

Rohde & Schwarz RFM 100 Directional Power Meter Flyer

Rev. 1.0

Around the year 1989 the German test equipment specialist Rohde & Schwarz offered a new directional power meter called RFM-100. It was developed and produced by a company called Neuwirth/Bick of which Rohde & Schwarz had become a majority shareholder in 1988. This power meter includes 2 directional couplers for the frequency ranges 25-200 MHz and 200-1000 MHz as well as the associated detectors to measure forward and reflected power simultaneously. The coupler can be detached for remote operation from the display. RFM-100 can measure forward power levels up to 100 Watts and reflected power levels up to 30 Watts. It is powered by 8 AA batteries and certainly targeted for portable use. It also includes a 50 Ohms dummy load which can handle 30 Watt CW power and 100 Watt up to 3 minutes.

Here is a picture of this lovely piece of equipment:



Below you find an English version of a product flyer covering the most important features.

I am always looking forward for feedback or further information. Please send them to my Email address given below.

Best regards

Matthias

Email: DD1US@AMSAT.ORG

Homepage: <http://www.dd1us.de>

Attachments:

- 1.) Product Flyer in English



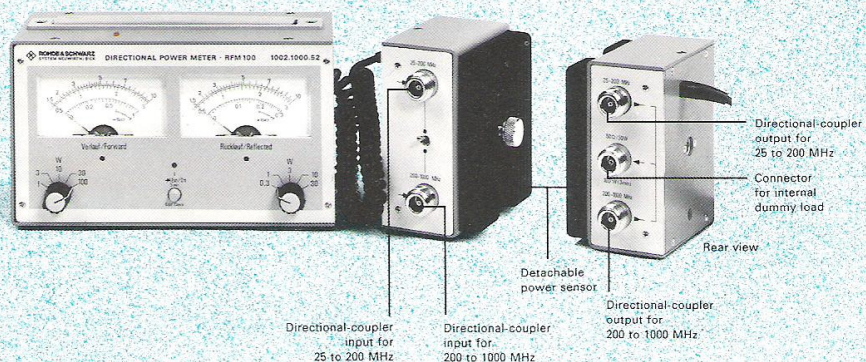
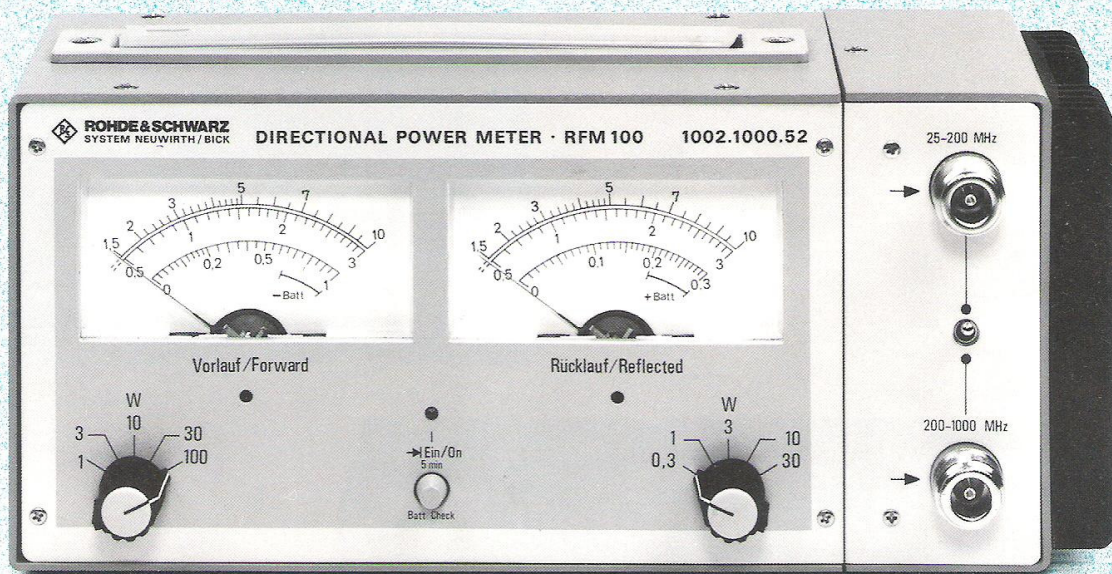
ROHDE & SCHWARZ
SYSTEM NEUWIRTH / BICK

Directional Power Meter

RFM 100

25 to 1000 MHz / 100 W

- Simultaneous measurement of forward and reflected power
- Detachable power sensor with integrated dummy load
- Battery operation with automatic switch-off
- Compact, lightweight and easy-to-use



DIRECTIONAL POWER METER RFM 100

With its small dimensions and low weight of only 1.8 kg, the **Directional Power Meter RFM 100** is a compact, handy and easy-to-use unit for power measurements on radio equipment.

