

# QuickNet™ Signature Core™ MTP\* Fiber Optic Cassettes

## general information

QuickNet™ Signature Core™ MTP\* Fiber Optic Cassettes comply with IEEE 802.3ae 10 GbE and ANSI T11.2 Fibre Channel requirements. QuickNet™ Signature Core™ MTP\* Fiber Optic Cassettes employ high performance 12-fiber MTP\* connectivity on the rear of the units routed to discrete SC or LC connectivity on the front. Colors shall follow TIA/EIA-568-C.3 suggested color identification scheme. They interconnect with high-density SFF MTP\* ribbon interconnect cable assemblies. High-density cassette patch panels shall hold up to 8 cassettes, allowing up to 96 fiber connections to be deployed in one rack unit (1 RU).



## technical information

Signature Core™ Fiber is a modal and chromatic dispersion compensating multimode fiber designed for optimum performance with high-speed Vertical Cavity Surfacing Emitting Lasers (VCSEL) transceivers. The refractive index profile is engineered to correct for the interaction between modal and chromatic dispersion increasing the total channel bandwidth. Current industry standards for OM3 and OM4 fibers neglect this interaction and as a result, channel reach can be significantly limited for a large population of VCSEL transceivers.

Like OM3 and OM4 fiber types, the actual supported reach for Signature Core™ Fiber depends on the electrical and optical characteristics of the VCSEL transceiver<sup>1</sup>. Under worst-case conditions, Signature Core™ Fiber will provide at least a 20% increase in reach over uncompensated OM4 fibers. Under nominal conditions, Signature Core™ Fiber will support a 600m reach with 10GBASE-SR transceivers compared to a 400m maximum reach over OM4 as specified in IEEE 802.3<sup>2</sup>. Applying the 20% minimum increase in reach for OM4 reach published in FC-PI-5 for Fibre Channel communication yields a reach of 225 meters with an 8G Fiber Channel transceiver (800-M5F-SN-I), and 150m with a 16G Fiber Channel transceiver (1 600-M5F-SN-I)<sup>3</sup>.

Signature Core™ Fiber is 100% standards compliant meeting all OM4 specifications, with an additional requirement for Differential Mode Delay (DMD) that compensates for modal and chromatic dispersion effects<sup>4</sup>.

## application

Allows system designers to tailor configuration, reach and breakout construction to application requirements; to minimize waste, optimize cable management, speed deployment, and improve flexibility and manageability for lower installation costs.

## construction

<b>Fiber types:</b>	OM4 10Gig 50/125µm Signature Core™ OM4+ 50/125µm
<b>Fiber count:</b>	12 or 24
<b>Split sleeve material:</b>	Zirconia ceramic: Signature Core™ OM4+
<b>Insertion loss:</b>	0.35dB Maximum (Signature Core™ OM4+)
<b>Return loss:</b>	26dB Minimum

## environmental properties

<b>Operating temperature:</b>	0°C to +70°C
<b>Storage and shipping temperature:</b>	-40°C to +70°C
<b>Installation temperature</b>	0°C to +60°C

## standards

Connectivity meets or exceeds TIA/EIA-568-C.3 performance requirements

Supports IEEE 802.3ae (10 Gigabit Ethernet) and ANSI T11.2 (Fibre Channel) channel and link specifications

MTP\* connector exceeds TIA/EIA-455-21A: 1000 mating cycles (multimode) and 500 mating cycles (singlemode)

<b>ROHS 2002/95/EC:</b>	Compliant
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<sup>1</sup> The actual channel reach of a laser optimized, multimode fiber (OM3, OM4, or Signature Core™) depends on the optical and electrical parameters of the VCSEL transceiver. For worst-case optical and electrical parameters, Signature Core™ Fiber will provide at least 20% greater reach over standards un-compensated OM4 fiber.

<sup>2</sup> OM4 fiber was ratified in the IEEE802.3/D3.0 proceedings from 15-Dec-2011, Table 52-6 with an operating range of 2 to 400 meters.

<sup>3</sup> Reach values are a minimum.

<sup>4</sup> Differential Mode Delay (DMD) is a metric defined in telecommunications industry association standard EIA/TIA 455-220-A, January 2003, which describes a method for measuring the modal dispersion of laser optimized multimode mode fiber.

\*MTP is a registered trademark of US Conec Ltd.

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## part number configurator

Character	1	2	3	4	5	6	7	8	9	10	11	12	13
Example	F	C	2	S	A	-	1	2	-	1	0	A	S

### 1 – Fiber Product

F = Fiber

### 2 – Product Type

C = Cassette

### 3 – Generation

2 = 2nd generation technology

### 4 – Fiber Type

S = Signature Core™ OM4+ fiber  
available with ultra low loss only

### 5 – Performance

A = Ultra low loss

### 6 – Dash

### 7 & 8 – Fiber Count

12 = 12 fiber total

24 = 24 fiber total

### 9 – Dash

### 10 & 11 – Connector Type

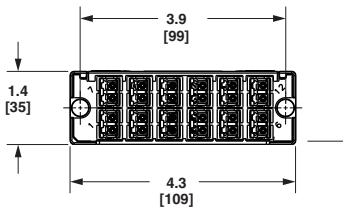
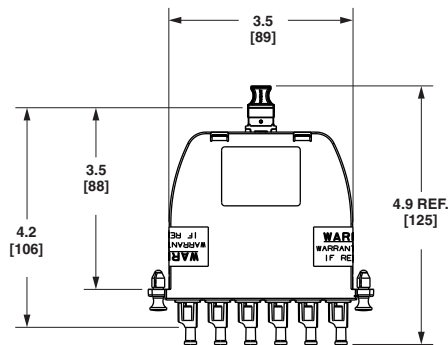
10 = Duplex LC adapter

### 12 & 13 – Polarity

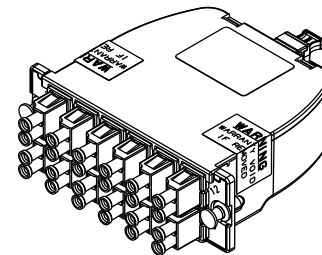
AS = Method A

AF = Modified Method A,  
pair flipped

## QuickNet™ Signature Core™ MTP\* Fiber Optic Cassettes



Front View  
shown without dustcaps



### Notes:

- Reference TIA-568-C.0 for details on Method A and Method B Polarities.
  - Method B Cassettes are available upon request. Please contact Panduit for details.
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Dimensions are in inches. [Dimensions in brackets are metric].

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FBSP68--WW-ENG  
2016-06-14