



# ONEREACH™ POE EXTENDER SYSTEM

Take your network anywhere.

**Berk-Tek** | a **LEVITON**  
company

# REACH FARTHER WITH ONEREACH

**YOUR NETWORK IS CONNECTING AND POWERING DEVICES LOCATED BOTH INSIDE AND OUT. ONEREACH ALLOWS YOU TO EXTEND YOUR NETWORK UP TO A KILOMETER AWAY.**

The typical security system requires cameras, emergency phones, and wireless access points to be located outside in parking lots, parking garages, and at various other places inside and outside the building. The OneReach™ solution is a game changer for these remote applications. By combining fiber cable for long-distance data transmission and copper cable for power over Ethernet (PoE) in a single composite cable, OneReach takes data, PoE, PoE+ and HPOE† to all new distances.



\* Single-mode 1-port  
\*\* Multimode or single-mode 1-port  
See page 10 for a list of maximum supported distances.

## STREAMLINE YOUR INFRASTRUCTURE MANAGEMENT

OneReach simplifies your device management and power supply, resulting in reduced costs and streamlined network management.



### CENTRALIZED DEVICE MONITORING

The OneReach system starts in the closet with a single chassis that provides power and data to multiple remote devices. This unique approach allows you to manage remote devices from one central location.



### NO SEPARATE POWER LINES NEEDED

Running electric to devices located in remote areas can be complicated and costly. OneReach supplies power and data through a single cable, reducing installation and maintenance costs.



### CONSOLIDATED UPS

With any security system, back-up power is critical. With OneReach, all power comes from the IDF, so you can protect all your remote devices from a central UPS located in an existing IDF.



# ONE REACH: ONE PATHWAY. ONE PULL. ONE SOLUTION.

## TAKE SIMPLICITY TO NEW DISTANCES

With integrated power and data, OneReach extends PoE, PoE+ and HPoE† far beyond traditional limitations. OneReach enables the simplification and cost-effectiveness benefits of PoE and MPO connectors in installation environments that exceed the standard distance limitations of Ethernet.



### EXTENDED DISTANCE

- Enables PoE/PoE+ equipment to be located more than 100 meters from the switch
- Available option supports PoE+ to extended distances, up to several thousand feet
- Ideal for remote devices such as security cameras, wireless access points, and access control devices



### COST SAVINGS & EFFICIENCY

- Simplifies network and device management through centralized infrastructure
- Cost savings versus installation of a new electrical outlet
- Broad design selection allows for mix and match of copper and fiber components to specific networking applications
- Combines control and communication in industrial pathways



### EASE OF INSTALLATION

- Pre-terminated and factory tested products arrive ready to install
- Uses standard LC optical connectors
- Provides common pathway for fiber backbone and power supply



### SYSTEM FLEXIBILITY

- Options to support single and multi-port applications
- Designs available for indoor, outdoor and indoor/outdoor installations
- CL3R-OF and CL3P-OF wet- and dry-rated
- Aluminum interlock armor add crush resistance and protection from rodent attacks
- Configurations with solid THWN & TFFN copper conductors
- Multiple loose tube or tight buffer fiber cable constructions available
- CL3R-OF and CL3P-OF/PLTC-OF allows cable to be installed in communication pathways



Combining optical fiber for long-distance data transmission  
and copper conductors in a single system takes PoE up to  
8,500 ft.\* and PoE+ up to 2,400 ft.\*\*

**OneReach is the answer.**

*\* Single-mode 1-port*

*\*\* Multimode or single-mode 1-port*

*See page 10 for a list of maximum supported distances.*

## FROM THE CLOSET

### PI HEAD END DEVICES

The OneReach System begins in the local closet with the Power Injector Device (PI). The PI provides both the power to run the system and the technology to transmit the data signals to previously unreachable distances. Composed of a specially designed 1-Port Source or 19" rack-mountable Power Injector Chassis, Media Modules, and Power Supply modules, these devices deliver big benefits in a small footprint.

IP-based security enables the consolidation of device management through the existing network infrastructure, so you can monitor device traffic and operations without having to travel to remote locations.

By locating the power for remote devices in a single local closet, you can consolidate UPS devices and streamline management. Unlike traditional installations, with OneReach there is no need to provide redundant power at a variety of remote and/or environmentally hostile locations. Now, in the event of a power outage, one centrally located UPS can keep your cameras, access control devices or wireless access points fully operational.

