Connection Hubs for PPC Ethernet Bridge
an Ethernet over Coax solution

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Features & Benefits

- Connection Hubs connect Network Controllers to the PPC Ethernet Bridge modem
- Connection Hubs combine and distribute RF Ethernet-over-Coax (EoC), RF Broadband (if present) signals and DC power to modems over existing coaxial infrastructure to provide Gigabit data services
- Both wall mount and rack mount options available
  - Wall mount options come in 8 and 16-port configurations
  - 19-inch 2U rack mount comes in a 16-port configuration
- Rack mount has front panel switches to selectively apply DC voltage to individual outputs and remote Ethernet control to toggle DC power to front panel enabled outputs
- Weather resistant, lockable security enclosures are available for wall mount versions
- 16-port wall and rack mount versions available pre-built

Overview

The PPC Connection Hubs for Ethernet Bridge are specially-designed RF splitter packages to help adapt your legacy coax network to provide Gigabit services. As some of the PPC EoC installations operate at frequencies above 1000MHz, your legacy passives may do a poor job of passing these high frequencies and should be replaced. The PPC Connection Hubs give you a wide variety of options and features to adapt your MDU's legacy coaxial network to be used to deliver Gigabit Ethernet.

At the core of the connection hubs is the PPC 8-way power splitter. The power splitter distributes RF signals from 5 to 1675MHz and optionally inserts DC power to all eight outputs. The power splitter is available separately or as part of the connection hubs. Each output of the power splitter is short circuit protected and will isolate the affected output keeping the rest of the outputs active.

Connection hub solutions are designed for a variety of MDU applications. A "garden apartment" may need fewer than eight connections, a single MDU floor may need 16 and a high density MDU may need hundreds of connections. The PPC solutions allow for multiple variations that work with any application.

Product Images
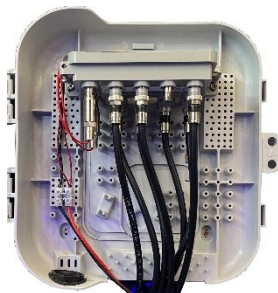
8-Port Wall Mount Connection Hub

16-Port Wall Mount Connection Hub

16-Port Rack Mount Connection Hub With Remote Control Features

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Connection Hub Solutions

Power Splitter

Specification		Value
Ports	Total Of 11	RF Input: 1 DC Input: 2 RF Output: 8
Impedance	Any RF Port	75 ohms
Bandwidth	Input To RF Output	5 – 1675MHz
Insertion Loss	Input To RF Output	5 – 400MHz ≤11dB, 400 – 600MHz ≤ 12dB 600 – 1218MHz ≤14dB, 218 – 1675MHz ≤17dB
Return Loss	Input	5 – 10MHz ≥10dB, 10 – 1002MHz ≥12dB, 1125 – 1675MHz ≥10dB
	Any Output	5 - 1002MHz ≥12dB, 1125 – 1675MHz ≥10dB
Isolation	Output To Output	5 – 10MHz ≥22dB, 10 – 85MHz ≥22dB, 85 – 1002MHz ≥20dB, 1125 – 1675MHz ≤38dB
DC Voltage Drop	DC Input To Associated Output	≤0.4VDC typical
DC Voltage	DC Input To Associated Output	6 - 56VDC
Current	Max - Continuous	1.0Amp max, 1.5A trip
	Trip Current	1.5Amps, then goes to a high impedance
	Dc Restore	Remove all loads/short for 30 seconds, then reapply
Mechanical	Construction	Aluminum die-cast housing and cover, powder-coated, cover sealed to housing
	Dimensions	6.4L x 3.3W x 1.8D inches (163L x 84W x 46D mm)
	Ports	360-degree 4-point beryllium copper contacts
Environmental	Operating Temp	-40 °F to 140 °F (-40 °C to 60 °C)
	Humidity	0 to 100% condensing (using weather-seal mating AquaTight® connectors, all ports)

Ordering Information | Power Splitter

Part Number	Description
PPC10PS78B2E	PEPC 8-Way Power Splitter 5 – 1675MHz 6 – 56VDC

