



# SLOVENSKI STANDARD

## SIST EN 181102:1999

01-julij-1999

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**Blank Detail Specification: Fibre optic branching devices - Type: Wavelength selective transmissive star**

Blank Detail Specification: Fibre optic branching devices - Type: Wavelength selective transmissive star

Vordruck für Bauartspezifikation: Faseroptische Verzweiger - Bauart: Wellenlängenselektiver Sternübertrager

Spécification particulière cadre: Coupleurs à fibres optiques - Type : Sélectif en longueur d'onde, transmission en étoile

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**Ta slovenski standard je istoveten z: EN 181102:1994**

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**ICS:**

33.180.20	Povezovalne naprave za optična vlakna	Fibre optic interconnecting devices
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**en**

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**EUROPEAN STANDARD**  
**NORME EUROPÉENNE**  
**EUROPÄISCHE NORM**

**EN 181 102**

July 1994

UDC

Descriptors: Quality, electronic components, fibre optic branching devices

English version

**Blank Detail Specification:**

**Fibre Optic Branching Devices**  
**Type: Wavelength Selective Transmissive Star**

Spécification particulière cadre:

Vordruck für Bauartspezifikation:

Coupleurs à fibres optiques

Faseroptische Verzweiger

Type: Sélectif en longueur d'onde,  
 transmission en étoile

Bauart: Wellenlängenselektiver  
 Sternübertrager

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This European Standard was approved by the CENELEC Electronic Components Committee (CECC) on 17 January 1993. CENELEC members are bound to comply with CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the General Secretariat of the CECC or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CECC General Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and United Kingdom. The membership of the CECC is identical, with the exception of the national electrotechnical committees of Greece, Iceland and Luxembourg.

**CECC**

CENELEC Electronic Components Committee

Comité des Composants Electroniques du CENELEC

CENELEC- Komitee für Bauelemente der Elektronik

**General Secretariat: Gartenstr. 179, D - 60596 Frankfurt am Main**

**FOREWORD**

The CENELEC Electronic Components Committee (CECC) is composed of those member countries of the European Committee for Electrotechnical Standardization (CENELEC) who wish to take part in a harmonized System for electronic components of assessed quality.

The object of the System is to facilitate international trade by the harmonization of the specifications and quality assessment procedures for electronic components, and by the grant of an internationally recognized Mark, or Certificate, of Conformity. The components produced under the System are thereby acceptable in all member countries without further testing.

This specification was prepared by CECC WG 27.

The text of the draft based on document CECC (Secretariat)3016 was submitted to the formal vote; together with the voting report, circulated as document CECC(Secretariat)3275, it was approved by CECC as EN 181 102 on 17 January 1993.

The following dates were fixed:

- |   |       |                   |
|---|-------|-------------------|
| - latest date of announcement of the EN at national level       | (doa) | <b>1993-09-14</b> |
| - latest date of publication of an identical national standard  | (dop) | <b>1994-03-14</b> |
| - latest date of declaration of national standards obsolescence |       | <b>1994-03-14</b> |
| - latest date of withdrawal of conflicting national standards   | (dow) | <b>2003-09-14</b> |

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**GUIDANCE FOR THE PREPARATION OF DETAIL SPECIFICATIONS****1 INTRODUCTION**

This specification is a BDS for Fibre Optic Branching Devices of the "Wavelength selective transmissive star" type.

This includes instructions for preparing a DS.

**2 QUALIFICATION APPROVAL****2.1 Procedure**

The DS shall state the qualification approval procedure to be used in accordance with clause 3.3 of EN 181 000.

**2.2 Test schedule and performance requirements**

The test schedule for qualification by the fixed sample procedure shall be given in table 1 of DS (see clauses 2.2, 4.5 and 4.6 of EN 181 000).

**3 QUALITY CONFORMANCE INSPECTION****3.1 Lot-by-lot inspection**

The test schedule for lot-by-lot inspection (groups A and B) shall be given in table 2 of the DS (see clauses 2.2, 4.5 and 4.6 of EN 181 000).

