

# INTERNATIONAL STANDARD



Radio-frequency connectors –  
Part 47: Sectional specification for radio-frequency coaxial connectors with  
clamp coupling, typically for use in 75  $\Omega$  cable networks (type F-Quick)

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COMMISSION

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**RADIO-FREQUENCY CONNECTORS –****Part 47: Sectional specification for radio-frequency coaxial  
connectors with clamp coupling, typically for use in  
75  $\Omega$  cable networks (type F-Quick)**

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International Standard IEC 61169-47 has been prepared by subcommittee 46F: R.F. and microwave passive components, of IEC technical committee 46: Cables, wires, waveguides, R.F. connectors, R.F. and microwave passive components and accessories.

This second edition cancels and replaces the first edition published in 2012. It constitutes a technical revision.

The main changes are listed below:

- Subclause 3.2 has been updated to better define gauging.
- Table 2 has been updated for insertion and removal forces.
- Clause 4 has been updated to refer to the new edition of IEC 61169-1.

The text of this standard is based on the following documents:

CDV	Report on voting
46F/272/CDV	46F/306/RVC

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts of the IEC 61169 series, under the general title: *Radio-frequency connectors*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
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## RADIO-FREQUENCY CONNECTORS –

### Part 47: Sectional specification for radio-frequency coaxial connectors with clamp coupling, typically for use in 75 $\Omega$ cable networks (type F-Quick)

#### 1 Scope

This part of IEC 61169, which is a sectional specification (SS), provides information and rules for the preparation of detail specifications (DS) for RF coaxial connectors with clamp coupling, typically for use in 75  $\Omega$  cable networks (type F-Quick).

It describes the interface dimensions with gauging information, electrical and mechanical performance including the mandatory tests selected from IEC 61169-1:2013, applicable to all DS relating to type F-Quick connectors.

This specification indicates the recommended performance characteristics to be considered when writing a DS and covers test schedules and inspection requirements.

NOTE This interface is typically used for indoor connections, which are easily disconnected and reconnected. The typical application is for F-type coaxial receiver leads or F-type coaxial patch cables. The interface may also be known as a Push-on connector. It is preferred to use the fixed (screwed) connectors type F according to IEC 61169-24:2009.

#### 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 61169-1:2013, *Radio-frequency connectors – Part 1: Generic specification – General requirements and measuring methods*

IEC 61169-24:2009, *Radio-frequency connectors – Part 24: Sectional specification – Radio frequency coaxial connectors with screw coupling, typically for use in 75  $\Omega$  cable networks (type F)*

IEC 62037 (all parts), *Passive RF and microwave devices, intermodulation level measurement*

IEC 62037-3, *Passive RF and microwave devices, intermodulation level measurement – Part 3: Measurement of passive intermodulation in coaxial connectors*

#### 3 Interface dimensions

##### 3.1 Dimensions

##### 3.1.1 Common dimensions

Millimetres are original dimensions.

All un-dimensioned pictorial configurations are for reference purposes only.

Figure 1 and Table 1 depict the dimensions that are common to any F connector and thus indispensable for compatibility. Examples of specific design with their dimensions are given in 3.1.2 to 3.1.4.



