

Förderverein für Elektrotechnische Normung (FEN) e. V.
Cenelec Electronic Components Committee

CECC



Système Harmonisé d'Assurance de la Qualité
des Composants Electroniques

SPECIFICATION PARTICULIERE:

**CONNECTEURS COAXIAUX
POUR FREQUENCE
RADIOELECTRIQUE
Série N**

Harmonized System of Quality Assessment for
Electronic Components

DETAIL SPECIFICATION:

**RADIO FREQUENCY
COAXIAL CONNECTORS
Series N**

Harmonisiertes Gütebestätigungssystem für
Bauelemente der Elektronik

BAUARTSPEZIFIKATION:

**HOCHFREQUENZ-
KOAXIAL-STECKVERBINDER
Serie N**

1

Edition
Issue
Ausgabe

CECC 22 211-805

1988

Information about the System may be obtained from:



FEN Secretariat
and
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or from the National Authorized Institutions
of the participating countries listed
who can supply copies of:

- 1 The Internal Regulations of the FEN e.V.
- 2 CECC Specifications of the FEN and National Specifications for the System
- 3 CECC 00 200: Qualified Products List (QPL) (biannual issues January and July, with three-monthly amendments)
- 4 CECC 00 300: CECC Publications and their related national documents (biannual issues June and December, with three-monthly amendments)

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Boîte 11
B-1000 Brussels

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Strandgade 36
DK-1401 Copenhagen K

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Standards Association
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PREFACE

This detail specification (DS) was prepared by CECC Working Group 22: 'RF Connectors'.

It relates to Series N connectors covered by sectional specification CECC 22 210 and by blank detail specification CECC 22 211. These in turn are related to the generic specification CECC 22 000.

It is based, wherever possible, on the Publications of the International Electrotechnical Commission, and in particular on IEC 169 Part 16 R.F. coaxial connectors with inner diameter of outer conductor 7 mm (0,276 in) with screw coupling - Characteristic impedance 50 ohms (Type N).

The text of this detail specification was circulated to members of CECC WG 22 and was approved for publication under the accelerated procedure for the acceptance of detail specifications in accordance with Decision 10 of the minutes of the CECC CD in document CECC(Secretariat)1838.

Document

WG22(Secretariat)391

Approval Date

March, 1987

[1]	page 1 of 10	[2] CECC 22 211 - 805..	
ELECTRONIC COMPONENT OF ASSESSED [3] QUALITY IN ACCORDANCE WITH GENERIC SPECIFICATION CECC 22 000 SECTIONAL SPECIFICATION CECC 22 210	[4]	Issue 1	

[5] DETAIL SPECIFICATION for

RADIO FREQUENCY COAXIAL CONNECTOR OF ASSESSED QUALITY:

SERIES

N

Style: Free socket

Special Features & Markings:

Method of cable/wire* attachment: centre conductor - solder/wire*

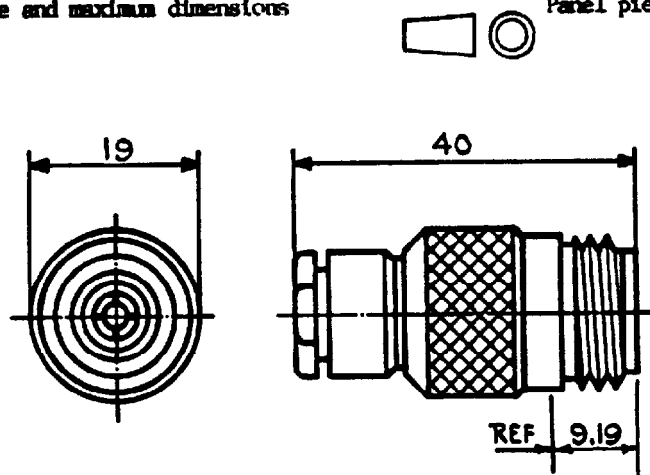
: outer conductor - solder/clamp/wire*

Mass: 55 g (Max.) *Delete as appropriate

[6] Assessment level ...H... Characteristic Impedance 50 Ω Climatic category .40../155../21...

[7] Outline and maximum dimensions

Panel piercing and mounting details



Variant No.	D
-01,-02,-05 -06,-09,-10	13
-03,-04,-07 -08,-11,-12	19

For mating interface dimensions and position of reference plane see CECC 22 210

Maximum panel thickness: for front mounting mm, for rear mounting mm

The outline dimensions meet the requirements of

[8] Variants

Variant No.	Description of Variant	Relevant Cables		
		IEC 96	RG	National Cables
See Annex A - Page 10				
.....				
.....				
.....				
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.....				
.....				
.....				

Information about manufacturers who have components qualified to this detail specification is available in the current CECC 00 200: Qualified Products List.

[9] PERFORMANCE (including limiting conditions of use)

[illegible]

+ Voltage values are r.m.s. values of a.c. at 50 to 60 Hz unless otherwise stated.

RATINGS AND CHARACTERISTICS		CECC 22 210 CLAUSE	VALUE	REMARKS
ELECTRICAL				
	Variant No./ Designation			
+ Environmental test voltage at sea level			850 V	86 to 106 kPa
-01,-02,-05,-06,-09,-10,				
-03,-04,-07,-08,-11,-12			1,4 kV.....	
.....				
.....				
.....				
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.....				
.....				
+ Environmental test voltage at 20 km altitude			250 V	4,4 kPa
-01,-02,-05,-06,-09,-10				
-03,-04,-07,-08,-11,-12			400 V.....	
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.....				
.....				
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RF high potential withstanding voltage	-01 to -12	4.4.7	na V	
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Screening effectiveness				
-01,-03,-05,-07,-09,-11		4.4.8	$Z_t \leq \frac{10}{1} \text{ m}\Omega$	Providing $\geq 80 \text{ dB}$ at 1 GHz
-02,-04,-06,-08,-10,-12			$Z_t \leq \text{..... m}\Omega$	$\geq 100 \text{ dB}$ at 1 GHz
.....				
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+ Voltage values are r.m.s. values of a.c. at 50 to 60 Hz unless otherwise stated.