**3.2 Periodic inspection**

The test schedule for periodic inspection (groups C and D) shall be given in table 3 of the DS (see clauses 2.2, 4.5 and 4.6 of EN 181 000).

**4 PREPARATION OF DETAIL SPECIFICATIONS (DS)**

Each BDS is published separately as a pro forma document, with numbered spaces provided for entering the information necessary to create a DS. If the spaces provided are too small, then the information shall be provided on additional sheets forming part of the completed DS. Instructions for filling in the numbered spaces in a BDS are given below:

- (1) The name of the ONH under whose authority the DS is published and, if applicable, the organization from whom the DS is available.
- (2) The CECC symbol and the number allotted to the DS by the CECC General Secretariat.
- (3) The number and issue number of the CECC GS; also the national reference(s) if different.
- (4) If different from the CECC number, the national number of the DS, date of issue and any further

information required by the national system, together with any amendment numbers.

- (5) A brief description of the component or range of components.
- (6) The level of quality assessment (A, B, C or X), sampling procedure (fixed quantity or lot-by-lot) and the climatic category.

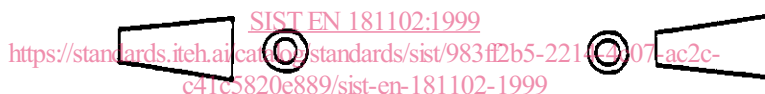
For (5) and (6) the text to be given in the DS shall be suitable for an entry in CECC 00 200 (Register of Approvals) and CECC 00 300 (Register of National Documents).

- (7) An outline drawing with main dimensions which are of importance for interchangeability, and/or reference to the appropriate national or international document for outlines. Alternatively, this drawing may be given in an annex to the DS, but (7) should always contain an illustration of the general outer appearance of the component.

If an existing drawing from an IEC publication, or similar source, is used in a CECC specification, then it can be either first or third angle projection, but the appropriate symbol shall be shown on the drawing:

1st angle projection

3rd angle projection



The symbol in the BDS may be converted to indicate either 1st or 3rd angle, by deleting the inappropriate part of the drawing.

Alternative outline dimensions or tolerance limits of any variants shall be shown, and may be listed in the form of a table alongside the drawing.

- (8) A list of variants and their identifying features covered by the DS. Enter the identification number. "AYY" for each variant of each component (see clause 2.7.1 of EN 181 000). Assign a column in the table for each variant feature. For example, cable type, housing, orientation of ports, means of mounting etc.

**Instruction:**

- max. values in dB for insertion losses between conduction ports within each specified operating wavelength range;
- min. values in dB for return losses, within each specified operating wavelength range;
- min. values in dB for insertion losses between isolated ports within each specified operating wavelength range.

## (9) Supplementary information

Enter the supplementary information with respect to marking of the component, marking and contents of package, ordering information, related documents, certified test records and structural similarity.

## (10) Fixed-sample qualification approval test schedule

Table 1 shall give the required measurements and tests for qualification by fixed-sample procedure. If qualification by lot-by-lot and periodic procedure is specified, insert "NOT APPLICABLE" in table 1.

If measurements or test are specified for which no basic procedure is available, or which do not appear in the GS, EN 181 000, each procedure shall be clearly described in an individual annex to the DS. The format and the minimum mandatory test sequence shall be the same as specified in the GS.

## (11) Lot-by-lot inspection test schedule

When completed, table 2 shall give the required measurements and test for qualification by lot-by-lot procedure. One or more assessment level(s) shall be given in table 2. When differing from the preferred levels of the GS (see clause 2.1.5 of EN 181 000) the IL and AQL shall be entered and the assessment level(s) titled X, (Y) .. etc.

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If measurements or tests are specified for which no basic procedure is available, or which do not appear in the GS, EN 181 000, each procedure shall be clearly described in an individual annex to the DS. The format and the minimum mandatory test sequence shall be the same as specified in the GS.

