R V R Elettronica EDL600-FM FM Transmitters Broadcast Systems User Manual

Contents

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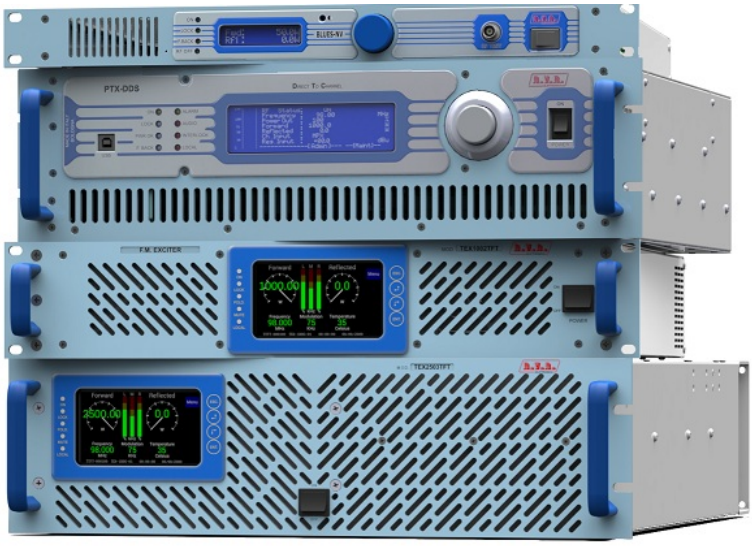


Product Information

The EDL600-FM is a dummy load produced by RVR Elettronica SpA to be used with FM transmitters with a nominal power of up to 600 W. Dummy loads are primarily used as laboratory test devices and are often included in redundant (1+1 or N+1) transmission systems, where the output of the spare transmitter is connected to the dummy load for testing purposes.

The EDL600-FM is particularly suited for use in compact transmission systems due to its small form-factor. The quadratic construction enables easy installation.

Simply speaking, the EDL600-FM is a 50 ohm resistive load optimized to work in the audio FM band. The applied power is dissipated by four 50 ohm power resistors connected in a series/parallel configuration, which compensates for the parasitic capacitance of the resistors, resulting in a return loss better than 26 dB across the entire 87.5 – 108 MHz band. The resistors are fixed on a metal heatsink, and three fans generate the airflow to dissipate heat to the environment.

Product Usage Instructions

Power Connection

Always connect the power source (the transmitter) using the interlock connectors to avoid the possibility of excessive temperature rise that could damage the dummy load and even the transmitter itself.

External Description

The dummy load has the following external features:

- [1] Interlock connectors: BNC with inner normally grounded, floating in case of interlock
- [2] Input RF connector RF (N-type)
- [3] VDE plug for mains supply (220 AC)
- [4] Mains fuses for the fans (1A RAPID)

Make sure not to cover the airflow grid to ensure proper functioning of the device.

Power Derating

The power that the EDL600-FM can continuously dissipate depends on the temperature of the environment. It is essential to link the transmitter to the interlock connectors of the EDL600-FM to avoid the risk of damaging it.

Technical Specifications

No technical specifications were provided in the user manual.

Images

No images were provided in the user manual.

Introduction

The EDL600-FM is a dummy load produced by VR Elettronica SpA to be used with FM transmitter with nominal power up to 600 W. Dummy loads are mainly used as laboratory test devices and are often included in redundant (1+1 or N+1) transmission systems, in which the output of the spare transmitter is normally connected to the dummy load for test pourpouses. The EDL600-FM is particularily suited for the use in compact transmission systems, thanks to its small form-factor. The quadratic construction enables a simple installation.

Working Principle

- Simply speaking, the EDL600-FM is just a 50 § resistive load, optimized to work in the audio FM band.
- The applied power is dissipated by four 50 £ power resistors connected in a series parallel configuration (see the enclosed schematic), able to compensate the parasitic capacitance of the resistors, to obtain a return loss better than 26 dB on the whole 87.5 – 108 MHz band.
- The resistors are fixed on a metal heatsink, and three fans generate the air flow to let the heat pass to the environment.
- The fans are activated by a thermal bimetallic switch, that is normally opened and will close as soon as the heatsink's temperature surpasses 55 °C.
- **WARNING:** Always connect the power source (the transmitter) using the interlock connectors, to avoid the possibility of an excessive temperature rise that could damage the dummy load and even the transmitter itself!

External Description

The following drawing shows the dummy load.
WARNING: don't cover the airflow grid, to ensure proper functioning of the device.

