



## **Broadband Reach eXtender (BRX)**

### **Product Selection Guide**

February 2021

## **Publication Information**

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### **Positron Access Solutions - BRX Product Selection Guide**

Publication date: February 2021  
Printed in Canada

#### **Published By**

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## 1 Introduction

The Positron Access Solutions Broadband Reach eXtender (BRX) family amplifies ADSL2+ and VDSL2 signals resulting into significant performance and reach gains. Both products double the Customer Serving Area (CSA), allowing Operators to address under-served markets and improve their delivery of higher speed Internet.


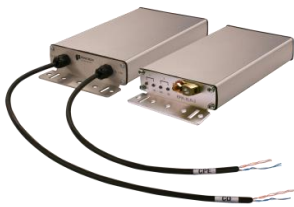


The cost savings and the increase in ARPU help achieve a very quick payback period for the BRX devices.


This Product Selection Guide for BRX devices will help you select the right version and packaging for the BRX devices you need. In addition to covering all the available package options (1, 2, 8, 24 and 48 pairs); you will find information on all of the available options and kits.

## 2 BRX-XLR Solutions


The Positron Access Solutions BRX-XLR is a next generation performance and distance (reach) enhancement solution for any ADSL / ADSL2+ loops served by a DSLAM. The BRX-XLR is installed between the DSLAM (typically around 8,000 to 12,000 feet / 2.4 to 3.7 km from the DSLAM) and the remote user location and can typically improve the bandwidth and distance by up to 500%. It significantly increase the effective bandwidth and reach of existing xDSL lines to let Operators deliver true broadband speeds to each of their subscribers, even those located in remote areas or currently located too far from the DSLAM to receive any service. The BRX-XLR is designed to deliver a minimum of 10 Mbps on an ADSL2+ pair at a distance of 17,000 feet (5.2 km) on 24 AWG copper pairs.

### 2.1 BRX-XLR Weatherproof Enclosures – 1, 2, 8 and 24 pairs



Ordering Code	Description	Kit Contains	Picture
BRX-XLR-1	<p>A single (1) pair ADSL2+ BRX-XLR-M module with on-board solid-state primary lightning protection enclosed in IP65 enclosure.</p> <p><b>Dimensions:</b> 9.25" x 5.5" x 1.5" (235 mm x 140 mm x 38 mm)</p> <p><b>Mounting Options:</b> Mounting Flange (standard) BRX-STRAND-KIT (optional)</p>		
BRX-XLR-2	<p>A two (2)-pair ADSL2+ BRX-XLR-M module with on-board solid state primary lightning protection enclosed in IP65 enclosure.</p> <p>Can be used in pair bonding applications or to serve two distinct customers.</p> <p><b>Dimensions:</b> 9.25" x 5.5" x 1.5" (235 mm x 140 mm x 38 mm)</p> <p><b>Mounting Options:</b> Mounting Flange (standard) BRX-STRAND-KIT (optional)</p>		
BRX-XLR-8	<p>An IP65 sealed enclosure (BRX-XLR-8-C) factory-installed with four (4) BRX-XLR-M modules for a total of 8 amplified ADSL2+ pairs. Each module is built with on-board solid state primary lightning protection.</p> <p>The BRX-XLR-8 is serviceable with easy access to the modules inside.</p> <p>Can be used to serve customers with pair bonding (2 pairs or more) or individual pair customers from a single location.</p> <p><b>Dimensions:</b> 11.15" x 4.93" x 4.665" (283 mm x 125 mm x 118 mm)</p> <p><b>Mounting Options:</b> Mounting Flange (standard) BRX-STRAND-KIT (optional)</p>	<p>1 x BRX-XLR-8-C</p> <p>4 x BRX-XLR-M</p>	 



Ordering Code	Description	Kit Contains	Picture
BRX-XLR-24	<p>IP65 sealed enclosure (BRX-24-C) factory-installed with a 24-pair shelf (BRX-24S) and twelve (12) BRX-XLR-M modules for a total of 24 amplified ADSL2+ pairs. Each module is built with on-board solid state primary lightning protection.</p> <p>The BRX-XLR-24 is serviceable with easy access to the BRX-XLR-M modules inside. Can be used to serve customers with pair bonding (2 pairs or more) or individual pair customers from a single location.</p> <p><b>Notes:</b> The 25-pair binder cables shown in the image are not included. The BRX-XLR-24 can be fitted with an optional BRX-24-Pair-Protection-Board (BRX-50PR-PROT-PANEL-CAB).</p> <p><b>Dimensions:</b> 16.7.2" W x 21.3" H x 10.6 D" (425 mm x 541 mm x 269 mm)</p> <p><b>Mounting Options:</b> Mounting Flange (standard)</p>	<p>1 x BRX-24-C</p> <p>1 x BRX-24S</p> <p>12 x BRX-XLR-M</p>	

## 2.2 BRX-XLR Modules

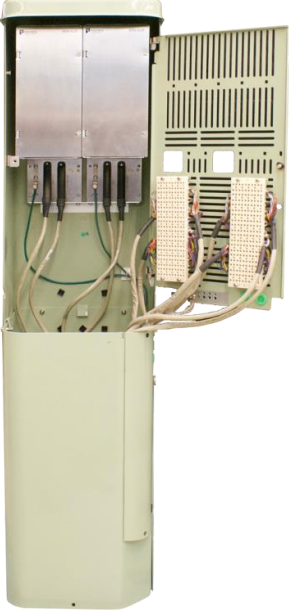

Ordering Code	Description	Picture
BRX-XLR-M	<p>2-pair BRX-XLR module with primary solid state lightning protection.</p> <p><b>Dimensions:</b> 8"x5" (200 mm x 125 mm)</p>	

## 2.3 BRX-XLR Pedestals

Ordering Code	Description	Kit Contains	Picture
BRX-XLR-24-1SF	<p>BRX-1 (Emerson CAD-12) Pedestal factory-installed with a 24-pair shelf (BRX-24S) and twelve (12) BRX-XLR-M modules for a total of 24 amplified ADSL2+ pairs. Each BRX-XLR-M module is built with on-board solid state primary lightning protection.</p> <p>The BRX-XLR-24-1SF is serviceable with easy access to the BRX-XLR-M modules inside.</p> <p>Can be used to serve customers with pair bonding (2 pairs or more) or individual pair customers from a single location.</p> <p><b>Dimensions:</b> 12.9" W x 50.3" H x 12.9D" (328 mm x 1278 mm x 328 mm)</p>	<p>1 x BRX-1 (Emerson CAD-12) Pedestal</p> <p>1 x BRX-24S</p> <p>12 x BRX-XLR-M</p>	
BRX-XLR-24-1SPF	<p>BRX-1 (Emerson CAD-12) Pedestal factory-installed with a 24-pair shelf (BRX-24S), a 50 pair gas-tube protection panel (gas tubes not included) and twelve (12) BRX-XLR-M modules for a total of 24 amplified ADSL2+ pairs. Each BRX-XLR-M module is built with on-board solid state primary lightning protection.</p> <p>The BRX-XLR-24-1SP is serviceable with easy access to the BRX-XLR-M modules inside.</p> <p>Can be used to serve customers with pair bonding (2 pairs or more) or individual pair customers from a single location.</p> <p><b>Dimensions:</b> 12.9" W x 50.3" H x 12.9D" (328 mm x 1278 mm x 328 mm)</p>	<p>1 x BRX-1 (Emerson CAD-12) Pedestal</p> <p>1 x BRX-24S</p> <p>1 x BRX-50PR-PROT-PANEL-PED</p> <p>12 x BRX-XLR-M</p>	