## (12) Periodic C and D testing procedure

Table 3 shall give the required measurements and tests for Groups C and D periodic tests. One or more assessment level(s) shall be given in table 3. When differing from the preferred levels of the GS (see clause 2.1.5 of EN 181 000) the IL, AQL, p, n, c and t shall be entered and the assessment level(s) titled (X, Y..).

## (13) Details, measurements, and performance requirements

Table 4 shall list the details of each tests requirements. It shall be noted that the mandatory tests have been given as a minimum. Other tests shall be given in the same manner.

(1) Specification available from .....	(2) Page 1 of ... CECC 181 102-... ..
(3) ELECTRONIC COMPONENT OF ASSESSED QUALITY IN ACCORDANCE WITH GENERIC SPECIFICATION EN 181 000 ISSUE 1 BLANK DETAIL SPEC. EN 181 102	(4) Issue... ..... .....

(5) DETAIL SPECIFICATION for

**FIBRE OPTIC BRANCHING DEVICE OF ASSESSED QUALITY**

Style: Configuration:..... Type: Multiplexer/Demultiplexer  
 Fibre Type(s):.....  
 Connector set:.....

- Wavelength Selective
- Uni- or Bidirectional
- Transmissive Star
- NxM
- Transfer matrix and numbering of ports: see page 2

(6) Assessment Level: Qualification Approval Procedure: Climatic Category:

(7) Outline dimensions and mass



Panel piercing and mounting details:

(7) Dimensions (mm)			
REF.	Min.	Max.	Notes

FIGURE .....

Note: mass (g):

Note: Additional drawings (if necessary) see page ...

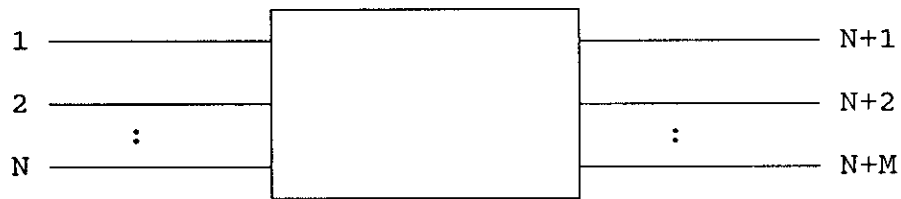
(8) Variants:

Variant-No.	Operating wavelength range(s) (µm)	

Information about manufacturers who have components qualified to this detail specification is available in the current CECC 00 200 Register of Approvals.



(8) Transfer matrices and numbering of ports:



		Receive Port					
		1	2	.	.	.	N+M
Launch Port	1	$\begin{bmatrix} a_{11}(\lambda) & a_{12}(\lambda) & . & . & . & a_{1N+M}(\lambda) \\ a_{21}(\lambda) & & & & & \\ . & & & & & \\ . & & & a_{ij}(\lambda) & & \\ . & & & & & \\ a_{N+M1}(\lambda) & & & & & a_{N+M N+M}(\lambda) \end{bmatrix}$					
	2						
	.						
	.						
	N+M						

Note 1: Values in dB.

Note 2: Create an additional transfer matrix for each previously specified operating wavelength range.

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## (9) SUPPLEMENTARY INFORMATION

Marking of the component (add component marking requirements in accordance with clause 2.7.2 of EN 181 000, as applicable):

Marking and contents of package (add component package marking requirements in accordance with clause 2.7.3 of EN 181 000, as applicable):

Ordering information (add ordering information, as applicable):

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Related documents (add additional related documents if not included in EN 181 000):

Certified records of released lots (indicate whether a certificate is required):

Structural similarity (add the boundary limits in accordance with clause 3.2 of EN 181 000):

(10) T A B L E 1 FIXED SAMPLE QUALIFICATION APPROVAL TEST SCHEDULE			
Test Sequence (Note)		EN 181 000 Clause	Sample size
Group 0			
Group 1			
Group 2			
Group 3			
Further groups if applicable			

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Note: For details, measurements and performance requirements see table 4.