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Car radios — Coaxial aerial connectors —

Part 2:

Characteristic values, performance
requirements and tests

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Autoradios — Connecteurs coaxiaux d'antenne —

<https://standards.iteh.ai/catalog/standards> *Partie 2: Valeurs caractéristiques, performances et essais* 10599-2-1997



Reference number
ISO 10599-2:1997(E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 10599-2 was prepared by Technical Committee ISO/TC 22, *Road vehicles*.

ISO 10599 consists of the following parts, under the general title *Car radios — Coaxial aerial connectors*:

- *Part 1: Dimensions*
- *Part 2: Characteristic values, performance requirements and test*

Annex A of this part of ISO 10599 is for information only.

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Car radios — Coaxial aerial connectors —

Part 2:

Characteristic values, performance requirements and tests

1 Scope

This part of ISO 10599 specifies characteristic values, performance requirements and test methods for coaxial antenna connectors according to ISO 10599-1 for car radios to be mounted in road vehicles.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 10599. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 10599 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 2768-1:1989, *General tolerances — Part 1: Tolerances for linear and angular dimensions without individual tolerance indications*.

ISO 10599-1:1992, *Car radios — Coaxial antenna connectors — Part 1: Dimensions*.

IEC 169-1:1987, *Radio-frequency connectors — Part 1: General requirements and measuring methods*.

3 Characteristic values

3.1 Test class

Coaxial aerial connectors according to ISO 10599-1 shall be in conformance with the test class 40/085/04, as specified in IEC 68-1:1988, annex A, and explicitly presented in table 1.

NOTE — The first two digits of the test class indicate the lowest operating temperature, i.e. $-40\text{ }^{\circ}\text{C}$, according to IEC 68-2-1. The following three digits indicate the highest environmental temperature, i.e. $+85\text{ }^{\circ}\text{C}$ according to IEC 68-2-2, and the last digit indicates the duration of test in days, i.e. 4 days, according to IEC 68-2-3.

Table 1 — Test class

Limiting temperature		Damp heat, steady state		
lowest	highest	Temperature °C	Relative humidity %	Test duration days
- 40 °C	+ 85 °C	+ 55	96 to 99	4

3.2 Coupling resistance

The coupling resistance (R_k) shall be maximum $10^{-2} \Omega/m$, or minimum 40 dB. This shall be tested and measured according to figure 1.

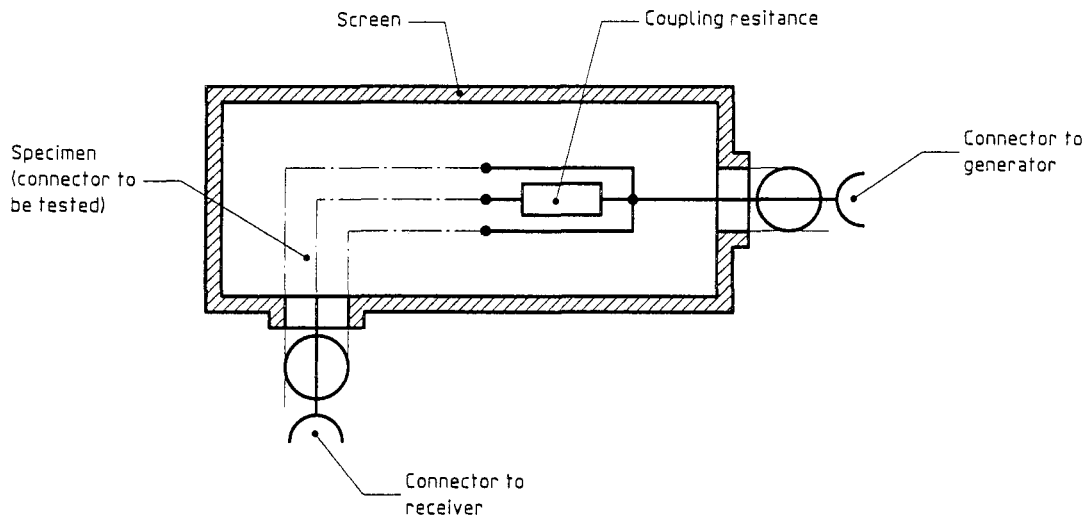


Figure 1 — Test device for measuring the coupling resistance

4 Test equipment

4.1 Gauges

The gauges for testing the outer sleeve of the aerial connector plug shall be in accordance with the dimensions and specifications given in figure 2 and table 2.

The gauges for testing the centre sleeve of the aerial connector socket shall be in accordance with the dimensions and specifications given in figure 3 and table 3.

4.2 Set-up for measuring the contact resistance

The contact resistance shall be measured according to

- figure 4 a) for the centre sleeve of the aerial connector socket,
- figure 4 b) for the outer sleeve of the aerial connector plug, and
- figure 4 c) for the contact of the mated aerial.

