

# RSWU-SP16TR

Single Pole, 16 Throw RF Switching Unit, 100 kHz ... 8 GHz

## Features

- compact 19", 1 U design
- LAN remote interface
- Trigger input for synchronous switching

## Applications

- RF tests of multimedia components
- EOL test
- RF signal routing
- Broadcast, GNSS, Cellular, 5G, WiFi, Wireless



## At a Glance

The RF switch RSWU-SP16TR is a universal, bi-directional RF switching unit for signal routings.

Due to the wide frequency, the switch is compatible with almost all common communication standards:

Broadcast signals such as FM and DAB, mobile signals such as GSM900, GSM1800, UMTS, LTE and 5G, wireless communication such as the standards IEEE 802.11 a/b/g/n/ac/ax/be and WiMAX 802.16 as well as automotive specific standards such as KeylessGo.

## Wear-Free Solid-State Switches

The use of semiconductor switches enables very fast switching times. Furthermore, unlike mechanical switches, there is no wear and tear, ensuring the devices have a very long service life.

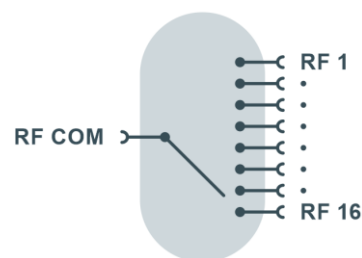
## Remote control with Trigger

For remote control the RSWU-SP16TR switch offers a LAN interface and a trigger input. A "queue" function allows preloading switching configurations to the matrix device and a triggered execution by trigger pulses. After a positive TTL trigger slope to the trigger input, the preloaded switch configuration will be executed only by hardware in micro seconds. While the trigger receiver is processing, the trigger signal is forced to LOW for typical 10 ms and all subsequent trigger signals are ignored until the trigger receiver is ready.

## Variable Mounting

The RSWU-SP16TR is housed in a 19", 1 U cover which allows an easy integration into industry-standard system racks.

