

## MAIN FEATURES

- ❖ 100 W output RF power
- ❖ Stable output power over temperature
- ❖ 1:1 hot redundant arrangement
- ❖ Ethernet or RS-485 M&C interface
- ❖ High reliability



## DESCRIPTION

This solid state power amplifier is intended for use in S-band satellite communications systems as uplink SSPA. It is to be installed directly to the antenna. The outdoor construction protects the amplifier against harsh environmental conditions. The SSPA can be fully remotely monitored and controlled via the built-in Ethernet interface. 1:1 hot redundant arrangement increases the reliability of the system.

## SPECIFICATIONS

ELECTRICAL PARAMETERS	
Frequency band	2025 – 2120 MHz
RF output power	50 dBm @ P3dB
Gain	70 dB min.
Gain slope	±0.1 dB / 10 MHz max.
Gain flatness	±0.5 dB
Output power stability vs. temp (ALC ON)	±1 dB (-40°C to +60°C) max.
AM/PM conversion @ P3dB	<3 °/dB
ALC control range	20 dB min. with 0.5 dB step
In/Out impedance nominally	50 Ω
Input VSWR	<1.3 : 1
Output VSWR	<1.4 : 1
Output noise in 2.2-2.3 GHz band with filter	<-125 dBm/Hz (filter characteristics can be improved upon request)
Group delay variation (with filter)	Linear: 0.05 ns/MHz Parabolic: 0.001ns/MHz <sup>2</sup> Ripple: 1ns pk-pk
Gain adjustment range	20 dB
Gain adjustment step	0.1 dB typ.
Noise figure	<8 dB (@ max. gain)
Harmonics @ P3dB-3dB	<-60 dBc
Spurious @ P3dB-3dB	<-80 dBc
Output sample	-50 dBc typ.
Intermodulation distortion @ Pout=47 dBm (two-tone, 44 dBm/tone, 1 MHz spacing)	<-25 dBc
MTBF	>100 000 hours
Power supply voltage	110 – 240 VAC, 47 – 63 Hz
AC Power Consumption (230 VAC) @ Pout=50 dBm	<450 VA



# BPBS44

## 100 W 1:1 Redundant S-band Outdoor Power Amplifier

MECHANICAL PARAMETERS	
Connectors	AC: MS3102E18-10P Ethernet: Amphenol MS3112E12-10S RF IN: N-female Sample: N-female RF OUT: N-female
Weight	52.5 kg
Dimensions	Approx. 873 x 610 x 204 mm (see outline drawing)
ENVIRONMENTAL PARAMETERS	
Operating temperature range	-40°C to +60°C
Degree of protection	IP67 Outdoor
Cooling	Forced air cooling
Shock & Vibration	Transportation
SOFTWARE PARAMETERS	
Remote M&C interface	Ethernet (TCP/IP); Optional: RS-485

Specifications are subject to change without notice.

