



Technical Report No.: 64.291.20.30219.01

Date: 2020-04-14

Client: Name: Cableforce Electronics Co., Limited
Address: 3rd. Floor, Factory Building A, No.2 of Houfu Road, ShanMei Village, Houjie Town, Dongguan City, 523962,Guangdong Province, China
contact person: Chun Feng

Manufacturing place: Manufacturer's name: Cableforce Electronics Co., Limited
Address: 3rd. Floor, Factory Building A, No.2 of Houfu Road, ShanMei Village, Houjie Town, Dongguan City, 523962,Guangdong Province, China
Factory's name: Cableforce Electronics Co., Limited
Address: 3rd. Floor, Factory Building A, No.2 of Houfu Road, ShanMei Village, Houjie Town, Dongguan City, 523962,Guangdong Province, China

Test subject: Product: Circular connectors
Type: MB03, MB04, MC04, MC05, MC08

Trade mark (if any): Cableforce

Test specification: ISO 20653:2013, and client's requirements

- Purpose of examination:**
- Inspection according to specified requirements to realize the conformity with the client's.
 - Inspection according to specified requirements to realize the observance of the protection aims.
 - Test according to the test specification.

Test result: The test results show that the presented product is in compliance with the specified requirements

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1 Description of the test subject

1.1 Function

Manufacturer's specification for intended use:
(According to the user manual)
(Other manufacturer's sources of information)

Manufacturer's specification for predictive misuse:
(According to the user manual)
(no restrictions provided)
(e.g. combination with other products)
(If not described sufficiently, hint in point 3.2)

1.2 Consideration of the foreseeable misuse

- Not applicable
- Covered through the applied standard
- Covered by the following comment
- Covered by attached risk analysis

1.3 Technical Data

Model : MB03, MB04, MC04, MC05, MC08
Rated Voltage (V) : 220VAC~250VAC, 50Hz

2 Order

2.1 Date of Purchase Order, Customer's Reference

N/A

2.2 Receipt of Test Sample, Condition, Location

Samples received on 2020-04-07, TRN Department, Guangzhou

2.3 Date of Testing

2020-04-08~2020-04-09

2.4 Location of Testing

1, TÜV SÜD Certification and Testing (China) Co., Ltd. Guangzhou Branch
5F, Communication Building, 163 Pingyun Rd, Huangpu West Ave.
Guangzhou 510656 P.R. China
2, TÜV SÜD recognized sub-contracted test lab

3 Test Results

See the Appendix I

4 Remark

This test report is for circular connectors and the items of IP69K carried out according to ISO 20653:2013 and the requirement of client.

The samples complied with the requirement for above listed clauses.

The NO. of samples

485811-1 Correspond MB04; 485811-2 Correspond MB03;
485811-3 Correspond MC05; 485811-4 Correspond MC08;
485811-5 Correspond MC08; 485811-6 Correspond MC04;

Two samples of MC08 have been provided.

5 Documentation

N/A

6 Summary

The test specifications are met.

TÜV SÜD Certification and Testing (China) Co., Ltd. Guangzhou Branch
TÜV SÜD Group

Engineer by:


Steven Liu

Technical Report checked:


Smith Song



Appendix 1

1. IP6X-Dust test

1.1 Testing Description

The test is carried out according to ISO 20653:2013 and client's requirement.

Sample No.: 485811-1~485811-6

Test Date: 2020-04-08~2020-04-09

1.2 Testing Technology

Test setup:

- 6 s movement of the air-dust mixture

- 15 min break

Test duration: 20 cycles

Dust: Arizona Test Dust

1.3 Testing Equipment

Equipment	Type	Calibration Due Date
IP degree tester- IP5X & 6X	EEO406-01	2020-07-25

1.4 Testing Result

No.	Result	Verdict
485811-1	After test, no dust penetrates into the water-proof connector	Pass
485811-2	After test, no dust penetrates into the water-proof connector	Pass
485811-3	After test, no dust penetrates into the water-proof connector	Pass
485811-4	After test, no dust penetrates into the water-proof connector	Pass
485811-5	After test, no dust penetrates into the water-proof connector	Pass
485811-6	After test, no dust penetrates into the water-proof connector	Pass

1.5 Testing Photo



Before test



After test



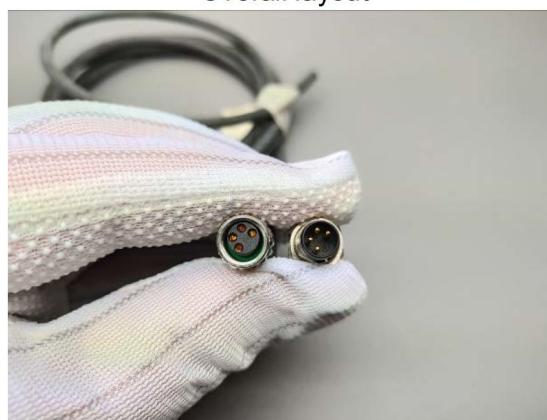
Test Setup



Overall layout



After test for 485811-1



After test for 485811-2



After test for 485811-3



After test for 485811-4



After test for 485811-5



After test for 485811-6



2. IPX9K-High Pressure Water Spray

2.1 Testing Description

The test is carried out according to ISO 20653:2013 and client's requirement.

Sample No.: for 485811-1~ for 485811-6

Test Date: 2020-04-08~2020-04-09

2.2 Testing Technology

Mount sensors (with mating connector installed) on a testing fixture. The test shall be performed with the water directed at high pressure against the connector assembly at the following conditions:

Spray amount: 14 up to 16 l/m.

Water pressure of 100 bar, at a temperature of 176 °F for 30s per position for a total of 120 s without water ingress.

Sensor on a rotating table (5 revolutions per minute).

Angle of the water spray: 0°, 30°, 60° and 90°.

Distance nozzle to sensor of 10 to 15 cm (3.94 to 5.9 inches).

Acceptance criteria: No loss of seal integrity of the sample under test

No swelling of plastics.

No Water intrusion internal to the connector.

No Degradation of label adhesion and/or legibility of legends.

2.3 Testing Equipment

Equipment	Type	Calibration Due Date
IP degree tester- IPX9	EEO405-01	2020-07-25

2.4 Testing Result

No.	Result	Verdict
485811-1	After test, no water ingress into the sample, and no swelling of plastics.	Pass
485811-2	After test, no water ingress into the sample, and no swelling of plastics.	Pass
485811-3	After test, no water ingress into the sample, and no swelling of plastics.	Pass
485811-4	After test, no water ingress into the sample, and no swelling of plastics.	Pass
485811-5	After test, no water ingress into the sample, and no swelling of plastics.	Pass
485811-6	After test, no water ingress into the sample, and no swelling of plastics.	Pass

2.5 Testing Picture



Before test-



After test-



Test Setup



Overall layout



After test for 485811-1



After test for 485811-2



After test for 485811-3



After test for 485811-4



After test for 485811-5



After test for 485811-6

--- End of Report ---