OmniConverter® GPoEBT/S

10/100/1000 Media Converter with Power over Ethernet (60W and 100W) PoE Enhanced Version*

The OmniConverter GPoEBT/S are multi-port IEEE 802.3bt 60 and 100 watt PoE Ethernet media converters that feature one or two uplink ports and one or two 10/100/1000 RJ-45 PoE user ports.

The GPoEBT/S provides up to 100W PoE per RJ-45 user port and supports frame sizes up to 10,240 bytes. The uplink ports can be fixed fiber or SFP receptacle or 10/100/1000 RJ-45 copper ports.

The GPoEBT/S supports Directed Switch mode, which directs multicast traffic (such as video) only to the appropriate uplink port, preventing the multicast video traffic from flooding other network ports.

Models with two fiber port support redundant fiber uplinks for critical applications that require protection and restoration in the event of a fiber failure. The second fiber port can also be used to cascade multiple media converters.

Models with two fiber ports also support Dual Device mode that enables the module to operate as two independent and isolated Ethernet media converters. In Dual Device mode, the GPoEBT/S provides separate and independent data traffic paths between the two uplink ports and two user ports.

Configurable features include link modes and a PoE power reset function that enables the attached PD device, such as a camera or access point, to be re-initialized remotely, eliminating the need for costly truck rolls to remote PD sites. When a problem with a PD is detected, the fiber port on the module can be disconnected, triggering the PoE power reset function.

Link modes can be configured to propagate loss-of-link faults to managed devices, immediately notifying administrators of network outages.

The module support fixed-fiber connectors and 100Mbps or 1000Mbps SFP transceiver receptacles, enabling easy adaptability to different fiber types, distances and wavelengths. The media converters also support 10/100/1000 SGMII or 1Gbps SERDES copper transceivers and 100Mbps and 1000Mbps standard, CWDM and DWDM fiber transceivers in a variety of distances and fiber types.

The GPoEBT/S can be tabletop mounted, wall mounted, or DIN-rail mounted using an optional DIN-rail mounting kit. They can also be mounted on a 1U 19” rack-mount shelf. They are available with DC input power via terminal connectors or an external 100 to 240V AC power adapters.

***See the Model Comparison table on page 5 for the comparison of the previous/old and the enhanced models.**

SFPs not included

KEY FEATURES

- IEEE 802.3bt 60W and 100W multi-port Gigabit Media Converter
- Compact size
- Dual Device mode for operating as two separate media converters
- Directed Switch mode prevents flooding of multicast video traffic
- Configurable PoE Power Reset
- Uplink redundancy on models with two uplink ports
- Automatic Link Recovery
- Two SFP or two 10/100/1000 RJ-45 uplink ports
- Supports 10/100/1000 and 1G copper SFP transceivers
- Supports 100Mbps and 1000Mbps fiber SFPs
- One ST or SC fixed Gigabit fiber connectors
- One or two 10/100/1000 RJ-45 PoE/PoE+/PoE++ user ports
- Commercial (0º to 50ºC), wide (-40º to 60ºC) and extended (-40º to 75ºC) operating temperature ranges
- TAA, BAA and NDAA compliant, and Made in the USA
- Lifetime Warranty and free 24/7 Technical Support