With options to power one device or many, the OneReach PI seamlessly becomes a part of the network infrastructure, with 2U or 4U Power Injector Chassis installing in a standard 19" rack.



### PI HEAD END DEVICES

PART NO.	DESCRIPTION	SLOTS OCCUPIED	QTY. OF SUPPORTED PoE POWERED DEVICES			OPERATING TEMP. (°C)
			PoE Ports	PoE+ ports	HPoE ports	
81000546	1-port Source, 1000BASE-SX, LC duplex, Ext AC Power Supply	N/A	1	1	1	-40 to +50°
81000380	1-port Source, 1000BASE-SX, LC duplex, Ext AC Power Supply	N/A	1	1	1	0 to +40°
81000217	1-port Source, 100BASE-FX, LC duplex, Ext AC Power Supply	N/A	1	1	1	0 to +40°
81000577	1-port Source, 100BASE-FX, LC duplex, Ext AC Power Supply	N/A	1	N/A	N/A	0 to +40°
81000432	1-port Source, 100BASE-FX, LC duplex, DIN rail mount	N/A	1	1	1	-40 to +50°
81000960	1-port Source, 1000BASE-LX, LC duplex, SMF, Ext AC Power Supply	N/A	1	1	1	-40 to +50°
81000436	1U Mounting Bracket for two 1-port Sources	N/A	N/A	N/A	N/A	0 to +40°
81000215	Power Supply Module, 400W AC in, 12 & 56 VDC out (dual voltage)	2	12	8	4	0 to +40°
81000569	2U Chassis, Class 2 Power Output rear terminal blocks, 6 slots	N/A	N/A	N/A	N/A	0 to +40°
81000568	4U Chassis, Class 2 Power Output rear terminal blocks, 12 slots	N/A	N/A	N/A	N/A	0 to +40°
81000190	Blanking Panel for Power Injector Chassis	1	N/A	N/A	N/A	0 to +40°
81000413	Media Module, 4-port, 1000BASE-SX, 4 x LC duplex, 12 VDC in	1	4	4	4	0 to +40°
81000584	Media Module, 4-port, 100BASE-FX, 4 x LC duplex, 12 VDC in	1	4	4	4	0 to +40°
81000414	Media Module, 4-Port, 1000BASE-SX, MPO, 12 VDC in	1	4	4	4	0 to +40°
81000585	Media Module, 4-Port, 100BASE-FX, MPO, 12 VDC in	1	4	4	4	0 to +40°

...SPANNING THE DISTANCE...up to 8,500 feet.\*

## ONEREACH CABLE ASSEMBLY

The OneReach™ Cable Assembly (OCA) is composed of CL3P-OF or CL3R-OF rated PLTC-OF composite copper/fiber cables that support power and data transmission within a single jacket. These cables combine 12 AWG conductors with either tight-buffered or loose tube optical fiber cable designs to support 1-, 2- or 4-port remote devices.

The conductors provide enough power to support PoE to distances well beyond 100 meters. Combine this with the highest quality OM3 and OS2 optical fiber, and you get an unparalleled solution for flawless data transmission.

To handle any installation challenge, the OCA is available with a complete array of termination options. For the fastest deployment, the OCA can be built to the specific length requirements of each project and arrive ready-to-install onsite, with pre-tested optical fiber connectors and an M8 connector for power on the remote device end. The local end of the cable assembly attaches effortlessly to the head end PI with standard fiber connectors and easy-to-use screw terminals. When run lengths aren't known, unterminated bulk cable can be ordered in conjunction with easily spliced pigtail assemblies.



The OCA combines optical fiber and copper conductors in a single assembly that easily attaches with standard M8 and LC or MPO connectors taking PoE+ up to 8,500 feet.\*

