
EDL600-FM

User manual

Manufactured by



Italy



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1. Introduction

The **EDL600-FM** is a *dummy load* produced by RVR 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 purposes.

The **EDL600-FM** is particularly suited for the use in compact transmission systems, thanks to its small form-factor. The quadratic construction enables a simple installation.

2. Working Principle

Simply speaking, the **EDL600-FM** is just a 50 Ω resistive load, optimized to work in the audio FM band.

The applied power is dissipated by four 50 Ω 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!

3. External Description

The following drawing shows the *dummy load*.



WARNING: don't cover the airflow grid, to ensure proper functioning of the device.

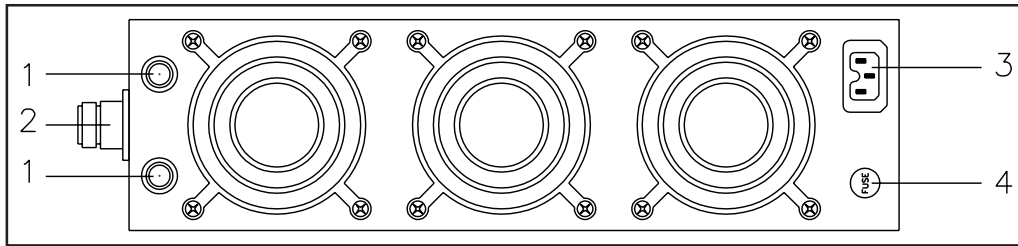


Abbildung 1: Hintere Tafel

- [1] Interlock connectors. 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)

4. Power Derating

The power that the EDL600-FM can continuously 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.

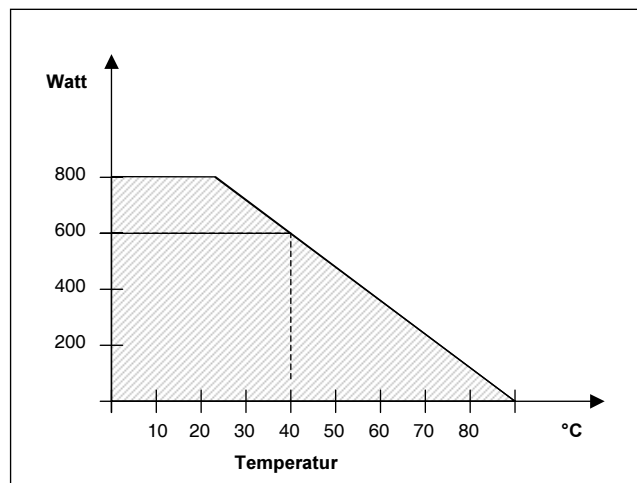


Illustration 2: Admitted function-types

5. 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 | 2 A |
| Size | (L x H x D) 320 x 85 x 375 mm |
| Weight | 12 kg |

6. Images

EDD

NOTES:
UNLESS OTHERWISE SPECIFIED, TOLERANCES ARE $\pm .010"$ [.254mm].

