

- DOCSIS 3.1 ready (204 MHz/1218 MHz)
- Laser type: DFB/CWDM with output power at 3 dBm
- Wide-band receiver (1100-1650 nm)
- Different wavelength options available (1310 nm, 1550 nm and CWDM grid)
- Dual active output (112 dB $\mu$ V/52 dBmV) full digital load, up to three outputs (splitter or coupler)
- Modular, power efficient design
- Pluggable diplex filter and laser boards
- On-board ingress detection switches



## DBx Open Access Platform

The Technetix DBx-1200 is a compact modular open access platform which supports both amplifier, node and Remote PHY/MAC-PHY configurations. Its modularity means that the platform can be field upgraded throughout its lifecycle and is not limited purely to higher diplex splits but can evolve with your network. Using CPD Safe™ technology means fewer reported faults, improved customer service and a reduction in truck rolls. The platform has an IP68 rating which enables deployments in challenging outdoor environments. The DBx platform has an unmatched Total Cost of Ownership (TCO) in the industry.

## DBD-1200

The Technetix DBD-1200 node is a dual active output node which can be configured for use as a three-output device (by inserting an internal passive splitter or tap module). The base unit of the DBD-1200 can be ordered with local or remote powering. The DBD supports 1x1, 1x2 and 2x2 applications. The exact performance and configuration will depend on the modules that are equipped.

## Smart configuration

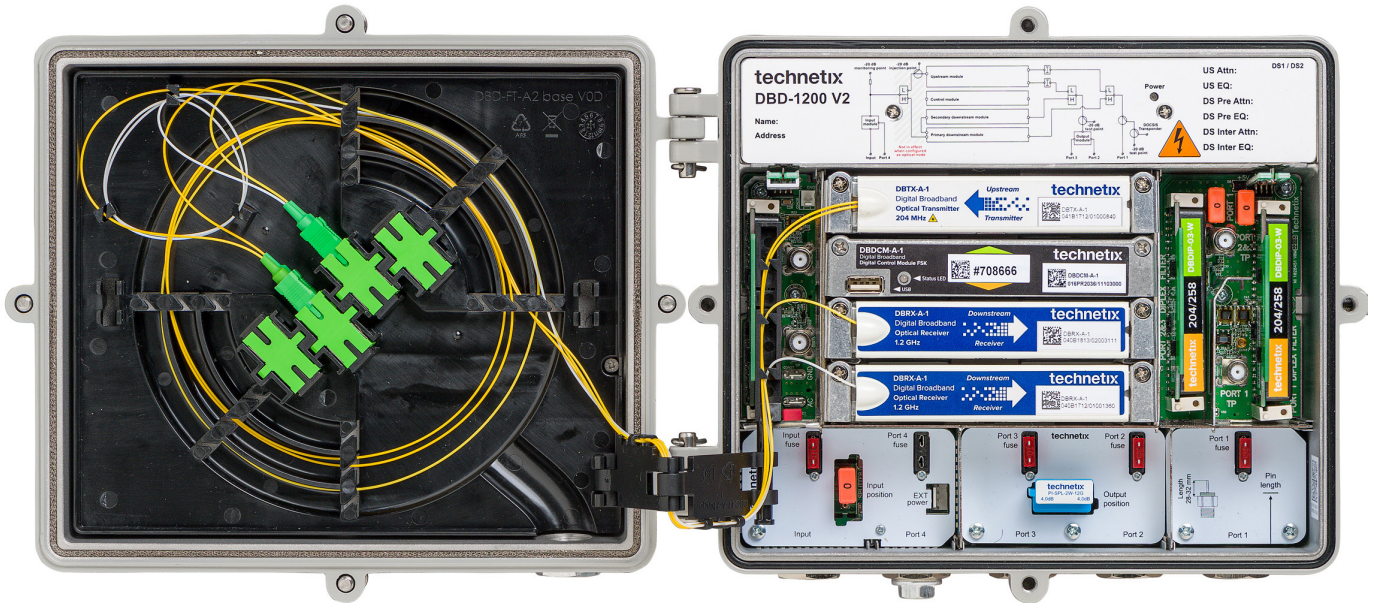
The controller module enables digital control of all settings using a USB port or an optional DOCSIS transponder for remote control and monitoring. An ingress detection switch can be set remotely via an FSK protocol. With integrated agile AGC/ALSC functionality, the network remains stable during temperature changes.

