

AlphaGateway BSC

300W HFC Power Delivery | DOCSIS 3.1 Backhaul



Features:

- Alpha hardened DOCSIS 3.1 modem
- Firmware-based routing
- Remote power control: up to 4 connections
- GPS for inventory/service management
- Remote monitoring

Purpose-built to be the ideal link between the Cable Operator's HFC infrastructure and the Wireless Operator's needs for the rapid and dense deployment of Small Cells, is the AlphaGateway BSC. The name "BSC" summarizes the link—Broadband Small Cell.

The AlphaGateway BSC joins the growing family of Outside Plant (OSP) AlphaGateways. The AlphaGateway BSC further enhances the AlphaGateways' value proposition by employing **both** a state-of-the-art hardened DOCSIS 3.1 modem **and** enhanced power transformation technology. This two-part mix is required to meet the high-power,

high-bandwidth needs of Wireless Small Cells. As with the other AlphaGateways, the AlphaGateway BSC powers directly from the HFC coax power, and then transforms and "cleans" the power to provide both robust power (320W total) and communications backhaul (1 Gbps), for up to four Small Cell connections.

The AlphaGateway BSC is a key new member in the Alpha suite of innovative product solutions—***Enabling Cable Operators to realize new business models and associated revenue streams.***

Model:	AG300D-AC90	AG300D-AC120	AG300P-AC90	AG300P-AC120
Input Power				
Input Power Port:	5/8 x 24in, 75 Ohm (HFC Coax)	5/8 x 24in, 75 Ohm (HFC Coax)	5/8 x 24in, 75 Ohm (HFC Coax)	5/8 x 24in, 75 Ohm (HFC Coax)
	5/8 x 24in, 75 Ohm (HFC Coax) Coaxial center pin	5/8 x 24in, 75 Ohm (HFC Coax) Coaxial center pin	5/8 x 24in, 75 Ohm (HFC Coax) Coaxial center pin	5/8 x 24in, 75 Ohm (HFC Coax) Coaxial center pin
Input Voltage:	45 to 90VAC quasi square (optional 55VAC shutdown)	45 to 90VAC quasi square (optional 55VAC shutdown)	45 to 90VAC quasi square (optional 55VAC shutdown)	45 to 90VAC quasi square (optional 55VAC shutdown)
Maxium Input Current:	10A RMS	10A RMS	10A RMS	10A RMS
Frequency:	50/60Hz ± 3%	50/60Hz ± 3%	50/60Hz ± 3%	50/60Hz ± 3%
Delivered Power				
Number Output Power Ports:	4	4	4	4
Output Power Connection:	Terminal block - 12 to 26AWG	Terminal block - 12 to 26AWG	Terminal block - 12 to 26AWG	Terminal block - 12 to 26AWG
Output Voltage:	80 to 89VAC quasi square	110 to 130VAC quasi square	80 to 89VAC quasi square	110 to 130VAC quasi square
Max Output Current:	5A RMS	5A RMS	5A RMS	5A RMS
Max Total Power Delivery:	320W (shared)	320W (shared)	320W (shared)	320W (shared)
Max Power Per Port:	320W	320W	320W	320W
Input Loss Hold Up Time:	≥ 16.7ms	≥ 16.7ms	≥ 16.7ms	≥ 16.7ms
Overload Protection:	Independent trip/retry (per port)	Independent trip/retry (per port)	Independent trip/retry (per port)	Independent trip/retry (per port)
Network Delivery (LAN)				
Network Delivery:	Ethernet - IEEE 802.3-2015	Ethernet - IEEE 802.3-2015	—	—
Number Network Delivery Ports:	1	1	—	—
Distance:	100m	100m	—	—
LAN Services:	TCP/IP, IPv4, IPv6, DHCP, L2VPN	TCP/IP, IPv4, IPv6, DHCP, L2VPN	—	—
Backhaul (WAN)				
Compliance:	DOCSIS 1.1, 2.0, 3.0, 3.1	—	—	—
CPU:	Single chip Intel Puma 7 CE2753i (industrial grade)	—	—	—
Memory:	Flash 1 GiB NAND, DRAM 1 GiB DDR3L	—	—	—
Downstream Frequency Range:	DOCSIS 3.0: 108 to 1002MHz, DOCSIS 3.1: 108 to 1218MHz	—	—	—
Downstream Max Throughput:	1Gbps (32 bonded channels)	—	—	—
Upstream Frequency Range:	Software selectable: 5 to 42MHz / 5 to 85MHz	—	—	—
Upstream Max Throughput:	300Mbps (8 bonded channels)	—	—	—
Digital Step Attenuation:	Independent, transmit and receive digital step attenuators (DSA), 0 to 31.5dB attenuation range in 0.5dB steps, Software controlled	—	—	—
WAN/LAN Bridging:	802.1d transparent bridging	—	—	—
WAN Services (RDK-B):	Roadmap Item	—	—	—
Physical				
Mounting Options:	Strand, pole, wall, vault	Strand, pole, wall, vault	Strand, pole, wall, vault	Strand, pole, wall, vault
Dimensions H x W x L (in/mm):	16.5 x 8.9 x 4.9 / 419.1 x 226.1 x 124.5	16.5 x 8.9 x 4.9 / 419.1 x 226.1 x 124.5	16.5 x 8.9 x 4.9 / 419.1 x 226.1 x 124.5	16.5 x 8.9 x 4.9 / 419.1 x 226.1 x 124.5
Weight (lb):	17.7	20.0	17.2	19.5
Agency and Environment				
Operating Temperature:	-40 to 60°C (-40 to 140°F)	—	—	—
Storage Temperature:	-40 to 70°C / (-40 to 158°F)	—	—	—
Humidity:	5 to 90%, non-condensing	—	—	—
Operating Altitude:	-60m (-196ft) to 4,000m (13,123ft)	—	—	—
Enclosure Protection:	UL50E / NEMA Type 6 / IEC 60529 IP67 NEMA 250 / UL 50-5.8: Salt Fog (200 hours ASTM B117)	—	—	—
Safety:	UL/CSA 60950-1: NRRL/C Cert (US/CAN), general requirements UL/CSA 60950-22: ED1: NRRL/C Cert (US/CAN), general requirements	—	—	—
EMC Emissions:	FCC Class B (FCC CFR 47 Part 15 Class B): EMC Emissions requirements (US) ICES-003: EMC Emissions requirements (Canada) CISPR 32 (IEC/EN 55032): Electromagnetic compatibility of multimedia equipment - Emission requirements (EU/Global)	—	—	—
EMC Immunity:	CISPR 24 (IEC/EN 55024): • Information technology equipment - Immunity characteristics — Limits and methods of measurement • Radiated, radio-frequency, electromagnetic field immunity test • Immunity to Conducted Disturbances Induced by Radio-Frequency Fields CISPR 35 (IEC/EN 55035): Electromagnetic compatibility of multimedia equipment - Immunity requirements - (EU/Global)	—	—	—
Surge Immunity:	IEC 61000-4-5: Surge Immunity: 4kV/2kA on COAX input port, 4kV on Ethernet port (1.2/50/8x20) UL/CSA 60950-1: Line Cross: 277VAC on Ethernet ports	—	—	—
RoHS:	Directive 2011/65/EU Compliant: Restriction of hazardous substances directive	—	—	—

Preliminary specifications are subject to change.



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