CAD#32-1005J DRAWING NO.: **32-1005** REV. **J**

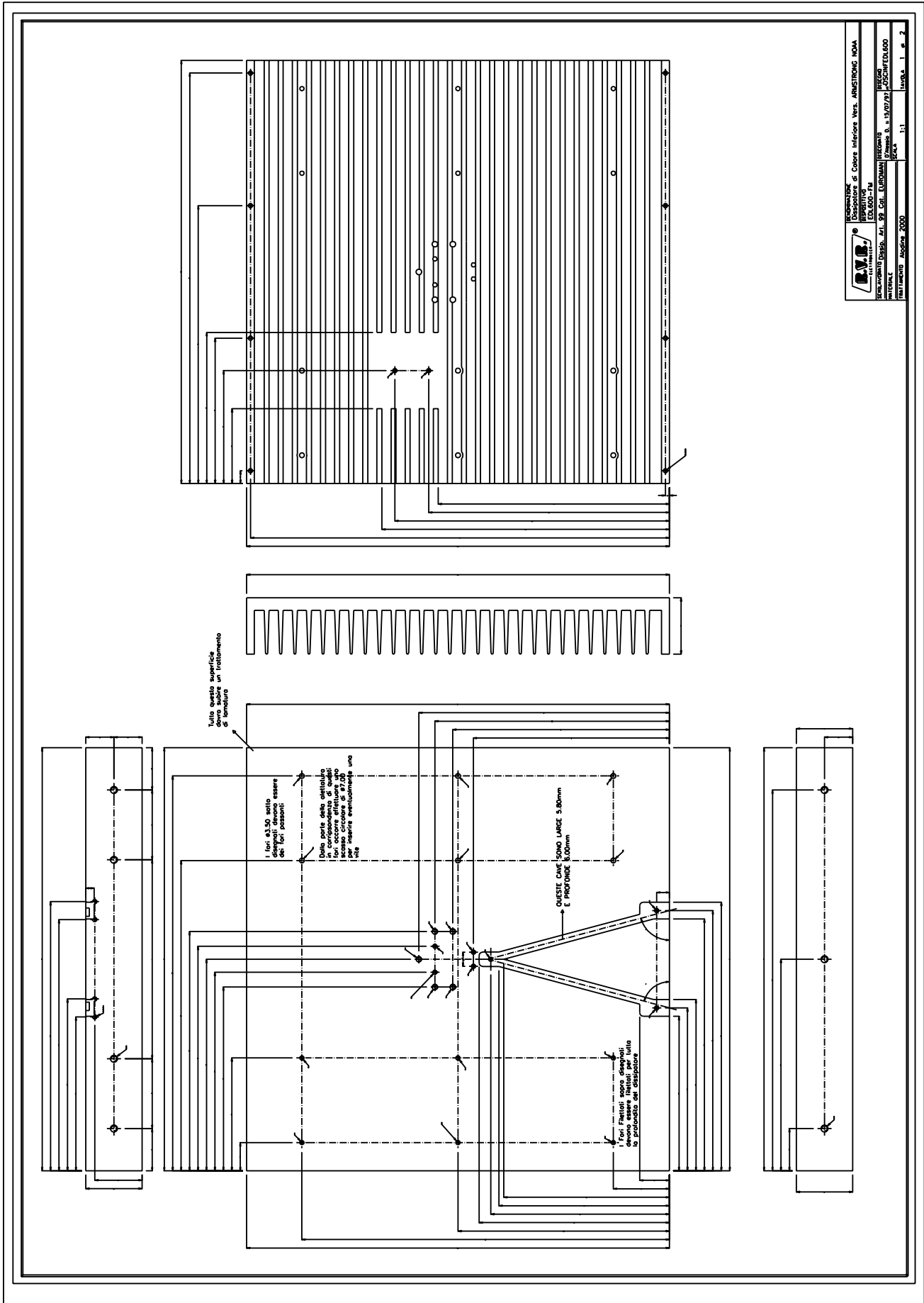
MATERIALS:
MTG. FLANGE: OFHC 1/4 HD
SUBSTRATE: BERYLLIUM OXIDE
COVER: ALUMINA
TAB: BERYLLIUM COPPER PER ASTM B194
RESISTIVE FILM: NICHROME