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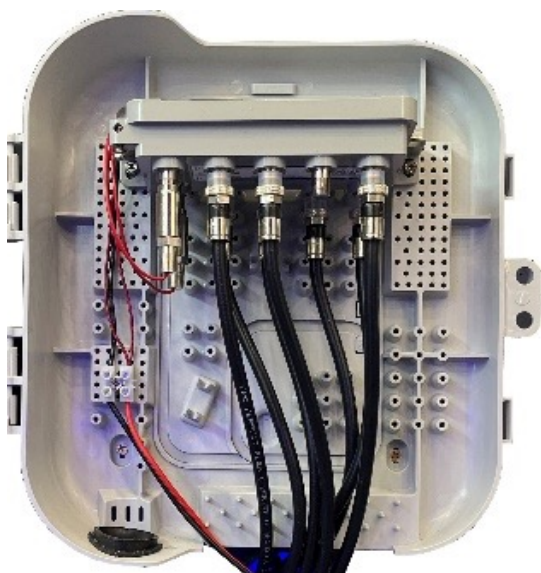## Connection Hub Solutions

8-Port Wall Mount Connection Hub

The 8-Port Wall Mount Connection Hub was configured for locations where there are eight, or fewer, connections home run to each MDU residence. This could be in a "garden apartment" type MDU where apartment counts per building are low. This is also a good solution for a multi-floor MDU where each floor has a utility room with a home run connection to the MDU residence and an express line connection to a Network Controller.

If remote coax powering is used to power the PEPC modem and connected POE+ device, an outdoor rated power supply is available and is connected to the 8-Port Wall Mount Connection Hub via a wire pair and a terminal block.

The 8-Port Wall Mount Connection Hubs are intended to be operator-configured on site.

Ordering Information | 8-Port Connection Hub with Coax Remote Power

Qty Per Hub	Part Number	Description
1	PHB1093NB	House Box, Plastic, Lockable 10x9x3 inches
1	PPC10PS78B2E	PEPC 8-Way Power Splitter 5 – 1675MHz 6 – 56VDC (see Power Splitter specs)
1	PEBCHUB-TERM2	Euro Terminal Block – 2 Position
2	SNPS-PWR	F-Connector to Wire Assembly
1	PPC-SAT-DIPLEX	Diplex filter/combiner, 5 – 850MHz, 900 – 2100MHz (not needed if not combining broadband/CATV signals)
1	PPC-PS554300	DC Power Supply Input: 90 – 240 50/60Hz VAC, Output: 55VDC 240Watt, -40 °F to 158 °F (-40 °C to 70 °C) outdoor rated
x	Cust. supplied	16AWG stranded wire pair, suitable for installed environment

Note: It is recommended to use PPC AquaTight® connectors on all power splitter coax ports

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Connection Hub Solutions

16-Port Wall Mount Connection Hub

The 16-Port Wall Mount Connection Hub is configured for locations where a wall mount solution is desired and there is a high number of home-run connections to each MDU residence. This could be in a moderately sized MDU building where multiple connection hubs are needed to connect to network controllers. The 16-port connection hub has an integral power supply to support remote coax powering of both the PEPC modem and connected POE+ device, and is contained in a weather-resistant, lockable enclosure suitable for either indoor or outdoor locations.

While the operator can build this connection hub on site, the operator may find it more convenient to purchase the 16-port connection hub pre-assembled for easier and quicker on-site installation.

Ordering Information | 16-Port Wall Mount Connection Hub with Coax Remote Power

16-Port Wall Mount Connection Hub (Fully Assembled)

Part Number	Description
PHUBASY-WM16P1	PEPC Connection Hub, Wall Mt. 16-Port, Pre-assembled with Diplex Filter and 480Watt power supply

16-Port Wall Mount Connection Hub (Individual Parts)

Qty Per Hub	Part Number	Description
1	PEBCHUB-EEB	Hub Enclosure, Plastic, Weather-resistant, Lockable 14x14x8.5 inches
1	PEBCHUB-BPE	Hub internal mounting plate with a ½ inch x ½ inch mounting grid
2	PPC10PS78B2E	PEPC 8-Way Power Splitter 5 – 1675MHz 6 – 56VDC (see Power Splitter specs)
4	SNPS-PWR	F-Connector to Wire Assembly
1	PPC-PS559000	DC Power Supply Input: 90 – 240 50/60Hz VAC, Output: 55VDC 480Watt, -40 °F to 158 °F (-40 °C to 70 °C)
1	PEBCHUB-TERM7	Terminal Block – 7 Position
1	PEBCHUB-SHRT6	Terminal Strip shorting bar
1	PPC-NXB3-2V	2-Way NexBand Splitter, vertical mounting, 5 – 1675GHz
x	various	Various 18AWG wire and coax cable assemblies
1	PPC-SAT-DIPLEX	Diplex filter/combiner, 5 – 850MHz, 900 – 2100MHz (not needed if no broadband/CATV present)