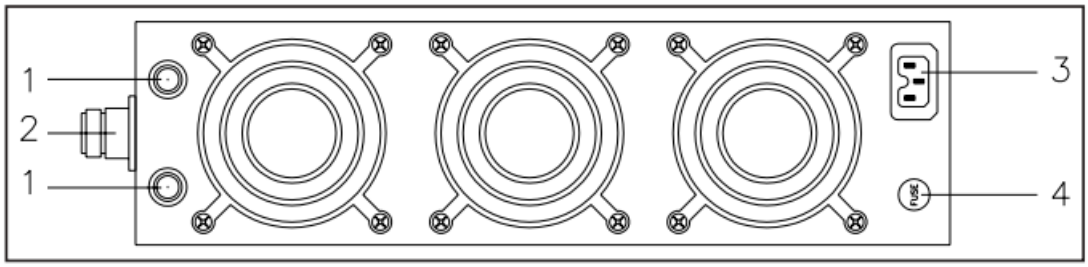


Abbildung 1: Hintere Tafel

1. Interlock connectors. BC with inner normally grounded, floating in case of interlock
2. Input RF connector RF (N-type)
3. VDE plug for mains supply (220 AC)
4. Mains fuses for the fans (1A RAPID)

Power Derating

The power that the EDL600-FM can continuosly dissipate depends on the temperature of the environment. Since the dummy load can work at a temperature up to 90 °C before the protection device is triggered, figure 2 gives the acceptable working area of the device
WARNING: Please remember that it is essential to link the transmitter to the interlock connectors of the EDL600-FM, to avoid the risk of damaging it.

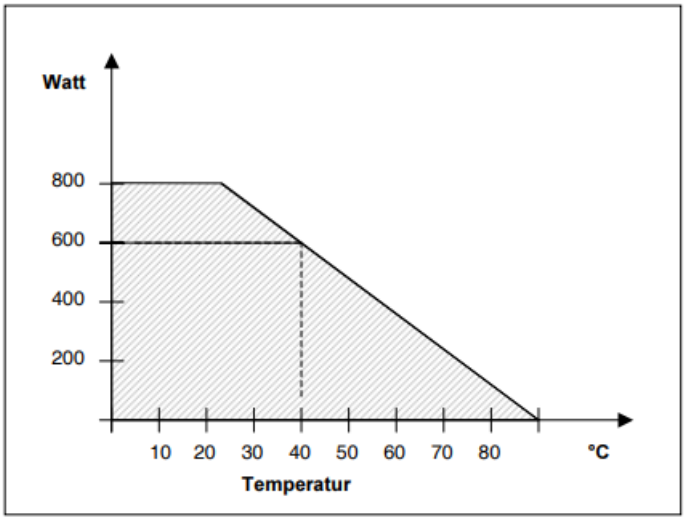


Illustration 2: Admitted function-types

Technical characteristics

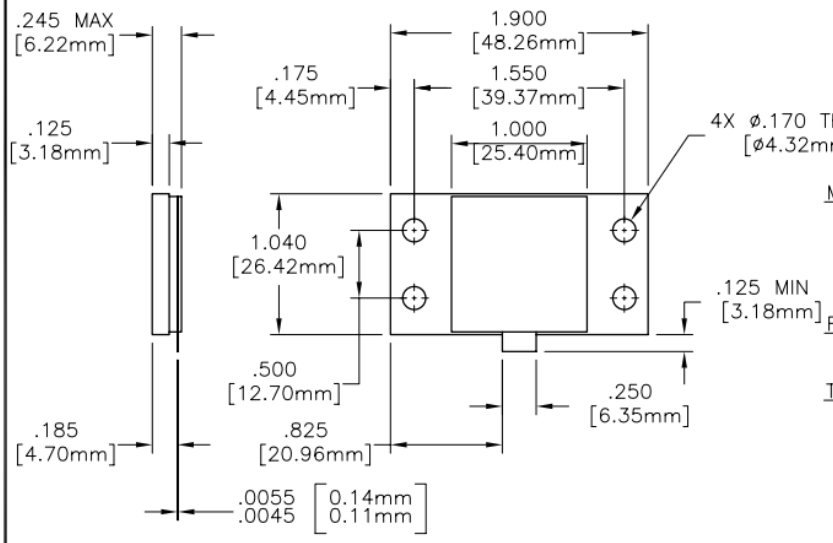
- **Frequency band:** 87.5 – 108.0 MHz
- **Nominal power at 40°C:** 600 W
- **Power derating at t > 40 °C:** 12 W/°C
- **Return loss:** > 26 dB
- **Power Supply:** 230V ac + / – 10%
- **Fuse:** 2A
- **Size:** (LxH x D) 320 × 85 × 375 mm
- **Weight:** 12 kg

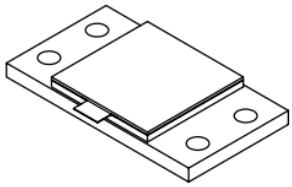
Images

NOTES:
UNLESS OTHERWISE SPECIFIED, TOLERANCES ARE ± .010" [.254mm].