### SOFTWARE SCREENSHOT

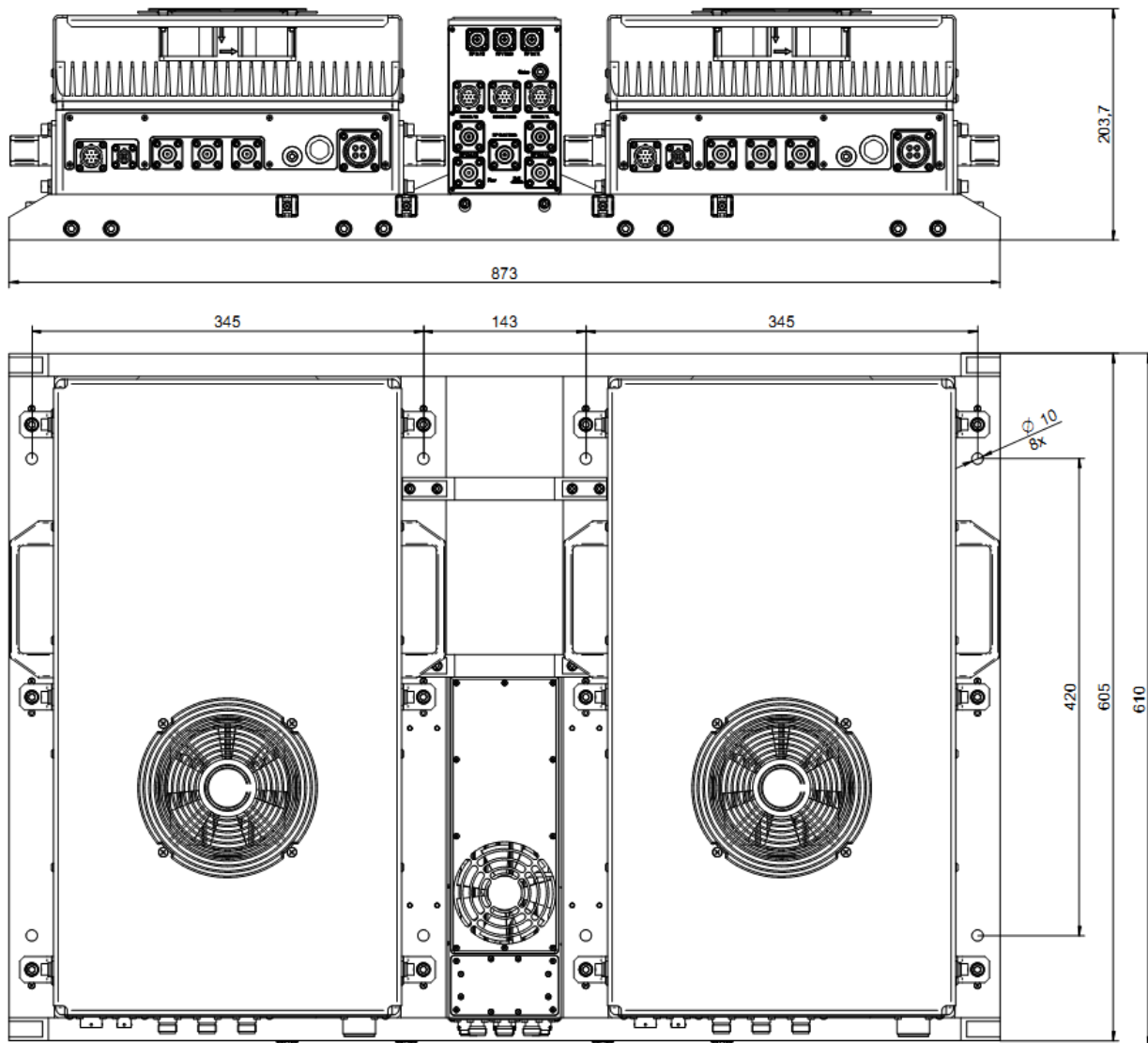
The screenshot displays the web interface for the BPBS44 amplifier. At the top, there are navigation tabs for Factory Settings, User Settings, Remote Control, and Connection Mode. The IP address is 192.168.16.105 and the port is 40000. The system status is 'Connected' with 1 connection.

The main interface is divided into several sections:

- Master Summary:** Shows device details such as Device Type (BPBS44), Serial Number (003), Date of Manufacture (01.07.2022), Firmware Version (4.7), and Hardware Version (2.0).
- Monitor:** A table showing current and historical values for Center Temp., Dummy Temp., 30V Supply Voltage, 30V Supply Current, 5V Supply Voltage, and Fan Current.
- PAM A and PAM B:** Status indicators for both amplifiers, including Active, Connection State, and Communication State.
- Switch Settings:** Options for Selection Mode (User Mode or Auto Mode) and Active/Preferred PAM (PAM A or PAM B).
- RF Load:** Selection between Dummy Load and Antenna.
- Selected PAM Settings:** A panel for configuring ALC ON-OFF, ALC Level (40.0 dBm), Attenuation (00.0 dB), Input Switch Off Level (-10 dBm), and RF by User (ON/OFF).

The BHE logo is visible in the bottom right corner of the interface.

### OUTLINE DRAWING (mm)



### ORDERING INFORMATION

MODEL NUMBER	DESCRIPTION
BPBS44K11184	BPBS44 100 W, S-band 2025-2120 MHz, 1:1 redundant outdoor power amplifier, Ethernet control

### DOCUMENT REVISION

DOCUMENT NAME	REVISION	DATE
BPB44-LM-K11184	V01	2023-05-10