RATINGS AND CHARACTERISTICS	CECC 22 210 CLAUSE	VALUE	REMARKS
ELECTRICAL			
Discharge test (corona) -01,-02,-05,-06,-09,-10..... -03,-04,-07,-08,-11,-12.....	4.4.9	na	
ADDITIONAL ELECTRICAL CHARACTERISTICS			
MECHANICAL			
Contact captivation: - axial force - torque	4.5.2	Variants -02,-05,-10 other 27 66 N see 'remarks'	CECC 22 000 method only for Variants -01,-02, -05,-06,-09,-10,. Otherwise 'na'.
Static load (for fixed connectors only)	4.5.3	na	
Engagement and separation - torque	4.5.4	na.Nm max.	(to overcome friction of coupling nut)
Coupling torque - normal - proof		to.....na.Nm na.....Nm	
Effectiveness of clamping device against cable pulling	4.5.5 (1)	Variant No./ Designation -01,-05,-09..... -02,-06,-10..... -03,-07,-11..... -04,-08,-12.....	 150 N 200 N 300 N 400 N

RATINGS AND CHARACTERISTICS	CECC 22 210 CLAUSE	VALUE	REMARKS
MECHANICAL			
Effectiveness of clamping device against cable torsion	4.5.5 (2)	0,2 Nm 0,3 Nm 0,7 Nm 0,85 Nm	
Tensile strength of coupling mechanism	4.5.6	na	
Bending moment	4.5.9	na	Relative to reference plane
ADDITIONAL MECHANICAL CHARACTERISTICS			
ENVIRONMENTAL			
Vibration	4.6.3	98 m/s ² 10 to 500 Hz	(.10g acceleration)
Shock	4.6.4	490 m/s ² ½ sine .11 ms	(.50g acceleration)
Climatic category	4.6.5	.40/155/21.	
Sealing (panel and barrier sealed connectors)	4.6.8	na	100 to 110 kPa pressure differential
Sealing (hermetically sealed connectors)	4.6.9	na	100 to 110 kPa pressure differential
ADDITIONAL ENVIRONMENTAL CHARACTERISTICS			
ENDURANCE			
Mechanical	4.7.1	500 operations	
High temperature	4.7.2	1000 h at 155 °C	with appropriate cable
ADDITIONAL ENDURANCE CHARACTERISTICS			

[11] TEST SCHEDULES AND INSPECTION REQUIREMENTS - SERIES N

ACCEPTANCE TESTS		CECC 22 210 Clause	Level H			
			Test Required	IL	AQL	Period
GROUP A1						
Visual examination	4.2	a	S3	1,5%	lot by lot	
GROUP B1						
Outline dimensions	4.3.1	a	S3	4%	lot by lot	
Compatibility mechanical	4.5.7	a	S3	1,5%		
Engagement and separation	4.5.4	na				
Gauge retention force (resilient contacts)	4.5.1	a	S3	1,5%		
Sealing (panel and barrier)	4.6.8	na				
Sealing (hermetic)	4.6.9	na				
Voltage proof	4.4.5	a	S3	4%		

PERIODIC TESTS		CEC 22 210 Clause	Test Required	IL	AQL	Period
GROUP C1(d)						
Soldering	4.6.1	a	S3	4%	1 year	
Insulation resistance	4.4.4	a	S3	4%		

For notes relating to symbols: See page 9

GROUP D6(d)

	CECC 22 210 Clause	Test Required	Specimens (may be from Cl)	Permitted Failures per group†	Period
Contact captivation	4.5.2	a			
RF high potential withstanding voltage	4.4.7	na	3 mated		
Discharge test (corona)	4.4.9	ia	pairs or	1	3 years
Rapid change of temperature	4.6.7	a	sets min.		
Climatic sequence	4.6.5	a			

PROCEDURES

Quality Conformance Inspection

This shall consist of Test Groups A1 and B1 on a lot-by-lot basis and C1 on an annual basis.

Qualification Approval and its Maintenance

This shall consist of three consecutive lots passing Test Groups A1 and B1 followed by selection of specimens from lots as appropriate. These specimens shall successfully pass the specified periodic C1 and D tests.

NOTES:

a = applicable

IL = Inspection Level

AQL = Acceptable Quality Level

* = Unless using common piece-parts

† = For Qualification Approval (QA) a total of 2 failures only permitted

(d) = destructive test - specimens shall not be returned to stock

na = not applicable

ia = if applicable

[8]Variants		Relevant Cables		
Variant No:		IEC 96	RG	National Cables
Plated finishes				GB
Body Ag	Body Ag	Body non-tarnish		
Centre Contact Ag	Centre Contact Au	Centre Contact Au		
-01	-05	-09	50-3-1,-3,-4,-6,-7	58 C/U
-02	-06	-10	50-3-5	142 B/U, 223/U 400/U
-03	-07	-11	50-7-1,-2,-4	213/U
-04	-08	-12	50-7-3,-6	115A/U, 214/U
				URM 43/76
				URM 67
				URM 91/112