

general information

QuickNet™ Signature Core™ Trunk Cable Assemblies allow for rapid deployment of high-density permanent links in a single assembly for data center applications requiring quick infrastructure deployment, such as main, horizontal, and zone distribution areas. These trunk cable assemblies optimize cable routing requirements to ensure efficient use of pathway space and significantly reduce installation time and cost. Signature Core™ Trunk Cable Assemblies are built with modular MPO connectivity and provide compatibility, flexibility, and system performance in all permanent link applications.



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 transceiver¹. 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 802.3². 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 Fibre Channel transceiver (800-M5F-SN-I), and 150m with a 16G Fibre Channel transceiver (1 600-M5F-SN-I)³. 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 effects⁴.

application

Data centers requiring quick infrastructure deployment with extended reach.

construction

Cable type:	Indoor unarmored
Cable jacket ratings:	Optical Fiber Non-conductive Plenum (OFNP) Low Smoke Zero Halogen (LSZH)
Fiber type:	OM4+ Signature Core™ Fiber
Fiber count:	12, 24
Connector end 'A':	Type: MPO female Color: Black and Aqua Polarity: Method A
Connector end 'B':	Type: MPO female Color: Black and Aqua Polarity: Method A
Number of breakouts:	12-fiber: 1 24-fiber: 2
Jacket color:	Aqua

optical properties

Maximum cable attenuation:	2.3dB/km @ 850nm 0.6dB/km @ 1300nm
Maximum connector insertion loss:	0.25dB
Minimum connector return loss:	30dB

physical properties

Cable outside diameter (OD):	12-fiber: 6.5mm 24-fiber: 9.4mm
Cable tensile strength (installation):	1335N
Cable compressive load:	220N/cm short term 110N/cm long term
Cable flex:	100 cycles
Cable twist:	10 cycles
Connector durability:	500 mating cycles
Bend radius:	Under load: 20 x cable OD Static: 10 x cable OD
Transition outside diameter:	12-fiber: 10mm 24-fiber: 14mm
Pulling eye diameter:	12-fiber: 19mm 24-fiber: 23mm
Breakout length:	1m

environmental properties

Storage and shipping temperature:	-40°C to +70°C (-40°F to 158°F)
Installation temperatures:	0°C to +70°C (32°F to 158°F)
Operating temperature:	-20°C to 70°C (-4°F to 158°F)

standards

Meets or exceeds ISO/IEC 11801, TIA/EIA-568-C.3, TIA-604-5 (FOCIS-5), TIA/EIA-568-C.1, RoHS compliant

¹ 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 standard un-compensated OM4 fiber.

² OM4 fiber was ratified in the IEEE802.3/D3.0 proceedings from Dec. 15, 2011, Table 52-6 with an Operating Range of 2m to 400m.

³ Reach values are a minimum.

⁴ 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 fiber.

QuickNet™ Signature Core™ Trunk Cable

part number

Description: FSUSP5E5EKAM010 = Fiber OM4+ Signature Core™ 24 fiber, indoor trunk, plenum, MPO female to MPO female, method A ultra IL, with pulling eye end A, 10 meters

Character	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Example	F	S	U	S	P	5	E	5	E	K	A	M	0	1	0

1 – Fiber

F = Fiber

2 – Fiber Type

S = OM4+ Signature Core™

3 – Fiber Count

T = 12-fiber

U = 24-fiber

4 – Cable Type

S = Indoor Trunk

5 – Flame Rating

L = Low Smoke Zero Halogen (LSZH)

P = Optical Fiber Non-conductive
Plenum (OFNP)

6 – Connector Type

5 = MPO female

6 = MPO male

7 – Connector Variant

E = 1m equal breakout

N = No variant

8 – Connector Type

5 = MPO female

6 = MPO male

9 – Connector Variant

E = 1m equal breakout

N = No variant

10 – Performance/Polarity

K = Polarity A/Ultra IL

11 – Pulling Eye

A = Pulling Eye end A

N = No Pulling Eye

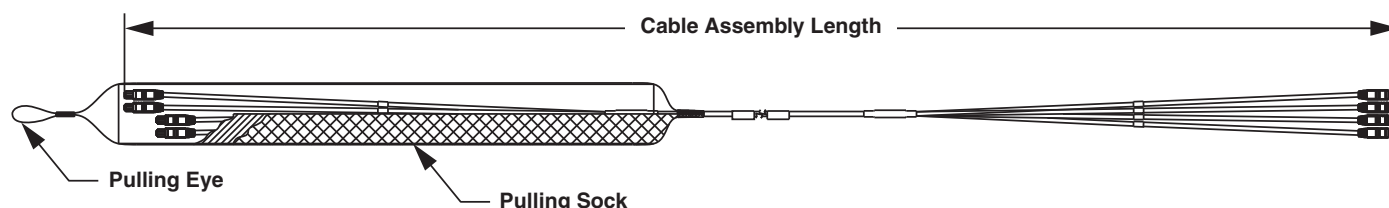
12 – Unit of Measure

M = Meters

13, 14, and 15 – Length

010 – 050m

trunk cable assembly detail



Notes:

- Standard lengths for MPO to MPO trunk cables are available from 10 – 100 feet in increments of 1 foot and 10m – 50m in increments of 1m. For additional lengths and availability, please contact Panduit customer service.
- Cable assembly lengths are measured as the distance between the furthest connector tips. Length tolerance is +4 feet (1.2m)/-0 for lengths up to 100 feet (30m) and +6 feet (1.8m)/-0 for lengths greater than 100 feet (30m).
- For hybrid solutions and special cable constructions/ratings/colors/availability, consult Panduit.

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