

# R&S® CS-MC53 MICROWAVE CONVERTER 53 GHz

Outdoor microwave downconverter  
in an ultracompact format



Product Brochure  
Version 02.00

**ROHDE & SCHWARZ**

Make ideas real



# AT A GLANCE

The R&S®CS-MC53 microwave converter extends the frequency range of the R&S®EM200 digital compact receiver and the R&S®UMS400 universal monitoring system (both combined with the R&S®CS-MC20 microwave converter) as well as the R&S®ESMW ultra wideband monitoring receiver from 17 GHz to 53 GHz and supports up to 500 MHz real-time bandwidth. Thanks to its ultracompact and lightweight weatherproof housing, it can be installed next to the antenna to keep cable losses at a minimum for highest sensitivity.

## Powerful frequency extension for Rohde & Schwarz monitoring receivers

The R&S®CS-MC53 microwave converter easily upgrades the R&S®EM200 and the R&S®UMS400 (both combined with the R&S®CS-MC20 microwave converter) as well as the R&S®ESMW to measure 5G signals as well as microwave and satellite links in the mmWave frequency range.

It covers the frequency range from 17 GHz to 53 GHz via block conversion to the IF range from 3.2 GHz to 6.2 GHz. While it provides 40 MHz real-time bandwidth in combination with the R&S®EM200 and R&S®UMS400, it allows for 500 MHz real-time bandwidth when paired with the R&S®ESMW. A dedicated bypass input enables reception from 10 MHz to 17 GHz.

## Ultracompact outdoor design

Due to its ultracompact design, low weight and weatherproof housing, the R&S®CS-MC53 microwave downconverter can be installed directly at the antenna in remote-controlled fixed and transportable monitoring stations and on top of rotatable masts in mobile monitoring stations.

## Easy setup and installation

The R&S®CS-MC53 microwave converter provides plug & play capability with supported Rohde & Schwarz monitoring receivers via a serial RS-485 link and is fully controlled by the receiver. When operated with the R&S®UMS400 and R&S®ESMW, the R&S®CS-MC53 is powered via the AUX connection to the receiver. For operation with the R&S®EM200, an external DC power supply for both the R&S®CS-MC53 and the R&S®EM200 is available.



