

Class D Multi-Channel Amplifier

EN 54 - 16

FEATURES

The **DPU 4250** amplifier is able to provide a large range of diagnostic functions, such as:

- Line impedance measurements;
- Amplifier diagnostics;
- Check and insulation of the short-circuited speaker lines.
- Check of insulation to earth (GND FAULT);
- Volume control;
- Selection of the inputs;
- Possibility of including the LOW CUT filter on each of the four internal amplifiers.



DESCRIPTION

Class D amplifiers, equipped with a modern GaN (gallium nitride) technology, which provides high performance in terms of efficiency and space-saving. The main innovation relating to the use of this cutting-edge technology in the field of PA audio applications is the extreme speed and the ability to operate with high voltages main feature of these new cascode devices; this provides to design amplifiers capable of operating at 300 volts with frequencies of 400 kHz and at the same time - despite the extreme operating conditions - to obtain better performance than those of the equivalent silicon components, which have the limit of working with lower voltages. With these devices, it is also possible to have a 100-volt transformerless output line with a single amplifier (not two bridge amplifiers, as happens instead for silicon devices). The DPU 4250 amplifiers allow testing correct operation and checking the soundness of the loudspeaker line and a double output circuit with separate controls (A and B) for creating systems featuring line redundancy; if a short-circuit is detected on one of the two outputs, this line is automatically disconnected to enable proper operation of the other. These amplifiers, connected directly to the **VAC 2006** controller by means of CAT5 shielded cable, can be used to create high-power areas. **DPU 4250** model consists of **four amplifiers** capable of delivering **250 W** each.

Parallel connections can be made in five different modes by setting dedicated switches on the rear panel:

1. 4 x 250 W (1+2 OFF, 2+3 OFF, 3+4 OFF)
2. 500 W + 250 W + 250 W (1+2 ON, 2+3 OFF, 3+4 OFF)
3. 750 W + 250 W (1+2 ON, 2+3 ON, 3+4 OFF)
4. 500 W + 500 W (1+2 ON, 2+3 OFF, 3+4 ON)
5. 1000 W (1+2 ON, 2+3 ON, 3+4 ON)

Standby operation can be set in two different modes:

1. **INTERNAL** (amplifiers #4 replaces one of the other three)
2. **EXTERNAL** (an external amplifiers replaces one of the internal four)

These amplifiers can also be controlled via a serial interface. In addition to carrying out all the operations and/or checks set locally by means of the dip-switches, it will also be possible to display and alter all the parameters, including the following:

- Reading of the reference impedance for loudspeakers lines.
- Minimum and maximum values between which the test is valid;
- Reading of the test status;
- Testing of the inputs;
- Measurement of the temperature of the end transistors;
- Volume adjustment.

TECHNICAL SPECIFICATIONS

AMP 1÷4	
Rated power @230 V _{AC}	250 W RMS D _≤ 7%
Power @230 V _{AC} - 10%	250 W RMS D _≤ 7%
Power @26 V _{AC}	220 W RMS D _≤ 10%
Power outputs	100V A / B
THD @230 V _{AC} @ P _{nom} / 10	< 0,05 %
V _{max} test relay	30 V
I _{max} test relay	0,5 A

SERIAL COMMUNICATION	RS485
Speed	19200 bit/s
Transmission mode	8 bit
Parity bit	no
Stop bit	1

MECHANICAL SPECIFICATIONS

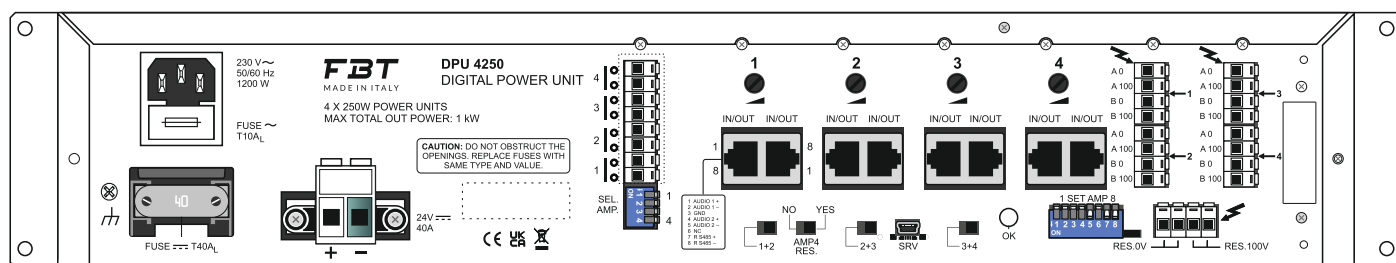
Dimensions (W x H x D)	482 x 89 x 410 mm 18,9" x 3,5" x 16,1"
Net weight	10,3 kg 22,7 lb

INPUT	AUDIO 1 / AUDIO 2
Sensitivity	817 mV
S/N ratio (20÷20.000 Hz)	≥ 90 dB
S/N ratio (A- weighted)	≥ 95 dB
Frequency response	60 Hz ± 10 Hz ÷ 20 kHz ± 1 kHz
LOW CUT filter (-3dB)	350 Hz

OPERATING CONDITIONS

Mains power supply	230 V _{AC} 50/60 Hz ± 10%
• Max consumption @ rated power RMS	1310 W
• Consumption with no signal	70W
Max consumption @26V _{DC}	41 A
Consumption with no signal @26V _{DC}	1,4 A
Consumption with no signal in Energy Save mode @26V _{DC}	0,4 A
Operative / Storage temperature	-10°C ÷ +45°C / -40°C ÷ +70°C
Relative humidity	< 95%

REAR PANEL



N.B

In the operating modes that provide for the parallel connection of several amplifiers, the output power of the amplifiers in parallel will be equal to 250 W x No. of amplifiers in parallel. All other parameters indicated in the table above remain identical.