

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

CECC

Système Harmonisé d'Assurance de la Qualité
des Composants Electroniques

SPÉCIFICATION PARTICULIÈRE:

**CONNECTEURS COAXIAUX
POUR FRÉQUENCE
RADIOÉLECTRIQUE
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 22 211-811

1988

Information about the System may be obtained from:



FEN Secretariat
and
CECC General Secretariat
Stresemannallee 15
D-6000 Frankfurt/Main 70
Telefon: Int.+ (49) 69 6 30 82 83
Telex 4-12871 vdetz d
Telefax Int.+ (49) 69 6 30 82 83 (Gr. 2/3)
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)
- 4 CECC 00 300: CECC Publications and their related national documents

Austria

Österreichischer Verband
für Elektrotechnik
Eschenbachgasse 9
A-1010 Vienna

Belgium

Comité Electrotechnique Belge
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Boîte 11
B-1000 Brussels

Denmark

Dansk Elektroteknisk Komite
Strandgade 36
DK-1401 Copenhagen K

Finland

Finnish Electrotechnical
Standards Association
P.O. Box 134
SF-00211 Helsinki 21

France

Union Technique de l'Electricité
Participation française au CECC
12, Place des Etats-Unis
F-75783 Paris Cedex 16

Germany

Deutsche Elektrotechnische
Kommission im DIN und VDE
Stresemannallee 15
D-6000 Frankfurt/Main 70

Ireland

EOLAS- The Irish Science and
Technology Agency
Glasnevin
IRL-Dublin 9

Italy

Comitato Elettrotecnico Italiano
Viale Monza, 259
I-20126 Milan

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Nederlands Elektrotechnisch Comité
Postbus 5059
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N-0212 Oslo 2

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Avda. de Brasil, 7
E-28020 Madrid 20

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S-16428 Kistå-Stockholm

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Verein
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United Kingdom

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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)397

Approval Date

March 1987

CECC 22 211-811 Issue 1

[1]	page 1 of 10	[2] CECC 22 211 - ,811.	
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: Socket, single hole, rear mounting, cable outlet

Special Features & Markings:

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

Mass: 45.g.....(Max.) *Delete as appropriate

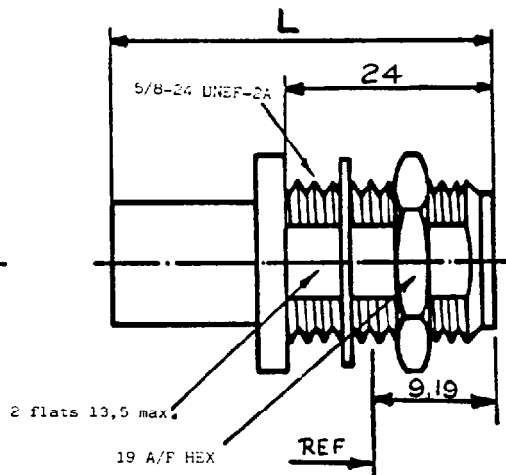
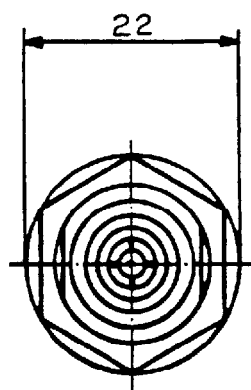
[6] Assessment level ...H... Characteristic Impedance 50 Ω Climatic category .40../155../21...

[7] Outline and maximum dimensions

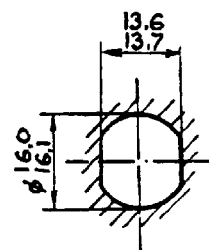
Panel piercing and mounting details

Crimp dies and cable stripping

dimensions to conform with the instructions supplied by the manufacturer.



Variant No.	L
-01, -02, -05 -06,	39
-03, -04, -07 -08,	41



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

Maximum panel thickness: for front mounting 7..... mm, for rear mounting 6.5..... 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.