Note: It is recommended to use PPC AquaTight® connectors on all power splitter coax ports
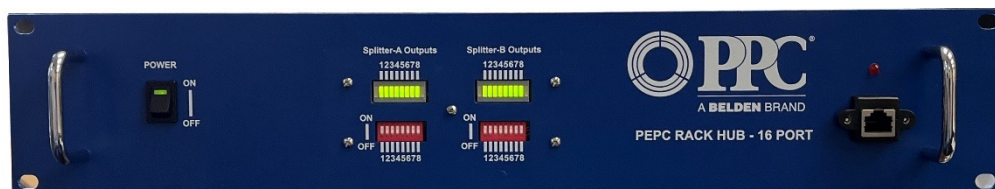
Connection Hub Solutions

16-Port Rack Mount Connection Hub

The 16-Port Rack Mount Connection Hub is configured for locations where telecom equipment racks may be located and/or where there is a high number of home-run connections to MDU residences. This could be in a moderate to large size MDU where connection densities high to very high. For example, a standard 45U 19-inch rack can accommodate 22 of the 2U (3.5 inches) high 16-port rack mount connection hubs, resulting in one 45U rack managing 352 coaxial connections.

Integral to the 16-port rack mount connection hub are two of the 8-way power splitters with all coaxial connections exposed on the rear panel. This allows for scenarios: two 1x8 connections (one network controller output per 8-way) or one 1x16 connection (one network controller output connected to two 8-ways using an external splitter). If broadband/CATV signals are mixed in, the connection must be completed through external diplex filters.

This version of a connection hub has front panel DIP switches to control which of its 16 outputs gets DC power. This may be helpful when not all connections get a coax powered PPC PEPC modem. The rack mount connection hub also has a remote-control feature to remotely turn the power off or on via an Ethernet connection. This can be used to remotely "hard-boot" any connected PEPC modem and attached a POE+ powered device as part of any troubleshooting or lock-up rectification procedure without deploying a technician. Switching DC power does not impact any RF signal going through the connection hub.

The 16-Port Rack Mount Connection Hub is suitable for only indoor installations. The connection hub has an integral power supply to support remote coax powering of both the PEPC modem and connected POE+ device and is only available as a pre-built assembly.

16-Port Rack Connection Hub – Front Panel

16-Port Rack Connection Hub – Rear Panel

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Technical Data

16-Port Rack Mount Connection Hub

Specification		Value
Ports	Total of 18	RF Inputs: 2 RF Output: 16 (2x8 configuration)
Bandwidth:	Input to RF Output:	5 – 1675MHz
Insertion Loss	Input to RF Output:	5 – 400MHz ≤11dB, 400 – 600MHz ≤12dB, 600 – 1218MHz ≤14dB, 1218 – 1675MHz ≤17dB
Other RF Specs		See specifications for 8-Way Power Splitter
DC Output	Connector:	F-Port, Center contact is +
	Voltage:	55VDC
	Current-Continuous:	0.5Amps typical, 1.0Amps max (PEPC Modem with POE+ load = 27Watts)
	Trip Current:	1.5Amps, then goes to a high impedance as long as short/load is maintained
	DC Restore:	Remove all loads/short for 30 seconds, then reapply
DC Switching, Front Panel	Output Control:	Pushing DIP switch "up" removes DC voltage from the designated output Pushing DIP switch "down" applies DC voltage to the designated output
	Output LED's:	Lit green LED indicates that DC voltage is to be applied to the designated output Un-lit LED indicates that DC voltage is not to be applied to the designated output
DC Switching, Remote	Interface:	10/100Mb RJ45 Ethernet interface with Activity LED
	SNMP:	Supports snmp v1, (snmpset, snmpget, snmptrap), HTTP Configuration via SNMP requests or web browser, Protocol available on request
Mechanical	Construction:	Aluminum, powder-coated 19-inch 2U rack enclosure
	Dimensions:	3.5H x 19W x 12D inches (89x483x305 mm)
Environmental	Operating Temp:	20 °F to 140 °F (-7 °C to 60 °C)
		0 to 95% non-condensing

Ordering Information | 16-Port Rack Mount Connection Hub

Part Number	Description
PHUBASY-RK16P1	PEPC Rack Mount 16-Port Connection Hub with Ethernet control, 90 – 240VAC 50/60Hz