-M-3	Lot #: N/A	Tech: Richie Stephan	Eng: Eric Mings
Part description: ACP\ACR		Qty to test: 39	
Test Start: 04/01/2012	Test Completed: 04/02/2012		



### Design Qualification Test Report

**ACP\ACR**

**ACP-22-03-H-00.35-T-T-M-3\ ACR-22-03-H-00.25-S-BC-M-3**

## CERTIFICATION

All instruments and measuring equipment were calibrated to National Institute for Standards and Technology (NIST) traceable standards according to ISO 10012-1 and ANSI/NCSL 2540-1, as applicable.

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## SCOPE

To perform the following tests: Design qualification test. See test plan.

## APPLICABLE DOCUMENTS

Standards: EIA Publication 364

## TEST SAMPLES AND PREPARATION

- 1) All materials were manufactured in accordance with the applicable product specification.
- 2) All test samples were identified and encoded to maintain traceability throughout the test sequences.
- 3) Either an automated cleaning procedure or an ultrasonic cleaning procedure may be used.
- 4) Any additional preparation will be noted in the individual test sequences.

## FLOWCHARTS

### IP67 Dust & Water

TEST STEP	GROUP A1 6 Mated Connectors	GROUP A2 6 Mated Connectors	GROUP B1 6 Connectors (Cable Dust Cover)	GROUP B2 6 Connectors (Cable Dust Cover)	GROUP C1 6 Connectors (Mating Part Dust Cover)	GROUP C2 6 Connectors (Mating Part Dust Cover)
01	Dust Test	Submersion Water Test	Dust Test	Submersion Water Test	Dust Test	Submersion Water Test
02	Check for Dust	Check for Water	Check for Dust	Check for Water	Check for Dust	Check for Water

Dust/Water Testing = Per CEI/IEC 60529 Code IP67

### IP68 Dust & Water

TEST STEP	GROUP A1 3 Mated Connectors For Each Depth Tested (27 Total Mated Connectors)
01	2M for 30 Minutes
02	Check for Water
03	3M for 30 Minutes
04	Check for Water
05	4M for 30 Minutes
06	Check for Water
07	5M for 30 Minutes
08	Check for Water
09	6M for 30 Minutes
10	Check for Water
11	7M for 30 Minutes
12	Check for Water
13	8M for 30 Minutes
14	Check for Water
15	9M for 30 Minutes
16	Check for Water
17	10M for 30 Minutes
18	Check for Water

Dust/Water Testing = Per CEI/IEC 60529 Code IP68

For this test you have to use the pressure chamber

New parts should be used for each depth tested

Stop testing once parts fail

**ATTRIBUTE DEFINITIONS**

The following is a brief, simplified description of attributes.

**WATER TESTING:**

- 1) Reference document: CEI/IEC 60529 Code IP67
- 2) ACR torque specification for ACPN-22-M is 15 IN-LB
- 3) ACP torque specification for ACCN-22-M is 15 IN-LB

**DUST TESTING:**

- 1) Reference document: CEI/IEC 60529 Code IP67
- 2) ACR torque specification for ACPN-22-M is 15 IN-LB
- 3) ACP torque specification for ACCN-22-M is 15 IN-LB

## RESULTS

### IP67 Testing (Water & Dust)

#### Group A1

	<u>Initial (Before Exposure)</u>	<u>After Exposure</u>
Dust	No Dust Present	No Dust Present

#### Group A2

	<u>Initial (Before Exposure)</u>	<u>After Exposure</u>
Water	No Water Present	No Water Present

#### Group B1

	<u>Initial (Before Exposure)</u>	<u>After Exposure</u>
Dust	No Dust Present	No Dust Present

#### Group B2

	<u>Initial (Before Exposure)</u>	<u>After Exposure</u>
Water	No Water Present	No Water Present

#### Group C1

	<u>Initial (Before Exposure)</u>	<u>After Exposure</u>
Dust	No Dust Present	No Dust Present

#### Group C2

	<u>Initial (Before Exposure)</u>	<u>After Exposure</u>
Water	No Water Present	No Water Present

### IPX8 Testing (Water)

#### Group A1 (10 m)

	<u>Initial (Before Exposure)</u>	<u>After Exposure</u>
Water	No Water Present	No Water Present

**DATA SUMMARIES****IP67 Testing (Water & Dust)****Group A1**

<u>Sample #</u>	<u>Visual Inspection</u>
1	Pass
2	Pass
3	Pass
4	Pass
5	Pass
6	Pass

**Group A2**

<u>Sample #</u>	<u>Visual Inspection</u>
7	Pass
8	Pass
10	Pass
11	Pass
12	Pass

**Group B1**

<u>Sample #</u>	<u>Visual Inspection</u>
13	Pass
14	Pass
15	Pass
16	Pass
17	Pass
18	Pass

**Group B2**

<u>Sample #</u>	<u>Visual Inspection</u>
19	Pass
20	Pass
21	Pass
22	Pass
23	Pass
24	Pass

**DATA SUMMARIES Continue****IP67 Testing (Water & Dust)****Group C1**

<u>Sample #</u>	<u>Visual Inspection</u>
25	Pass
26	Pass
27	Pass
28	Pass
29	Pass
30	Pass

**Group C2**

<u>Sample #</u>	<u>Visual Inspection</u>
31	Pass
32	Pass
33	Pass
34	Pass
35	Pass
36	Pass

**IPX8 Testing (Water)****Group A1 (10 m)**

<u>Sample #</u>	<u>Visual Inspection at 10 Meters</u>
37	Pass
38	Pass
39	Pass

## EQUIPMENT AND CALIBRATION SCHEDULES

**Equipment #:** WATER-01**Description:** IP-67 1.0 Meter Water Column Chamber**Manufacturer:** Samtec Machine**Model:** N/A**Serial #:** N/A**Accuracy:** No Calibration Required**Equipment #:** WATER-02**Description:** IP-68 Water Depth Chamber**Manufacturer:** Samtec Machine**Model:** N/A**Serial #:** N/A**Accuracy:** No Calibration Required**Equipment #:** DUST-01**Description:** IP-X6 Dust Tester**Manufacturer:** Samtec Machine**Model:** N/A**Serial #:** N/A**Accuracy:** No Calibration Required