



Project Number: Design Qualification Test Report	Tracking Code: 189453_Report_Rev_2	
Requested by: Travis Newton	Date: 5/21/2013	Product Rev: 0
Part #: ACP-12-01-H-00.25-T-T-P-1/ACR-12-01-H-00.25-S-S1-P-1		Tech: Aaron McKim Eng: Eric Mings
Part description: ACP/ACR		Qty to test: 10
Test Start: 4/9/2012	Test Completed: 4/12/2012	



Design Qualification Test Report
Dust & Water
ACP-12-01-H-00.25-T-T-P-1
ACR-12-01-H-00.25-S-S1-P-1

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Part description: ACP/ACR	

REVISION HISTORY

DATE	REV. NUM.	DESCRIPTION	ENG
5/18/2013	1	Initial Issue	VZ
5/21/2013	2	Update the title page	VZ

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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) 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)
01	Dust Test	Submersion Water Test	Dust Test
02	Check for Dust	Check for Water	Check for Dust

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

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

IPX8 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

Water Testing = Per CEI/IEC 60529 Code IPX8

For this test you have to use the pressure chamber

New parts should be used for each depth tested

Stop testing once parts fail

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ATTRIBUTE DEFINITIONS

The following is a brief, simplified description of attributes.

WATER TESTING:

- 1) Reference document: CEI/IEC 60529 Code IPX7 and IPX8
- 2) ACP torque specification for ACCN-12-P is 10 IN-LB

DUST TESTING:

- 1) Reference document: CEI/IEC 60529 Code IP6X
- 2) ACP torque specification for ACCN-12-P is 10 IN-LB

RESULTS

IP67 Dust & Water

Group A1 – ACP/ACR Mated

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

Group A2 – ACP/ACR Mated

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

Group B1 – ACP with dust cover

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

Group B2 – ACP with dust cover

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

Group C1 – ACR with dust cover

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

Group C2 – ACR with dust cover

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

IPX8 Water

Group A1 (9m)

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

DATA**IP67 Dust & Water****Group A1 – ACP/ACR Mated (Dust)**

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

Group A2 – ACP/ACR Mated (Water)

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

Group B1 – ACP with dust cover (Dust)

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

Group B2 – ACP with dust cover (Water)

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

Group C1 – ACR with dust cover (Dust)

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

Group C2 – ACR with dust cover (Water)

Sample #	Visual Inspection
1	Pass
2	Pass
3	Pass
4	Pass
5	Pass
6	Pass

IPX8 Testing (Water)

Sample # 37	Visual Inspection at 9 Meters
A	PASS
B	PASS
C	PASS

Sample # 38	Visual Inspection at 10 Meters
A	PASS
B	PASS
C	FAIL

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EQUIPMENT AND CALIBRATION SCHEDULES

Equipment #: IPX8-01

Description: IPX8 Water Pressure test Chamber

Manufacturer: Samtec Machine

Model: N/A

Serial #: N/A

Accuracy: No Calibration Required

Equipment #: IP6X-02

Description: IP6X Dust Tester

Manufacturer: Samtec Machine

Model: N/A

Serial #: N/A

Accuracy: No Calibration Required

Equipment #: IPX7-01

Description: IPX7 1 Meter Water Tester

Manufacturer: Samtec Machine

Model: N/A

Serial #: N/A

Accuracy: No Calibration Required