



Tightness tests for IP65

- MC4x30-63



VTT Expert Services Ltd

| Requested by: Trelleborg Industrial Products Finland Oy

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Assignment Tightness tests according to the publication IEC 60529 (2013- 08).

Summary Based on the test results the protection provided by the MC4x30-63 complies with the requirements stated for the protection class IP65.

Espoo, 13.10.2017



Jami Heinonen
Product Manager



Jari Heikkinen
Expert

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1 General

The test place was VTT Expert Services Ltd and the tests were carried out 11. - 12.10.2017. The EUT was MC4x30-63 mounted on an accessory box.

The tests were performed in accordance with the standard IEC 60529 “Degrees of protection provided by enclosures (IP Code)” (2013-08).

2 Dust test for IP6X

2.1 Test procedure

For the dust test the EUT was placed in the dust chamber provided with talcum powder circulation. The underpressure pipe was connected on the side of the accessory box. The test parameters were following:

- Underpressure 2,0 kPa
- Flow rate of the air 8 l/min
- Test duration 8 hours

Ambient conditions: +24 °C / 63 % RH.

The test equipment:

- dust test chamber, IDN TL04118, calibrated 20.8.2017, valid 36 months
- pressure gauge DPP-4K, IDN TL04117, calibrated 5.5.2015, valid 36 kks
- flow meter NP-G21, IDN TL04116, calibrated 3.5.2017, valid 36 months
- flow meter NP-G23, IDN TL04115, calibrated 3.5.2017, valid 36 months
- flow meter NP-G26, IDN TL04114, calibrated 3.5.2017, valid 36 months
- flow meter LH-8RR-HV, TL19651, calibrated 4.5.2017, valid 36 months
- Rotronic Hygro Palm Temperature / Humidity meter, IDN TL12780, calibrated 31.8.2017, valid 12 months



Photograph 1. The setup for the dust test.

The test results relate only to the sample tested.

2.2 Test results

In the visual examination after the test no deposit of dust was detected inside the accessory box.

Based on the test results the protection against dust complies with the requirements stated for the protection class IP6X.

3 Water test for IPX5

3.1 Test procedure

The test was carried out by spraying the specimen with a water jet hose nozzle (Ø 6,3 mm, described in figure 6 in IEC 60529) from all practicable directions for a period of totally three minutes. The flow rate of the water was 12,5 l/min, temperature was +21 °C and the distance from the nozzle to the specimen was 2,8 m.

Ambient conditions: +22 °C / 60 % RH

The test equipment:

- Stanley 3m, 30-687 tape measure, IDN TL15182, calibrated 7.10.2016, valid 48 months
- HiTrax timer, IDN TL03958, calibrated 5.10.2016, valid 36 months
- Flow meter Bopp&Reuher Typ M4/1600, IDN TL04123, calibrated 1.10.2017, valid 36 months
- Flow meter Bopp&Reuher TypM4/6300, IDN TL04122, calibrated 1.10.2017, valid 36 months
- Pressure gauge Tecsis EN-837-1, IDN TL04121, calibrated 8.11.2016, valid 36 months
- 6,3 mm nozzle, IDN TL04125
- Testo 110 Thermometer, IDN TL18942, calibrated 23.8.2017, valid 12 months

3.2 Test results

In the visual examination after the test no water was noticed inside the accessory box.

Based on the test results the protection against water jets complies with the requirements stated for protection class IPX5.

The test results relate only to the sample tested.