## Principal Block Diagram



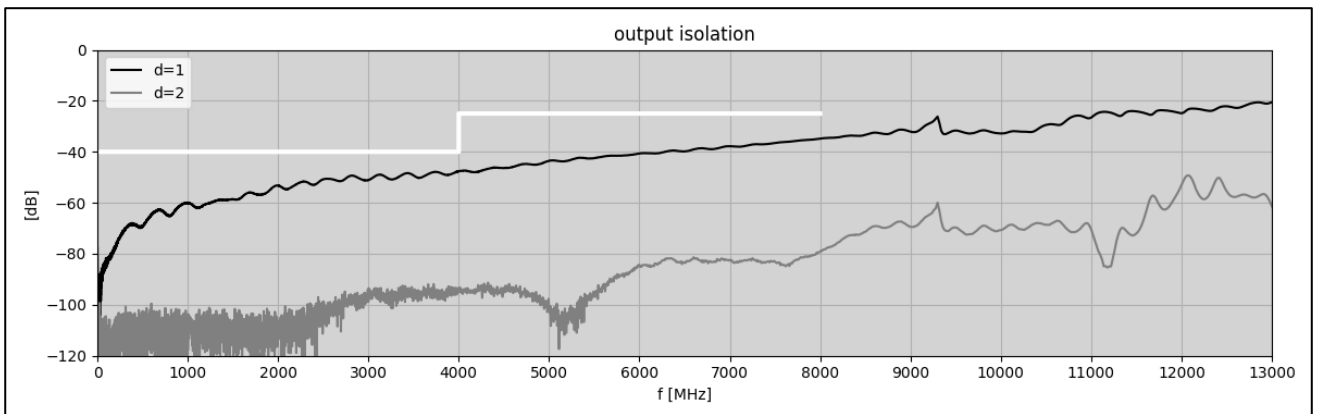
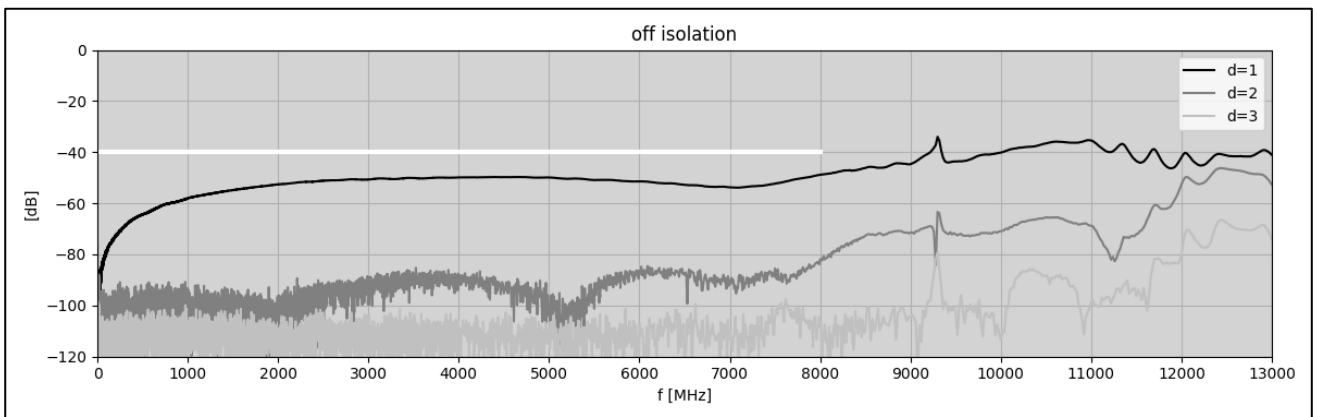
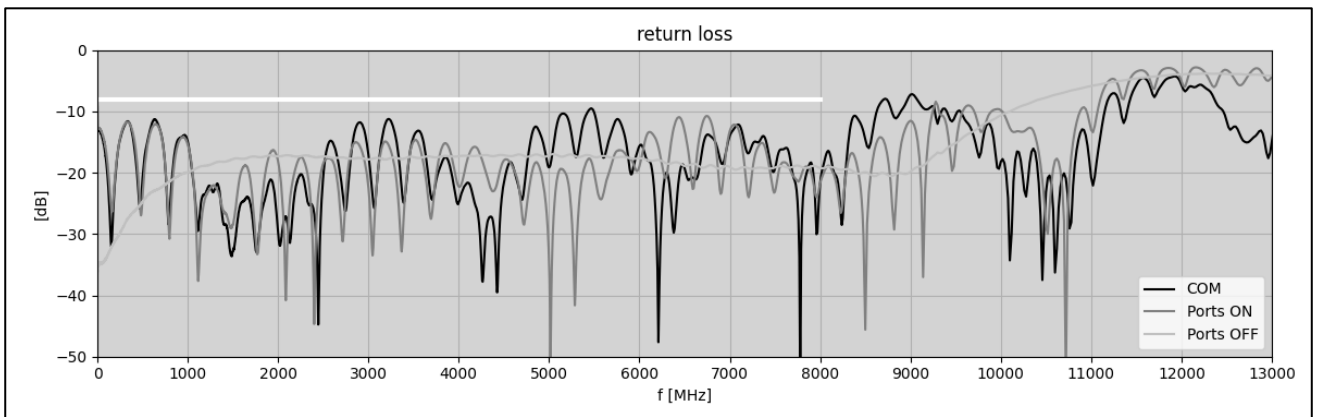
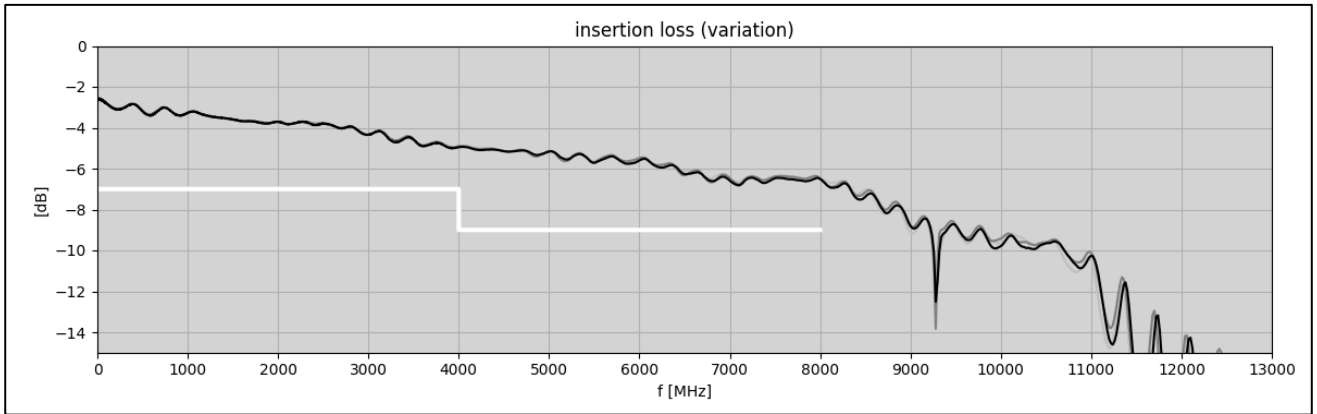
## RF Specifications