CAD#32-1005J

DRAWING NO.:	REV.
32-1005	J





MATERIALS:
MTG. FLANGE: OFHC 1/4 HD
SUBSTRATE: BERYLLIUM OXIDE
COVER: ALUMINA
TAB: BERYLLIUM COPPER PER ASTM B194
RESISTIVE FILM: NICHROME

FINISH:
MTG. FLANGE: NICKEL OVER COPPER
TAB: TIN/LEAD PER MIL-T-10727

TECHNICAL:
NOMINAL IMPEDANCE (OHMS): 50
FREQUENCY RANGE (GHz): DC-0.5
TEMPERATURE COEFFICIENT: ± 200 PPM/°C MAX
OPERATING TEMPERATURE (°C): -55° TO +150°
VSWR (MAX): 1.25:1 DC-0.2 GHz
1.50:1 0.2-0.5 GHz
AVERAGE POWER (WATTS): 800
DC RESISTANCE: 50 OHMS ± 5%

REV.	DESCRIPTION	DRAWN	APVD.
J	ECN#01426	PSC 05/29/02	

ECN# N/A | APVD – | DATE –

UNLESS OTHERWISE SPECIFIED
1. DO NOT SCALE DRAWING
2. DIMENSIONS ARE IN INCHES
3. DIMENSIONS ARE AFTER PLATING
4. CORNERS, EDGES AND FILLETS: R MAX
5. SURFACE ROUGHNESS:
6. REMOVE ALL BURRS

