

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 TNC**

Harmonized System of Quality Assessment for
Electronic Components

DETAIL SPECIFICATION:

**RADIO FREQUENCY
COAXIAL CONNECTORS
Series TNC**

Harmonisiertes Gütebestätigungssystem für
Bauelemente der Elektronik

BAUARTSPEZIFIKATION:

**HOCHFREQUENZ-
KOAXIAL-STECKVERBINDER
Serie TNC**



1

Edition
Issue
Ausgabe

CECC 22 201-810

1988

Information about the System may be obtained from:



FEN Secretariat
and
CECC General Secretariat
Stresemannallee 15
D-6000 Frankfurt/Main 70
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Telefax (0 69) 6308273 (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)
(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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Dansk Elektroteknisk Komite
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Documents

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PREFACE

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

It relates to Series TNC connectors covered by sectional specification CECC 22 200 and by blank detail specification CECC 22 201. These in turn are related to the generic specification CECC 22 000.

The text of this DS was circulated amongst members of CECC WG22 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

CECC(Secretariat) 1869

Approval Date

March 1986

CECC 22 201-810 Issue 1

[1]	page 1 of 9...	[2] CECC 22 201 - 810 .. 
ELECTRONIC COMPONENT OF ASSESSED [3] QUALITY IN ACCORDANCE WITH GENERIC SPECIFICATION CECC 22 000 SECTIONAL SPECIFICATION CECC 22 200	[4]	Issue 1

[5] DETAIL SPECIFICATION for

RADIO FREQUENCY COAXIAL CONNECTOR OF ASSESSED QUALITY:

SERIES

TNC

Style: Adaptor, plug/plug

Special Features & Markings:

~~Method of cable/wire* attachment: centre conductor - solder/crimp*~~~~: outer conductor - solder/clamp/crimp*~~Mass: ³⁰g.....(Max.) *Delete as appropriate[6] Assessment level ...^H... Characteristic impedance 50 Ω Climatic category/...../.....^{55/155/21}

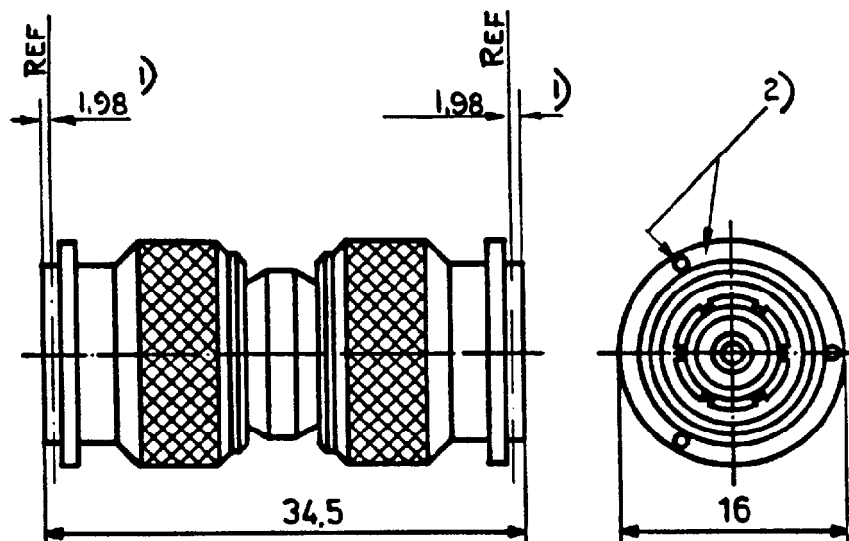
[7] Outline and maximum dimensions

Panel piercing and mounting details



NOTES:

1. With nut fully forward.
2. Optional flange to accommodate three equi-spaced wire-locking holes 0,69 mm diameter min. when required - see 8) below.



For mating interface dimensions and position of reference plane see CECC 22 200

Maximum panel thickness: for front mounting^{na} mm, for rear mounting^{na} mm

The outline dimensions meet the requirements of

[8] Variants**

Variant No:	Description of Variant	Relevant Cables		
Non wire-locking	Wire-locking	IEC 96	RG	National Cables
Body Finish	Body Finish			
Ag Non-tarnish Alloy	Ag Non-tarnish Alloy			
-01	-02	-03	-04	
.....				
.....				
.....				
** NOTE: All centre contacts to be gold plated.				