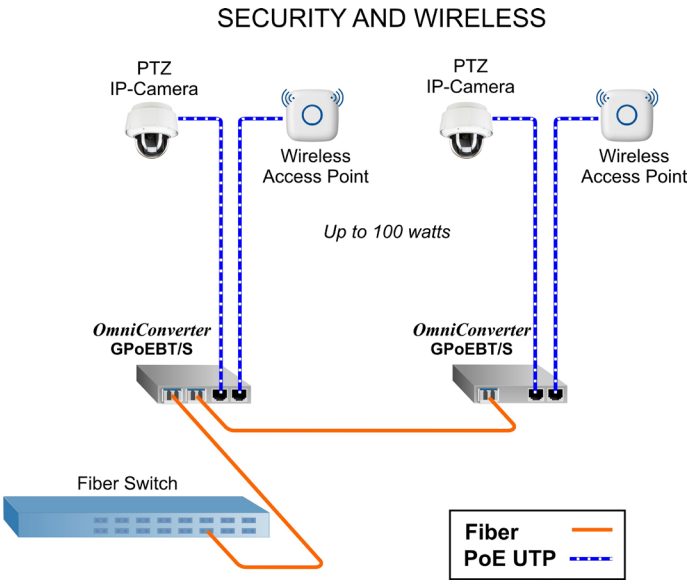
APPLICATIONS

Security and Wireless

In this application example, outdoor IP surveillance cameras and Wireless Access Points are installed throughout a large facility. A network switch with fiber ports is used to distribute a fiber link from a control room to a OmniConverter media converter with dual fiber ports. The second fiber port on the OmniConverter is used to daisy-chain the fiber to the next location, where an OmniConverter media converter with one fiber port terminates the fiber.

The OmniConverter media converters provide Power over Ethernet (PoE) over UTP cables to an IP camera and Wireless Access Point at each location, each of which can be located up to 100 meters from the media converter.

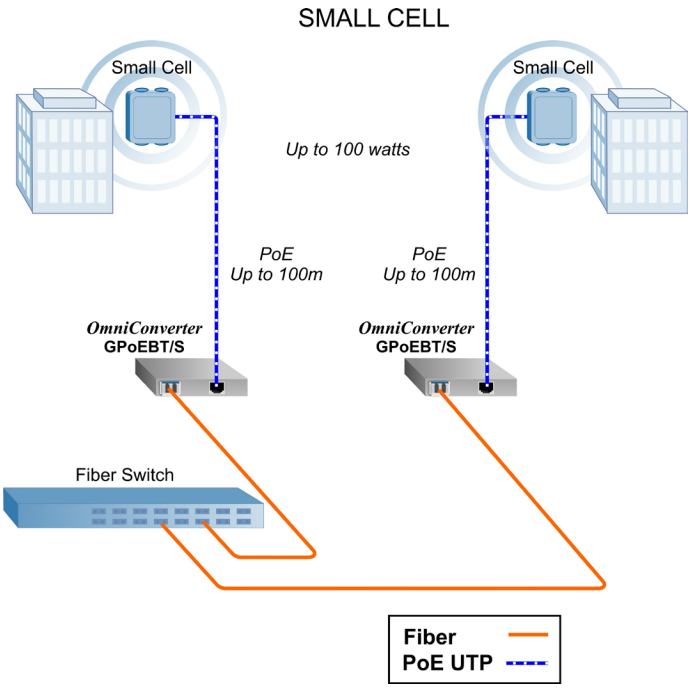
For 60W or 100W PoE devices, such as cameras with heaters/blowers or pan/tilt/zoom motors, the GPoEBT/S can be used for devices that require up to 100W.

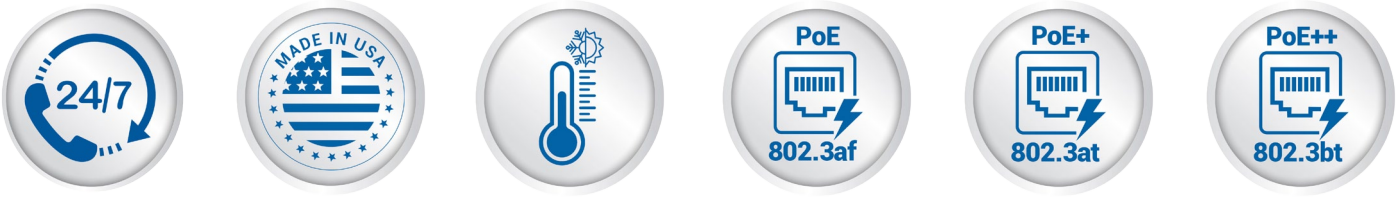


Small Cell

In this application example, High-Power small cell devices are deployed inside several buildings. A network switch with fiber ports is used to distribute a fiber link to OmniConverter media converters.