Dimensions in millimetres
 Surface roughness values in micrometres
 General tolerance: ISO 2768-m

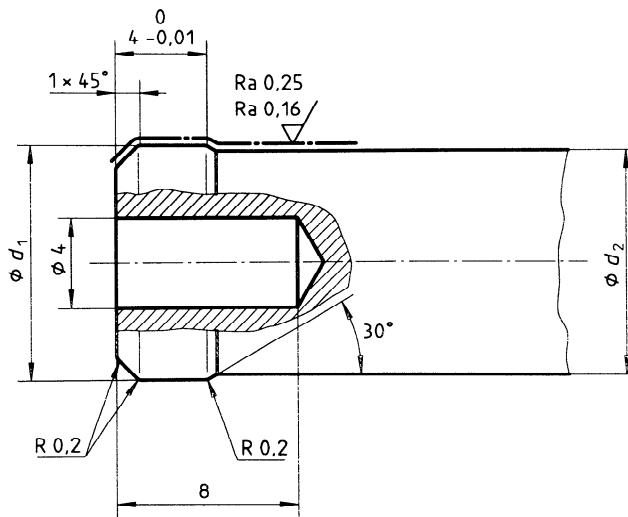


Figure 2 — Gauges for testing the outer sleeve of the plug

Table 2 — Dimensions of the gauges for testing the outer sleeve of the plug

Dimensions in millimetres

Gauge type	Purpose of the gauge	d_1	d_2	Material
P1	Widening of the outer sleeve of the plug	$10,6 \begin{smallmatrix} +0,01 \\ 0 \end{smallmatrix}$	$10,1 \begin{smallmatrix} +0,01 \\ 0 \end{smallmatrix}$	Gauge steel, hardened
P2	Measurement of insertion and withdrawal forces	$10,4 \begin{smallmatrix} 0 \\ -0,01 \end{smallmatrix}$	$10 \begin{smallmatrix} 0 \\ -0,01 \end{smallmatrix}$	Gauge steel, hardened
P3	Measurement of the contact resistance	$10,4 \begin{smallmatrix} 0 \\ -0,01 \end{smallmatrix}$	$9,9 \begin{smallmatrix} 0 \\ -0,01 \end{smallmatrix}$	Copper-beryl alloy, rhodium coated

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Dimensions in millimetres
 Surface roughness values in micrometres

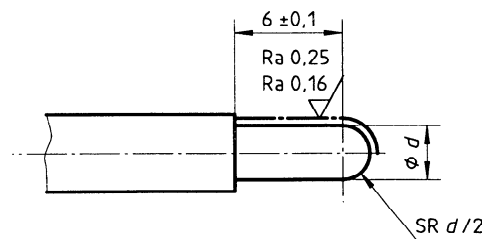


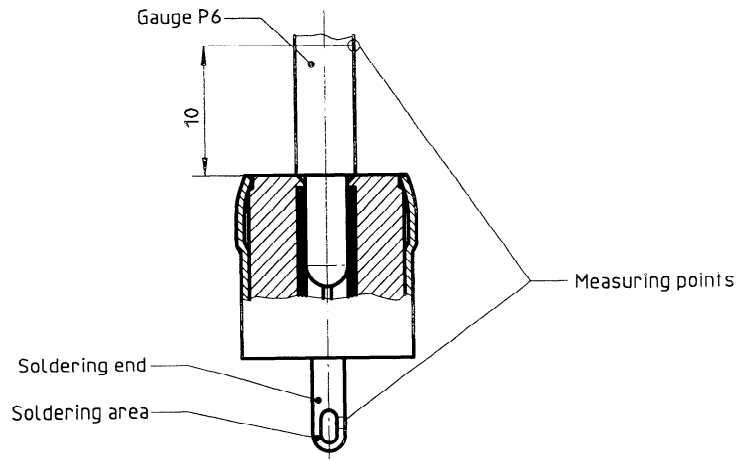
Figure 3 — Gauges for testing the centre sleeve of the socket

