



YAPSU Unit Datasheet

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1. ABSTRACT

This short document will give a brief overview of the YAPSU Power Supply and Monitoring Unit.

2. YAPSU UNIT

PRODUCT OVERVIEW:

YAPSU is an high performance digital power-supply controller and monitor board which works with any existing POL (point-of-load) power supply to provide complete digital programmability. By interfacing to the reference input, feedback node, and output enable, *YAPSU* takes control of the POL to provide functions such as perfect tracking and sequencing of the output voltage.

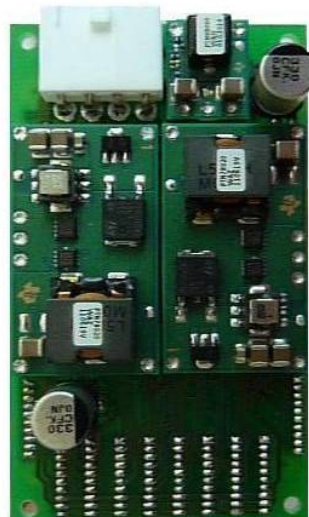
YAPSU offers an accurate 10-bit analog-to-digital converter (ADC) accompanied with two differential amplifiers for accurately monitoring both voltage and current. An integrated 10-bit digital-to-analog converter (DAC) is also available to margin power supplies. An internal temperature sensor provides an additional level of system monitoring.

YAPSU organize power switching, protection and sensing elements in compact and efficient LRUs, and embed electronic control circuitry that controls the power distribution elements. The electronic control facilitates efficient, real-time management of power resources onboard UAVs by Ground Control Unit.

The *YAPSU* utilize unique printed circuit boards (PCBs), bus-bars and solid state switching technology, achieving superior power density and minimizing power losses. *YAPSU* reduce aircraft wiring and weight, and significantly increase overall mission reliability.

The *YAPSU* are qualified to extreme military environment conditions and contribute to reduce the Life Cycle Cost (LCC) of the UAV, by simplifying installation, access and maintenance.

Its small size and reduced weight are especially indicated for mini and micro Unmanned Systems.



MAIN SPECIFICATIONS:

The main specifications of the YAPSU board are in the followings summarized:

- Support electronically controlled power management and distribution
- Support from 18V to 30V DC power systems
- Temperature Operating Range from -40°C to 85°C
- Output temperature from -55°C to 150°C
- Output measures from motor
- Incorporate switching, protection and sensing elements within single LRU
- Solid-state switching technology
- Extreme power density and efficiency
- Power monitoring and on-line status reporting
- Compact and lightweight packaging
- High reliability & affordability

DATASHEET:

Detailed specifications of the YAPSU board are in the followings summarized:

Dimension	
Weight	55 gr
Dimension	80 mm x 45 mm x 17 mm

Input	
Voltage	18V DC – 30V DC

Interfaces	
Types	UART, I2C, SPI, ADC, DAC, PWM

Output	
Voltage	12V, 6V, 3.3V & 5V
Current	$\pm 100\text{Ah}$
Board Temperature	-55°C – 150°C
Motor Temperature	-55°C – 150°C
Motor RPM	-
System Consumption	-