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

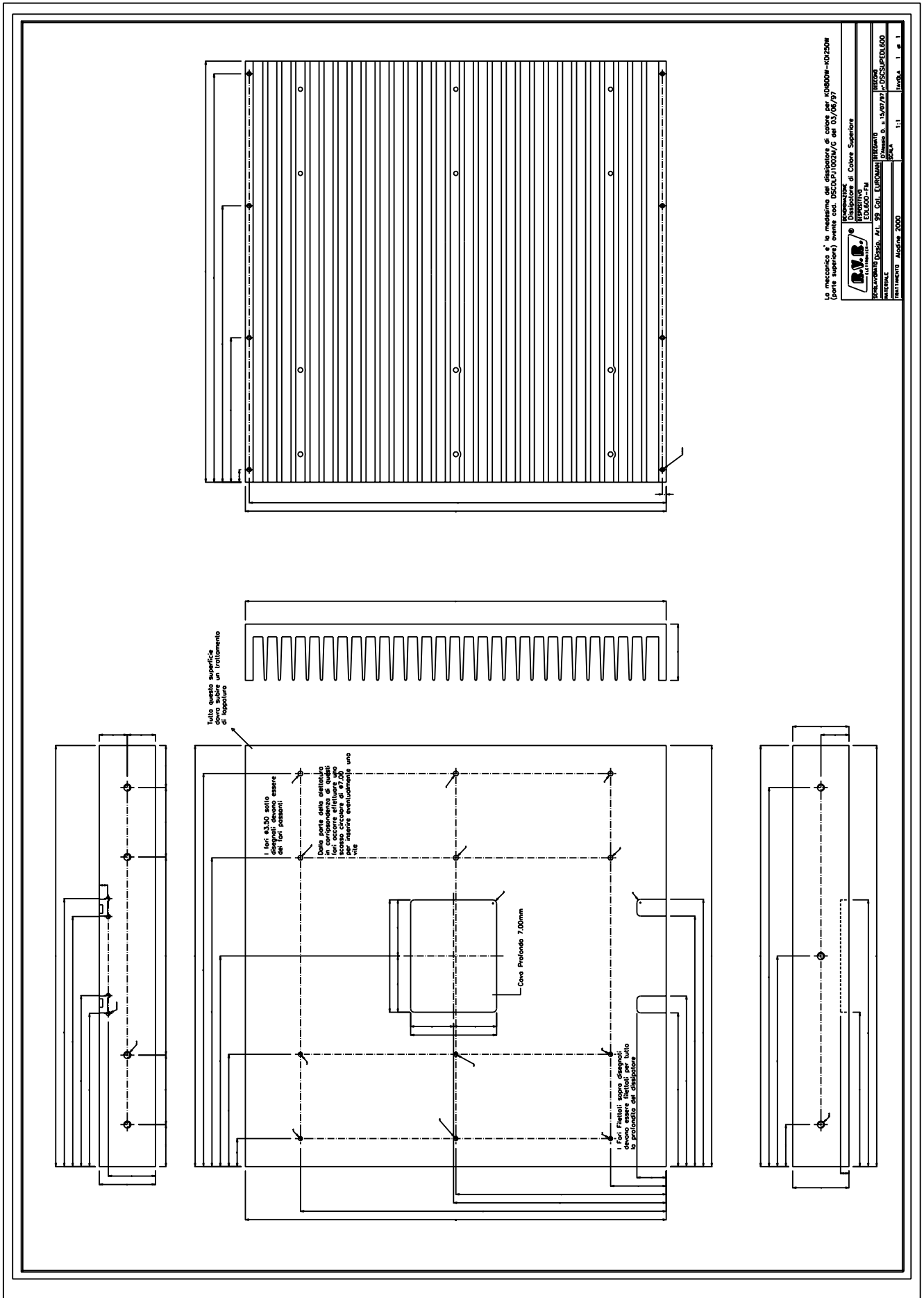
TECHNICAL:
NOMINAL IMPEDANCE (OHMS): 50
FREQUENCY RANGE (GHz): DC-0.5
TEMPERATURE COEFFICIENT: ± 200 PPM/°C
OPERATING TEMPERATURE (°C): -55° TO +150°
VSWR (MAX): 1.25:1 DC-0.2 GHz
1.50:1 0.2-0.5 GHz
AVERAGE POWER (WATTS): 800
DC RESISTANCE: 50 OHMS $\pm 5\%$

| | | | | | | | | |
|---|-------------|-----------------|-------|--------------|---|------------------------|--------------------------------|-----------|
| ECN# | N/A | APVD | DATE | REFERENCE | 8851 OLD KANSAS AVE. STUART, FL. 34997 772-286-9300 | | | |
| UNLESS OTHERWISE SPECIFIED 1. DO NOT SCALE DRAWING 2. DIMENSIONS ARE IN INCHES 3. DIMENSIONS ARE AFTER PLATING 4. CORNERS, EDGES AND FILLETS: R 5. SURFACE ROUGHNESS: MAX 6. REMOVE ALL BURRS | | | | MATERIAL | TITLE | | | |
| TOLERANCES .X \pm .XX \pm .XXX \pm ANGLES X° \pm | | | | FINISH | TERMINATION, FLANGE MOUNT, 800 WATT | | | |
| J | ECN#01426 | PSC 05/29/02 | | SCALE 1/1 | CAGE CODE ID NO. 2Y194 | SIZE A | DRAWING NO.: 32-1005 | REV. J |
| REV. | DESCRIPTION | DRAWN | APVD. | MFG: | CHKD.: | DRAWN: PSC 05/29/02 | SHEET OF | |

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| | | Dissipatore di Calore Inferiore Vers. ARMSTRONG NOVA Dissipatore EDL600-FM | |
| SECCAZIONE DISSECCAZIONE SOSTITUIRE INTRALCARE | ALL. SP. COL. EUROCOM PIZZI 2000 | PIZZI D. 11/97/99 PIZZI 2000 | PIZZI D. 11/97/99 PIZZI 2000 |
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