## Green solution

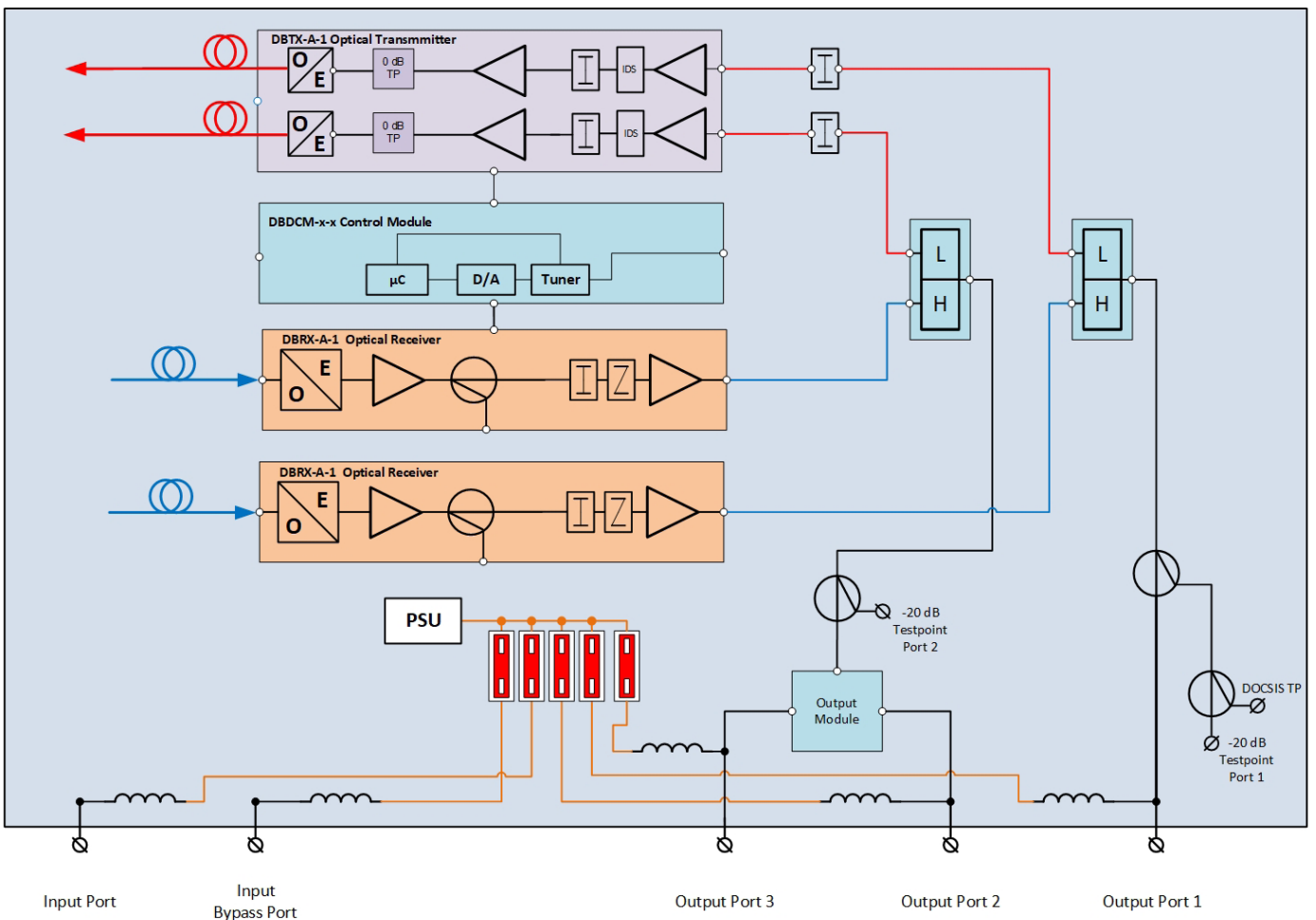
The DBx family uses highly efficient power supplies to reduce power consumption while maintaining reliability. Due to its modular approach newer technology can be introduced to the platform easily, further reducing power consumption. The modules have a configurable low power mode for applications which are less demanding. The DBx platform expands with your needs and there is less waste because its modules are compatible across the platform.