Ordering Code	Description	Kit Contains	Picture
BRX-XLR-24-1SXPF	<p>BRX-1 (Emerson CAD-12) Pedestal factory-installed with a 24-pair shelf (BRX-24S), a 50 pair gas-tube protection panel (gas tubes not included), a 50 pairs IN-OUT 3M cross-connect modules and twelve (12) BRX-XLR-M modules for a total of 24 amplified ADSL2+ pairs. Each BRX-XLR-M module is built with on-board solid state primary lightning protection.</p> <p>The BRX-XLR-24-1SXPF is serviceable with easy access to the BRX-XLR-M modules inside.</p> <p>Can be used to serve customers with pair bonding (2 pairs or more) or individual pair customers from a single location.</p> <p><b>Dimensions:</b> 12.9" W x 50.3" H x 12.9D" (328 mm x 1278 mm x 328 mm)</p>	<p>1 x BRX-1 (Emerson CAD-12) Pedestal</p> <p>1 x BRX-50PR-XC</p> <p>1 x BRX-50PR-PROT-PANEL-PED</p> <p>12 x BRX-XLR-M</p>	
BRX-XLR-48-1SF	<p>BRX-1 (Emerson CAD-12) Pedestal factory-installed with two (2) 24-pair shelf (BRX-24S) and twenty-four (24) BRX-XLR-M modules for a total of 48 amplified ADSL2+ pairs. Each module is built with on-board solid state primary lightning protection.</p> <p>The BRX-XLR-48-1SF is serviceable with easy access to the BRX-XLR-M modules inside.</p> <p>Can be used to serve customers with pair bonding (2 pairs or more) or individual pair customers from a single location.</p> <p><b>Dimensions:</b> 12.9" W x 50.3" H x 12.9D" (328 mm x 1278 mm x 328 mm)</p>	<p>1 x BRX-1 (Emerson CAD-12) Pedestal</p> <p>2 x BRX-24S</p> <p>24 x BRX-XLR-M</p>	






Ordering Code	Description	Kit Contains	Picture
BRX-XLR-48-1SPF	<p>BRX-1 (Emerson CAD-12) Pedestal factory-installed with two (2) 24-pair shelf (BRX-24S), a 100 pair gas-tube protection panel (gas tubes not included) and twenty-four (24) BRX-XLR-M modules for a total of 48 amplified ADSL2+ pairs. Each BRX-XLR-M module is built with on-board solid state primary lightning protection.</p> <p>The BRX-XLR-48-1SPF is serviceable with easy access to the BRX-XLR-M modules inside.</p> <p>Can be used to serve customers with pair bonding (2 pairs or more) or individual pair customers from a single location.</p> <p><b>Dimensions:</b> 12.9" W x 50.3" H x 12.9D" (328 mm x 1278 mm x 328 mm)</p>	<p>1 x BRX-1 (Emerson CAD-12) Pedestal</p> <p>2 x BRX-24S</p> <p>1 x BRX-100PR-PROT-PANEL</p> <p>24 x BRX-XLR-M</p>	
BRX-XLR-48-1SXPF	<p>BRX-1 (Emerson CAD-12) Pedestal factory-installed with two (2) 24-pair shelf (BRX-24S), a 100 pair gas-tube protection panel (gas tubes not included), a 100 pairs IN-OUT 3M cross-connect modules and twenty-four (24) BRX-XLR-M modules for a total of 48 amplified ADSL2+ pairs. Each BRX-XLR-M module is built with on-board solid state primary lightning protection</p> <p>The BRX-XLR-48-1SXPF is serviceable with easy access to the BRX-XLR-M modules inside.</p> <p>Can be used to serve customers with pair bonding (2 pairs or more) or individual pair customers from a single location.</p> <p><b>Dimensions:</b> 12.9" W x 50.3" H x 12.9D" (328 mm x 1278 mm x 328 mm)</p>	<p>1 x BRX-1 (Emerson CAD-12) Pedestal</p> <p>2 x BRX-24S</p> <p>1 x BRX-100PR-XC</p> <p>1 x BRX-100PR-PROT-PANEL</p> <p>24 x BRX-XLR-M</p>	


### 3 BRX-XLR-AM Solutions

The Positron Access Solutions BRX-XLR AM supports the amplification of ADSL2+ networks that use the Annex-M standard to achieve up to 2x more upstream bandwidth. The BRX-XLR-AM allows Operators looking to deliver a 10/1 Mbps service on a single pair or on a bonded circuit over a longer distance than otherwise possible. Using Annex-M and the BRX-XLR-AM, it is possible to deliver a 10/1 Mbps service on a single pair to 11K feet (24 AWG) and to 16Kft (24 AWG) using pair bonding.


**NOTE:** the BRX-XLR-AM solution is mechanically identical to BRX-XLR and BRX-VDSL2 products and shares the same enclosures and accessories.

#### 3.1 BRX-XLR-AM Weatherproof Enclosures – 1, 2, 8 and 24 pairs



Ordering Code	Description	Kit Contains	Picture
BRX-XLR-AM-1	<p>A single (1) pair ADSL2+ BRX-XLR-AM-M module with on-board solid-state primary lightning protection enclosed in IP65 enclosure.</p> <p><b>Dimensions:</b> 9.25" x 5.5" x 1.5" (235 mm x 140 mm x 38 mm)</p> <p><b>Mounting Options:</b> Mounting Flange (standard) BRX-STRAND-KIT (optional)</p>		
BRX-XLR-AM-2	<p>A two (2)-pair ADSL2+ BRX-XLR-AM-M module with on-board solid state primary lightning protection enclosed in IP65 enclosure.</p> <p>Can be used in pair bonding applications or to serve two distinct customers.</p> <p><b>Dimensions:</b> 9.25" x 5.5" x 1.5" (235 mm x 140 mm x 38 mm)</p> <p><b>Mounting Options:</b> Mounting Flange (standard) BRX-STRAND-KIT (optional)</p>		
BRX-XLR-AM-8	<p>An IP65 sealed enclosure (BRX-XLR-8-C) factory-installed with 4 BRX-XLR-AM-M modules for a total of 8 amplified ADSL2+ pairs. Each module is built with on-board solid state primary lightning protection.</p> <p>The BRX-XLR-AM-8 is serviceable with easy access to the modules inside.</p> <p>Can be used to serve customers with pair bonding (2 pairs or more) or individual pair customers from a single location.</p> <p><b>Dimensions:</b> 11.15" x 4.93" x 4.665" (283 mm x 125 mm x 118 mm)</p> <p><b>Mounting Options:</b> Mounting Flange (standard) BRX-STRAND-KIT (optional)</p>	<p>1 x BRX-XLR-8-C</p> <p>4 x BRX-XLR-AM-M</p>	



Ordering Code	Description	Kit Contains	Picture
BRX-XLR-AM-24	<p>IP65 sealed enclosure (BRX-24-C) factory-installed with a 24-pair shelf (BRX-24S) and 12 BRX-XLR-AM-M modules for a total of 24 amplified ADSL2+ pairs. Each module is built with on-board solid state primary lightning protection.</p> <p>The BRX-XLR-AM-24 is serviceable with easy access to the BRX-XLR-M modules inside. Can be used to serve customers with pair bonding (2 pairs or more) or individual pair customers from a single location.</p> <p><b>Notes:</b> The 25-pair binder cables shown in the image are not included. The BRX-XLR-AM-24 can be fitted with an optional BRX-24-Pair-Protection-Board (BRX-50PR-PROT-PANEL-CAB).</p> <p><b>Dimensions:</b> 16.7.2" W x 21.3" H x 10.6 D" (425 mm x 541 mm x 269 mm)</p> <p><b>Mounting Options:</b> Mounting Flange (standard)</p>	<p>1 x BRX-24-C</p> <p>1 x BRX-24S</p> <p>12 x BRX-XLR-AM-M</p>	

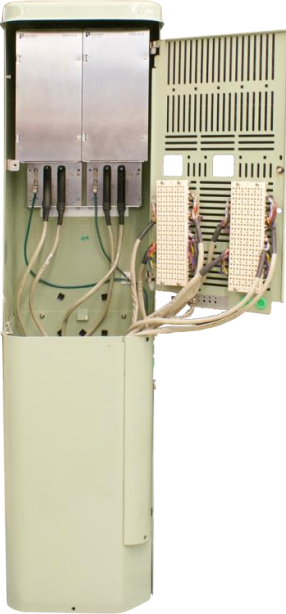

### 3.2 BRX-XLR-AM Modules

Ordering Code	Description	Picture
BRX-XLR-AM-M	<p>2-pair BRX-XLR-AM module with primary solid state lightning protection.</p> <p><b>Dimensions:</b> 8"x5" (200 mm x 125 mm)</p>	