| Parameter              | Symbol             | Min.       | Typ. | Max. | Unit       | Condition                           |
|------------------------|--------------------|------------|------|------|------------|-------------------------------------|
| impedance              | $Z_{in} / Z_{out}$ |            | 50   |      | Ohm        |                                     |
| number of RF COM ports | $n_{INST}$         |            | 1    |      |            |                                     |
| number of RF ports     | $n_{RF}$           |            | 16   |      |            |                                     |
| low frequency          | $f_{min}$          |            |      | 100  | kHz        |                                     |
| high frequency         | $f_{max}$          | 8          | 11   |      | GHz        |                                     |
| insertion loss         | $S_{21}$           | -7         | -4   |      | dB         | $f \leq 4$ GHz                      |
|                        | $S_{21}$           | -9         | -6   |      | dB         | $f > 4$ GHz                         |
| off isolation          | $S_{21\_OFF}$      |            | -50* | -40  | dB         | *Distance (d=1)                     |
| output isolation       | $S_{23}$           |            | -50* | -40  | dB         | $f \leq 4$ GHz, *Distance (d=1)     |
|                        | $S_{23}$           |            | -40* | -25  | dB         | $f > 4$ GHz, *Distance (d=1)        |
| RF power               | $P_{RF}$           |            |      | +15  | dBm        | $f < 10$ MHz, CW                    |
|                        | $P_{RF}$           |            |      | +35  | dBm        | $f \geq 10$ MHz, CW                 |
|                        | $P_{RF}$           |            |      | +20  | dBm        | $f \geq 10$ MHz, CW, hot switch     |
|                        | $P_{RF}$           |            |      | +26  | dBm        | $f \geq 10$ MHz, CW, inactive ports |
| RF connectors          | $X_{RF}$           | SMA female |      |      |            |                                     |
| maximum DC Voltage     | $U_{max}$          | -          |      | 20   | V          |                                     |
| ESD discharge resistor | $R_{ESD}$          |            | 4.7  |      | k $\Omega$ |                                     |

## Common Specifications

| Parameter             | Symbol      | Min.                   | Typ. | Max. | Unit | Condition      |
|-----------------------|-------------|------------------------|------|------|------|----------------|
| power supply          | $U_{AC}$    | 90                     | 230  | 260  | V    | 50 / 60 Hz     |
| power consumption     | $P_{AC}$    |                        | 4    |      | W    |                |
| dimensions            | WxHxD       | approx. 483 x 45 x 265 |      |      | mm   | 19", 1 U       |
| weight                |             |                        | 3.3  |      | kg   |                |
| remote interface      | $X_{REM}$   | RJ45 10/100BaseT       |      |      |      | ASCII commands |
| operating temp. range | $T_o$       | + 5                    |      | + 45 | °C   |                |
| storage temp. range   | $T_s$       | - 40                   |      | + 70 | °C   |                |
| ordering information  | RSWU-SP16TR | P/N: 2506.4002.1       |      |      |      |                |

### S-Parameter (typical response)



## Appearance

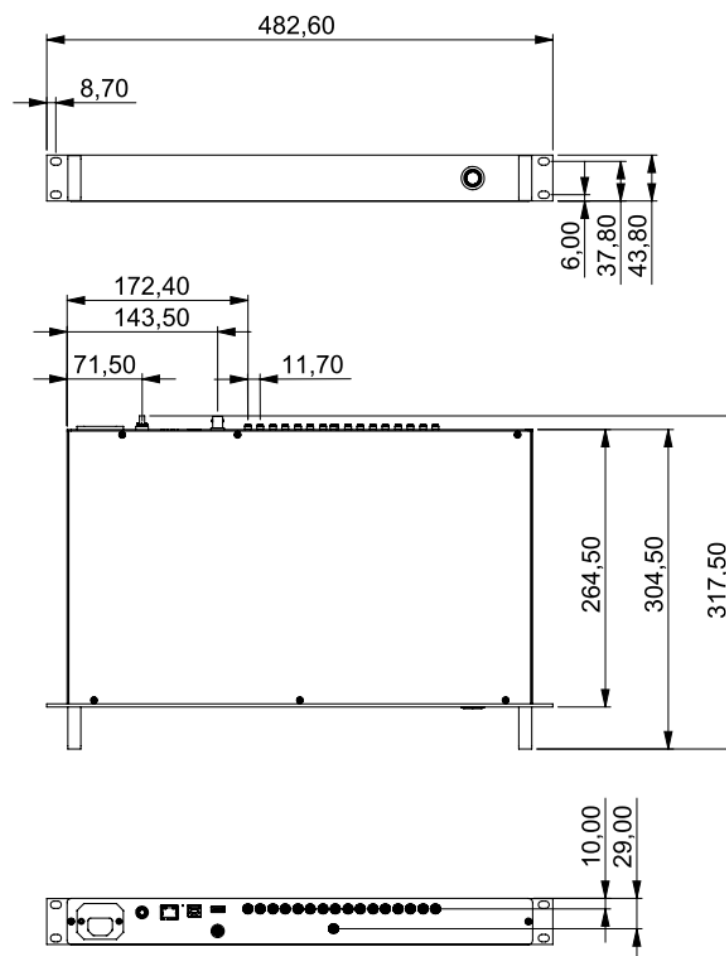
### Front View



### Rear View



## Dimensions



all dimensions in mm  
± 2mm



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