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Test report No: 55 00287 08, Vers. 2  
Manufacturer: HIGH TECH PRODUCTS S.r.l.  
Via Grazia Deledda, 20  
I-24040 Lallio (BG)  
EUT description : Circular connectors  
Model: M8/M12 Female/Male straight family

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## TEST REPORT

**N°. 55 00287 08, Vers. 2**

**Tests carried out in accordance with DIN 40 050 Part 9 (05-1993) requirements**

issued by

TÜV Rheinland Italia S.r.l. - Via Gavardina Trav.II, 42 I-25010 Ponte S. Marco (BS)

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### 1. General information

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| 1.0. <u>Equipment under test :</u>               | Circular connectors  |
| 1.1. <u>Trade mark :</u>                         | HTP  |
| 1.2. <u>Model :</u>                              | M8/M12 Female/Male Straight family   |
| 1.3. <u>Manufacturer's name and address :</u>    | HIGH TECH PRODUCTS S.r.l.<br>Via Grazia Deledda, 20<br>I-24040 Lallio (BG) |
| 1.4. <u>Date of receipt of the test object :</u> | 2008-10-06   |
| 1.5. <u>Date of performance tests :</u>          | 2008-10-07   |

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The test results and observations indicated in this test report refer exclusively to the samples tested. It is not permitted to transfer the results to other systems or configurations.

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## **2. Test sequence and results:**

The customer has requested the following test sequences:

### **2.1 IP test**

Description of test	Standard reference	Performance criteria	Test results
IP6KX	DIN 40 050 Part 9 (1993), ref. Tab. 2 and §7.3 and Fig. 1 also	See Tab. 2	PASS
IPX9K	DIN 40 050 Part 9 (1993), ref. Tab. 8 and §7.4 and Figg. 7 – 8	See Tab. 4	PASS

### **2.2 Summary of performance criteria**

The protection is satisfactory if the dust ( IP6KX ) is not penetrate into the enclosure of the electronic parts and it have no deposit of water ( IPX9K ) observable inside the enclosure, of the electronic parts, at the end of the test have no harmful effects.

### **2.3 Remarks to the test**

Identification of the test sample : Lot. 07.APR.08 and Lot. 23.JUN.08

The supplementary letter “K” is specifically for the electrical equipment in road vehicles use.

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**Schlußbescheinigung**  
**Statement of conformity**

Ergebnisse von den Prüfungen und den Kommentaren bezüglich des Ausganges sehen.

Dieser Prüfbericht umfasst die Seiten 1 bis 7.

Dieser Prüfbericht darf nur vom Auftraggeber und nur in vollem Wortlaut vervielfältigt und weitergegeben werden. Eine auszugsweise Vervielfältigung und Veröffentlichung des Prüfberichtes ist nur nach schriftlicher Genehmigung des Prüflaboratoriums zulässig.

*See each measurement results step below for concerning result.*

*The Test Report comprises pages 1 to 7.*

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**PRÜFLABORATORIUM**

**TEST LABORATORY**

**TUV Rheinland Group**

**EN ISO 17025 (2005)** DAR-Register-Nr.  
KBA-P 10008-99

Akkreditiert von der Akkreditierungsstelle des Kraftfahrt-Bundesamtes

Accredited by accreditation authority of Kraftfahrt-Bundesamt

Bundesrepublik Deutschland

Federal Republic of Germany

I-Ponte San Marco (BS), 2008-10-16

A handwritten signature in black ink that reads "Francesco Barbierato".