The OmniConverter GPoEBT/S media converters are capable of providing up to 100 watts on the RJ-45 ports.





SPECIFICATIONS

Description	**OmniConverter GPoEBT/S** 10/100/1000BASE-T to 1000BASE-X or 100BASE-X Fiber Media Converter with 60W or 100W	
Standard Compliances	IEEE 802.3, IEEE 802.3af (15.40 watts max), IEEE 802.3at (30 watts max), IEEE 802.3bt (60 and 100 watts max)	
Regulatory Compliances (Pending)	Safety: UL 62368-1, UL 60950-1, IEC 62368-1, IEC 60950-1, EN 62368-1, EN 60950-1, CAN/CSA C22.2 No. 62368-1-14, CAN/CSA C22.2 No. 60950-1, CE Mark, UKCA EMC: EN 55032/24 CE Emissions/Immunity, IEC 61000-6-4 Industrial Emissions, IEC 61000-6-2 Industrial Immunity EMI: CISPR 32, FCC 47 Part 15 Subpart B Class A EMS: IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m, IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV (DC models), IEC 61000-4-4 EFT: Power: 1 kV; Signal: 1 kV (AC models), IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV (DC models), IEC 61000-4-5 Surge: Power: 1 kV Line/Line; 2 kV Line/Gnd; Signal: 2 kV (AC models), IEC 61000-4-6 CS: Signal: 10 V, IEC 61000-4-8 (Magnetic Field) 30A/m, IEC 61000-4-11 (Voltage Dips, interrupts) IP Rating: IP30D Protection ACT: TAA, BAA,NDAA	
Environmental	RoHS, WEEE, REACH	
PoE Power Modes	IEEE Alterative A (Alt A) and 4 pair	
Frame Size	Up to 10,240 bytes	
Port Types	Copper: 10/100/1000BASE-T (RJ-45) Fiber: 100BASE-X (SFP) 1000BASE-X (ST, SC, LC, SFP) 10/100/1000 SGMII (RJ-45 SFP) 1G SERDES (RJ-45 SFP)	
Cable Types	Copper: EIA/TIA 568A/B, Cat 5 UTP and higher Fiber: Multimode: 50/125, 62.5/125µm Single-mode: 9/125µm	
AC Power Requirements (Models with AC/DC Adapters)	60W Model - 1 RJ-45 Port 100 - 240VAC/50 - 60Hz, 0.61A @ 120VAC (typical)	100W Model - 1 RJ-45 Port 100 - 240VAC/50 - 60Hz, 0.99A @ 120VAC (typical)
	60W Model - 2 RJ-45 Ports 100 - 240VAC/50 - 60Hz, 1.18A @ 120VAC (typical)	100W Model - 2 RJ-45 Ports 100 - 240VAC/50 - 60Hz, 1.94A @ 120VAC (typical)
DC Power Requirements (Models with DC Terminals)	60W Model - 1 RJ-45 Port 46 to 57VDC, 1.15A @ 56VDC 2 Pin Terminal (isolated)	100W Model - 1 RJ-45 Port 46 to 57VDC, 1.88A @ 56VDC 2 Pin Terminal (isolated)
	60W Model - 2 RJ-45 Ports 46 to 57VDC, 2.23A @ 56VDC 2 Pin Terminal (isolated)	100W Model - 2 RJ-45 Ports 46 to 57VDC, 3.67A @ 56VDC 2 Pin Terminal (isolated)
Dimensions (W x D x H)	3.8” x 4.8” x 1.0” (96.5 mm x 121.9 mm x 25.4 mm)	
Weight	Module Only: 1.0 lbs.; 453.6 grams Module w/ Adapter: 1.8 lbs.; 816.4grams	
Operating Temperature (See AC/DC Adapter Temperature Table)	Commercial: 0 to 50°C Wide: -40 to 60°C (-20°C AC cold start) Extended: -40 to 75°C (-20°C AC cold start) Storage: -40 to 80°C	
Humidity	5 to 95% (non-condensing)	
Altitude	-100m to 4,000m	
MTBF (hours)	Module Only: 584,000 AC/DC Adapter: 100,000	
Warranty	Lifetime warranty with 24/7/365 free Technical Support	