### 3.3 BRX-XLR-AM Pedestals

Ordering Code	Description	Kit Contains	Picture
BRX-XLR-AM-24-1SF	<p>BRX-1 (Emerson CAD-12) Pedestal factory-installed with a 24-pair shelf (BRX-24S) and twelve (12) BRX-XLR-AM-M modules for a total of 24 amplified ADSL2+ pairs. Each BRX-XLR-AM-M module is built with on-board solid state primary lightning protection.</p> <p>The BRX-XLR-AM-24-1SF is serviceable with easy access to the BRX-XLR-AM-M modules inside.</p> <p>Can be used to serve customers with pair bonding (2 pairs or more) or individual pair customers from a single location.</p> <p><b>Dimensions:</b> 12.9" W x 50.3" H x 12.9D" (328 mm x 1278 mm x 328 mm)</p>	<p>1 x BRX-1 (Emerson CAD-12) Pedestal</p> <p>1 x BRX-24S</p> <p>12 x BRX-XLR-AM-M</p>	
BRX-XLR-24-AM-1SPF	<p>BRX-1 (Emerson CAD-12) Pedestal factory-installed with a 24-pair shelf (BRX-24S), a 50 pair gas-tube protection panel (gas tubes not included) and twelve (12) BRX-XLR-AM-M modules for a total of 24 amplified ADSL2+ pairs. Each BRX-XLR-AM-M module is built with on-board solid state primary lightning protection.</p> <p>The BRX-XLR-24-1SP is serviceable with easy access to the BRX-XLR-AM-M modules inside.</p> <p>Can be used to serve customers with pair bonding (2 pairs or more) or individual pair customers from a single location.</p> <p><b>Dimensions:</b> 12.9" W x 50.3" H x 12.9D" (328 mm x 1278 mm x 328 mm)</p>	<p>1 x BRX-1 (Emerson CAD-12) Pedestal</p> <p>1 x BRX-24S</p> <p>1 x BRX-50PR-PROT-PANEL-PED</p> <p>12 x BRX-XLR-AM-M</p>	

Ordering Code	Description	Kit Contains	Picture
BRX-XLR-24-AM-1SXPF	<p>BRX-1 (Emerson CAD-12) Pedestal factory-installed with a 24-pair shelf (BRX-24S), a 50 pair gas-tube protection panel (gas tubes not included), a 50 pairs IN-OUT 3M cross-connect modules and 12 BRX-XLR-AM-M modules for a total of 24 amplified ADSL2+ pairs. Each BRX-XLR-AM-M module is built with on-board solid state primary lightning protection.</p> <p>The BRX-XLR-24-1SXPF is serviceable with easy access to the BRX-XLR-AM-M modules inside.</p> <p>Can be used to serve customers with pair bonding (2 pairs or more) or individual pair customers from a single location.</p> <p><b>Dimensions:</b> 12.9" W x 50.3" H x 12.9D" (328 mm x 1278 mm x 328 mm)</p>	<p>1 x BRX-1 (Emerson CAD-12) Pedestal</p> <p>1 x BRX-50PR-XC</p> <p>1 x BRX-50PR-PROT-PANEL-PED</p> <p>12 x BRX-XLR-AM-M</p>	
BRX-XLR-48-AM-1SF	<p>BRX-1 (Emerson CAD-12) Pedestal factory-installed with two (2) 24-pair shelf (BRX-24S) and 24 BRX-XLR-AM-M modules for a total of 48 amplified ADSL2+ pairs. Each module is built with on-board solid state primary lightning protection.</p> <p>The BRX-XLR-48-1SF is serviceable with easy access to the BRX-XLR-AM-M modules inside.</p> <p>Can be used to serve customers with pair bonding (2 pairs or more) or individual pair customers from a single location.</p> <p><b>Dimensions:</b> 12.9" W x 50.3" H x 12.9D" (328 mm x 1278 mm x 328 mm)</p>	<p>1 x BRX-1 (Emerson CAD-12) Pedestal</p> <p>2 x BRX-24S</p> <p>24 x BRX-XLR-AM-M</p>	

Ordering Code	Description	Kit Contains	Picture
BRX-XLR-48-AM-1SPF	<p>BRX-1 (Emerson CAD-12) Pedestal factory-installed with two (2) 24-pair shelf (BRX-24S), a 100 pair gas-tube protection panel (gas tubes not included) and twenty-four (24) BRX-XLR-AM-M modules for a total of 48 amplified ADSL2+ pairs. Each BRX-XLR-M module is built with on-board solid state primary lightning protection.</p> <p>The BRX-XLR-48-1SPF is serviceable with easy access to the BRX-XLR-AM-M modules inside.</p> <p>Can be used to serve customers with pair bonding (2 pairs or more) or individual pair customers from a single location.</p> <p><b>Dimensions:</b> 12.9" W x 50.3" H x 12.9D" (328 mm x 1278 mm x 328 mm)</p>	<p>1 x BRX-1 (Emerson CAD-12) Pedestal</p> <p>2 x BRX-24S</p> <p>1 x BRX-100PR-PROT-PANEL</p> <p>24 x BRX-XLR-AM-M</p>	
BRX-XLR-48-AM-1SXPF	<p>BRX-1 (Emerson CAD-12) Pedestal factory-installed with two (2) 24-pair shelf (BRX-24S), a 100 pair gas-tube protection panel (gas tubes not included), a 100 pairs IN-OUT 3M cross-connect modules and 24 BRX-XLR-AM-M modules for a total of 48 amplified ADSL2+ pairs. Each BRX-XLR-AM-M module is built with on-board solid state primary lightning protection</p> <p>The BRX-XLR-48-1SXPF is serviceable with easy access to the BRX-XLR-AM-M modules inside.</p> <p>Can be used to serve customers with pair bonding (2 pairs or more) or individual pair customers from a single location.</p> <p><b>Dimensions:</b> 12.9" W x 50.3" H x 12.9D" (328 mm x 1278 mm x 328 mm)</p>	<p>1 x BRX-1 (Emerson CAD-12) Pedestal</p> <p>2 x BRX-24S</p> <p>1 x BRX-100PR-XC</p> <p>1 x BRX-100PR-PROT-PANEL</p> <p>24 x BRX-XLR-AM-M</p>	

#### 4 BRX-VDSL2 Solutions

The BRX-VDSL2 is a performance and distance (reach) amplifier that extends the reach of VDSL2 DSLAMs / MSANs by up to 2,250 feet (685 m) and significantly expands the Customer Serving Area (CSA). It delivers 25/3 Mbps up to 6,500 feet (2 km) on one pair and 50/8 Mbps up to 6,500 feet (2 km) on 2 pairs. It is installed between the DSLAM and the remote CPE and increases the bandwidth available to business and residential customers. The BRX-VDSL2 has a broad placement flexibility to efficiently re-use existing splice points in the copper outside plant (OSP).

The BRX-VDSL2 fills the gap when fiber is not cost effective. It can be used on single pairs and is fully transparent to pair bonding. It delivers a fiber-like user experience so customers can enjoy top quality video streaming with multiple HD feeds and still have enough bandwidth to simultaneously surf the web and use other applications. The increase in the available bandwidth capacity on existing last mile infrastructure results in higher ARPU, lower attrition and increased customer satisfaction at a low cost.




The BRX-VDSL2 is available in two (2) versions:

- **BRX-VDSL2:** Operates on sealing current found on pairs with POTS service and provides excellent amplification of the VDSL2 service in the Downstream and Upstream directions.
- **BRX-VDSL2-X:** Extended reach and performance version. It requires the use of a Positron BRX power injector and is 100% compatible with POTS devices. It provides superior amplification and extra reach of the VDSL2 service in the Downstream and Upstream directions.


Both models operate, and are installed in the same way and are available in the same packaging options. They are powered from -48 Vdc on each pair. When used with dry pairs, both models require the use of the Positron Power Injector.

