

MAIN FEATURES

- ❖ 100 W output RF power
- ❖ Stable output power over temperature
- ❖ Ethernet or RS-485 M&C interface
- ❖ High reliability
- ❖ Low noise figure



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. Optional 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	75 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 ² Ripple: 1ns pk-pk
Gain adjustment range	20 dB
Gain adjustment step	0.1 dB typ.
Noise figure (standalone system)	<4 dB (@maximal 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	>70 000 hours
Power supply voltage	110 – 240 VAC, 47 – 63 Hz
AC Power Consumption (230 VAC) @ Pout= 50 dBm	<400 VA



BPBS45 100 W 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	24 kg
Dimensions	Approx. 382 x 192 x 580 mm (see outline dimensions)
ENVIRONMENTAL PARAMETERS	
Operating temperature range	-40°C ... +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

BPBS Control Program v1.3.9.8

Factory Settings: Recall, Boot Mode
 User Settings: Recall, Save
 Remote Control: Restart Device, Settings
 IP: 192.168.16.165
 Port: 23
 System Status: **Connected**
 Connections: 2

Summary | Details

Device Type: BPBS45
 Serial Number: 007
 Date of Manufacture: 23.03.2018
 Firmware Version: 2.0

ALC ON-OFF: **ON** OFF

ALC Level: 50.5 dBm

Attenuation: 00.0 dB

Input Switch Off Level: -10 dBm

AMPLIFIER OPERATING
 RF Out: **ON**

Output Power: 50.7 dBm
 Temperature: 49.11 °C

Monitor	Current	History
Temperature	●	●
9V Supply Voltage	●	●
28V Supply Voltage	●	●
Output Return Loss	●	●
RF Input	●	●
9V Current	●	●
Driver FET Current	●	●
End FET(s) Current	●	●
Fan curr.	●	●

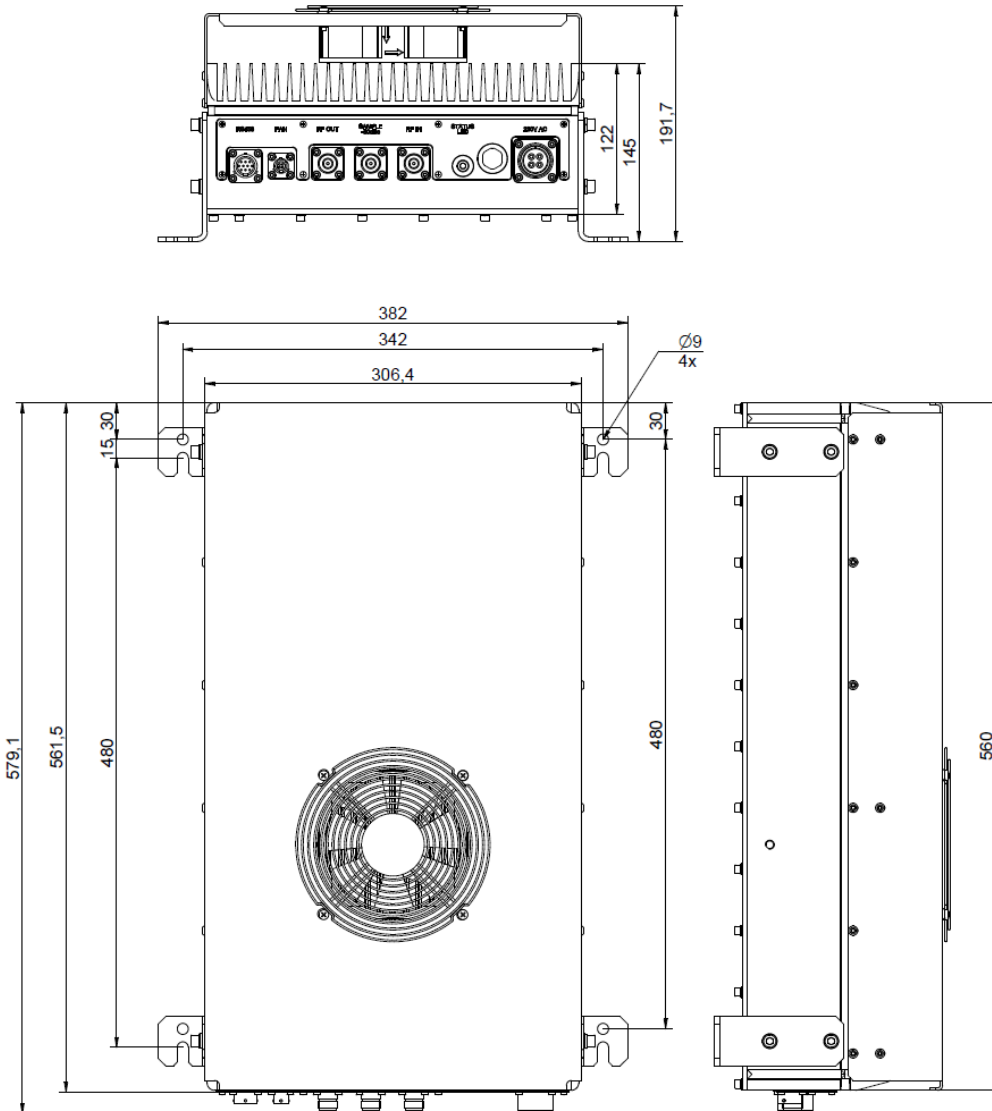
Clear Alarm History: CLEAR

RF by User: **ON** OFF

Operating Mode: Redundant **Standalone**

Output Return Loss = -15.20 dB
 RF Input Power = -20.8 dBm

OUTLINE DRAWING (mm)



ORDERING INFORMATION

MODEL NUMBER	DESCRIPTION
BPBS45K10193	BPBS45 100 W, 2025-2120 MHz, single outdoor power amplifier, Ethernet control

DOCUMENT REVISION

DOCUMENT NAME	REVISION	DATE
BPBS45-LM-K10193	V01	2023-05-10