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

**LANMARK-OF ENSPACE INDOOR METHOD C PRE-TERM SM X12F MPO/M-MPO/M LOW LOSS FAN OUT C XM LSZH CCA YELLOW**



**Aginode Ref:** N154.CI12AACxxx-YC

- Factory terminated MPO-MPO fibre assembly
- Pre-Term cable with high CPR rating: Cca s1,d1,a1
- Pre-Term with cable glands
- Small cable diameter reduces required data centre space
- Flexible fan-out for ease of installation in patch panels
- Method C polarity Pre-Term
- 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.

*All drawings, designs, specifications, plans and particulars of weights, size and dimensions contained in the technical or commercial documentation of Aginode is indicative only and shall not be binding on Aginode or be treated as constituting a representation on the part of Aginode.*

Inside the panel the outer jacket is removed and the inner jacket allows for a flexible fan-out for installation inside the 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 Method C Pre-Term SM x12F MPO/M-MPO/M Low Loss fan out C xm LSZH Cca Yellow

## Characteristics

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|---|---|
| **Construction characteristics** | |
| Fiber optic type | SM (G657.A1) |
| Wiring type | Polarity Method C |
| **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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