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**HFT412-4S29-15****HELIAx® FiberFeed® Hybrid Cable Assembly, 6-OVP box to RRU, UL Type TC-ER, 4 power conductors 12 AWG, 4-fiber, PVC jacket, aluminum armor, 15 ft**

Construction Materials

Fiber Type	Bend insensitive singlemode fiber (G.657.A1)
Total Fibers, quantity	4
Furcation Color	Yellow
Jacket Color	Black

Dimensions

Cord Length	4.6 m 15.0 ft
Breakout Length, Fiber, end 1	625 mm 25 in
Breakout Length, Power, end 1	625 mm 25 in
Breakout Length, Fiber, end 2	1250 mm 49 in
Breakout Length, Power, end 2	850 mm 33 in

Environmental Specifications

Environmental Space	Wireless installation
Operating Temperature	-40 °C to +80 °C (-40 °F to +176 °F)

General Specifications

Conductors, quantity	4
Construction Type	Hybrid standard tail
Cable Glands	No glands
Center Conductor Gauge	12 AWG
Color, connector A	Blue
Color, connector B	Blue
Interface Feature, connector A	Standard
Interface Feature, connector B	Standard
Interface, connector A	LC
Interface, connector B	LC
Minimum Bend Radius, furcation	30.0 mm 1.2 in
Pulling Grips, quantity	0

Regulatory Compliance/Certifications

Agency	Classification
RoHS 2011/65/EU	Compliant
ISO 9001:2008	Designed, manufactured and/or distributed under this quality management system



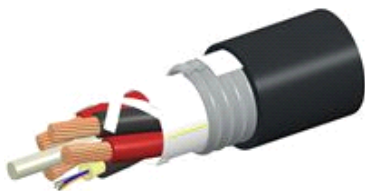
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Included Products

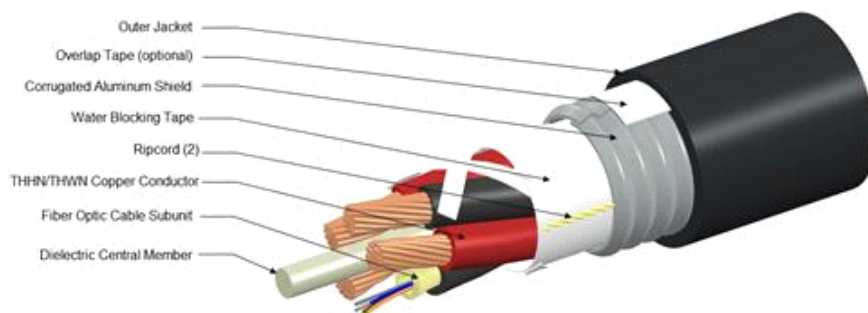
760181669 | HTC-4SM-412-APV (Product Component—not orderable) — HELIAX® FiberFeed® Hybrid Cable, UL Type TC-OF-ER

- CS-8F-MP (Product Component—not orderable) — Low Macrobending, Zero Water Peak, Dispersion-Unshifted Singlemode Fiber



760181669 | HTC-4SM-412-APV
HELIAX® FiberFeed® Hybrid Cable, UL Type TC-OF-ER

Representative Image



General Specifications

Conductor Gauge	12 AWG
Conductors, quantity	4
Construction Type	Shielded
Application	Remote radio head
Brand	HELIAX® FiberFeed®
Cable Type	Wireless feeder
Inner Shield (Tape) Material	Corrugated aluminum
Outer Shield (Tape) Material	PVC
Ripcord Material	Para-aramid synthetic fiber
Strength Member	Glass reinforced plastic rod
Water Blocking Method	Water blocking tape(s) Water blocking threads

Construction Materials

Fiber Type Solution	Bend insensitive singlemode fiber (G.657.A1)
Total Fiber Count	4
Fiber Type	Bend insensitive singlemode fiber (G.657.A1)
Fiber Type, quantity	4
Fibers per Subunit, quantity	2
Jacket Color	Black

Electrical Specifications

dc Resistance, maximum	1.650 ohms/kft 5.430 ohms/km
dc Resistance Note	Maximum value based on a standard condition of 20 °C (68 °F)

Dimensions

Buffer Tube/Subunit Diameter	3.00 mm 0.12 in
Cable Weight	328.0 kg/km 220.0 lb/kft
Diameter Over Jacket	15.69 mm 0.62 in
Subunit, quantity	2

Physical Specifications

Minimum Bend Radius, multiple bends, loaded	315.0 mm 12.4 in
Minimum Bend Radius, multiple bends, unloaded	157.5 mm 6.2 in
Minimum Bend Radius, single bend, unloaded	109.2 mm 4.3 in
Tensile Load, long term, maximum	400 N 90 lbf
Tensile Load, short term, maximum	1334 N 300 lbf