Feature	BRX-VDSL2	BRX-VDSL2-X
Amplification Range	4,000 – 8,500 feet (24 AWG)	4,000 – 1,0000 feet (24 AWG)
Distance for 25 / 3 Mbps on single pair 24 AWG (0.50mm)	6,000 feet (Non-Vectored and Vectored)	6,500 feet (Non-Vectored and Vectored)
Distance for 50 / 8 Mbps on 2 pairs 24 AWG (0.50 mm)	6,000 feet (Non-Vectored and Vectored)	6,500 feet (Non-Vectored and Vectored)
VDSL2 range extension	Up to 1,500 feet (450 meters)	Up to 2,250 feet (685 meters)
CSA Expansion	77%	200%
Amplification Ratio	Up to 1.2 Downstream / Up to 4.0 Upstream	1.2 to 1.9 Downstream / Up to 4.1 Upstream
Form Factor	Same form factor, each pair has 2 LEDs to indicate presence of current and loop status	
Enclosure Options	Available in 1, 2, 8, 24 and 48 pairs enclosures	
Management	Manageable (Detection, Location, Alerting, Troubleshooting) with integration with ASSIA DSL Expresse and with Nokia Network Analyzer Copper (NAC)	
Operation over POTS pairs	100% compatible with presence of active POTS line. Limited current consumption to guarantee 100% compliance with POTS devices	Requires BRX Power Injector to guarantee 100% compliance with POTS devices
Operation over Dry pairs (no -48Vdc sealing current present)	BRX Power Injector can be used to power the BRX-VDSL2 models	




#### 4.1 BRX-VDSL2 Weatherproof Enclosures – 1, 2, 8 and 24 pairs


Ordering Code	Description	Kit Contains	Picture
BRX-VDSL2-1	<p>A single (1) pair VDSL2 BRX-VDSL2-M module with on-board solid-state primary lightning protection enclosed in IP65 enclosure.</p> <p><b>Dimensions:</b> 9.25" x 5.5" x 1.5" (235 mm x 140 mm x 38 mm)</p> <p><b>Mounting Options:</b> Mounting Flange (standard) BRX-STRAND-KIT (optional)</p>		
BRX-VDSL2-2	<p>A two (2)-pair VDSL2 BRX-VDSL2-M module with on-board solid state primary lightning protection enclosed in IP65 enclosure.</p> <p>Can be used in pair bonding applications or to serve two distinct customers from a single location.</p> <p><b>Dimensions:</b> 9.25" x 5.5" x 1.5" (235 mm x 140 mm x 38 mm)</p> <p><b>Mounting Options:</b> Mounting Flange (standard) BRX-STRAND-KIT (optional)</p>		
BRX-VDSL2-8	<p>An IP65 sealed enclosure (BRX-VDSL2-8-C) factory-installed with four (4) BRX-VDSL2-M modules for a total of 8 amplified VDSL2 pairs. Each module is built with on-board solid state primary lightning protection.</p> <p>The BRX-VDSL2-8 is serviceable with easy access to the modules inside.</p> <p>Can be used to serve customers with pair bonding (2 pairs or more) or individual pair customers from a single location.</p> <p><b>Dimensions:</b> 11.15" x 4.93" x 4.665" (283 mm x 125 mm x 118 mm)</p> <p><b>Mounting Options:</b> Mounting Flange (standard) BRX-STRAND-KIT (optional)</p>	<p>1 x BRXVDSL2-8-C 4 x BRX-VDSL2-M</p>	





Ordering Code	Description	Kit Contains	Picture
BRX-VDSL2-24	<p>IP65 sealed enclosure (BRX-24-C) factory-installed with a 24-pair shelf (BRX-24S) and twelve (12) BRX-VDSL2-M modules for a total of 24 amplified VDSL2 pairs. Each module is built with on-board solid state primary lightning protection.</p> <p>The BRX-VDSL2-24 is serviceable with easy access to the BRX-VDSL2-M modules inside. Can be used to serve customers with pair bonding (2 pairs or more) or individual pair customers from a single location.</p> <p><b>Notes:</b> The 25-pair binder cables shown in the image are not included. The BRX-VDSL2-24 can be fitted with an optional BRX-24-Pair-Protection-Board (BRX-50PR-PROT-PANEL-CAB)</p> <p><b>Dimensions:</b> 16.7.2" W x 21.3" H x 10.6 D" (425 mm x 541 mm x 269 mm)</p> <p><b>Mounting Options:</b> Mounting Flange (standard)</p>	<p>1 x BRX-24-C</p> <p>1 x BRX-24S</p> <p>12 x BRX-VDSL2-M</p>	

## 4.2 BRX-VDSL2-X Weatherproof Enclosures – 1, 2, 8 and 24 pairs



Ordering Code	Description	Kit Contains	Picture
BRX-VDSL2-X-1	<p>A single (1) pair VDSL2 BRX-VDSL2-X-M module with on-board solid-state primary lightning protection enclosed in IP65 enclosure.</p> <p><b>Dimensions:</b> 9.25" x 5.5" x 1.5" (235 mm x 140 mm x 38 mm)</p> <p><b>Mounting Options:</b> Mounting Flange (standard) BRX-STRAND-KIT (optional)</p>		
BRX-VDSL2-X-2	<p>A two (2)-pair VDSL2 BRX-VDSL2-X-M module with on-board solid state primary lightning protection enclosed in IP65 enclosure.</p> <p>Can be used in pair bonding applications or to serve two distinct customers from a single location.</p> <p><b>Dimensions:</b> 9.25" x 5.5" x 1.5" (235 mm x 140 mm x 38 mm)</p> <p><b>Mounting Options:</b> Mounting Flange (standard) BRX-STRAND-KIT (optional)</p>		
BRX-VDSL2-X-8	<p>An IP65 sealed enclosure (BRX-VDSL2-8-C) factory-installed with four (4) BRX-VDSL2-X-M modules for a total of 8 amplified VDSL2 pairs. Each module is built with on-board solid state primary lightning protection.</p> <p>The BRX-VDSL2-X-8 is serviceable with easy access to the modules inside.</p> <p>Can be used to serve customers with pair bonding (2 pairs or more) or individual pair customers from a single location.</p> <p><b>Dimensions:</b> 11.15" x 4.93" x 4.665" (283 mm x 125 mm x 118 mm)</p> <p><b>Mounting Options:</b> Mounting Flange (standard) BRX-STRAND-KIT (optional)</p>	<p>1 x BRX-VDSL2-8-C</p> <p>4 x BRX-VDSL2-X-M</p>	



Ordering Code	Description	Kit Contains	Picture
BRX-VDSL2-X-24	<p>IP65 sealed enclosure (BRX-24-C) factory-installed with a 24-pair shelf (BRX-24S) and twelve (12) BRX-VDSL2-X-M modules for a total of 24 amplified VDSL2 pairs. Each module is built with on-board solid state primary lightning protection.</p> <p>The BRX-VDSL2-24 is serviceable with easy access to the BRX-VDSL2-M modules inside. Can be used to serve customers with pair bonding (2 pairs or more) or individual pair customers from a single location.</p> <p><b>Notes:</b> The 25-pair binder cables shown in the image are not included. The BRX-VDSL2-X-24 can be fitted with an optional BRX-24-Pair-Protection-Board (BRX-50PR-PROT-PANEL-CAB)</p> <p><b>Dimensions:</b> 16.7.2" W x 21.3" H x 10.6 D" (425 mm x 541 mm x 269 mm)</p> <p><b>Mounting Options:</b> Mounting Flange (standard)</p>	<p>1 x BRX-24-C</p> <p>1 x BRX-24S</p> <p>12 x BRX-VDSL2-X-M</p>	