## ONEREACH CABLE ASSEMBLIES\*\*

Operating Temperature: -40°C to +75°C

PART NUMBER	CABLE TYPE	APPLICATION	# OF FIBERS	FIBER TYPE	CONDUCTOR COUNT	CONDUCTOR GAUGE
BACR08EDDD44FFNM8Pxxx, LC both ends	Loose Tube	4-port assembly	8	OM3	4	12
BACR12EDD077NNM8Pxxx, MPO both ends	Loose Tube	4-port assembly	12	OM3	2	12
BACR12EDD077NNM8Pxxx, Interlock Armor, MPO both ends	Loose Tube	4-port assembly	12	OM3	2	12
BACR04EDD044FFNM8Pxxx, LC both ends	Loose Tube	2-port assembly	4	OM3	2	12
BHCR02EDD044FFNM8Pxxx, LC both ends	Tight Buffer	1-port assembly	2	OM3	2	12
BHCR02EDD044FFNM8Pxxx, LC both ends	Tight Buffer	1-port assembly	2	OM3	2	12
BHCR02EDD0N4NFM8Pxxx, LC one end	Tight Buffer	1-port assembly	2	OM3	2	12
BHCR02EDDD44FFNM8Pxxx, LC both ends	Tight Buffer	1-port assembly	2	OM3	4	12
BHCR02ADD044FFNM8Pxxx, LC both ends	Tight Buffer	1-port assembly	2	SMF	2	12
BHCRK02EDD044FFNM8Pxxx, Interlock Armor, LC both ends	Tight Buffer	1-port assembly	2	OM3	2	12
BHCRK02EDD0N4NFM8Pxxx, Interlock Armor, LC one end	Tight Buffer	1-port assembly	2	OM3	2	12

xxx is length of assembly in feet. Contact Berk-Tek Inside Sales at 1-800-BERK-TEK for exact part number and pricing.

\* Single-mode 1- port. See page 10 for a list of maximum distances.

\*\* Additional cable/assembly configurations are available upon request.

## ...TO YOUR DEVICE.

### REMOTE PoE PORTS

Whether you need to enable gigabit access for a single wireless access point for a common study area on campus or to support multiple cameras securing a remote parking area, the OneReach System gets the job done. In the past, these types of installations might have required the installation of local 120V power and/or industrial switches, both at a significant cost. But not any more.

Now OneReach enables you to take power easily from the closet, over the OCA, to the Remote PoE Port (RPP) specially suited for your application. No matter which RPP you select, installation is a snap. Mounted in a standard enclosure, the M8 Connector of the OCA simply screws into place and the data connection is completed as soon as you plug in the standard fiber connectors. Any IP-based device with appropriate power requirements can easily be connected to the RPP with category cables terminated with standard RJ45 connectivity.

Remote devices mount in enclosures and connect to active devices up to an additional 100 meters away using Category cables terminated with standard RJ45 connectors.

### REMOTE END DEVICES

PART NO.	DESCRIPTION	QTY. OF SUPPORTED POWERED DEVICES	OPERATING TEMP. (°C)
81000663	Remote, 1-port, 100BASE-FX, PoE, LC duplex, MMF, RJ45, M8 Power Input	1	-40 to +50°
81000218	Remote, 1-port, 100BASE-FX, PoE+, LC duplex, MMF, RJ45, M8 Power Input	1	-40 to +50°
81000381	Remote, 1-port, 1000BASE-SX, PoE+, LC duplex, MMF, RJ45, M8 Power Input	1	-40 to +50°
81000462	Remote, 1-port, 100BASE-FX, HPoE†, LC duplex, MMF, RJ45, M8 Power Input	1	-40 to +50°
81000545	Remote, 1-port, 1000BASE-SX, HPoE†, LC duplex, MMF, RJ45, M8 Power Input	1	-40 to +50°
81000343	Remote, 1-port, 100BASE-FX, PoE+, LC duplex, MMF, RJ45, DIN Rail Mount, M8 Power Input	1	-40 to +50°
81000961	Remote, 1-port, 1000BASE-LX, PoE+, LC duplex, SMF, RJ45, M8 Power Input	1	-40 to +70°
81000959	Remote, 1-port, 1000BASE-LX, HPoE†, LC duplex, SMF, RJ45, M8 Power Input	1	-40 to +70°
81000773	Remote, 2-port, 1000BASE-SX, PoE+, 2 x LC duplex, MMF, RJ45, M8 Power Input	2	-40 to +70°
81000586	Remote, 4-port, 1000BASE-SX, PoE, MPO, MMF, RJ45, M8 Power Input	4	-40 to +70°
81000664	Remote, 4-port, 100BASE-FX, PoE, MPO, MMF, RJ45, M8 Power Input	4	-40 to +50°
81000684	Remote, 4-port, 1000BASE-SX, PoE+, 4 x LC duplex, MMF, RJ45, M8 Power Input	4	-40 to +70°