As it measures forward and reflected power from 20 mW to 100 W over a wide frequency range, the RFM 100 can be used for measurements on equipment ranging from radiotelephones to relay transmitters operating at frequencies from the CB band up to 1 GHz.

Thanks to the detachable power sensor and internal 100-W dummy load, the RFM 100 is a convenient power meter for measurements on transmitter output stages in the **laboratory and production**.

Separate panel meters for forward and reflected power enable efficient **antenna measurements**. For use in places that are hard to get at (e.g. dashboard or luggage boot of cars), the power sensor can be removed from the basic unit and operated via a highly flexible cable 2 m in length.

The **power supply** comes from eight 1.5-V batteries (round cells, size R6) contained in two battery compartments on the rear of the set. The batteries are briefly tested upon switch-on (indication on panel meters). ON indication is by a flashing green LED. The set is automatically switched off after five minutes.

Specifications

Frequency range	25 to 1000 MHz; two subranges: 25 to 200 and 200 to 1000 MHz
Power ranges	
Forward power	0.02 to 1/0.5 to 3/1.5 to 10/5 to 30/15 to 100 W
Reflected power	0.02 to 0.3/0.15 to 1/0.5 to 3/1.5 to 10/5 to 30 W (separate meters for forward and reflected power)
Indication	on two analog panel meters
Lowest power reading	20 mW
Error of indication (between 20 and 25 °C)	< 5% of rdg ± 3% of fsd
Effect of temperature	
10 to 40 °C	3% of rdg
0 to 50 °C	10% of rdg
RF connectors	N-female
Characteristic impedance	50 Ω
VSWR	< 1.1 up to 500 MHz < 1.22 up to 1000 MHz
Insertion loss	
up to 200 MHz	< 0.2 dB
up to 500 MHz	< 0.35 dB
up to 1000 MHz	< 0.6 dB
Directivity	
up to 500 MHz	> 26 dB
up to 1000 MHz	> 20 dB
Max. forward power	100 W
Electrical length	127 mm
Dummy load	50 Ω, VSWR < 1.1
Power-handling capacity	100 W max. for 3 minutes, 30 W continuous

General data

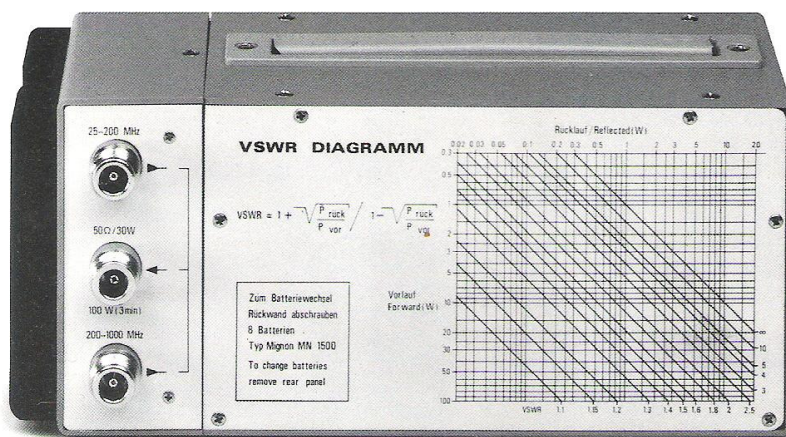
Rated temperature range	0 to +50 °C
Storage temperature range	-25 to +70 °C
Power supply	8 dry cells 1.5 V, size R6 (IEC)
Battery life	> 800 hours; ON indication by LED; automatic switch-off approx. five minutes after switching on indication on panel meters automatically upon switch-on
Battery test	
Dimensions	
Basic unit	185 mm × 110 mm × 85 mm
Power sensor	60 mm × 110 mm × 85 mm
Basic unit with power sensor attached	245 mm × 110 mm × 85 mm
Weight	1.8 kg
Connecting cable (basic unit/power sensor)	2 m long
Housing	light-metal housing with folding handle; power sensor with heat sink

Ordering information

Order designation	► Directional Power Meter RFM 100 1002.1000.52
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Recommended extras

Jumper with N-connectors (for connection of internal dummy load)	RFM-Z5	1002.2807.52
Carrying Case	RFM-Z6	1002.2907.02



VSWR diagram on rear panel of RFM 100 for rapid determination of VSWR from forward and reflected powers measured



ROHDE & SCHWARZ

GmbH & Co. KG · D-8000 München 80 · Mühlendorferstr. 15 · Tel. (089) 41 29-0 · Telefax (089) 41 29-2164 · Telex 5 23 703
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