ROHDE & SCHWARZ

URE3

The Rohde & Schwarz URE3 is a high-performance broadband RMS and peak voltmeter designed for high-precision AC and DC measurements up to 30 MHz. Featuring a patented rectifier circuit with microprocessor-controlled autocalibration, the URE3 delivers exceptional measurement accuracy across a wide dynamic range. With features like automatic frequency response correction, selectable high-pass and low-pass filters, and an optional comprehensive digital/analog I/O expansion, the URE3 is optimized for demanding lab and automated test system (ATE) applications.

SPECIFICATIONS

General

Interfaces	GPIB (IEEE-488) standard; optional: ready output, trigger input, TTL frequency counter input, dual-channel analog output (via In/Out option)
Display	4.5-digit LCD with selectable scale analog bar graph
Setup Memory	9 complete instrument configurations

Physical

Power Supply	100 V / 120 V / 220 V / 240 V (±10%), 47 Hz to 440 Hz
Operating Temperature	0 to 50 °C
Dimensions (W×H×D)	219 × 103 × 350 mm
Weight	4.6 kg

Voltage Measurement Specifications

AC Voltage Measurement Range	50 µV to 300 V
DC Voltage Measurement Range	0 to 300 V
Frequency Range	DC, 10 Hz to 30 MHz
Frequency Measurement Range	Up to 30 MHz
Crest Factor Range	Up to 7 (at full scale)
Measurement Resolution	4.5 digits
True RMS Converter Type	Patented rectifier circuit with microprocessor-controlled autocalibration
AC+DC Coupling Capability	Yes (True RMS AC+DC weighting)
Automatic Frequency Response Correction	Supported (utilizes measured frequency internally to enhance accuracy at high frequencies)
Zero Function	Supported (compensates for inherent noise and external noise voltages)

Input Characteristics

Input Impedance	1 MΩ
Input Coupling Modes	AC, DC, AC+DC

Measurement Speed and Dynamics

Maximum Reading Rate	30 measurements/s

Signal Conditioning and Filters

Low-Pass Filter	Supported

Display and Math Functions

Relative Measurement Mode	Supported
Peak-Value Measurement Modes	Positive peak, negative peak, peak-to-peak
Statistical Functions	Minima / Maxima logging
Probe Division Factor Correction	Supported (allows scaling display results for external passive/ active probes)

Inputs and Outputs (I/O)

Dual-Channel Analog Output	Supported (option-dependent via In/Out interface option)
Ready Output	Supported (option-dependent via In/Out interface option)
External Trigger Input	Supported (option-dependent via In/Out interface option)
TTL Frequency Counter Input	Supported (option-dependent via In/Out interface option)

Input

Maximum Input Voltage	300 V (RMS), 425 V (peak)
Input Capacitance	20 pF

Performance

Basic DC Accuracy	±(0.02% of reading + 0.01% of full scale)
Basic AC Accuracy	±(0.05% of reading + 0.02% of range) at 1 kHz

Options

Rear Panel Connector Option	Option URE3-B1 (relocates front-panel inputs and outputs to the rear)

Environmental

Storage Temperature Range	-40 °C to +70 °C

Power Details

Power Consumption	Approx. 30 VA
Line Frequency Range	47 Hz to 440 Hz

Display & Controls

Display Resolution	320 × 240 pixels

TECHNOLOGY

Patented rectifier with microprocessor-controlled autocalibration

APPLICATIONS

Broadband voltage measurement, peak detection, and frequency measurement in RF, analog audio, and power electronics calibration.