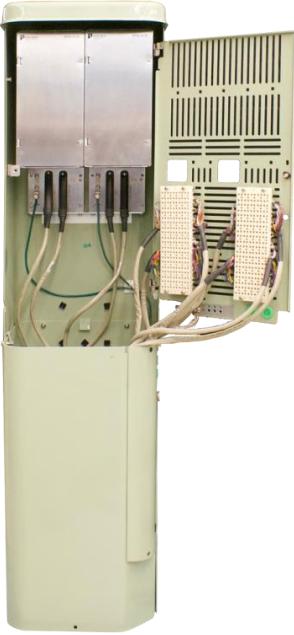

### 4.3 BRX-VDSL2 Modules

Ordering Code	Description	Picture
BRX-VDSL2-M	<p>2-pair BRX-VDSL2 module with primary solid state lightning protection</p> <p><b>Dimensions:</b> 8"x5" (200 mm x 125 mm)</p>	
BRX-VDSL2-X-M	<p>2-pair BRX-VDSL2-X module with primary solid state lightning protection</p> <p><b>Dimensions:</b> 8"x5" (200 mm x 125 mm)</p>	



#### 4.4 BRX-VDSL2 Pedestals



Ordering Code	Description	Kit Contains	Picture
BRX-VDSL2-24-1SF	<p>BRX-1 (Emerson CAD-12) Pedestal factory-installed with a 24-pair shelf (BRX-24S) and twelve (12) BRX-VDSL2-M modules for a total of 24 amplified VDSL2 pairs. Each BRX-VDSL2-M module is built with on-board solid state primary lightning protection.</p> <p>The BRX-VDSL2-24-1SF is serviceable with easy access to the BRX-VDSL2-M modules inside.</p> <p>Can be used to serve customers with pair bonding (2 pairs or more) or individual pair customers from a single location.</p> <p><b>Dimensions:</b> 12.9" W x 50.3" H x 12.9D" (328 mm x 1278 mm x 328 mm)</p>	<p>1 x BRX-1 (Emerson CAD-12) Pedestal</p> <p>1 x BRX-24S</p> <p>12 x BRX-VDSL2-M</p>	
BRX-VDSL2-24-1SPF	<p>BRX-1 (Emerson CAD-12) Pedestal factory-installed with a 24-pair shelf (BRX-24S), a 50 pair gas-tube protection panel (gas tubes not included) and twelve (12) BRX-VDSL2-M modules for a total of 24 amplified VDSL2 pairs. Each BRX-VDSL2-M module is built with on-board solid state primary lightning protection.</p> <p>The BRX-VDSL2-24-1SPF is serviceable with easy access to the BRX-VDSL2 -M modules inside.</p> <p>Can be used to serve customers with pair bonding (2 pairs or more) or individual pair customers from a single location.</p> <p><b>Dimensions:</b> 12.9" W x 50.3" H x 12.9D" (328 mm x 1278 mm x 328 mm)</p>	<p>1 x BRX-1 (Emerson CAD-12) Pedestal</p> <p>1 x BRX-24S</p> <p>1 x BRX-50PR-PROT-PANEL-PED</p> <p>12 x BRX-VDSL2-M</p>	

Ordering Code	Description	Kit Contains	Picture
BRX-VDSL2-24-1SXPF	<p>BRX-1 (Emerson CAD-12) Pedestal factory-installed with a 24-pair shelf (BRX-24S), a 50 pair gas-tube protection panel (gas tubes not included), a 50 pairs IN-OUT 3M cross-connect modules and twelve (12) BRX-VDSL2-M modules for a total of 24 amplified VDSL2 pairs. Each BRX-VDSL2-M module is built with on-board solid state primary lightning protection</p> <p>The BRX-VDSL2-24-1SXPF is serviceable with easy access to the BRX-VDSL2-M modules inside.</p> <p>Can be used to serve customers with pair bonding (2 pairs or more) or individual pair customers from a single location.</p> <p><b>Dimensions:</b> 12.9" W x 50.3" H x 12.9D" (328 mm x 1278 mm x 328 mm)</p>	<p>1 x BRX-1 (Emerson CAD-12) Pedestal</p> <p>1 x BRX-50PR-XC</p> <p>1 x BRX-50PR-PROT-PANEL-PED</p> <p>12 x BRX-VDSL2-M</p>	
BRX-VDSL2-48-1SF	<p>BRX-1 (Emerson CAD-12) Pedestal factory-installed with two (2) 24-pair shelf (BRX-24S) and twenty-four (24) BRX-VDSL2-M modules for a total of 48 amplified VDSL2 pairs. Each module is built with on-board solid state primary lightning protection.</p> <p>The BRX-VDSL2-48-1SF is serviceable with easy access to the BRX-VDSL2-M modules inside.</p> <p>Can be used to serve customers with pair bonding (2 pairs or more) or individual pair customers from a single location.</p> <p><b>Dimensions:</b> 12.9" W x 50.3" H x 12.9D" (328 mm x 1278 mm x 328 mm)</p>	<p>1 x BRX-1 (Emerson CAD-12) Pedestal</p> <p>2 x BRX-24S</p> <p>24 x BRX-VDSL2-M</p>	

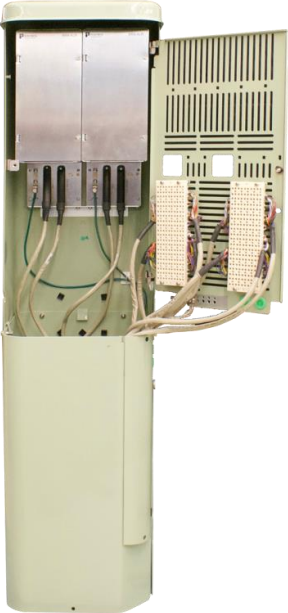

Ordering Code	Description	Kit Contains	Picture
BRX-VDSL2-48-1SPF	<p>BRX-1 (Emerson CAD-12) Pedestal factory-installed with two (2) 24-pair shelf (BRX-24S), a 100 pair gas-tube protection panel (gas tubes not included) and twenty-four (24) BRX-VDSL2-M modules for a total of 48 amplified VDSL2 pairs. Each BRX-VDSL2-M module is built with on-board solid state primary lightning protection.</p> <p>The BRX-VDSL2-48-1SPF is serviceable with easy access to the BRX-VDSL2-M modules inside.</p> <p>Can be used to serve customers with pair bonding (2 pairs or more) or individual pair customers from a single location.</p> <p><b>Dimensions:</b> 12.9" W x 50.3" H x 12.9D" (328 mm x 1278 mm x 328 mm)</p>	<p>1 x BRX-1 (Emerson CAD-12) Pedestal</p> <p>2 x BRX-24S</p> <p>1 x BRX-100PR-PROT-PANEL</p> <p>24 x BRX-VDSL2-M</p>	
BRX-VDSL2-48-1SXPF	<p>BRX-1 (Emerson CAD-12) Pedestal factory-installed with two (2) 24-pair shelf (BRX-24S), a 100 pair gas-tube protection panel (gas tubes not included), a 100 pairs IN-OUT 3M cross-connect modules and twenty-four (24) BRX-VDSL2-M modules for a total of 48 amplified VDSL2 pairs. Each BRX-VDSL2-M module is built with on-board solid state primary lightning protection</p> <p>The BRX-VDSL2-48-1SXPF is serviceable with easy access to the BRX-VDSL2-M modules inside.</p> <p>Can be used to serve customers with pair bonding (2 pairs or more) or individual pair customers from a single location.</p> <p><b>Dimensions:</b> 12.9" W x 50.3" H x 12.9D" (328 mm x 1278 mm x 328 mm)</p>	<p>1 x BRX-1 (Emerson CAD-12) Pedestal</p> <p>2 x BRX-24S</p> <p>1 x BRX-100PR-XC</p> <p>1 x BRX-100PR-PROT-PANEL</p> <p>24 x BRX-VDSL2-M</p>	