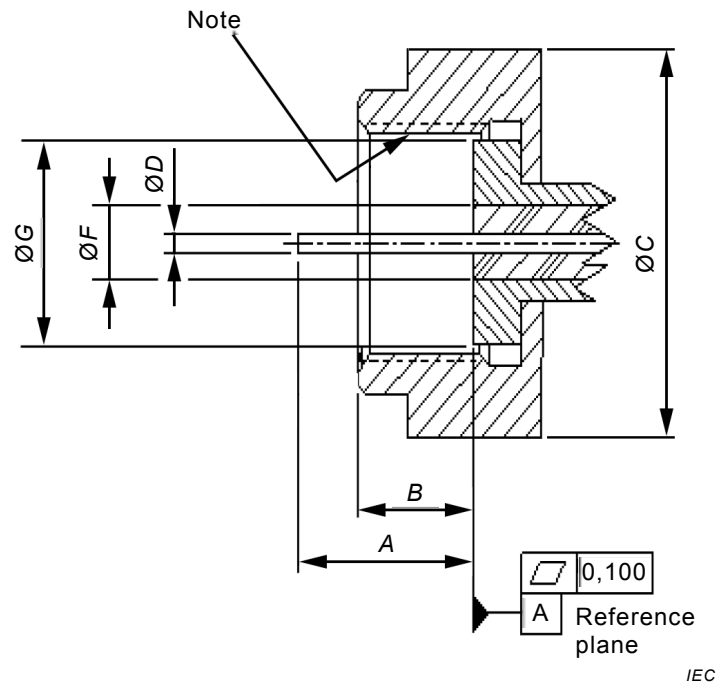


Figure 1 – Connector “F-Quick” type male plug: general dimensions

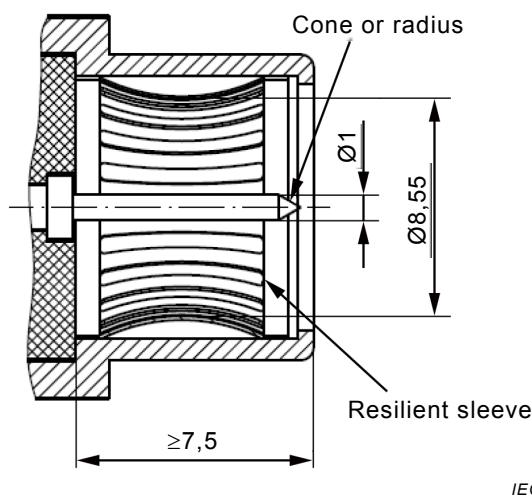
Table 1 – Connector “F” type male plug (indoor)

Description	Ref.	mm		inches		Additional notes
		Min.	Max.	Min.	Max.	
Inner conductor length	A	6,35	8,63	0,250	0,340	
Length of nut	B	4,00	7,29	0,167	0,287	
Maximum envelope dimension	C		16,61		0,654	
Inner conductor diameter	D	0,64	1,13	0,025	0,044	
Reference plane opening inner diameter	F		6,84		0,230	(1)
Reference plane outer diameter	G	7,11		0,280		
(1) No protrusion of the dielectric beyond the reference plane is permitted.						

### 3.1.2 Example of connector “F-Quick” type male plug with resilient outer conductor sleeve (indoor) physical dimensions

The connector is shown in Figure 2. Common dimensions are given in 3.1.1.

Dimensions in millimetres

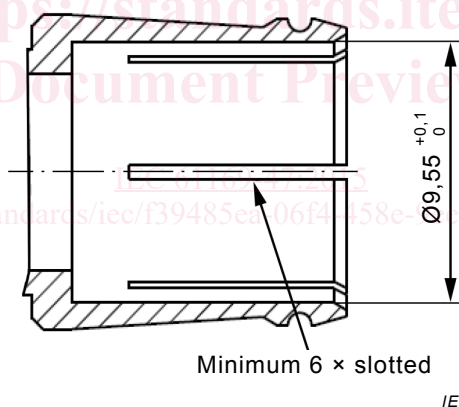


**Figure 2 – Example of connector “F-Quick” type male plug with resilient outer conductor sleeve (indoor)**

**3.1.3 Example of connector “F-Quick” type male plug with slotted outer conductor (indoor) physical dimensions**

The connector is shown in Figure 3. Common dimensions are given in 3.1.1.

Dimensions in millimetres



**Figure 3 – Example of connector “F-Quick” type male plug with slotted outer conductor (indoor)**

**3.1.4 Example of connector “F-Quick” type male plug with slotted outer conductor and snap ring (indoor) physical dimensions**

The connector is shown in Figure 4. Common dimensions are given in 3.1.1.