

# Master FC Patchcord

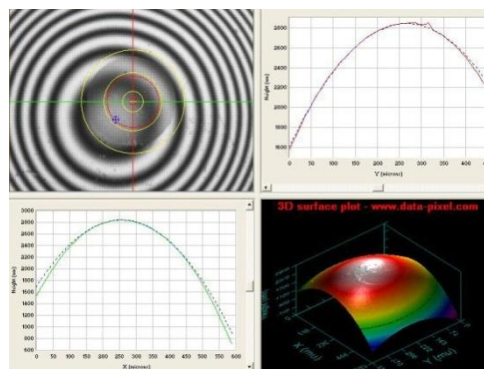
## Description:

We offer an extensive range of pre-terminated cable assemblies that are 100% tested to ensure conformance with your specifications. These assemblies are used for measuring and manufacturing of fiber optic components and optical network testing.

The Master patchcord is equipped with a Master connector according to the specifications below. The master connector is marked and specified with its Serial Number, which ensures traceability of transmission and geometrical parameters. The second connector is a standard type. For the hybrid patchcord version different types of master and standard connector types are also available.



M-UPC/UPC-20S7A1



Interferometer testing

| Specifications:                                            |                                                                |                          |
|------------------------------------------------------------|----------------------------------------------------------------|--------------------------|
| Insertion loss <sup>2</sup> (IL)<br>(IEC 61300-3-4)        | SM Ultra PC                                                    | SM Angle PC              |
|                                                            | 0.10 dB max                                                    | 0.10 dB max              |
| Return loss <sup>2</sup> (RL)<br>(IEC 61300-3-6, method 1) | ≥ 55 dB <sup>1</sup>                                           | ≥ 70 dB <sup>1</sup>     |
| PDL <sup>2</sup>                                           | max 0.1 dB                                                     |                          |
| Strain relief                                              | max 100 N                                                      |                          |
| Allowable input power                                      | max 1.0 W                                                      |                          |
| Strain relief                                              | 100 N                                                          |                          |
| Operating temperature                                      | -30°C to +70°C                                                 |                          |
| Durability                                                 | min 1000 cycles                                                |                          |
| Assembly procedure                                         | glue and polish                                                |                          |
| Connection                                                 | physical contact                                               |                          |
| Lock mechanism                                             | coupling nut                                                   |                          |
| Standards                                                  | JIS 5970, EIA/TIA FOCIS, IEC 61754-13, EN 50377-2, GR-326-CORE |                          |
| Ferrule material                                           | full ceramic zirconia                                          |                          |
| Connector material                                         | zinc alloy, nickel plated                                      |                          |
| Adapter material                                           | zinc alloy, nickel plated, zirconia sleeve                     |                          |
| Connector lifetime                                         | 20 years in environment defined by EN 61753-1:2007, category C |                          |
| Geometrical parameters:                                    |                                                                |                          |
| Eccentricity of core for the center of ferrule             | ≤ 0.3 / 0.5 <sup>5</sup> μm                                    |                          |
| Outer diameter of ferrule                                  | 2.5 mm connectors:                                             | 2.499 μm                 |
|                                                            | SFF connectors:                                                | 1.249 μm                 |
| End curve offset                                           | ≤25 μm                                                         |                          |
| Fiber height                                               | -30 to +50 nm                                                  |                          |
| End curve radius: 2.5 mm connectors:                       | PC polishing: 10 – 18 mm                                       | APC polishing: 5 – 12 mm |
| SFF connectors:                                            | PC/APC: 5 – 12 mm                                              |                          |
| APC angle                                                  | 8 ± 0.1°                                                       |                          |

| Features:                                                                                                                                                                                                                                                                          | Visual inspection:              |               |               |                                              |                   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|---------------|---------------|----------------------------------------------|-------------------|
|                                                                                                                                                                                                                                                                                    | Single mode                     |               |               |                                              |                   |
|                                                                                                                                                                                                                                                                                    | Allowable Defects and Scratches |               |               |                                              |                   |
|                                                                                                                                                                                                                                                                                    | Zone                            | Description   | Diameter      | Defects (diameter)                           | Scratches (width) |
|                                                                                                                                                                                                                                                                                    | 1a                              | Core Zone     | 0 to 25 µm    | none                                         | none              |
| <ul style="list-style-type: none"> <li>ISO 9100 approved</li> <li>100% Return loss test</li> <li>100% Visual Inspection</li> <li>100% Insertion loss test</li> <li>100% Interferometric test</li> <li>Manufactured to meet IEC/EN Standards</li> <li>Batch traceability</li> </ul> | 1b                              | Cladding Zone | 25 to 120 µm  | any < 2 µm<br>5 from 2 - 5 µm<br>none > 5 µm | none > 3 µm       |
|                                                                                                                                                                                                                                                                                    | -                               | Adhesive Zone | 120 to 130 µm | any                                          | any               |
|                                                                                                                                                                                                                                                                                    | 2                               | Contact Zone  | 130 to 250 µm | none > 10 µm                                 | any               |

## Ordering code:

**M - YYY / AAA - 20XXX - (LLL<sup>4</sup>) /02**

**YYY** – Master Connector  
**AAA<sup>3</sup>** – Second Connector

**Type Description**

**UPC** FC/UPC

**NPC** FC/APC

**20** - cable Ø 2.0 mm

**XXX - type of fiber**

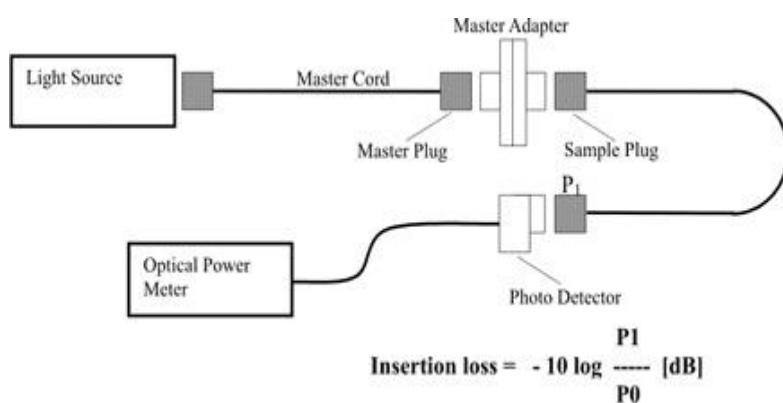
**S2D** SM 9/125 µm (G.652D)

**S7A1** SM 9/125 µm (G.657A1)

- Note: 1)  $RL \geq 58$  dB (UPC) and  $RL \geq 78$  dB (APC) measured with low coherence reflectometry (IEC 61300-3-6 method 3 OLCR)  
 2) Valid over 1260-1650 nm wavelength range and within operation temperature range -30 to +70°C, tested according to IEC 61300-3-12  
 3) AAA – second connector types according to relevant datasheets  
 4) Standard Master patchcord length – 2 m, other on demand  
 However in case of longer Master patchcord Rayleigh scattering in glass produces small levels of back reflections. Because of backscatter, a link will produce intrinsic reflections which are dependent on the length.

## IEC Test Method: Single mode:

### IEC 61300-3-4, Insertion method (C2)



Note 5) Eccentricity of core

