UHF Power Divider

Power combiner and splitter

Product Overview

The TT-UPD-001 UHF Power Splitter/Combiner is a broadband, low-loss passive RF device designed for efficient power splitting and signal combining in UHF communication systems. When used as a power splitter, it divides a single RF input into two equal-amplitude output signals while maintaining excellent amplitude and phase balance. When used as a power combiner, it combines two RF signals into a common output with high isolation between the input ports, minimizing interaction between connected transmitters or receivers. The device features low insertion loss, high port-to-port isolation, and excellent impedance matching across the operating frequency range, making it suitable for antenna distribution systems, transmitter combining, receiver multicoupling, and RF test and measurement applications.

Application Domains

Amateur (HAM) radio applications, UHF communication receivers base station receiving systems, satellite and telemetry ground stations etc.

Product Identification

Part Number	TT-UPD-001
Description	UHF power divider
Device Category	Power combiner and splitter

Electrical Specifications

Impedance	50 Ω
Operating frequency range	400-500 MHz
Input return loss	$<$ -10dB
Insertion loss	$<$ 0.5 dB
Connector Type	SO-239

Environmental and Mechanical Characteristics

Housing Material	Aluminium Alloy (6061)
Mounting Type	Aluminium tube enclosure
Ingress Protection	IP69
Weight	200 gm

Standard Status

RF Compliance	Industry standard
Declaration of Conformity	RoHS, CE

Operation

The TT-UPD-001 is a UHF power divider/combiner designed for UHF communication systems. It can be used either to split one RF signal into two equal output signals or to combine two RF signals into a single output. The device offers low insertion loss, high port-to-port isolation, and good impedance matching to ensure efficient signal transmission with minimal loss. It is suitable for antenna distribution systems, transmitter combining, receiver multicoupling, and RF test and measurement applications. The passive design requires no external power supply, making it simple, reliable, and easy to integrate into both fixed and portable installations. The device is compatible with dual polarized UHF antenna TT-ANT-UY-010. For optimum performance, use high-quality 50 Ω coaxial cables and ensure that all RF connectors are securely tightened. For outdoor installations, it is recommended to install a suitable RF surge arrestor, such as the TT-RF-SA-015, and ensure that the antenna system and surge arrestor are properly grounded in accordance with local electrical and lightning protection regulations.regulations. For outdoor installations, the TT-UPD-001 can be securely mounted on the antenna mast using the TT-ANT-CL-001 Jaw Clamp.

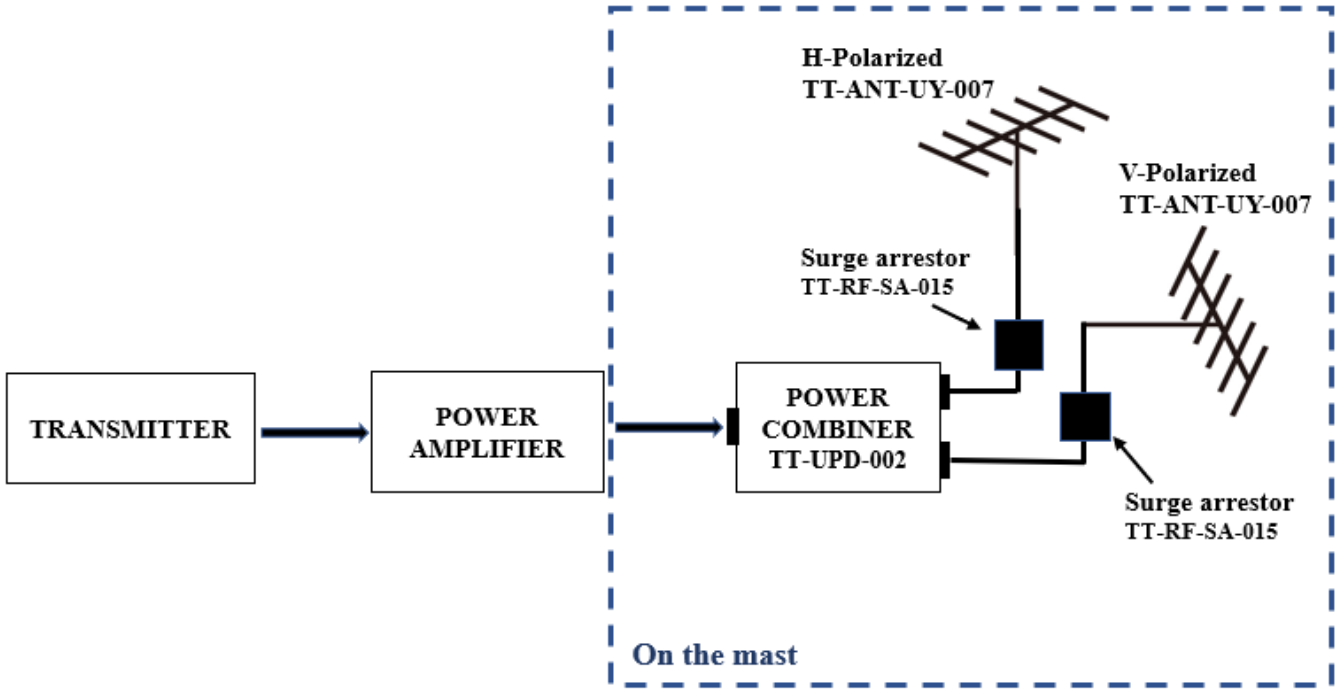

Figure 1: User setup

Product Visuals

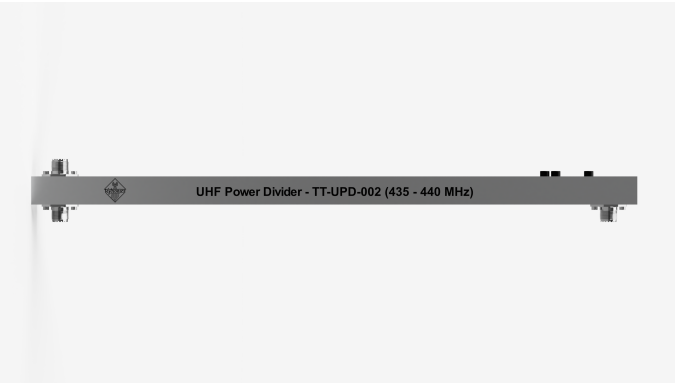

Figure 2: Front View

Figure 3: Side view