ORDERING INFORMATION

The previous/old version of the GHPoEBT/S 60W are no longer in production. GHPoEBT/S models 9500B - 9519B are replaced with the enhanced models below.

Step 1: Choose a Base Part Number (xxxxN-x-ypt)

OmniConverter GPoEBT/S IEEE 802.3bt 60W Models												
Fiber Type	Distance	Connector Type				Tx / Rx Lambda (nm)	Min. Tx Power (dBm)	Max. Tx Power (dBm)	Min. Rx Power (dBm)	Max. Rx Power (dBm)	Min Att (dB)	Link Budget (dB)
		ST	SC	SFP	RJ-45							
MM/DF	220/550m[1]	9500N-0-ypt	9502N-0-ypt	-	-	850 / 850	-10	-4	-17	-3	-	7
SM/DF	12km	9501N-1-ypt	9503N-1-ypt	-	-	1310 / 1310	-9.5	-3	-19.5	-3	-	10
SM/DF	34km	9501N-2-ypt	9503N-2-ypt	-	-	1310 / 1310	-5	0	-23	-3	3	18
SM/DF	80km	-	9503N-3-ypt	-	-	1550 / 1550	-5	0	-23	-3	3	18
SM/DF	110km	-	9503N-4-ypt	-	-	1550 / 1550	0	5	-24	-3	8	24
SM/DF	140km	-	9503N-5-ypt	-	-	1550 / 1550	2	5	-28	-8	13	30
MM/SF[2]	550m	-	9510N-0-ypt	-	-	1310 / 1550	-9	-3	-18	-3	-	9
MM/SF[2]	550m	-	9511N-0-ypt	-	-	1550 / 1310	-9	-3	-18	-3	-	9
SM/SF[2]	20km	-	9510N-1-ypt	-	-	1310 / 1550	-9.5	-3	-20	-3	-	10.5
SM/SF[2]	20km	-	9511N-1-ypt	-	-	1550 / 1310	-9.5	-3	-20	-3	-	10.5
SM/SF[2]	40km	-	9510N-2-ypt	-	-	1310 / 1550	-3	0	-20	-3	3	17
SM/SF[2]	40km	-	9511N-2-ypt	-	-	1550 / 1310	-3	0	-20	-3	3	17
RJ-45 (x1)	-	-	-	-	9518N-0-ypt	-	-	-	-	-	-	-
RJ-45 (x2)	-	-	-	-	9518N-1-ypt	-	-	-	-	-	-	-
SFP (x1)	-	-	-	9519N-0-ypt		-	-	-	-	-	-	-
SFP (x2)	-	-	-	9519N-1-ypt		-	-	-	-	-	-	-

[1] 62.5/125µm, 100/140µm multimode fiber up to 220m. 50/125µm multimode fiber up to 550m.
[2] When using single-fiber (SF) models, the Tx wavelength on one end has to match the Rx wavelength on the other.
MM = Multimode, SM = Single-mode, DF = Dual Fiber, SF = Single-fiber

Contact Omnitron for other fiber options. Order the appropriate 100Mbps or 1000Mbps SFPs separately. Visit the Omnitron Optical Transceivers web page.
Contact Omnitron for conformal coating options. Accessories available. 19" Rack Mount Shelf and DIN-Rail Mounting.