Environmental Specifications

Electrical Safety Standard	UL 1277, Type TC UL 1277, Type TC-ER-OF UL 1277, Type TC-OF
Environmental Space	Wireless installation
Installation Temperature	-30 °C to +70 °C (-22 °F to +158 °F)
Operating Temperature	-40 °C to +80 °C (-40 °F to +176 °F)
Storage Temperature	-40 °C to +80 °C (-40 °F to +176 °F)

Mechanical Test Specifications

Compression	22 N/mm 126 lb/in
Compression Test Method	FOTP-41
Flex	25 cycles
Flex Test Method	FOTP-104
Impact	2.94 N-m 2.17 ft lb
Impact Test Method	FOTP-25
Twist	10 cycles
Twist Test Method	FOTP-85

Qualification Specifications

Cable Qualification Standards	ANSI/ICEA S-87-640-2006 Telcordia GR-20-CORE Issue 3 Telcordia GR-409-CORE Issue 2
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Regulatory Compliance/Certifications

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Included Products

CS-8F-MP (Product Component—not orderable) — Low Macrobending, Zero Water Peak, Dispersion-Unshifted Singlemode

Product Specifications

COMMSCOPE®

Fiber



CS-8F-MP

Low Macrobending, Zero Water Peak, Dispersion-Unshifted Singlemode Fiber

Optical Specifications, Wavelength Specific

Standards Compliance	ITU-T G.657.A1
Attenuation, maximum	0.50 db/km @ 1310 nm 0.50 db/km @ 1385 nm 0.50 db/km @ 1490 nm 0.50 db/km @ 1550 nm
Dispersion, maximum	18 ps(nm-km) at 1550 nm 3.5 ps(nm-km) from 1285 nm to 1330 nm at 1310 nm
Mode Field Diameter	8.9 μm @ 1310 nm 10.0 μm @ 1550 nm
Mode Field Diameter Tolerance	$\pm 0.4 \mu\text{m}$ @ 1310 nm $\pm 0.5 \mu\text{m}$ @ 1550 nm
Index of Refraction	1.467 @ 1310 nm 1.467 @ 1385 nm 1.468 @ 1550 nm
Polarization Mode Dispersion Link Design Value, maximum	0.06 ps/sqrt(km)

Physical Specifications

Cladding Diameter	125.0 μm
Cladding Diameter Tolerance	$\pm 0.7 \mu\text{m}$
Cladding Non-Circularity, maximum	1 %
Coating Diameter (Colored)	254 μm
Coating Diameter (Uncolored)	245 μm
Coating Diameter Tolerance (Colored)	$\pm 7 \mu\text{m}$
Coating Diameter Tolerance (Uncolored)	$\pm 10 \mu\text{m}$
Coating/Cladding Concentricity Error, maximum	12 μm
Core/Clad Offset, maximum	0.5 μm

Optical Specifications, General

Cabled Cutoff Wavelength, maximum	1260 nm
Point Defects, maximum	0.10 dB
Zero Dispersion Slope, maximum	0.092 ps/[km-nm-nm]
Zero Dispersion Wavelength, maximum	1322 nm
Zero Dispersion Wavelength, minimum	1302 nm

Mechanical Specifications

Coating Strip Force, maximum	8.9 N 2.0 lbf
Coating Strip Force, minimum	1.3 N 0.3 lbf
Dynamic Fatigue Parameter, minimum	18 nd
Fiber Curl, minimum	4.0 m 13.1 ft
Macrobending, 20 mm mandrel, 1 turn	0.20 dB @ 1550 nm
Macrobending, 30 mm mandrel, 1 turn	0.02 dB @ 1550 nm
Macrobending, 30 mm mandrel, 10 turns	0.20 dB @ 1550 nm 0.50 dB @ 1625 nm
Macrobending, 50 mm mandrel, 100 turns	0.01 dB @ 1550 nm 0.05 dB @ 1625 nm

Proof Test 0.69 N/mm² | 100.00 psi

Environmental Specifications

Heat Aging, maximum	0.05 dB @ 85 °C
Temperature Dependence, maximum	0.05 dB
Temperature Humidity Cycling, maximum	0.05 dB
Water Immersion, maximum	0.05 dB @ 23 °C

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* Footnotes

Temperature Dependence, maximum	Temperature dependence is conducted at -60 °C to +85 °C (-76 °F to +185 °F)
Temperature Humidity Cycling, maximum	Temperature humidity cycling is conducted at -10 °C to +85 °C (+14 °F to +185 °F) up to 95% relative humidity