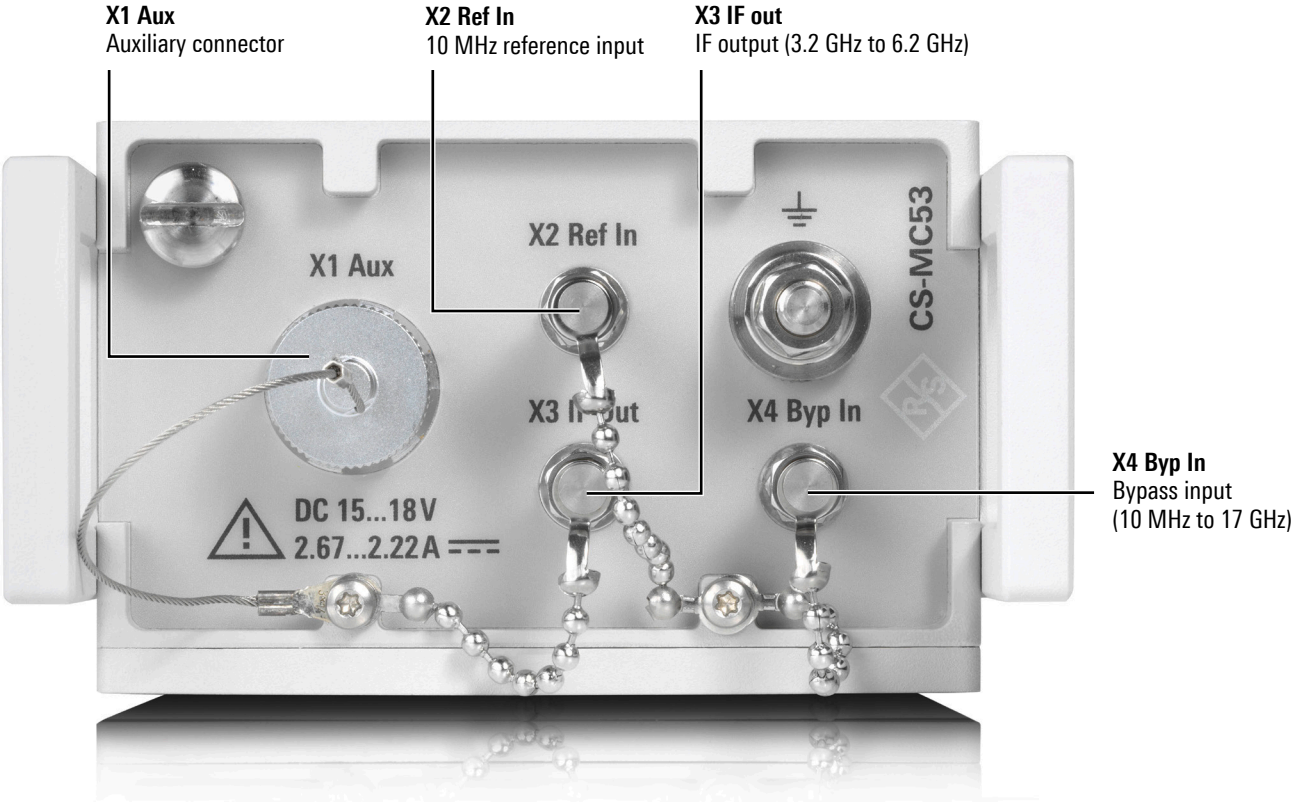
# KEY FACTS

- ▶ Conversion frequency range from 17 GHz to 53 GHz
- ▶ Supports up to 500 MHz real-time bandwidth
- ▶ Complies with IP65 or IP67 for outdoor installation
- ▶ Operating temperature from  $-30^{\circ}\text{C}$  to  $+55^{\circ}\text{C}$
- ▶ Ultracompact and lightweight design
- ▶ Compatible with R&S<sup>®</sup>EM200, R&S<sup>®</sup>UMS400 and R&S<sup>®</sup>ESMW

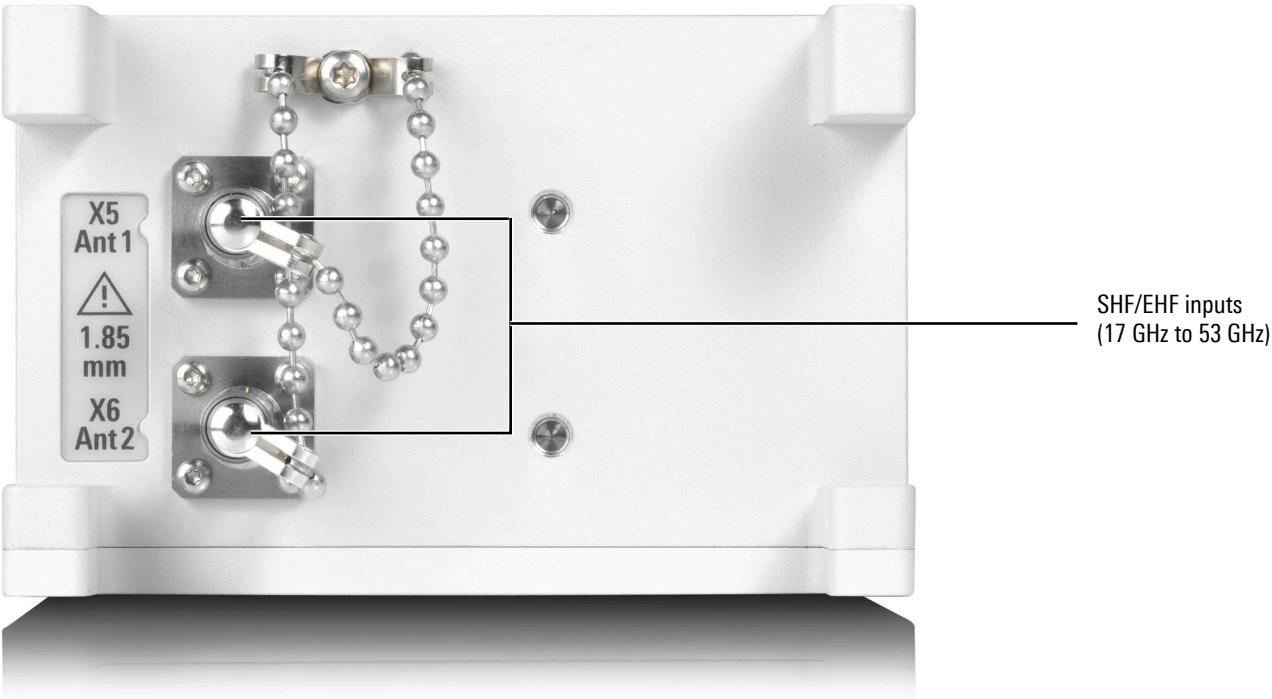


# CONNECTORS

## Front view



## Rear view



# SPECIFICATIONS IN BRIEF

## Specifications in brief

|                             |   |   |
|-----------------------------|---|---|
| Frequency range             | RF input  | 17 GHz to 53 GHz  |
|                             | bypass mode   | 10 MHz to 17 GHz  |
| Real-time bandwidth         | with R&S®EM200 and R&S®UMS400 combined with R&S®CS-MC20 | 40 MHz  |
|                             | with R&S®ESMW incl. R&S®HS1-MW18 and R&S®HS1-BW500      | 500 MHz   |
| Power consumption           |   | up to 40 W (typ.)   |
| Operating temperature range |   | -30°C to +55°C  |
| Protection class            |   | IP65 or IP67, in line with IEC 60529                      |
| Dimensions                  | W × H × D   | 116 mm × 65 mm × 305 mm<br>(4.57 in × 2.56 in × 12.01 in) |
| Weight                      |   | approx. 2.2 kg (4.85 lb)                                  |