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)

RATINGS AND CHARACTERISTICS		CECC 22 200 CLAUSE	VALUE	REMARKS
ELECTRICAL				
Reflection factor	Variant No./ Designation			Measurement freq. range
	-01 & -02	4.4.1	$\leq 0,18$	≤ 11 GHz - involving both mating faces
				
				
				
				
				
Centre contact resistance (involving both mating faces)		4.4.2	$\leq 5,0$ m Ω $\leq 10,0$ m Ω	Initial After conditioning
Outer conductor continuity (involving both mating faces)		4.4.3	$\leq 2,0$ m Ω $\leq 4,0$ m Ω	Initial After conditioning
Insulation resistance (involving both mating faces)		4.4.4	> 5 G Ω > 500 M Ω	Initial After conditioning
+ Proof voltage at sea level	-01 & -02	4.4.5	1,5 kV	86 to 106 kPa
				
				
				
				
				
				
+ Proof voltage at 20 km altitude	-01 & -02	4.6.5	375 V	4,4 kPa
				
				
				
				
				
				

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

RATINGS AND CHARACTERISTICS		CECC 22 200 CLAUSE	VALUE	REMARKS
ELECTRICAL				
+ Working voltage at sea level	Variant No./ Designation			
	-01 & -02		 500 V	86 to 106 kPa
+ Working voltage at 20 km altitude	-01 & -02		 125 V	4,4 kPa
Screening effectiveness	-01 & -02	4.4.8	$Z_t < 1 \text{ m}\Omega$	Providing $> 100\text{dB}$
Discharge test (corona)	-01 & -02	4.4.9	$\geq 500 \text{ V}$	Extinction voltage
ADDITIONAL ELECTRICAL CHARACTERISTICS				

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

RATINGS AND CHARACTERISTICS		CECC 22 200 CLAUSE	VALUE	REMARKS
MECHANICAL				
Contact captivation		4.5.2		
- axial force			 20 N	
- torque			 0,03 Nm	
Static load (for fixed connectors only)		4.5.3	 na N 10 mm from mounting plane	Parallel to mounting plane
Engagement and separation		4.5.4		
- torque			0,25 Nm max.	To overcome friction
- axial force (insertion and withdrawal)			 22 N max.	
Coupling torque				
- normal			0,46 to 0,69 Nm	
- proof			 1,7 Nm	
	Variant No./ Designation			
Effectiveness of clamping device against cable pulling		4.5.5 (1)	 na N	
				
				
				
				
				
				
				
Effectiveness of clamping device against cable torsion		4.5.5 (2)	 na Nm	
				
				
				
				
				
				
				
				
Tensile strength of coupling mechanism		4.5.6	 450 N	
Bending moment		4.5.9	 na Nm	Relative to reference plane
ADDITIONAL MECHANICAL CHARACTERISTICS				

RATINGS AND CHARACTERISTICS	CECC 22 200 CLAUSE	VALUE	REMARKS
ENVIRONMENTAL			
Vibration	4.6.3	98... m/s ² 10...to...500 Hz	(10..g acceleration)
Climatic category	4.6.5	..55./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	
ADDITIONAL ENDURANCE CHARACTERISTICS			

[10] SUPPLEMENTARY INFORMATION

- marking of the component: in accordance with 2.4 of CECC 22 000,
in the following order of precedence:

(1) Component identification	Variant No./ Designation	Identification
	-01	22 201-810-01
	-02	22 201-810-02
	-03	22 201-810-03
	-04	22 201-810-04
		
		
		
		
		
(2) Identification of manufacturer:		
(3) Manufacturing date,code; year/week.		

- marking and contents of package: in accordance with 2.5 and 2.5.1 of CECC 22 000 as follows:

- (1) Information prescribed in 2.4 of CECC 22 000 detailed above
- (2) Nominal characteristics impedance 50Ω
- (3) Assessment level code letter H
- (4) Any additional marking required

- ordering information: in accordance with 2.6 of CECC 22 000 as follows:

- (1) Number of the detail specification CECC 22 201-⁸¹⁰...../Variant code
- (2) Assessment level code letter H
- (3) Body finish (if more than one listed) $see [8]$
- (4) Any additional information or special requirements

- related documents (if not included in CECC 22 000 or CECC 22 200):

.....
.....

- certified test records (RCE): in accordance with 3.7 of CECC 22 000
(when applicable) (requirements to be included later)

- structural similarity: in accordance with 3.2 and 3.4 of CECC 22 000.

NOTE: Relevant information on a basic style should be entered as Variant 01.

[11] TEST SCHEDULES AND INSPECTION REQUIREMENTS - SERIES TNC

ACCEPTANCE TESTS

GROUP A1

Visual examination

CECC 22 200 Clause	Level			
	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	a	S3	1,5%	
4.5.1	a	S3	1,5%	
4.6.8	na			
4.6.9	na			
4.4.5	a	S3	4%	

GROUP B1

Outline dimensions

Compatibility mechanical

Engagement and
separationGauge retention force
(resilient contacts)

Sealing (panel and barrier)

Sealing (hermetic)

Voltage proof

PERIODIC TESTS

GROUP C1(d)

Soldering

Insulation resistance

CECC 22 200 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

	CEOC 22 200 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	na	3 mated pairs or sets min.	1	3 Years
Static load	4.5.3	na			
Tensile strength of coupling mechanism	4.5.6	a			
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	na			
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