TOLERANCES
.X ±
.XX ±
.XXX ±
ANGLES X° ±

REFERENCE –

MATERIAL –

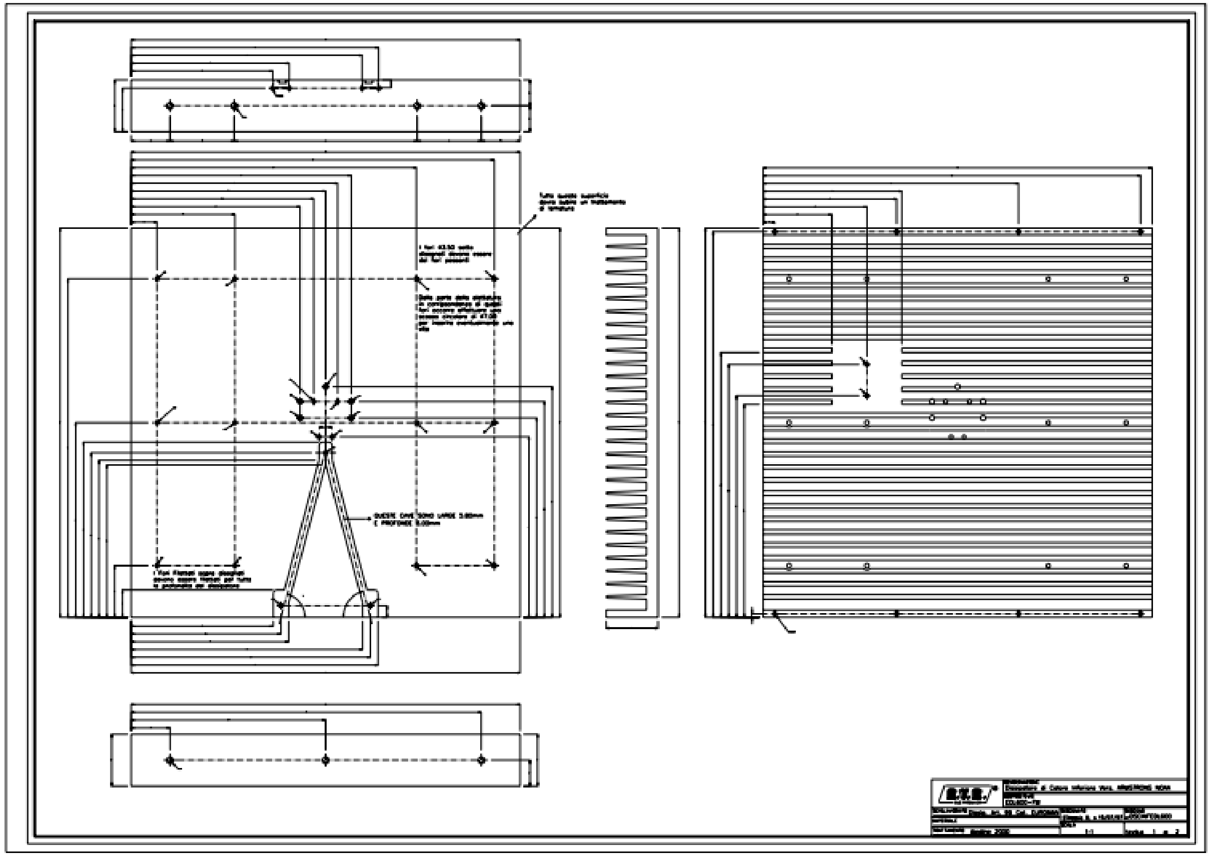
FINISH –

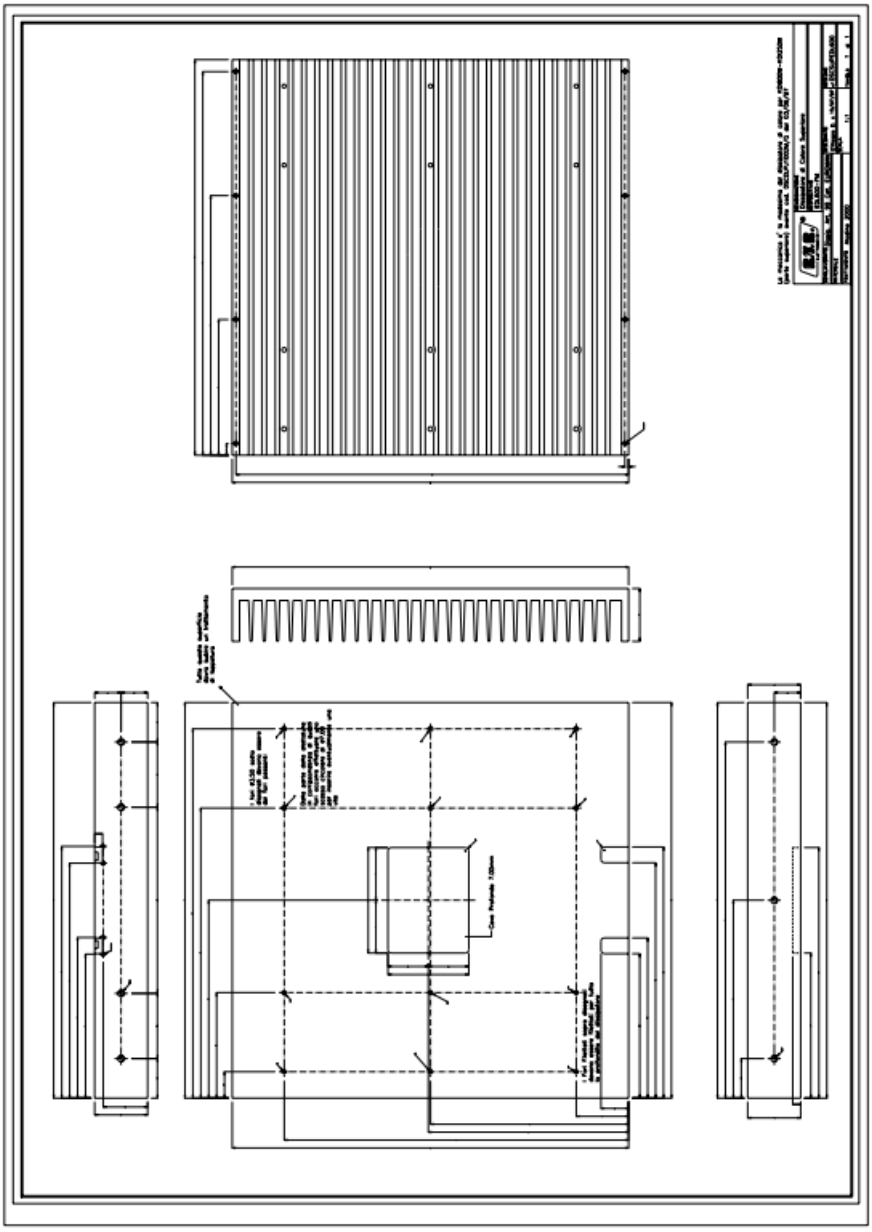
FLORIDA RF Labs INC.
8851 OLD KANSAS AVE.
STUART, FL. 34997
772-286-9300

TITLE
TERMINATION, FLANGE MOUNT, 800 WATT

SCALE	CAGE CODE ID NO.	SIZE	DRAWING NO.:	REV.
1/1	2Y194	A	32-1005	J

MFG:	CHKD.:	DRAWN: PSC 05/29/02	SHEET OF





Documents / Resources

EDL600-FM User manual	R V R Elettronica EDL600-FM FM Transmitters Broadcast Systems [pdf] User Manual EDL600-FM FM Transmitters Broadcast Systems, EDL600-FM, FM Transmitters Broadcast Systems, Transmitters Broadcast Systems, Broadcast Systems