# ORDERING INFORMATION

| Designation  | Type           | Order No.    |
|--|----------------|--------------|
| <b>Base units (including accessories such as power cable, manual)</b>                                      |                |              |
| Microwave converter 53 GHz, with single SHF/EHF input  | R&S®CS-MC53    | 4502.5500.02 |
| Microwave converter 53 GHz, with dual SHF/EHF inputs   | R&S®CS-MC53    | 4502.5500.03 |
| <b>External accessories (such as PC software, add-ons, peripherals)</b>                                    |                |              |
| Omnidirectional antenna, 17 GHz to 70 GHz  | R&S®TSMS-OMN70 | 4902.6000.02 |
| Directional antenna, 17 GHz to 53 GHz  | R&S®CS-HORN53  | 4502.5551.00 |
| RF cable<br>(R&S®CS-MC53 to R&S®TSMS-OMN70 or R&S®CS-HORN53,<br>1.85 mm (m) to 1.85 mm (m), length: 0.5 m) | R&S®CS-MC53RF  | 4502.5616.02 |
| RF cable<br>(R&S®CS-MC53 to R&S®TSMS-OMN70 or R&S®CS-HORN53,<br>1.85 mm (m) to 1.85 mm (m), length: 1 m)   | R&S®CS-MC53RF  | 4502.5616.03 |
| TMS antenna mounting kit, for R&S®TSMS-OMN70 and R&S®CS-HORN53   | R&S®CS-MC53TMS | 4502.5568.00 |
| MMS antenna mounting kit, for R&S®TSMS-OMN70   | R&S®CS-MC53MO  | 4502.5574.00 |
| MMS antenna mounting kit, for R&S®CS-HORN53  | R&S®CS-MC53MH  | 4502.5580.00 |
| MMS patch cable, for R&S®ESMW  | R&S®CS-MC53MC1 | 4502.5597.00 |
| MMS patch cable, for R&S®UMS400 and R&S®EM200  | R&S®CS-MC53MC2 | 4502.5600.00 |
| Cable set, for R&S®ESMW, length: 10 m  | R&S®CS-MC53C1  | 4502.5622.00 |
| Cable set, for R&S®UMS400 and R&S®EM200, length: 3 m   | R&S®CS-MC53C2  | 4502.5639.02 |
| Cable set, for R&S®UMS400 and R&S®EM200, length: 5 m   | R&S®CS-MC53C2  | 4502.5639.03 |
| SMA-T reference splitter, for R&S®UMS400 and R&S®EM200   | R&S®CS-MC53TR  | 4502.5651.00 |
| Power cable, for R&S®EM200   | R&S®CS-MC53DC  | 4502.5645.00 |
| Carrying box   | R&S®HE400-Z2   | 4104.9050.02 |

## Service options

|                                |         |  |
|--------------------------------|---------|--|
| Extended warranty, one year    | R&S®WE1 |  |
| Extended warranty, two years   | R&S®WE2 | Contact your local Rohde & Schwarz sales office. |
| Extended warranty, three years | R&S®WE3 |  |
| Extended warranty, four years  | R&S®WE4 |  |

## Service at Rohde & Schwarz You're in great hands

- ▶ Worldwide
- ▶ Local and personalized
- ▶ Customized and flexible
- ▶ Uncompromising quality
- ▶ Long-term dependability

## Rohde & Schwarz

The Rohde&Schwarz technology group is among the trail-blazers when it comes to paving the way for a safer and connected world with its leading solutions in test & measurement, technology systems and networks & cybersecurity. Founded 90 years ago, the group is a reliable partner for industry and government customers around the globe. The independent company is headquartered in Munich, Germany and has an extensive sales and service network with locations in more than 70 countries.

[www.rohde-schwarz.com](http://www.rohde-schwarz.com)

## Sustainable product design

- ▶ Environmental compatibility and eco-footprint
- ▶ Energy efficiency and low emissions
- ▶ Longevity and optimized total cost of ownership

Certified Quality Management

**ISO 9001**

Certified Environmental Management

**ISO 14001**

## Rohde & Schwarz training

[www.training.rohde-schwarz.com](http://www.training.rohde-schwarz.com)

## Rohde & Schwarz customer support

[www.rohde-schwarz.com/support](http://www.rohde-schwarz.com/support)