# DBx smart nodes

## DBD-1200 smart double active output optical node 1x1, 1x2 or 2x2



### Block diagram node configuration



**DBD device and performance specifications**

Forward path	DBD-1200	Value
Pass band (dependent on diplex filter)	54-1218	MHz
Active outputs	2	
Available outputs (with splitter)	3	
Input wavelength	1100-1650	nm
Optical input range	-6 to +1	dBm
Optical AGC <sup>(1)</sup>	-5 to +1	
Optical input return loss	45	dB
Optical power measurement accuracy	±0.3	dB
Frequency response 54-1218 MHz <sup>(2)</sup>	±0.75	dB
Return loss <sup>(3)</sup>	18	dB
Operating output level IEC60728-3-1 <sup>(4)</sup>	112	dBμV (dBmV)
Gain control (electronic) inter-stage <sup>(5)</sup>	0-15	dB
EQ control (electronic) inter-stage <sup>(5)</sup>	0-13	dB
Input monitoring point	-20 ±1.5	dB
Output test-points	-20 ±1	dB
Optical connectors (default)	SC/APC	

Reverse path	DBD-1200	Value
Pass band (dependent on diplex filter)	5-204	MHz
Frequency response 5-204 MHz	±0.5	dB
Return loss <sup>(3)</sup>	16	dB
Laser type	DFB/CWDM	
Optical isolator	>30	dB
Wavelength	1310/1550/ CWDM	nm
Optical output power	3	dBm
Gain control (electronic 0.5 dB steps)	0-25.5	dB
OMI test point on laser plug-in board <sup>(6)</sup>	0	dBμV
OMI test point accuracy	±0.3	dBμV
NPR 5-65 MHz	>40 dB: 24 dB dynamic range	
NPR 5-65 MHz	>50 dB: 9 dB dynamic range	
NPR 5-204 MHz	>40 dB: 22 dB dynamic range	
NPR 5-204 MHz	>50 dB: 7 dB dynamic range	
Ingress detection switches	0/6/40(off)	dB

**Optical node platform specifications (continued)**

General specifications	DBD-1200
Hum modulation <sup>(7)</sup>	-65 dBc at 7.5 A
Class of enclosure	IP68 IEC 60529 2.1 am 1 - 2 metres underwater
ESD	4 kV EN 61000-4-2:2008
Surge protection	6 kV IEEE C62.41 CAT C3
EMC	EN 50083-2:2012
Safety	EN 60728-11:2011
Test points	F-Female
Operating voltage <sup>(8)</sup>	30-65 VAC sine wave, 35-90 VAC square wave
Power consumption <sup>(9)</sup>	34 W
AC bypass and capacity & input	10 A
Operating temperature range	-40°C to +65°C (-40°F to +149°F)
Housing dimensions	215 x 260 x 92 mm (8.5" x 10.2" x 3.6")
Coaxial connections	PG11 or 5/8"
Optical connections	SC/APC
Housing finish	Painted conductive chromate finish
Impedance	75 $\Omega$
Equipment approval	CE/RoHS/FCC

**Remarks:**

- Optical AGC accuracy  $\pm 2$  dB - Used in conjunction with electrical AGC  $\pm 0.5$  dB.
- When using hybrid RF/Optical configurations typical increase of  $\pm 0.5$  dB.
- @40 MHz, deduct 1.5 dB per octave (never worse than 12 dB).
- 120x 8 MHz channel, 256 QAM, F1= 266 MHz, F120 = 1218 MHz - @9 dB tilt.
- When selecting 204/258 diplex filters with end frequency @1.2 GHz.
- 80 dBuV for 10% OMI<sup>1</sup> - test-point is 0 dB - ask your sales representative for full OMI table.
- Max value up to 1 GHz. From 1 GHz to 1.2 GHz max value -60 dB.
- DBPSU-05 100-240 VAC also available upon request.
- Typical, without DOCSIS transponder @50 VAC low power mode.