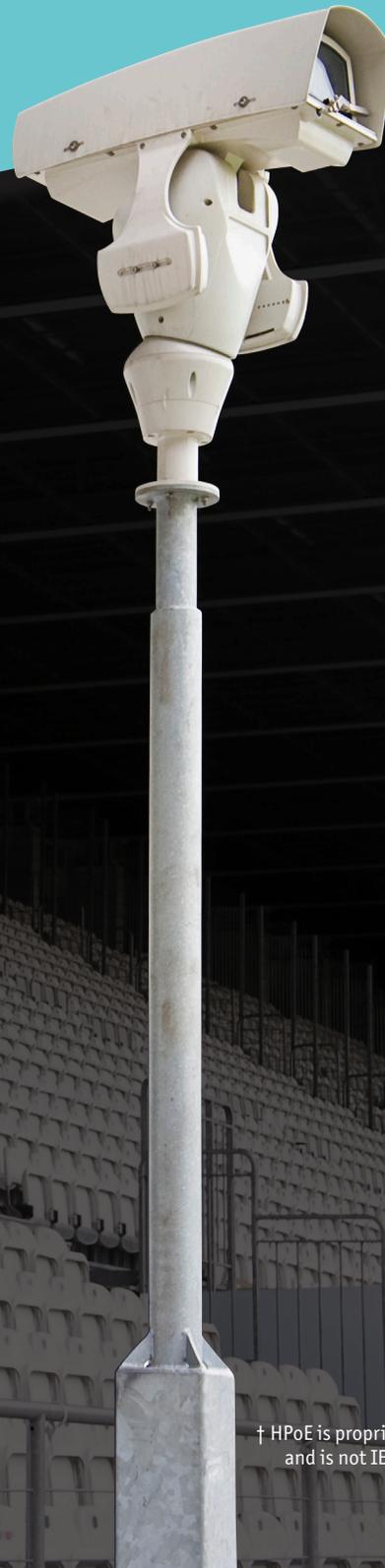


## GUIDANCE FOR BUILDING YOUR SYSTEM

OneReach is modular, allowing you to easily scale the system to meet your specific application requirements. Every application will require devices from each of the system segments; **Head End Power Injection (PI)**, **OneReach Cable Assembly (OCA)**, and **Remote PoE Port (RPP)**. The specific devices will be determined by the number of remote devices to be supported, the distance of the RPP from the closet and the environmental conditions of the installation. Generally, you will have the same quantity of 4-Port Media Modules/1-Port Sources, OCAs and Remote Port devices. The examples below provide guidance on the specifics required for a few common installation options.

Surge protection for remote and devices is built in. However, when installed outside, extra surge protection and grounding is required in areas that are prone to lightning.

Visit [OneReachSystem.com](http://OneReachSystem.com) and use our online system configuration tool to easily determine the BOM for your specific application needs.



MAXIMUM SUPPORTED DISTANCE FROM HEAD END TO DEVICE (FT)

Remote Type	PoE	PoE+	HPoE †
Multimode 1-Port	3,600	2,400	1,300
Multimode 2-Port	3,600	1,300	N/A
Multimode 4-Port	3,600	1,300	N/A
Single-mode 1-Port	8,500	2,400	1,300

Assumes 20°C temperature of the entire cable & 1000BASE-SX or 1000BASE-LX.  
For additional capabilities or different temperatures, contact Berk-Tek TEK Support.

† HPoE is proprietary to the OneReach solutions and is not IEEE 8023bt standards compliant.

## LEGEND



WIRELESS ACCESS POINT



PoE, PoE+ OR HPOE†, 1-PORT REMOTE



PoE, PoE+ OR HPOE†, 2-PORT REMOTE



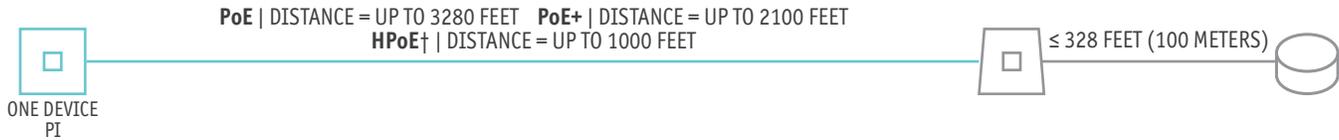
PoE OR PoE+ 4-PORT REMOTE



SECURITY CAMERA

### ONE WIRELESS ACCESS POINT INSTALLED IN THE CEILING (MULTIMODE FIBER):

PI			ONEREACH CABLE ASSEMBLY (xxx = length in ft)			RPP		
NAME	PART NO.	NO. REQ'D	NAME	PART NO.	NO. REQ'D	NAME	PART NO.	NO. REQ'D
1-Port Source	81000380	1	1-Port 12 AWG OCA	BHCR02EDD044FFNM8Pxxx	1	1-Port Remote	81000381	1



