



# Power+™ Indoor/Outdoor Composite Cables

Optical Fibers &  
Copper Conductors



# Power+™ Composite Indoor / Outdoor Cable

WIRELESS



**P**ower+™ composite indoor / outdoor plenum cables are the solution for applications where remote power and network connectivity are required and distance may be a factor. Power+™ composite cables utilize fiber optic strands to provide the link to the network and a pair of stranded copper conductors to deliver power. The different constructions of Power+™ composite cables address the variety of applications on the market. Power+™ composite cables are ideal for long distance PTZ camera installations, Distributed Antenna Systems (DAS), and Passive Optical Networks (PON). Power+™ composite cables are available with a plenum rating (CMP-OF), (CL3P-OF) or (CL2P-OF) which makes them suitable for a wide variety of environments.

## Designed for Long Distance Power

- Singlemode (SM) and Multimode (MM) glass available (2, 6 & 12 fiber)
- Two DC power wires (choose from 12, 14, 16, 18, 20 & 22 AWG)
- Stranded copper conductors (19 strands) offer greater cable flexibility
- Supports a wide range of powering delivery

## Cable Design allows Easy Termination and Wide Use

- UL Listed CMP-OF and CL3P-OF, 300V rated for use in plenum spaces
- Indoor / outdoor plenum rating
- Small outside diameters assist in installation
- Tight buffered (900 micron) optical fibers reside inside individual aramid yarn filled subunits or separate
- Compatible with all LC and SC fiber optic connectors

For all wireless applications, power to and signal from the antenna are necessary. This results in a need for copper cables for power, and with growing frequency, fiber optic cables for signal. Composite cables, cables that contain both copper and fiber optic components, are the ideal solution. Composite cables simplify installation by combining both media inside one jacket. Additionally, the use of fiber optic strands allows greater bandwidth between the antenna and the associated electronics. This is imperative for 5G applications. Hitachi Cable America (HCA) Power+™ composite cable solution offers a variety of composite cable constructions that can be used for cellular, wireless and other applications where remote power and network connectivity are required. Power+™ cables, though designed for outdoor use, also carry a plenum rating allowing them to be installed in a wide range of environments.



Safety Extra Low Voltage (SELV) 48Vdc PSE / 43Vdc PD

AWG	Powered Device at Load (Watts)				
	6.49W	12.95W	25.5W	51W	71W
Remote Power Distance (feet)					
22	990	496	252	126	90
20	1,574	789	401	200	144
18	2,500	1,253	636	318	229
16	3,974	1,992	1,011	506	363
14	6,339	3,177	1,683	807	579
12	10,047	5,035	2,557	1,279	918

Safety Extra Low Voltage (SELV) 56Vdc PSE / 48Vdc PD

AWG	Powered Device at Load (Watts)				
	6.49W	12.95W	25.5W	51W	71W
Remote Power Distance (feet)					
22	1,833	919	467	233	168
20	2,915	1,461	742	371	266
18	4,630	2,320	1,178	589	423
16	7,359	3,688	1,873	936	673
14	11,740	5,883	2,988	1,498	1,073
12	18,606	9,325	4,735	2,368	1,701

# Power+™ Composite Cable

## (I/O Plenum)

(UL) OFCP c(UL) OFCP FT6

WIRELESS

### Product Highlights

- REACH & RoHS 2 compliant.
- Made in USA.
- Extending PoE and Limited Power SELV data transmission beyond 100 meters.
- Provides immunity from electro magnetic and radio frequency interference.
- Choice of separate power conductors eliminates concerns associated with heat generation and length derating calculations as required by TIA 568 and NEC.
- Plenum and outdoor rating permits use in a wide range of environments.
- Dry, super absorbent polymers (SAPs) eliminate water migration in cable interstices.
- Suitable for lashed aerial, duct underground conduit and indoor plenum applications.
- All multimode and singlemode cables (except OM1) utilize bend-insensitive optical fibers.
- Easy to strip and terminate.
- Lightweight, flexible aramid yarns throughout the design enhance strength.
- Each 900um buffered fiber resides in a 2mm subunit for easy termination to LC, SC connectors and more.

### Standards

- NEC CL2P-OF, CL3P-OF and CMP-OF rating, compliant with
- Class 2 SELV (Safety Extra Low Voltage).
- NFPA 262.
- ANSI/TIA 568-C.2.

#### Power+™ FO Cable Part Numbers 22 AWG

FIBERS	CABLE O.D. (mm)	62.5 UM OM1	50 UM OM2	50 UM OM3	50 UM OM4	50 UM OM5	8.3 UM OS2
2	5.8	62860-4	62861-4	62862-4	62863-4	62864-4	62859-4
6	8.0	62860-8	62861-8	62862-8	62863-8	62864-8	62859-8
12	10.2	62860-14	62861-14	62862-14	62863-14	62864-14	62859-14

#### Power+™ FO Cable Part Numbers 20 AWG

FIBERS	CABLE O.D. (mm)	62.5 UM OM1	50 UM OM2	50 UM OM3	50 UM OM4	50 UM OM5	8.3 UM OS2
2	6.2	62866-4	62867-4	62868-4	62869-4	62870-4	62865-4
6	8.4	62866-8	62867-8	62868-8	62869-8	62870-8	62865-8
12	10.5	62866-14	62867-14	62868-14	62869-14	62870-14	62865-14