Step 2: Choose the number of RJ-45 ports (xxxxN-x-ypt)

1 = One RJ-45 Ports
2 = Two RJ-45 Ports

Step 3: Choose a Power Option (xxxxN-x-ypt)

1 = External AC/DC Adapter, 100 - 240 VAC included, with US Power Cord
2 = External AC/DC Adapter, 100 - 240 VAC included, No Power Cord
8 = External AC/DC Adapter, 100 - 240 VAC included, PS JET/PSE Certified, with Japanese Power Cord
9 = Direct DC 2 pin terminal connector, no AC/DC power adapter
See AC/DC Adapter Temperature table below when ordering AC Powered models (power option 1, 2 or 8)

Step 4: Choose an Operating Temperature Range (xxxxN-x-ypt)

<leave blank> = Commercial temperature (0 to 50°C)
W = Wide temperature (-40 to 60°C) **- Check table for available wattage for models with AC/DC Power Adapter**
Z = Extended temperature (-40 to 75°C) **- Check table for available wattage for models with AC/DC Power Adapter**

AC/DC Adapter Temperature - Total Available Wattage to RJ-45 Ports							
Model	RJ-45 PoE Ports	Watts Required	Watts Available @40°C	Watts Available @50°C	Watts Available @60°C	Watts Available @70°C	Watts Available @75°C
GPoEBT/S 60 watts	1	60 watts	Full Power	Full Power	Full Power	Full Power	50 watts
	2	120 watts	Full Power	Full Power	Full Power	60 watts	50 watts

ORDERING INFORMATION

The previous/old version of the GHPoEBT/S 100W are no longer in production. GHPoEBT/S models 9150B - 9169B are replaced with the enhanced models below.

Step 1: Choose a Base Part Number (xxxxN-x-ypt)

OmniConverter GPoEBT/S IEEE 802.3bt 100W Models												
Fiber Type	Distance	Connector Type				Tx / Rx Lambda (nm)	Min. Tx Power (dBm)	Max. Tx Power (dBm)	Min. Rx Power (dBm)	Max. Rx Power (dBm)	Min Att (dB)	Link Budget (dB)
		ST	SC	SFP	RJ-45							
MM/DF	220/550m[1]	9150N-0-ypt	9152N-0-ypt	-	-	850 / 850	-10	-4	-17	-3	-	7
SM/DF	12km	9151N-1-ypt	9153N-1-ypt	-	-	1310 / 1310	-9.5	-3	-19.5	-3	-	10
SM/DF	34km	9151N-2-ypt	9153N-2-ypt	-	-	1310 / 1310	-5	0	-23	-3	3	18
SM/DF	80km	-	9153N-3-ypt	-	-	1550 / 1550	-5	0	-23	-3	3	18
SM/DF	110km	-	9153N-4-ypt	-	-	1550 / 1550	0	5	-24	-3	8	24
SM/DF	140km	-	9153N-5-ypt	-	-	1550 / 1550	2	5	-28	-8	13	30
MM/SF[2]	550m	-	9160N-0-ypt	-	-	1310 / 1550	-9	-3	-18	-3	-	9
MM/SF[2]	550m	-	9161N-0-ypt	-	-	1550 / 1310	-9	-3	-18	-3	-	9
SM/SF[2]	20km	-	9160N-1-ypt	-	-	1310 / 1550	-9.5	-3	-20	-3	-	10.5
SM/SF[2]	20km	-	9161N-1-ypt	-	-	1550 / 1310	-9.5	-3	-20	-3	-	10.5
SM/SF[2]	40km	-	9160N-2-ypt	-	-	1310 / 1550	-3	0	-20	-3	3	17
SM/SF[2]	40km	-	9161N-2-ypt	-	-	1550 / 1310	-3	0	-20	-3	3	17
RJ-45 (x1)	-	-	-	-	9168N-0-ypt	-	-	-	-	-	-	-
RJ-45 (x2)	-	-	-	-	9168N-1-ypt	-	-	-	-	-	-	-
SFP (x1)	-	-	-	9169N-0-ypt		-	-	-	-	-	-	-
SFP (x2)	-	-	-	9169N-1-ypt		-	-	-	-	-	-	-