Table 3 — Dimensions of the gauges for testing the centre sleeve of the socket

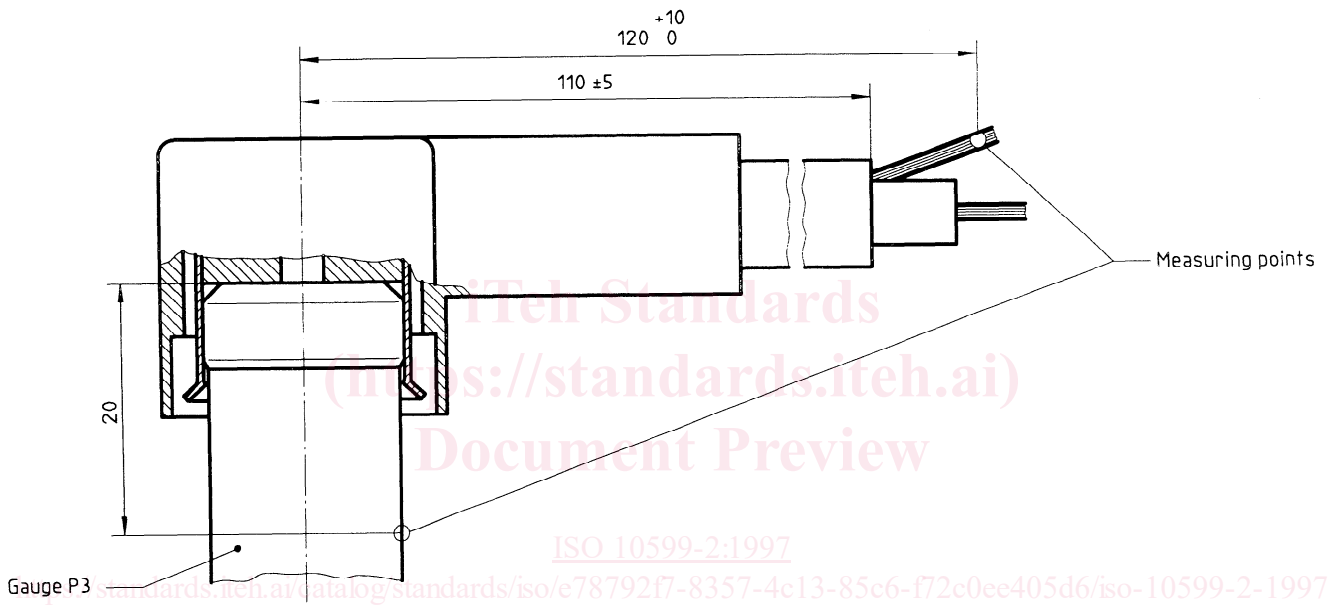
Dimensions in millimetres

Gauge type	Purpose of the gauge	d	Material
P4	Widening of the centre sleeve of the socket	$2,4 \begin{smallmatrix} +0,01 \\ 0 \end{smallmatrix}$	Gauge steel hardened
P5	Measurement of insertion and withdrawal forces	$2,35 \begin{smallmatrix} 0 \\ -0,01 \end{smallmatrix}$	Gauge steel, hardened
P6	Measurement of the contact resistance	$2,35 \begin{smallmatrix} 0 \\ -0,01 \end{smallmatrix}$	Copper-beryl alloy, rhodium coated

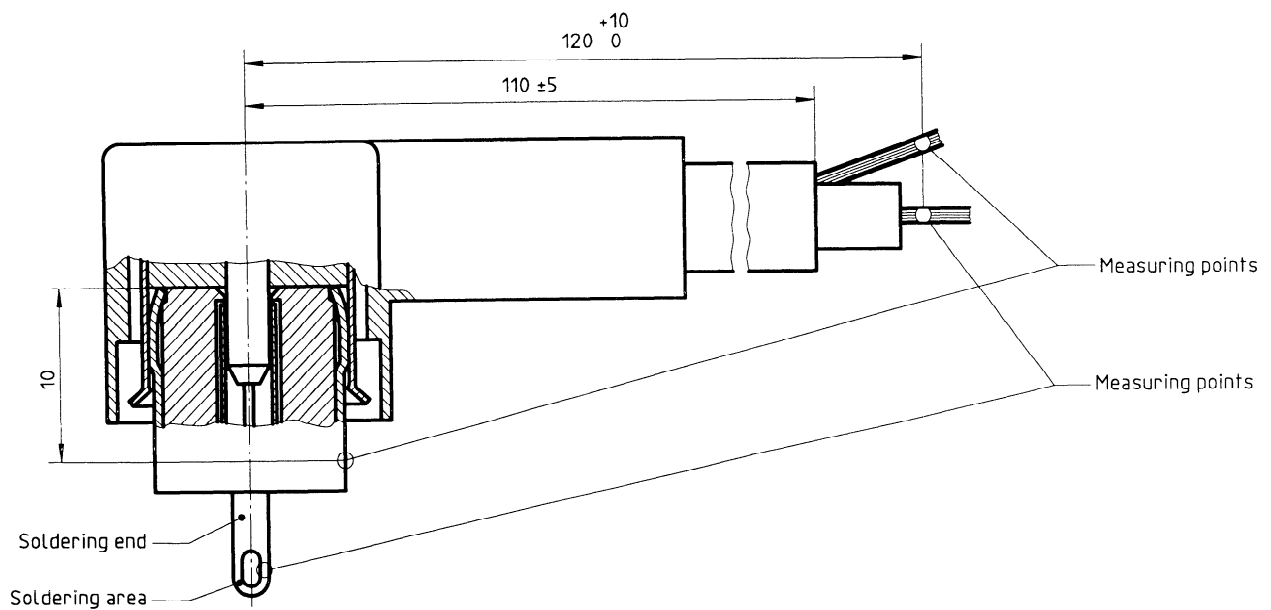
Dimensions in millimetres



a) Measurement of the centre sleeve contact resistance of the aerial connector socket



b) Measurement of the outer sleeve contact resistance of the aerial connector plug



c) Measurement of the contact resistance of the mated aerial connector

Figure 4 — Set-up for measuring the contact resistance