Mr. Francesco Barbierato

Prüfingenieur / Test engineer

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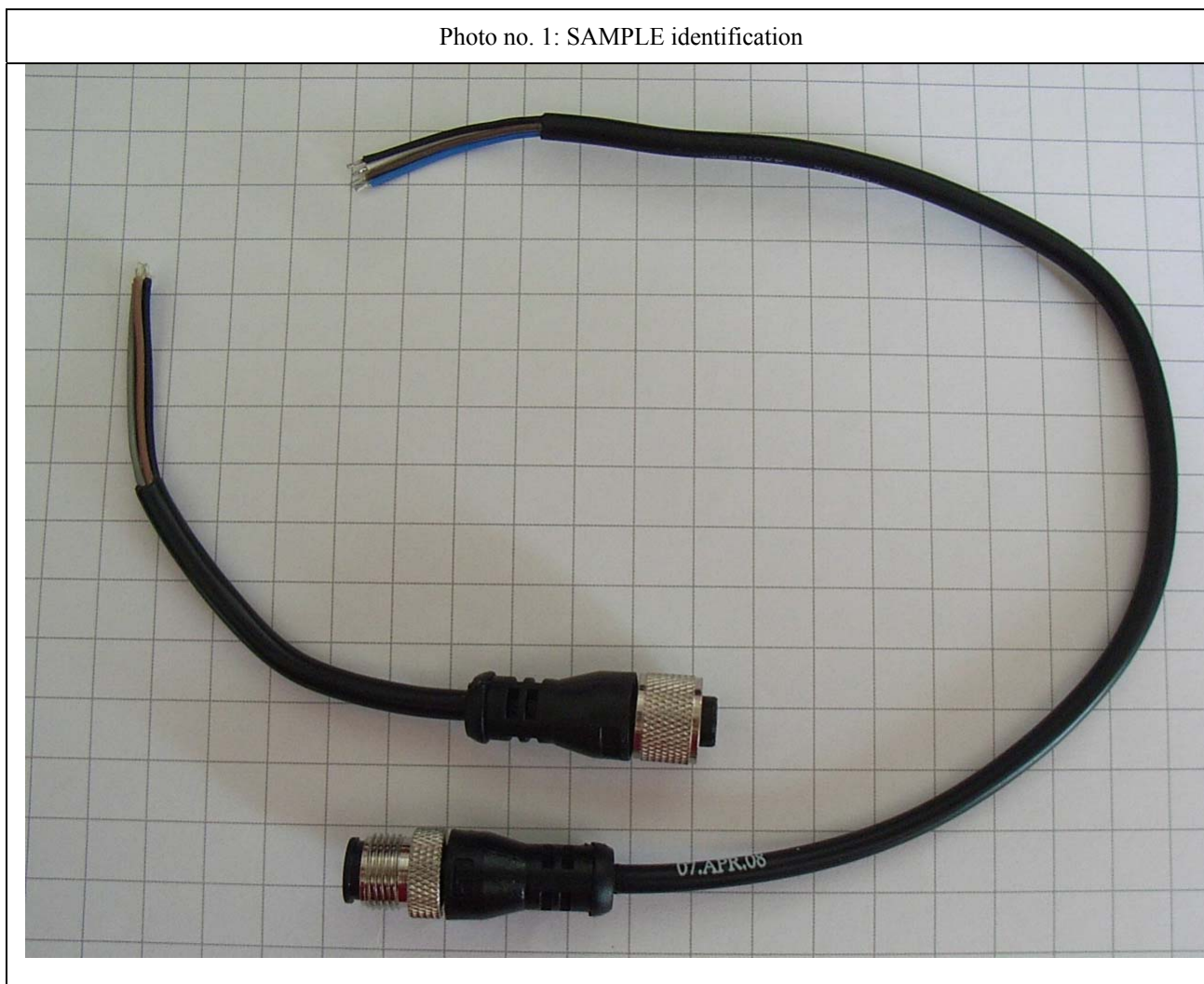
## Annex 1

<b>Test protocols</b>		
<b>Mode of operation:</b>	Equipment placed in the test chambers in horizontal position (see photo)  The EUT was tested as complete system : female connector inserted with respective male connector.	
<b>Requirements for IP6KX test:</b>	Protection against solid bodies designated as dust-tight, with a vertical direction of flow for the air-dust mixture, see Fig. 1 of the DIN 40 050 Part 9.	
<b>Requirements for IPX9K test :</b>	Water with high-pressure/steam jet cleaning. Test device with fan jet distributor in acc. with Fig. 7 and Fig. 8 of the DIN 40 050 Part 9. Protection of the electrical parts inside the enclosure against the harmful effects of water splashed at high pressure against the enclosure (protection against water).	
<b>Used test equipment:</b>	<b>Manufacturer</b>	<b>TÜV Internal Reg. No.:</b>
Dust chamber	Perani	555 00 097
High pressure/steam jet apparatus	LAVOR	555 00 148
<b>Measurement uncertainty:</b>	Water flow rate : 0,5 l/min Distance : 0,001 m Time : 1 s	
<b>Test operator :</b>	Mr. Francesco Barbierato The expert of TUV Rheinland Italia S.r.l.	
<b>EUT sample code :</b>	TUV Rheinland assigned IN.REF.0855.397 and 398	
<b>Ambient condition :</b>	<i>Allowed value</i>	<i>Measured value</i>
Temperature	23 ± 5 °C	21 ± 1 °C
Relative Humidity	25 ... 75 %	43 ± 5 %
Air pressure	860 – 1060 mbar	940 mbar ± 0,5% f.s.
EUT Voltage	Not applicable	---
<b>Test results:</b>		<b>Verdict</b>
IP6K	No ingress of dust	Pass
IPX9K	No infiltration of water	Pass

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## Annex 2

Photo no. 1: SAMPLE identification



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Photo no.2: Identification of the test setup for the IP6K and check of the internal connectors after the test



sample in the dust chamber after a little brushing



internal view after the dust test – no dust presence

Photo no.3 : Identification of the test setup for the IPX9K and check of the internal connectors after the tests



internal view of male connector after separation from the female connector



internal view of female connector after separation from the male connector



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Photo no.4 : Comparison between M8 and M12 connectors