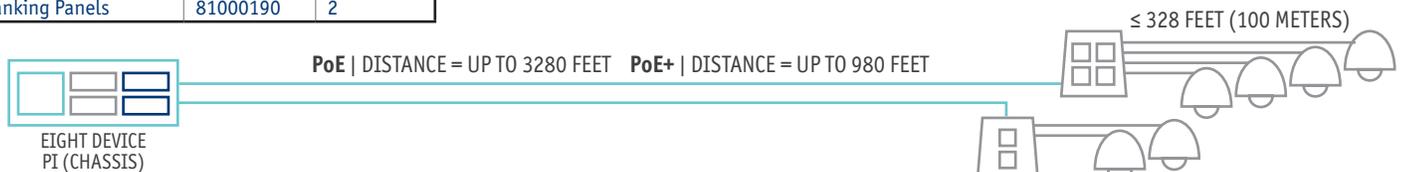
### ONE SECURITY CAMERA INSTALLED ALONG A WALKING TRAIL (SINGLE-MODE FIBER):

PI			ONEREACH CABLE ASSEMBLY (xxx = length in ft)			RPP		
NAME	PART NO.	NO. REQ'D	NAME	PART NO.	NO. REQ'D	NAME	PART NO.	NO. REQ'D
1-Port Source	81000960	1	1-Port 12 AWG OCA	BHCP02ADD044FFNM8Pxxx	1	1-Port Remote	81000959	1



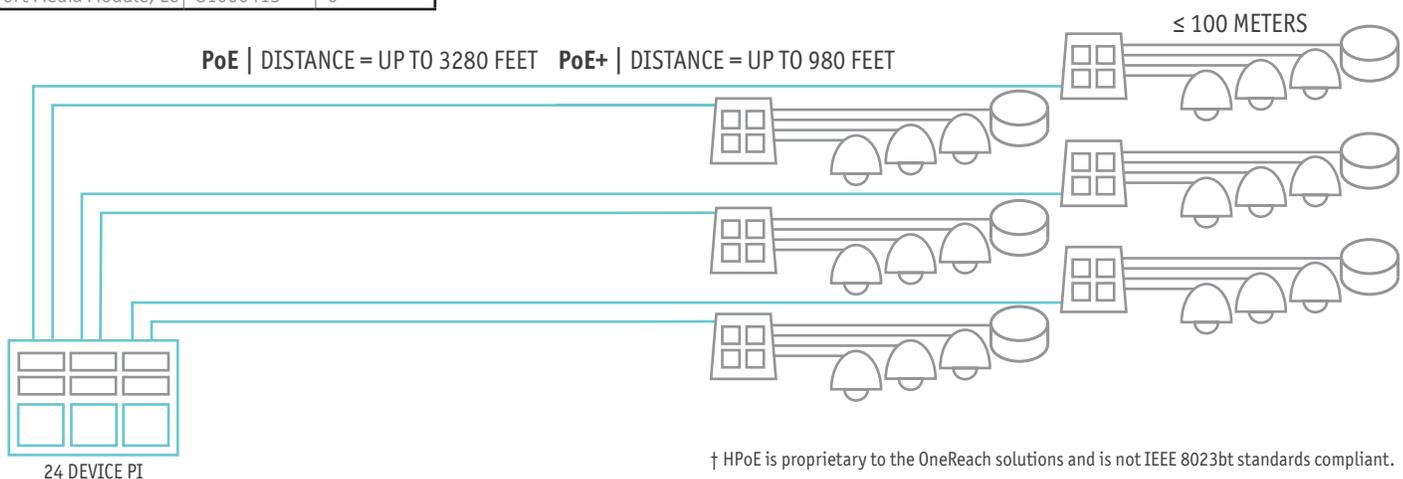
### SIX SECURITY CAMERAS INSTALLED IN A SMALL PARKING AREA:

PI			ONEREACH CABLE ASSEMBLY (xxx = length in ft)			RPP		
NAME	PART NO.	NO. REQ'D	NAME	PART NO.	NO. REQ'D	NAME	PART NO.	NO. REQ'D
2U Power Chasis	81000569	1	4-Port 12 AWG OCA	BACR08EDDD44FFNM8Pxxx	1	4-Port Remote	81000684	1
Power Supply Module	81000215	1		BACR04EDD044FFNM8Pxxx	1		81000773	1
4-Port Media Module, LC	81000413	2						
Blanking Panels	81000190	2						

