# LANmark-OF ENSPACE Indoor MPO-MPO Pre-Term

**LANMARK-OF ENSPACE INDOOR PATCH CORD SM X12F MTP/F-MTP/F LOW LOSS XM LSZH CCA YELLOW**



**Aginode Ref:** N154.BI12FFPxxx-YC

- Factory terminated MTP-MTP fibre assembly
- Pre-Term cable with high CPR rating: Cca s1,d1,a1
- Patch cord with female MTP connectors
- Small cable diameter reduces required data centre space
- Method B polarity
- Fibre count: 12F
- Fibre type: Singlemode (OS2)

## STANDARDS

ISO/IEC 11801

### MPO-MPO Pre-Term characteristics

The MPO-MPO Pre-Term has pinned (male) connectors. This matches with the un-pinned (female) connectors in the ENSPACE modules and the female Plug&Play modules.

The MPO-MPO Pre-Terms have PG-13 cable glands on both sides that provide a solid fixing in the LANmark-OF ENSPACE and Plug&Play patch panel slots.

The Pre-Terms are installed by laying. For longer lengths a detachable pulling eye can be used for installations by pulling.

The "xxx" in the N-number is the length in metre between the cable glands, i.e. the Pre-Term length between the rear of the patch panels.

In order to reduce overlengths in data centers the Pre-Terms are custom made and available with 1m increments.

### Cable characteristics

The cable used for the Pre-Term is the “LANmark-OF Double Jacket Indoor Cable Cca” and is optimized indoor installations. The cable has an inner and outer jacket and 2 layers of Aramid yarns.

The double jacket makes the Pre-Term more robust between the racks.

Inside the panel the outer jacket is removed and the inner jacket allows for a flexible fan-out for installation inside the

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patch panel.

The cable has been tested for fire performance according to the new Construction Product Regulation: EN50575:2014 +A1:2016. It has a very high fire performance with minimal fire load and spread, smoke density, droplets and acidity: Cca-s1,d1,a1.

**Polarity and optical performance**

The Pre-Terms are available with a method B or C polarity according to standard TIA-568.3-D-2016.

For a duplex transmission like for 10GBase-SR (10G) the transmit-receive polarity in the channel is maintained with one of the following approaches:

1. Straight cassette on side A + Method C Pre-Term + straight cassette on side B.
2. Straight cassette on side A + Method B Pre-Term + crossed cassette on side B.

Both approaches use the same duplex LC patch cords on both sides.

For parallel optics for multimode like for 100GBase-SR4 (100G) method B Pre-Terms can be used with key up/key down adaptors on both sides of the channel. The same straight female-female patch cords can be used on both sides.

The insertion loss of a MPO-MPO connection is measured according to standard IEC61300-3-45.

The return loss of a MPO connection is measured according to IEC 61300-3-6.

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# LANmark-OF ENSPACE Indoor Patch Cord SM x12F MTP/F-MTP/F Low Loss xm LSZH Cca Yellow

## Characteristics

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| **Construction characteristics** | |
| Fiber optic type | SM (G657.A1) |
| Wiring type | Polarity Method B |
| **Dimensional characteristics** | |
| Inner diameter | 3 mm |
| Outer Diameter | 4.5 mm |
| Number of optical fibres | 12 |
| Approximate net weight | 20 kg/km |
| **Mechanical characteristics** | |
| Mechanical resistance to impacts | 10 impacts of 3 N.m |
| Crush resistance (IEC 60794-1-E3) | 100 N/cm |
| **Transmission characteristics** | |
| Insertion Loss, maximum, dB | 0.5 dB |
| Return Loss, Minimum, dB | 45 dB |
| **Usage characteristics** | |
| Operating temperature, range | -10...60 °C |
| Fire retardant | IEC 60332-3 |
| Minimum dynamic operating bending radius | 90.0 mm |
| Minimum static operating bending radius | 45 mm |
| Flame retardant | IEC 60332-1 |
| Storage temperature, range | -20...60 °C |
| Ambient installation temperature, range | 0...40 °C |

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