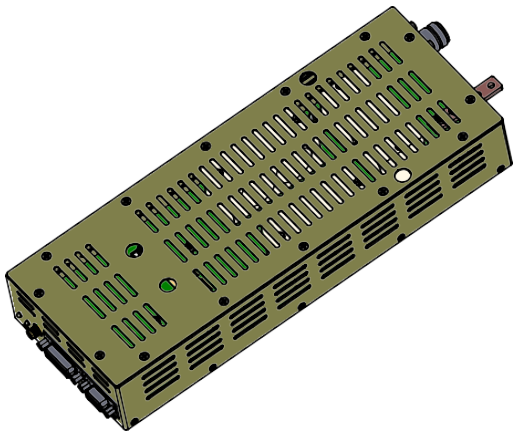
## Features

- 1kW RF Power
- Operates on HF Band
- Analog Readings (optional)
- RS485 Communication
- 24/7 CW Capabilities
- Powerful embedded MCU
- Suitable for water cooling



## Electrical Characteristics

| Parameter | | Specification | Notes |
|---|---|---|---|
| **Operating Frequency Range** | | 3 - 30 MHz | |
| **Power Output** | | 1000 Watt Min | CW |
| **Power Gain** | | 27 dB Min | |
| **Power Gain Flatness** | | 3.0 dB p-p Max | 3-30MHz |
| **Input Return Loss** | | -10 dB Max | 50 Ohm |
| **Harmonics** | 2nd | -20 dBc Typ | |
| | 3rd | -10 dBc Typ | |
| **Intermodulation IMD3** | | -25 dBc Typ | 14MHz 53dBm/Tone, Δ = 1kHz |
| **Spurious** | | -60 dBc Max | Non-harmonics |
| **Operating Voltage** | | 45 – 52VDC 48V Typ | |
| **Power Consumption** | | 1800 Watt Max | At rated Pout Efficiency >50% |
| **Max Input Power** | | 38 dBm | <10 Sec without damage |
| **Max Output SWR** | | 2:1 Full performance | 3:1 no damage |
| **Enable /Dis** | | RS485 Controlled | Low = Ena |

## Environmental Characteristics

| Parameter | Specification | Notes |
|---|---|---|
| **Operating Ambient Temperature** | 0 to +50 °C | |
| **Storage Temperature** | -40 to +85 °C | |
| **Relative Humidity** | 5 to 95 % | Non-condensing |

## CW Capabilities

CW capability was achieved by adding cooling to our RF ferromagnetic components. This improvement has allowed us to eliminate the need for cooling the top side.

## RS485 Communication

RS485 communication will let you monitor and control a few parameters in the module:

- Monitoring & Control
  - RF In
  - Forward
  - Reflected(optional)
  - Temperature
  - Current
  - Bias Enable
- Alarms
  - Over Current
  - Over Temp
  - Reflected Power
  - Low Output

## Analog Readings (optional)

Monitoring through analog readings is available via Dsub15. Analog monitoring provides the same data as RS485 but lacks advanced features.

# Heatsink Mounting

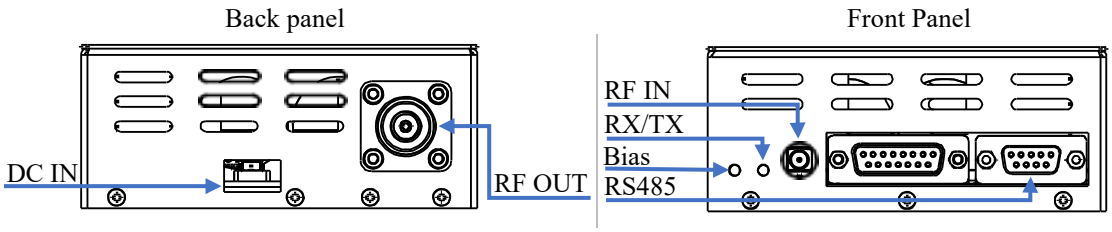
****Warning:** ** This module must be installed on a heat sink\water cooling block.

It is mandatory to apply a thin layer of thermal paste measuring 0.1 to 0.2 mm between the heat sink and the module.

Mounting a fan on the heat sink fins (an estimated 250 CFM is suggested) is recommended.

****Caution:** ** Overheating can permanently damage the power transistor.

## Connectors & Pinout




| Pin | Function | Description |
|---|---|---|
| J2 -1 | RX+ | RS485 |
| J2 -2 | RX- | |
| J2 -3 | TX+ | |
| J2 -4 | TX- | |
| J2 – 5,11,10,6 | GND | |
| M4 Screw | Negative GND | |

## Connector Mating

| Parameter | Specification | Notes |
|---|---|---|
| RS485 Connector Male | P/N 2301843-2 | PCB Mount |
| | P/N G17S0910110EU | Solder Cup |
| DC IN Blade Terminal | M4x6 + Nut | 18-24AWG |

## Mechanical Specifications

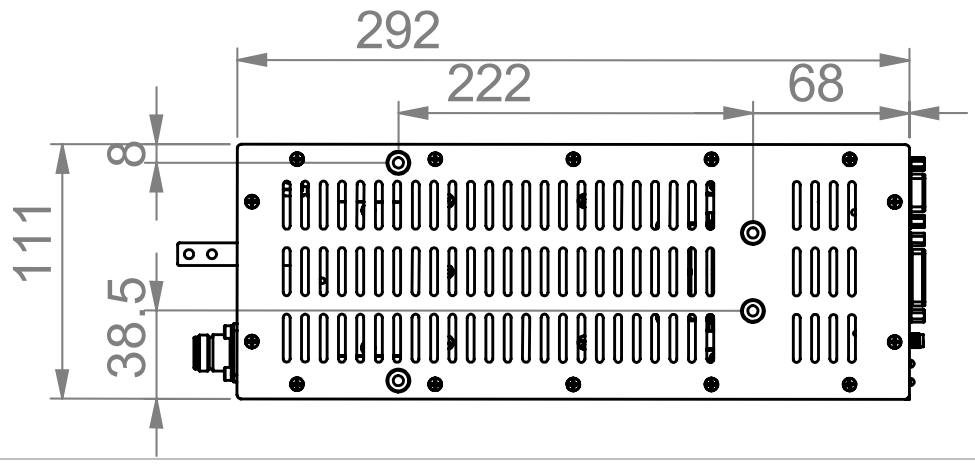
| Parameter | Specification | Notes |
|---|---|---|
| Dimensions L x W x H | 292 x 111 x 45 mm | Copper+Aluminum |
| Weight | 1.8kg | |
| RF Connectors In/Out | SMA/N-TYPE | |
| I/O Connectors | P/N 2301844-2 | |
| DC IN Connectors | Copper contact plate | GND M4 Screw |
| Metals | Copper + Aluminum | |

## Recommended Hardware

| Part Number | Description | Manufacturer |
|---|---|---|
| KA120 | Aluminum Heatsink | Tecnoal |
| 340 | Thermal paste | Dow |
| 342184-1 | 10-12AWG ring connector for DCin | TE |

## Physical Dimensions

Top View




Side View