[1] 62.5/125µm, 100/140µm multimode fiber up to 220m. 50/125µm multimode fiber up to 550m.
[2] When using single-fiber (SF) models, the Tx wavelength on one end has to match the Rx wavelength on the other.
MM = Multimode, SM = Single-mode, DF = Dual Fiber, SF = Single-fiber

Contact Omnitron for other fiber options. Order the appropriate 100Mbps or 1000Mbps SFPs separately. Visit the Omnitron Optical Transceivers web page.
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Step 2: Choose the number of RJ-45 ports (xxxxN-x-ypt)

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Step 3: Choose a Power Option (xxxxN-x-ypt)

1 = External AC/DC Adapter, 100 - 240 VAC included, with US Power Cord
2 = External AC/DC Adapter, 100 - 240 VAC included, No Power Cord
8 = External AC/DC Adapter, 100 - 240 VAC included, PS JET/PSE Certified, with Japanese Power Cord
9 = Direct DC 2 pin terminal connector, no AC/DC power adapter
See AC/DC Adapter Temperature table below when ordering AC Powered models (power option 1, 2 or 8)

Step 4: Choose an Operating Temperature Range (xxxxN-x-ypt)

<leave blank> = Commercial temperature (0 to 50°C)
W = Wide temperature (-40 to 60°C) **- Check table for available wattage for models with AC/DC Power Adapter**
Z = Extended temperature (-40 to 75°C) **- Check table for available wattage for models with AC/DC Power Adapter**

AC/DC Adapter Temperature - Total Available Wattage to RJ-45 Ports							
Model	RJ-45 PoE Ports	Watts Required	Watts Available @40°C	Watts Available @50°C	Watts Available @60°C	Watts Available @70°C	Watts Available @75°C
GPoEBT/S 100 watts	1	100 watts	Full Power	Full Power	Full Power	No AC Model Available	
	2	200 watts	Full Power	Full Power	165 watts	No AC Model Available	

MODEL COMPARISON

Previous/Old Base Model	Previous/Old Description	Enhanced Base Model	Enhanced Description
9500B - 9511B	GHPoEBT/S 60W per RJ-45 User Port Fixed Fiber with 1 or 2 BT RJ-45	9500N - 9511N	**GPoEBT/S** 60W per RJ-45 User Port Fixed Fiber with 1 or 2 BT RJ-45
9519B	GHPoEBT/S 60W per RJ-45 User Port 1 or 2 SFP with 1 or 2 BT RJ-45	9519N	**GPoEBT/S** 60W per RJ-45 User Port 1 or 2 SFP with 1 or 2 BT RJ-45
9150B - 9161B	GHPoEBT/S 100W per RJ-45 User Port Fixed Fiber with 1 or 2 BT RJ-45	9150N - 9161N	**GPoEBT/S** 100W per RJ-45 User Port Fixed Fiber with 1 or 2 BT RJ-45
9169B	GHPoEBT/S 100W per RJ-45 User Port 1 or 2 SFP with 1 or 2 BT RJ-45	9169N	**GPoEBT/S** 60W per RJ-45 User Port 1 or 2 SFP w/ 1 or 2 BT RJ-45

Features	Previous/Old Model GHPoEBT/S and GHPoEBT/S	Enhanced Model GPoEBT/S	Benefits
Copper Uplink Ports	N/A	One or two ports	Product flexibility
RJ-45 SFP Support	N/A	10/100/1000 SGMII 1G SERDES	Allows for multiple SFP transceiver options
Dimensions (W x D x H)	4.5" x 6.0" x 1.0"	3.8" x 4.8" x 1.0"	Compact size
Dual Device Mode	N/A	Models with dual uplink ports	Two independent and isolated Ethernet media converters
Directed Switch Mode	N/A	✓	Prevents multicast (video) traffic from flooding other network ports
Legacy pre-IEEE Power Standards	✓	Alternative A and 4 pair Power Mode	No configuration for the user
IP Protection	IP20	IP30D	Provides increased enclosure protection