## Ordering information

Category	Item code	Type	Description
Optical downstream modules	19008435	DBRX-A-1	Optical receiver DBX1200 1.2 GHz
	19008438	DBTX-A-1	Optical transmitter dual DBX1200 3 dBm
Laser boards for DBTX-A-1 (this module has two laser board slots)	19010322	DBLB-31-3D-1	DBLB 204 MHz 1310 nm DFB 3 dBm SC/APC
	19010323	DBLB-55-3D-1	DBLB 204 MHz 1550 nm DFB 3 dBm SC/APC
	19010324	DBLB-C27-3D-1	DBLB 204 MHz CWDM 1271 nm DFB 3 dBm SC/APC
	19010325	DBLB-C29-3D-1	DBLB 204 MHz CWDM 1291 nm DFB 3 dBm SC/APC
	19010326	DBLB-C31-3D-1	DBLB 204 MHz CWDM 1311 nm DFB 3 dBm SC/APC
	19010327	DBLB-C33-3D-1	DBLB 204 MHz CWDM 1331 nm DFB 3 dBm SC/APC
	19010328	DBLB-C35-3D-1	DBLB 204 MHz CWDM 1351 nm DFB 3 dBm SC/APC
	19010329	DBLB-C43-3D-1	DBLB 204 MHz CWDM 1431 nm DFB 3 dBm SC/APC
	19010330	DBLB-C45-3D-1	DBLB 204 MHz CWDM 1451 nm DFB 3 dBm SC/APC
	19010331	DBLB-C47-3D-1	DBLB 204 MHz CWDM 1471 nm DFB 3 dBm SC/APC
	19010332	DBLB-C49-3D-1	DBLB 204 MHz CWDM 1491 nm DFB 3 dBm SC/APC
	19010333	DBLB-C51-3D-1	DBLB 204 MHz CWDM 1511 nm DFB 3 dBm SC/APC
	19010334	DBLB-C53-3D-1	DBLB 204 MHz CWDM 1531 nm DFB 3 dBm SC/APC
	19010335	DBLB-C55-3D-1	DBLB 204 MHz CWDM 1551 nm DFB 3 dBm SC/APC
	19010336	DBLB-C57-3D-1	DBLB 204 MHz CWDM 1571 nm DFB 3 dBm SC/APC
	19010337	DBLB-C59-3D-1	DBLB 204 MHz CWDM 1591 nm DFB 3 dBm SC/APC
	19010338	DBLB-C61-3D-1	DBLB 204 MHz CWDM 1611 nm DFB 3 dBm SC/APC
	19010339	DBLB-BP-1	DBLB bypass board no laser in port 2
	19010340	DBLB-CB-1	Combiner laser board to combine input 1 and 2 into laser 1
	Control and monitoring	19005026	DBDCM-A-1
19005027		DBDCM-B-2	Control module: AGC/ALSC, DOCSIS transponder compatible, USB-A
19005029		DBDDM-A-1	DOCSIS 3.0 transponder, requires DBDCM-B-2
19010542		DBDDM-B-1	EuroDOCSIS 3.0 transponder, requires DBDCM-B-2
RF bridge modules	19008430	DBUS-D-1	Bridger: 204 MHz upstream amplifier 25 dB gain and IDS
	19009834	DBDS-F-5-1	Bridger: 1.2 GHz downstream amplifier 44 dB - I2 C - 52 dBmV output
Diplex filters	19008540	DBDIP-04-W-O	DBX wide diplexer filter module output 42/54 MHz
	19008541	DBDIP-04-W-I	DBX wide diplexer filter module input 42/54 MHz
	19008513	DBDIP-01-W	DBX wide diplexer filter module 65/85 MHz
	19009966	DBDIP-05-W	DBX wide diplex filter module 85/102 MHz
	19008514	DBDIP-02-W	DBX wide diplexer filter module 85/105 MHz
	19008515	DBDIP-03-W	DBX wide diplexer filter module 204/258 MHz
Plug-ins	19005718	PI-SPL-2W-12G	Splitter 2-way, 3.5/3.5 dB, 1.2 GHz (input/output location)
	19005719	PI-DC-08-12GO	Directional coupler, 8 dB, 1.2 GHz (output location)
	19005720	PI-DC-12-12GO	Directional coupler, 12 dB, 1.2 GHz (output location)
	19009173	PI-DC-08-12GI	Directional coupler, 8 dB, 1.2 GHz (input location)
	19009174	PI-DC-12-12GI	Directional coupler, 12 dB, 1.2 GHz (input location)
Standard configuration	19015058	DBDOV2-2X2-VN3	DBDO2-1200 2x2, 204/258 MHz, 65 V, CM-A-1, TF-A-2, TX C31, TX C51