

# Specifications

and Operator Manual

## Passive Power Splitter / Combiner RPP1



Version: 1.1

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## Specifications

Dimensions (W x H x D):	80 mm x 30 mm x 127 mm
Frequency range:	100 kHz ... 154 MHz
Maximum level (I/O):	+20 dBm
Isolation TRX / TRX:	$\geq 20$ dB
Attenuation (intrinsic loss):	$\leq 1$ dB
Connectors:	BNC 50 ohms
Weight:	$\leq 100$ g
Environmental conditions:	0 ... +50 °C ambient temperature, $\leq 90$ % rel. humidity non-condensing, indoor application
Compliance:	CE according to DIN EN 55013, EN 55020, EN 60065 RoHS / WEEE Directive, ear-Reg. 27676700

All specifications are subject to design changes!

## Safety precautions

**Please always keep the following safety precautions in mind!**

**The device is designed for operation with high-frequency signals without direct or low-frequency alternating voltage. Never connect voltages outside the specified range. Under no circumstances should the the device come into contact with the mains voltage of 230 V ~!**

**It is essential to observe the lightning protection regulations for the outdoor operation of electrotechnical systems! When operating the device with antennas outside the protected area (e.g. house), it must be properly equipped with lightning protection. The HF bypass must be equipped with overvoltage protection. If there is a risk of lightning, take the device out of operation immediately (remove the HF connection)!**

**Observe the permitted temperature range for starting up the device! Do not switch the device on or off again if this range is exceeded or fallen below!**

**Never expose the device to mechanical stress due to impact, pressure, vibration or shock which exceed a normal level.**

**If you notice any damage to the device, stop the operation immediately! If necessary, send it to the supplier for repairs.**

**Would you like to dispose the device due to damage or no more usability, send it back to the supplier or return it to your local waste collection center. Never dispose of the appliance elsewhere, such as household waste. It pollutes our environment!**

# Operator Manual

The Power Splitter / Combiner RPP1 is intended to split a high-frequency line into 2 lines. It works "bidirectional". This means that power can be fed in at the "I/O" common connection and taken from the two "TRX" connections (splitter) and vice versa (combiner). The two TRX connections are decoupled and have a characteristic impedance of 50 ohms.

The RPP1 works purely passive without any active components. As a result, when operating as a splitter, an attenuation of at least 3 dB (idealized, without inherent losses) exists between the feed (I/O) and the two outputs. If an output is not connected or incorrectly adjusted, the power not consumed there is not reflected at the I/O or the other TRX connection, but converted into heat within the RPP1.

When operating as a combiner, the decoupling takes place in the same way. The connection conditions on one TRX connection have no effect on the other TRX connection. Its coupled-in power is always output to the I/O with the correct impedance.

If I/O is not terminated with the correct impedance (50 ohms), coupling (mutual interference) occurs between the TRX connections. I/O must therefore always be operated with the appropriate cable **AND** a 50 ohms termination (input or output resistance of the connected device).

All connections are low-resistance to ground. The signals must not carry any superimposed DC voltage, like the power supply for antennas / preamplifiers or control signals. If necessary, direct voltages must be blocked by external capacitors.