RATINGS AND CHARACTERISTICS	CECC 22 210 CLAUSE	VALUE	REMARKS
ELECTRICAL			
Variant No./ Designation			
+ Environmental test voltage at sea level			86 to 106 kPa
-01,-02,-05,-06		850... V	
-03,-04,-07,-08		1,4 kV	
.....			
.....			
.....			
.....			
.....			
+ Environmental test voltage at 20 km altitude			4,4 kPa
-01,-02,-05,-06		250. V	
-03,-04,-07,-08		400 V	
.....			
.....			
.....			
.....			
.....			
.....			
RF high potential withstanding voltage	4.4.7	na V	
-01 to -08			
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.....			
Screening effectiveness	4.4.8		Providing > 80 dB at 1 GHz ≥ 100 dB at 1 GHz
-01,-03,-05,-07		$Z_t \leq 10 \text{ m}\Omega$	
-02,-04,-06,-08		$Z_t \leq 1 \text{ m}\Omega$	
.....			
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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 22 211 CLAUSE	VALUE	REMARKS
MECHANICAL				
Effectiveness of clamping device against cable torsion	-01,-05 -02,-06 -03,-07 -04,-08	4.5.5 (2)	0,2 Nm 0,4 Nm 1,0 Nm 1,5 Nm	
Tensile strength of coupling mechanism		4.5.6	na N	
Bending moment		4.5.9	na..... Nm	Relative to reference plane
ADDITIONAL MECHANICAL CHARACTERISTICS				
ENVIRONMENTAL				
Vibration		4.6.3	28.. m/s ² 10..to.500 Hz	(10.g acceleration)
Shock		4.6.4	490.. m/s ² 1/2 sine ms	(50.g 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

GROUP A1

Visual examination

GROUP B1

Outline dimensions

Compatibility mechanical

Engagement and
separationGauge retention force
(resilient contacts)

Sealing (panel and barrier)

Sealing (hermetic)

Voltage proof

CECC 22 210 Clause	Level H			
	Test Required	IL	AQL	Period
4.2	a	S3	1,5%	lot by lot
4.3.1	a	S3	4%	lot by lot
4.5.7	a	S3	1,5%	
4.5.4	na			
4.5.1	a	S3	1,5%	
4.6.8	na			
4.6.9	na			
4.4.5	a	S3	4%	

PERIODIC TESTS

GROUP C1(d)

Soldering

Insulation resistance

CECC 22 210 Clause	Test Required	IL	AQL	Period
4.6.1	na			
4.4.4	a	S3	4%	1 year

For notes relating to symbols: See page 9

	CECC 22 210 Clause	Test Required	Specimens (may be from C1)	Permitted Failures per group†	Period
GROUP D1(d)					
Mechanical tests on cable clamping device	4.5.5	a	3 mated pairs or sets min.	1	3 years
Static load	4.5.3	a			
Tensile strength of coupling mechanism	4.5.6	na			
GROUP D2(d)					
Contact resistance	4.4.2	a	3 mated pairs or sets min.	1	3 years
Outer conductor continuity	4.4.3	a			
Vibration	4.6.3	a			
Shock	4.6.4	a			
Damp heat, steady state	4.6.6	a			
Salt mist	4.6.10	na			
GROUP D3					
Dimensions and materials (piece parts)*	4.3.2	a	1 set of piece-parts each style*	1	3 years
Mass	4.3.1	a			
GROUP D4(d)					
Mechanical endurance	4.7.1	a	3 mated pairs or sets min.	1	3 years
High temperature endurance	4.7.2	a			
GROUP D5(d)					
Reflection factor	4.4.1	a	3 mated pairs or sets min.	1	3 years
Screening effectiveness	4.4.8	a			

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

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

NOTE: † - These cables have inner conductors harder than copper. Satisfactory crimping may not be possible.