#### Power+™ FO Cable Part Numbers 18 AWG

FIBERS	CABLE O.D. (mm)	62.5 UM OM1	50 UM OM2	50 UM OM3	50 UM OM4	50 UM OM5	8.3 UM OS2
2	6.8	62872-4	62873-4	62874-4	62875-4	62876-4	62871-4
6	8.4	62872-8	62873-8	62874-8	62875-8	62876-8	62871-8
12	10.2	62872-14	62873-14	62874-14	62875-14	62876-14	62871-14

#### Power+™ FO Cable Part Numbers 16 AWG

FIBERS	CABLE O.D. (mm)	62.5 UM OM1	50 UM OM2	50 UM OM3	50 UM OM4	50 UM OM5	8.3 UM OS2
2	7.1	62878-4	62879-4	62880-4	62881-4	62882-4	62877-4
6	8.4	62878-8	62879-8	62880-8	62881-8	62882-8	62877-8
12	10.5	62878-14	62879-14	62880-14	62881-14	62882-14	62877-14

#### Power+™ FO Cable Part Numbers 14 AWG

FIBERS	CABLE O.D. (mm)	62.5 UM OM1	50 UM OM2	50 UM OM3	50 UM OM4	50 UM OM5	8.3 UM OS2
2	7.4	62884-4	62885-4	62886-4	62887-4	62888-4	62883-4
6	9.2	62884-8	62885-8	62886-8	62887-8	62888-8	62883-8
12	10.8	62884-14	62885-14	62886-14	62887-14	62888-14	62883-14

#### Power+™ FO Cable Part Numbers 12 AWG

FIBERS	CABLE O.D. (mm)	62.5 UM OM1	50 UM OM2	50 UM OM3	50 UM OM4	50 UM OM5	8.3 UM OS2
2	7.7	62890-4	62891-4	62892-4	62893-4	62894-4	62889-4
6	10.1	62890-8	62891-8	62892-8	62893-8	62894-8	62889-8
12	11.3	62890-14	62891-14	62892-14	62893-14	62894-14	62889-14

### Applications

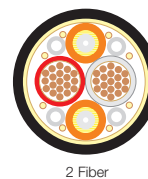
- High noise areas and extended distance.
- Security CCTV Cameras.
- Wireless Access Points.
- Distributed Antenna Systems (DAS).

### Options

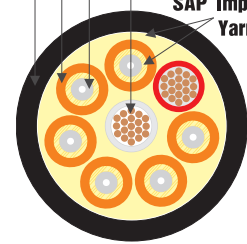
- Available with 2, 6 or 12 strands of fiber.
- Available with 1 pair of 12, 14, 16, 18, 20 or 22 AWG stranded conductors.

### Features

- Jacket
- Sub Unit Jacket
- 900 um Fiber
- Copper Conductor
- SAP Impregnated Yarn



2 Fiber



6 Fiber

(Size Enlarged to show detail)

## Optical Specifications

TIA/EIA-568-C.3 | ISO/IEC 11801, 2nd edition | Telcordia GR-409-CORE

Fiber type	Max. Attenuation (dB/km)		Min OFL Bandwidth (MHz-km)		Min EMBc Bandwidth (MHz-km)		Gb Ethernet distance (m)		10 Gb Ethernet distance (m)	
	850 nm (MM)	1300 nm (MM)	850 nm (MM)	1300 nm (MM)	850 nm (MM)	1300 nm (MM)	850 nm (MM)	1300 nm (MM)	850 nm (MM)	1300 nm (MM)
OM1	3.5	1.0	200	500	220	N/A	300	550	33	N/A
OM2	3.0	1.0	700	500	950	N/A	750	550	150	N/A
OM3	3.0	1.0	1500	500	2000	N/A	1000	550	300	N/A
OM4	3.0	1.0	3500	500	4700	N/A	1100	550	550	N/A
OM5*	3.0	1.0	3500	500	4700	N/A	1100	550	550	N/A
	1310 nm (SM)	1550 nm (SM)	1310 nm (SM)	1550 nm (SM)	1310 nm (SM)	1550 nm (SM)	1310 nm (SM)	1550 nm (SM)	1310 nm (SM)	1550 nm (SM)
OS2	0.5	0.5	N/A	N/A	N/A	N/A	> 25,000	> 40,000	10,000 - 25,000	40,000

\*OM5 optical fiber tested by glass manufacturer and exceeds the requirements of all applicable industry standards. Hitachi Cable America reserves the right to revise any specifications.

**HITACHI**  
Inspire the Next



Since 1986, Hitachi Cable America (HCA) has been developing and manufacturing technologically advanced cables at our Manchester, New Hampshire facility. Our Power+ composite cables, like all of our copper and fiber communication cables, are built to exceed the standards to which they are tested and will deliver maximum, consistent performance to the user. As a leader in the manufacture of high performance cables, HCA has also developed products for a wide range of industries and applications including oil & gas exploration, mining, cellular towers, robotics, endoscopy, supercomputing and more.

#### Other Products from Hitachi Cable America:

Other Products from Hitachi Cable America  
Shielded Category 5e, 6 & 6A Cables  
Category 7, 7A & 8  
Fiber Optic Cables (indoor, outdoor, Indoor/outdoor)  
NanoCore™ Fiber Optic Cables  
Industrial Ethernet Cables  
Coaxial & Mini-coaxial Cables  
ChannelFlex™ Cabling System  
Round & Ribbon Electronic Cables



# HITACHI

Inspire the Next

 **Hitachi Cable America Inc.**

900 Holt Avenue, Manchester, New Hampshire 03109 USA  
Tel: +1-603-669-4347 Fax +1-603-669-9621  
[www.hca.hitachi-cable.com](http://www.hca.hitachi-cable.com)