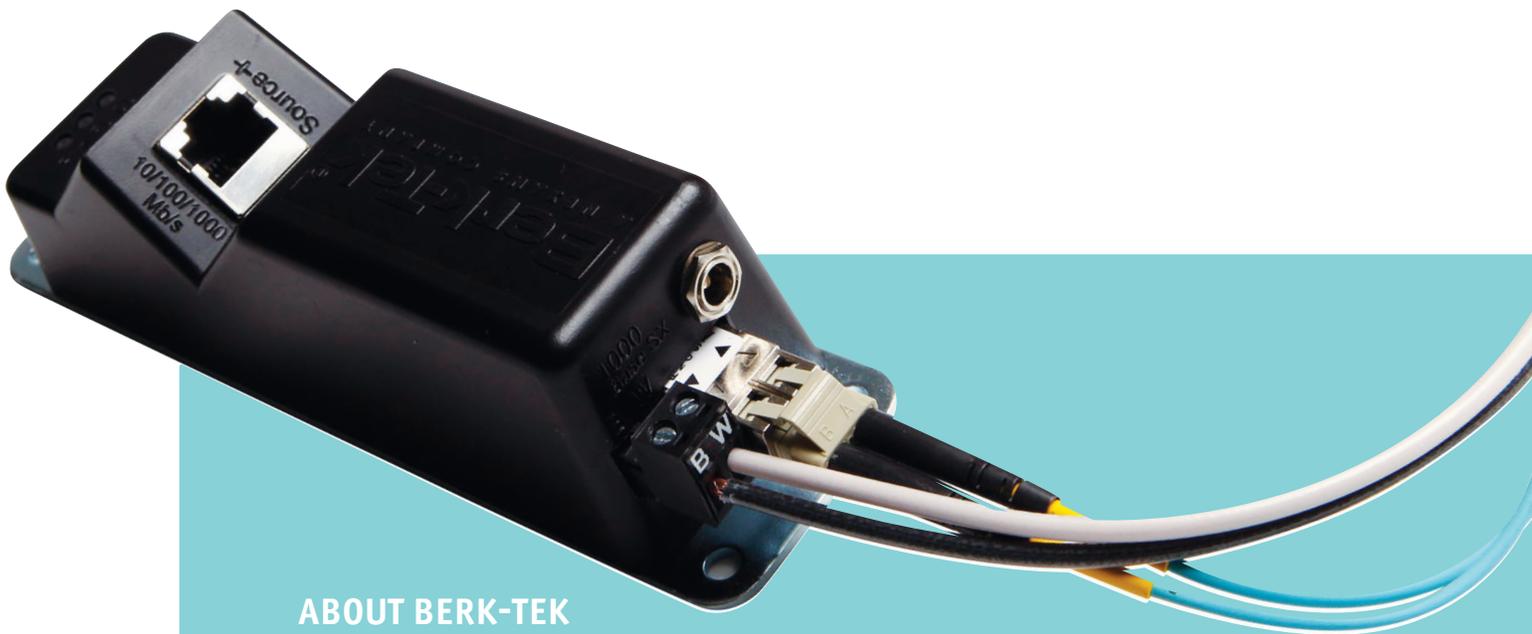


### SIXTEEN SECURITY CAMERAS AND EIGHT WIRELESS ACCESS POINTS INSTALLED IN A MULTI-STORY PARKING STRUCTURE:

PI			ONEREACH CABLE ASSEMBLY (xxx = length in ft)			RPP		
NAME	PART NO.	NO. REQ'D	NAME	PART NO.	NO. REQ'D	NAME	PART NO.	NO. REQ'D
4U Power Chasis	81000568	1	4-Port 12 AWG OCA	BACR08EDDD44FFNM8Pxxx	6	4-Port Remote	81000684	6
Power Supply Module	81000215	3						
4-Port Media Module, LC	81000413	6						



† HPOE is proprietary to the OneReach solutions and is not IEEE 802.3bt standards compliant.



## ABOUT BERK-TEK

Berk-Tek is the premier source for network infrastructure solutions. For more than 50 years, we have led the industry in the development of high-performance fiber optic and copper cables designed to transport high-speed data, voice and power transmissions. Our world-class research and development teams are dedicated to developing innovative structured cabling solutions that are critically important to managing the demands of today's emerging technologies. Our mission is to provide our customers with the solutions that meet both the current and future network needs, while continuously striving to maximize their return on investment.

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