



Project Number: Design Qualification Test Report		Tracking Code: 170469_Report_Rev_3	
Requested by: Travis Newton		Date: 7/3/2012	Product Rev: 0
Part #: ACP-22-01-H-00.35-T-T-O-1/ ACR-22-01-H-00.25-S-S1-P-1		Lot #: N/A	Tech: Craig Ryan Eng: Eric Mings
Part description: ACP /ACR			Qty to test: 39
Test Start: 11/28/2011	Test Completed: 2/5/2012		



Design Qualification Test Report

ACP \ ACR

ACP-22-01-H-00.35-T-T-O-1/ ACR-22-01-H-00.25-S-S1-P-1

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, Please 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) The automated procedure is used with aqueous compatible soldering materials.
- 5) 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 CE/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 CE/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 IP68
- 2) ACR torque specification for ACPN-22-P is 15 IN-LB

DUST TESTING:

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

RESULTS**IP67 Testing (Dust&Water)****Group A1**

Dust	<u>Initial (Before Exposure)</u> No Dust Present	<u>After Exposure</u> No Dust Present
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Group A2

Water	<u>Initial (Before Exposure)</u> No water Present	<u>After Exposure</u> No water Present
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Group B1

Dust	<u>Initial (Before Exposure)</u> No Dust Present	<u>After Exposure</u> No Dust Present
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Group B2

Water	<u>Initial (Before Exposure)</u> No water Present	<u>After Exposure</u> No water Present
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Group C1

Dust	<u>Initial (Before Exposure)</u> No Dust Present	<u>After Exposure</u> No Dust Present
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Group C2

Water	<u>Initial (Before Exposure)</u> No water Present	<u>After Exposure</u> No water Present
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IPX8 Testing (Water)**Group A1 (10 m)**

Water	<u>Initial (Before Exposure)</u> No Water Present	<u>After Exposure</u> No Water Present
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DATA SUMMARIES**IP67 Testing (Dust&Water)****Dust:****Group A1**

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

Group B1

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

Group C1

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

DATA SUMMARIES Continued**Water
Group A2**

Sample #	Visual Inspection
7	PASS
8	PASS
9	PASS
10	PASS
11	PASS
12	PASS

Group B2

Sample #	Visual Inspection
19	PASS
20	PASS
21	PASS
22	PASS
23	PASS
24	PASS

Group C2

Sample #	Visual Inspection
31	PASS
32	PASS
33	PASS
34	PASS
35	PASS
36	PASS

IP68 Testing (Water)

Sample #	Visual Inspection at 10 Meters
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 #: DUST-01

Description: IP-X6 Dust Tester

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