#### 4.5 BRX-VDSL2-X Pedestals



Ordering Code	Description	Kit Contains	Picture
BRX-VDSL2-X-24-1SF	<p>BRX-1 (Emerson CAD-12) Pedestal factory-installed with a 24-pair shelf (BRX-24S) and twelve (12) BRX-VDSL2-X-M modules for a total of 24 amplified VDSL2 pairs. Each BRX-VDSL2-X-M module is built with on-board solid state primary lightning protection</p> <p>The BRX-VDSL2-X-24-1SF is serviceable with easy access to the BRX-VDSL2-X-M modules inside. Can be used to serve customers with pair bonding (2 pairs or more) or individual pair customers from a single location.</p> <p><b>Dimensions:</b> 12.9" W x 50.3" H x 12.9D" (328 mm x 1278 mm x 328 mm)</p>	<p>1 x BRX-1 (Emerson CAD-12) Pedestal</p> <p>1 x BRX-24S</p> <p>12 x BRX-VDSL2-X-M</p>	
BRX-VDSL2-X-24-1SPF	<p>BRX-1 (Emerson CAD-12) Pedestal factory-installed with a 24-pair shelf (BRX-24S), a 50 pair gas-tube protection panel (gas tubes not included) and twelve (12) BRX-VDSL2-X-M modules for a total of 24 amplified VDSL2 pairs. Each BRX-VDSL2-X-M module is built with on-board solid state primary lightning protection</p> <p>The BRX-VDSL2-X-24-1SP is serviceable with easy access to the BRX-VDSL2-X-M modules inside. Can be used to serve customers with pair bonding (2 pairs or more) or individual pair customers from a single location.</p> <p><b>Dimensions:</b> 12.9" W x 50.3" H x 12.9D" (328 mm x 1278 mm x 328 mm)</p>	<p>1 x BRX-1 (Emerson CAD-12) Pedestal</p> <p>1 x BRX-24S</p> <p>1 x BRX-50PR-PROT-PANEL-PED</p> <p>12 x BRX-VDSL2-X-M</p>	



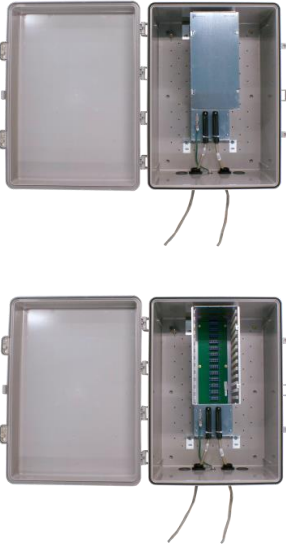
Ordering Code	Description	Kit Contains	Picture
BRX-VDSL2-X-24-1SXPF	<p>BRX-1 (Emerson CAD-12) Pedestal factory-installed with a 24-pair shelf (BRX-24S), a 50 pair gas-tube protection panel (gas tubes not included), a 50 pairs IN-OUT 3M cross-connect modules and twelve (12) BRX-VDSL2-X-M modules for a total of 24 amplified VDSL2 pairs. Each BRX-VDSL2-X-M module is built with on-board solid state primary lightning protection</p> <p>The BRX-VDSL2-X-24-1SXPF is serviceable with easy access to the BRX-VDSL2-X-M modules inside.</p> <p>Can be used to serve customers with pair bonding (2 pairs or more) or individual pair customers from a single location.</p> <p><b>Dimensions:</b> 12.9" W x 50.3" H x 12.9D" (328 mm x 1278 mm x 328 mm)</p>	<p>1 x BRX-1 (Emerson CAD-12) Pedestal</p> <p>1 x BRX-50PR-XC</p> <p>1 x BRX-50PR-PROT-PANEL-PED</p> <p>12 x BRX-VDSL2-X-M</p>	
BRX-VDSL2-X-48-1SF	<p>BRX-1 (Emerson CAD-12) Pedestal factory-installed with two (2) 24-pair shelf (BRX-24S) and twenty-four (24) BRX-VDSL2-X-M modules for a total of 48 amplified VDSL2 pairs. Each module is built with on-board solid state primary lightning protection</p> <p>The BRX-VDSL2-X-48-1SF is serviceable with easy access to the BRX-VDSL2-X-M modules inside.</p> <p>Can be used to serve customers with pair bonding (2 pairs or more) or individual pair customers from a single location.</p> <p><b>Dimensions:</b> 12.9" W x 50.3" H x 12.9D" (328 mm x 1278 mm x 328 mm)</p>	<p>1 x BRX-1 (Emerson CAD-12) Pedestal</p> <p>2 x BRX-24S</p> <p>24 x BRX-VDSL2-X-M</p>	







Ordering Code	Description	Kit Contains	Picture
BRX-VDSL2-X-48-1SPF	<p>BRX-1 (Emerson CAD-12) Pedestal factory-installed with two (2) 24-pair shelf (BRX-24S), a 100 pair gas-tube protection panel (gas tubes not included) and twenty-four (24) BRX-VDSL2-X-M modules for a total of 48 amplified VDSL2 pairs. Each BRX-VDSL2-X-M module is built with on-board solid state primary lightning protection.</p> <p>The BRX-VDSL2-X-48-1SPF is serviceable with easy access to the BRX-VDSL2-X-M modules inside.</p> <p>Can be used to serve customers with pair bonding (2 pairs or more) or individual pair customers from a single location.</p> <p><b>Dimensions:</b> 12.9" W x 50.3" H x 12.9D" (328 mm x 1278 mm x 328 mm)</p>	<p>1 x BRX-1 (Emerson CAD-12) Pedestal</p> <p>2 x BRX-24S</p> <p>1 x BRX-100PR-PROT-PANEL</p> <p>24 x BRX-VDSL2-X-M</p>	
BRX-VDSL2-X-48-1SXPF	<p>BRX-1 (Emerson CAD-12) Pedestal factory-installed with two (2) 24-pair shelf (BRX-24S), a 100 pair gas-tube protection panel (gas tubes not included), a 100 pairs IN-OUT 3M cross-connect modules and twenty-four (24) BRX-VDSL2-X-M modules for a total of 48 amplified VDSL2 pairs. Each BRX-VDSL2-X-M module is built with on-board solid state primary lightning protection.</p> <p>The BRX-VDSL2-X-48-1SXPF is serviceable with easy access to the BRX-VDSL2-M modules inside.</p> <p>Can be used to serve customers with pair bonding (2 pairs or more) or individual pair customers from a single location.</p> <p><b>Dimensions:</b> 12.9" W x 50.3" H x 12.9D" (328 mm x 1278 mm x 328 mm)</p>	<p>1 x BRX-1 (Emerson CAD-12) Pedestal</p> <p>2 x BRX-24S</p> <p>1 x BRX-100PR-XC</p> <p>1 x BRX-100PR-PROT-PANEL</p> <p>24 x BRX-VDSL2-X-M</p>	




## 5 Ancillary Parts & Options for BRX Devices

Ordering Code	Description	Kit Contains	Picture
BRX-XLR-8-C	<p>IP65 sealed enclosure that can hold up to four (4) BRX-XLR-M or BRX-XLR-AM-M modules for a total of 8 amplified pairs.</p> <p>The BRX-8-C is serviceable with easy access to the modules inside. Can be used to serve customers with pair bonding (2 pairs or more) or individual pair customers from a single location.</p> <p><b>Note:</b> The BRX-XLR-M / BRX-XLR-AM-M modules are sold separately and are not included with this ordering code. If you are looking for a fully populated 8-pair unit, please refer to ordering code BRX-XLR-8.</p> <p><b>Dimensions:</b> 11.15" x 4.93" x 4.665" (283 mm x 125 mm x 118 mm)</p> <p><b>Mounting Options:</b> Mounting Flange (standard) BRX-STRAND-KIT (optional)</p>		
BRX-VDSL2-8-C	<p>IP65 sealed enclosure that can hold up to four (4) BRX-VDSL2-M or BRX-VDSL2-X-M modules for a total of 8 amplified pairs.</p> <p>The BRX-VDSL2-8-C is serviceable with easy access to the modules inside. Can be used to serve customers with pair bonding (2 pairs or more) or individual pair customers from a single location.</p> <p><b>Note:</b> the BRX-VDSL2-M or BRX-VDSL2-X-M modules are sold separately and are not included with this ordering code. If you are looking for a fully populated 8-pair unit, please refer to ordering code BRX-XLR-8</p> <p><b>Dimensions:</b> 11.15" x 4.93" x 4.665" (283 mm x 125 mm x 118 mm)</p> <p><b>Mounting Options:</b> Mounting Flange (standard) BRX-STRAND-KIT (optional)</p>		