For all models, # of RJ-45 User Ports (y) = 1 or 2, Power Option (p) = 1,2,8 and 9 and Temperature Option (t) = blank, W and Z

Replacement Guide for the Previous/Old GHPoEBT/S Models				
Previous/Old GHPoEBT/S 60W Model	**Previous/Old GHPoEBT/S 100W Model**	**Enhanced GPoEBT/S 60W Model**	**Enhanced GPoEBT/S 100W Model**	**Enhanced GPoEBT/S Product Description**
9500B-0-ypt	9150B-0-ypt	9500N-0-ypt	9150N-0-ypt	850 / 850 MM ST 220/550M 7dB
9502B-0-ypt	9152B-0-ypt	9502N-0-ypt	9152N-0-ypt	850 / 850 MM SC 220/550M 7dB
9506B-0-ypt	9156B-0-ypt	9519N-0-ypt	9169N-0-ypt	Use 1 x SFP model with 1 x 7206-0 SFP
9506DB-0-ypt	9156DB-0-ypt	9519N-1-ypt	9169N-1-ypt	Use 2 x SFP model with 2 x 7206-0 SFP
9501B-1-ypt	9151B-1-ypt	9501N-1-ypt	9151N-1-ypt	1310 / 1310 SM ST 12km 10dB
9503B-1-ypt	9153B-1-ypt	9503N-1-ypt	9153N-1-ypt	1310 / 1310 SM SC 12km 10dB
9507B-1-ypt	9157B-1-ypt	9519N-0-ypt	9169N-0-ypt	Use 1 x SFP model with 1 x 7207-1 SFP
9507DB-1-ypt	9157DB-1-ypt	9519N-1-ypt	9169N-1-ypt	Use 1 x SFP model with 2 x 7207-1 SFP
9501B-2-ypt	9151B-2-ypt	9501N-2-ypt	9151N-2-ypt	1310 / 1310 SM ST 34km 18dB
9503B-2-ypt	9153B-2-ypt	9503N-2-ypt	9153N-2-ypt	1310 / 1310 SM SC 34km 18dB
9503B-3-ypt	9153B-3-ypt	9503N-3-ypt	9153N-3-ypt	1550 / 1550 SM SC 80km 18dB
9503B-4-ypt	9153B-4-ypt	9503N-4-ypt	9153N-4-ypt	1550 / 1550 SM SC 110km 24dB
9503B-5-ypt	9153B-5-ypt	9503N-5-ypt	9153N-5-ypt	1550 / 1550 SM SC 140km 30dB
9510B-0-ypt	9160B-0-ypt	9510N-0-ypt	9160N-0-ypt	1310 / 1550 MM-SF SC 550m 9dB
9511B-0-ypt	9161B-0-ypt	9511N-0-ypt	9161N-0-ypt	1550 / 1310 MM-SF SC 550m 9dB
9510B-1-ypt	9160B-1-ypt	9510N-1-ypt	9160N-1-ypt	1310 / 1550 SM-SF SC 20km 10.5dB
9511B-1-ypt	9161B-1-ypt	9511N-1-ypt	9161N-1-ypt	1310 / 1550 SM-SF SC 20km 10.5dB
9510B-2-ypt	9160B-2-ypt	9510N-2-ypt	9160N-2-ypt	1310 / 1550 SM-SF SC 40km 17dB
9511B-2-ypt	9161B-2-ypt	9511N-2-ypt	9161N-2-ypt	1550 / 1310 SM-SF SC 40km 17dB
9519B-0-ypt	9169B-0-ypt	9519N-0-ypt	9169N-0-ypt	1 x SFP
9519B-1-ypt	9169B-1-ypt	9519N-1-ypt	9169N-1-ypt	2 x SFP

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