

# R&S® CS-MC53

## MICROWAVE CONVERTER 53 GHz

Outdoor microwave downconverter  
in an ultracompact format



Product Brochure  
Version 03.00

**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 converter 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.



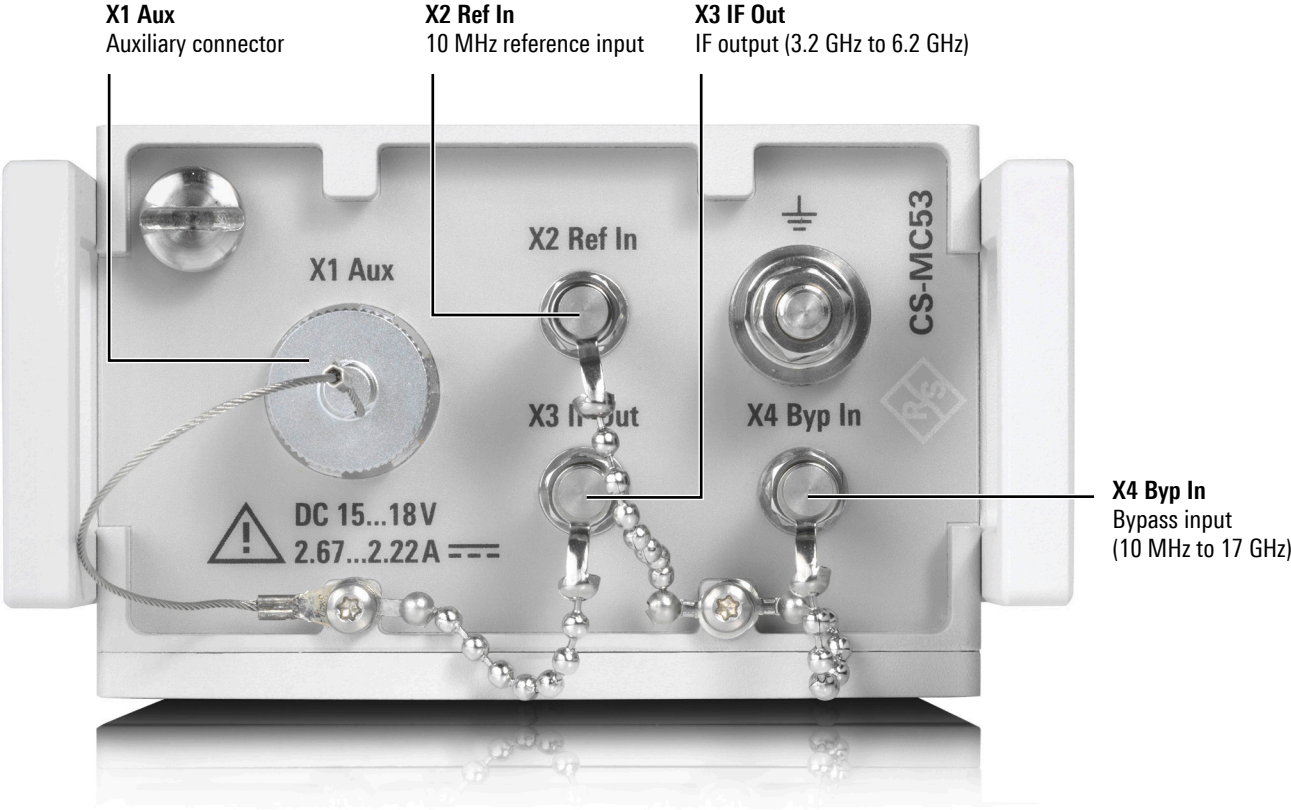
# KEY FACTS

- ▶ 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

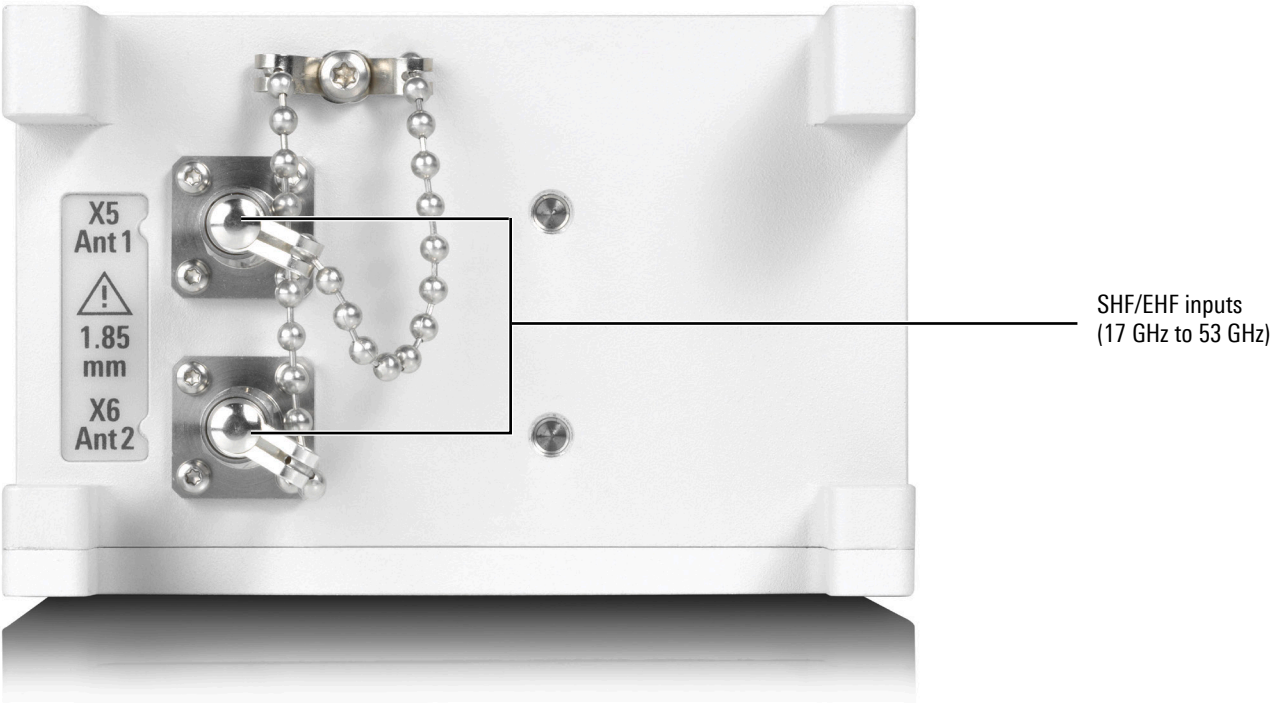


# CONNECTORS

## 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	R&S®EM200 and R&S®UMS400 combined with R&S®CS-MC20 microwave converter	40 MHz
	R&S®ESMW including R&S®HS1-MW18 microwave module and R&S®HS1-BW500 real-time bandwidth option	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 IEC60529
Dimensions	W × H × D	116 mm × 65 mm × 305 mm (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 (R&S®CS-MC53 to R&S®TSMS-OMN70 or R&S®CS-HORN53, 1.85 mm (m) to 1.85 mm (m), length: 0.5 m)	R&S®CS-MC53RF	4502.5616.02
RF cable (R&S®CS-MC53 to R&S®TSMS-OMN70 or R&S®CS-HORN53, 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
AUX distribution cable	R&S®CS-MC53AUX	4502.5668.00
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	Contact your local Rohde & Schwarz sales office.
Extended warranty, two years	R&S®WE2	
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 trailblazers 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)