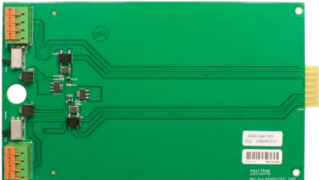
Ordering Code	Description	Kit Contains	Picture
BRX-24S	<p>24-pair BRX Shelf to host up to 12 BRX modules (BRX-XLR-M, BRX-XLR-AM-M, BRX-VDSL2-M or BRX-VDSL2-X-M modules (modules not included).</p> <p><b>Dimensions:</b> 14.775" x 9.05" x 5.33" (375 mm x 230 mm x 136 mm)</p> <p><b>Mounting Options:</b> BRX-24-1K mounting brackets to install in BRX-1 enclosures BRX-24-SK mounting brackets to install in BRX-24-C enclosures</p>		
BRX-24-C	<p>IP65 24-pair BRX enclosure only</p> <p>Can be used with one (1) BRX-24S shelf populated with either BRX-XLR-M, BRX-XLR-AM-M, BRX-VDSL2-M or BRX-VDSL2-X-M modules (modules not included)</p> <p><b>Dimensions:</b> 16.7" W x 21.3" H x 10.6 D" (425 mm x 541 mm x 269 mm)</p> <p><b>Mounting Options:</b> Mounting Flange (standard)</p>		
BRX-24-CS	<p>BRX-24-C enclosure fitted with one (1) BRX-24S shelf. No factory installed BRX-XLR-M, BRX-XLR-AM-M, BRX-VDSL2-M or BRX-VDSL2-X-M modules.</p> <p><b>Dimensions:</b> 16.7" W x 21.3" H x 10.6 D" (425 mm x 541 mm x 269 mm)</p> <p><b>Mounting Options:</b> Mounting Flange (standard)</p>		

Ordering Code	Description	Kit Contains	Picture
BRX-1	<p>Emerson CAD-12 cabinet. Can be used to install one or two BRX-24S units to respectively handle up to 24 or 48 pairs.</p> <p>The BRX-1 is serviceable and offers a lot of flexibility.</p> <p>The BRX-1 does not include any BRX-24S shelf, cross-connect or gas tube protection modules.</p> <p><b>Dimensions:</b> 12.9" W x 50.3" H x 12.9 D" (328 mm x 1278 mm x 328 mm)</p>		
BRX-24-1S	<p>BRX-1(Emerson CAD-12) Pedestal with one (1) BRX-24S shelf factory installed. No factory installed BRX-XLR-M, BRX-XLR-AM-M, BRX-VDSL2-M or BRX-VDSL2-X-M modules.</p> <p>No optional protection module and no cross-connect.</p> <p><b>Dimensions:</b> 12.9" W x 50.3" H x 12.9 D" (328 mm x 1278 mm x 328 mm)</p>	<p>1 x BRX-1</p> <p>1 x BRX-24S</p>	

Ordering Code	Description	Kit Contains	Picture
BRX-24-1SX	<p>BRX-1 (Emerson CAD-12) Pedestal with one (1) BRX-24S shelf and 50 pairs IN-OUT 3M cross-connect modules (factory installed).</p> <p>No optional protection module and no factory installed BRX-XLR-M, BRX-XLR-AM-M, BRX-VDSL2-M or BRX-VDSL2-X-M modules.</p> <p><b>Dimensions:</b> 12.9" W x 50.3" H x 12.9 D" (328 mm x 1278 mm x 328 mm)</p>	<p>1 x BRX-1</p> <p>1 x BRX-24S</p> <p>1 x BRX-50PR-XC</p>	
BRX-24-1SP	<p>BRX-1 (Emerson CAD-12) Pedestal with one (1) BRX-24S shelf and a 50 pair protection panel to install gas tube protection to complement the solid state primary lightning protection installed on each BRX-XLR-M, BRX-XLR-AM-M, BRX-VDSL2-M or BRX-VDSL2-X-M module.</p> <p>No factory cross-connect module and no installed BRX-XLR-M, BRX-XLR-AM-M, BRX-VDSL2-M or BRX-VDSL2-X-M modules</p> <p><b>Dimensions:</b> 12.9" W x 50.3" H x 12.9 D" (328 mm x 1278 mm x 328 mm)</p>	<p>1 x BRX -1</p> <p>1 x BRX-24S</p> <p>1 x BRX-50PR-PROT-PANEL-PED</p>	

Ordering Code	Description	Kit Contains	Picture
BRX-24-1SXP	<p>BRX-1 (Emerson CAD-12) Pedestal with one (1) BRX-24S shelf, a 50 pair BRX-50PR-XC cross connect module and a 50 pairs IN-OUT 3M cross-connect modules (factory installed).</p> <p>No factory installed BRX-XLR-M, BRX-XLR-AM-M, BRX-VDSL2-X or BRX-VDSL2-X-M modules.</p> <p><b>Dimensions:</b> 12.9" W x 50.3" H x 12.9D" (328 mm x 1278 mm x 328 mm)</p>	<p>1 x BRX -1</p> <p>1 x BRX-24S</p> <p>1 x BRX-50PR-XC</p> <p>1 x BRX-50PR-PROT-PANEL-PED</p>	
BRX-48-1S	<p>BRX-1(Emerson CAD-12) Pedestal with two (2) BRX-24S shelf factory installed (no factory installed BRX-XLR-M, BRX-XLR-AM-M, BRX-VDSL2-M or BRX-VDSL2-X-M modules)</p> <p>No optional protection module and no cross-connect</p> <p><b>Dimensions:</b> 12.9" W x 50.3" H x 12.9 D" (328 mm x 1278 mm x 328 mm)</p>	<p>1 x BRX-1</p> <p>2 x BRX-24S</p>	
BRX-48-1SX	<p>BRX-1 (Emerson CAD-12) Pedestal with two (2) BRX-24S shelf and 100 pairs IN-OUT 3M cross-connect modules (factory installed)</p> <p>No optional protection module and no factory installed BRX-XLR-M, BRX-XLR-AM-M, BRX-VDSL2-M or BRX-VDSL2-X-M modules</p> <p><b>Dimensions:</b> 12.9" W x 50.3" H x 12.9 D" (328 mm x 1278 mm x 328 mm)</p>	<p>1 x BRX-1</p> <p>2 x BRX-24S</p> <p>1 x BRX-100PR-XC</p>	

Ordering Code	Description	Picture
BRX-STRAND-K	Strand-mounting kit for the 1, 2 or 8 pair BRX-XLR or BRX-VDSL2 units	
BRX-24-SK	Mounting brackets and miscellaneous hardware to install a 24-pair shelf (BRX-24S) in the BRX-24-C IP65 enclosure	
BRX-24-1K	Mounting brackets and miscellaneous hardware to install a 24-pair shelf (BRX-24S) in the BRX-1 Pedestal	
BRX-50PR-PROT-PANEL-CAB	25-pair IN and 25-pair OUT Protection module for BRX-24-CS (5-pin Protection modules not included) with installation bracket and mounting screws.	
BRX-50PR-PROT-PANEL-PED	25-pair IN and 25-pair OUT Protection module for BRX-24-1S and BRX-24-1SX (5-pin Protection modules not included) with installation bracket and mounting screws.	
BRX-100PR-PROT-PANEL	Kit providing 50-pair IN and 50-pair OUT Protection module (5-pin Protection modules not included). Made up of 2 50-pair protection modules and internal cabling. 5-pin Gas Tube Protection devices (5-PIN-PROT) not included.	

Ordering Code	Description	Picture
5PIN-PROT	5-Pin Protection module (Bourns 2420 Gas Discharge Tube Protector)	
BRX-50PR-XC	50 x 50 Pair cross-connect option for BRX-24-1S or BRX-24-1SP pedestal configurations  Uses 3M Part #: 2810F50-HCO/48-GBM	
BRX-100PR-XC	100 x 100 Pair cross-connect option for BRX-48-1S or BRX-48-1SP pedestal configurations  Uses 3M Part #: 2810F100-HCO/48-GBM	
BRX-BYPASS-TEST	2-pair BRX Bypass and Test card for use in 8, 24 and 48 pair enclosures	



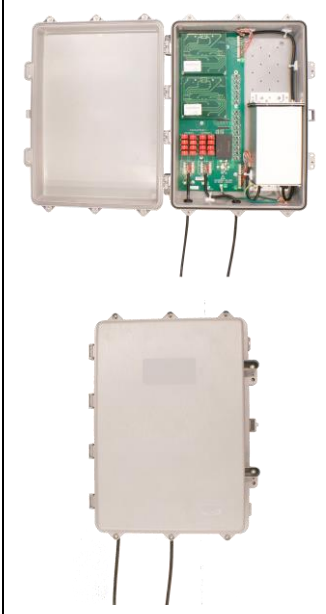
## 6 BRX-DMT-BH: DMT Backhaul Solutions

The Positron Access DMT Backhaul Solution (BRX-DMT-BH) leverages the BRX-VDSL2 amplification solution to significantly improve the downstream and upstream bandwidth of the DMT backhaul link to the remote DSLAM to double the reach and/or the bandwidth resulting in up to 225 / 20 Mbps at a distance of 6000 feet (2 km) at a very competitive cost. This additional Bandwidth and Reach provides significant flexibility to install the remote VDSL2 DSLAM deeper in the access network and at the right location to deliver solid services to subscribers, even those not located in a denser urban area.

The BRX-DMT-BH incorporates a BRX-VDSL2-X-8 device along with the necessary powering and protection circuitry in a single IP65 rated enclosure. All that is needed is to splice the 8 pairs from the existing DSLAM into the unit and another 8 pairs toward the remote (subtended) DSLAM.

The BRX-DMT-BH solution transparently supports all of the DMT + Power powering modes defined by Adtran and Calix as per the following table:

MODE	POWER SIGNAL ASSIGNMENT ON DMT PAIRS
SIMPLEX (Calix)	+190Vdc on Pair 1, 3 and 5 (Tip & Ring) -190Vdc on Pair 2, 4 and 6 (Tip & Ring)
SIMPLEX (Adtran)	+190Vdc (or +135Vdc) on Pair 1, 3 and 5 (Tip & Ring) -190Vdc (or -135Vdc) on Pair 2, 4 and 6 (Tip & Ring)
DUPLEX (Adtran)	±190Vdc on Pairs 1, 2, and 3. (+190Vdc on Tip & -190Vdc on Ring)
<b>Note:</b> the BRX-DMT-BH is not sensitive to the polarity of the pairs (or of Tip & Ring)	




Ordering Code	Description	Kit Contains	Picture
BRX-DMT-BH	<p>Self-contained 8 pair DMT Backhaul amplification (BRX-VDSL2-X-8) with ±190Vdc power extractor (from the DMT pairs) for powering. Extensive primary protection (Gas Tube Discharge) and solid-state protection on each BRX-VDSL2-X-M modules</p> <p><b>Dimensions:</b> 16.9" W x 22.7" H x 5.85 D 429mm W x 577 mm H x 149 mm D</p> <p><b>Weight:</b> 12.75 lbs / 5.8 Kg</p>	BRX-VDSL2-X-8	






## 7 BRX Power Injector Solutions





The family of Positron Broadband Reach Extender (BRX) products is powered from the -48Vdc sealing current found on typical POTS pairs. Due in part to the migration away from POTS to VoIP or data-only (sometimes referred to as “naked DSL”) services, there is a need for a solution to inject a -48Vdc current to power the BRX devices installed on xDSL pairs requiring amplification.

The BRX Power Injector is available in 8, 16 and 24 pair configurations with various power sources: local -48V, Express pair with Alpha or GE RFT-V down converter modules embedded in the BRX Power Injector device.

Upgrading 8 and 16 pair devices to up to 24 pairs can be done in the field without the need to power down the BRX devices.

Ordering Code	Description	Kit Contains	Picture
BRX-PWR-8	8-pair BRX Power Injector with local -48Vdc input  <b>Dimensions:</b> 16.9" W x 22.7" H x 5.85 D 429mm W x 577 mm H x 149 mm D  <b>Weight:</b> 12.75 lbs / 5.8 Kg	1 x BRX-PWR-M	
BRX-PWR-16	16-pair BRX Power Injector with local -48Vdc input  <b>Dimensions:</b> 16.9" W x 22.7" H x 5.85 D 429mm W x 577 mm H x 149 mm D  <b>Weight:</b> 12.75 lbs / 5.8 Kg	2 x BRX-PWR-M	
BRX-PWR-24	24-pair BRX Power Injector with local -48Vdc input  <b>Dimensions:</b> 16.9" W x 22.7" H x 5.85 D 429mm W x 577 mm H x 149 mm D  <b>Weight:</b> 12.75 lbs / 5.8 Kg	3 x BRX-PWR-M	

Ordering Code	Description	Kit Contains	Picture
BRX-PWR-8-AC	8-pair BRX Power Injector with local 110-220Vac input  <b>Dimensions:</b> 16.9" W x 22.7" H x 5.85 D 429mm W x 577 mm H x 149 mm D  <b>Weight:</b> 12.75 lbs / 5.8 Kg	1 x BRX-PWR-M 1 x BRX-AC	
BRX-PWR-16-AC	16-pair BRX Power Injector with local 110-220Vac input  <b>Dimensions:</b> 16.9" W x 22.7" H x 5.85 D 429mm W x 577 mm H x 149 mm D  <b>Weight:</b> 12.75 lbs / 5.8 Kg	2 x BRX-PWR-M 1 x BRX-AC	
BRX-PWR-24-AC	24-pair BRX Power Injector with local 110-220Vac input  <b>Dimensions:</b> 16.9" W x 22.7" H x 5.85 D 429mm W x 577 mm H x 149 mm D  <b>Weight:</b> 12.75 lbs / 5.8 Kg	3 x BRX-PWR-M 1 x BRX-AC	
BRX-PWR-8-A	8-pair BRX Power Injector with ALPHA Express Power input  <b>Dimensions:</b> 16.9" W x 22.7" H x 5.85 D 429mm W x 577 mm H x 149 mm D  <b>Weight:</b> 12.75 lbs / 5.8 Kg	1 x BRX-PWR-M 1 x BRX-EPK-A	
BRX-PWR-16-A	16-pair BRX Power Injector with ALPHA Express Power input  <b>Dimensions:</b> 16.9" W x 22.7" H x 5.85 D 429mm W x 577 mm H x 149 mm D  <b>Weight:</b> 12.75 lbs / 5.8 Kg	2 x BRX-PWR-M 1 x BRX-EPK-A	

Ordering Code	Description	Kit Contains	Picture
BRX-PWR-24-A	24-pair BRX Power Injector with ALPHA Express Power input  <b>Dimensions:</b> 16.9" W x 22.7" H x 5.85 D 429mm W x 577 mm H x 149 mm D  <b>Weight:</b> 12.75 lbs / 5.8 Kg	3 x BRX-PWR-M 1 x BRX-EPK-A	
BRX-PWR-8-G	8-pair BRX Power Injector with GE Express Power input  <b>Dimensions:</b> 16.9" W x 22.7" H x 5.85 D 429mm W x 577 mm H x 149 mm D  <b>Weight:</b> 12.75 lbs / 5.8 Kg	1 x BRX-PWR-M 1 x BRX-EPK-G	
BRX-PWR-16-G	16-pair BRX Power Injector with GE Express Power input  <b>Dimensions:</b> 16.9" W x 22.7" H x 5.85 D 429mm W x 577 mm H x 149 mm D  <b>Weight:</b> 12.75 lbs / 5.8 Kg	2 x BRX-PWR-M 1 x BRX-EPK-G	
BRX-PWR-24-G	24-pair BRX Power Injector with GE Express Power input  <b>Dimensions:</b> 16.9" W x 22.7" H x 5.85 D 429mm W x 577 mm H x 149 mm D  <b>Weight:</b> 12.75 lbs / 5.8 Kg	3 x BRX-PWR-M 1 x BRX-EPK-G	
BRX-PWR-M	8-pair BRX Power Module for use with any of the BRX-PWR units  <b>Dimensions:</b> 16.9" W x 22.7" H x 5.85 D 429mm W x 577 mm H x 149 mm D  <b>Weight:</b> 12.75 lbs / 5.8 Kg		