FREQUENCY RESPONSE ANALYZER FRA5022

Oscillator section

Output waveform	Sine wave
Frequency range	Setting range: 0.1 mHz to 100 kHz Setting resolution: 5 digits or 0.01 mHz, whichever greater
AC amplitude	Setting range: 0 to 10 Vpk or 0 to 7.07 Vrms Setting resolution: 0.01 Vpk (amplitude ≧ 1 Vpk), 0.001 Vpk (amplitude < 1 Vpk) or 0.01 Vrms (amplitude ≧ 1 Vrms), 0.001 Vrms (amplitude < 1 Vrms)
DC bias	Setting range: 10 V to +10 V Setting resolution: 0.01 V
Maximum output (AC + DC)	Voltage: ±10 V (no load) Current: ±100 mA
Output impedance	50 Ω, unbalanced
Output control	Both AC and DC on, both AC and DC off, only AC off, SLOW control that gradually changes AC and DC
Isolation	Withstand voltage: 42 Vpk or 30 Vrms Electrostatic capacitance against casing: 250 pF or less

Analysis input section

Number of input channels	2
Input impedance	1 MΩ, 60 pF in parallel
Frequency range	0.1 mHz to 100 kHz
Maximum input voltage	Measurement range: ±10 V
Over-detection level	Setting range: 0.01 to 19.99 Vrms
Measurement range	Automatic switching (autoranging)
IMRR	120 dB or more
Dynamic range	120 dB or more
Isolation	Withstand voltage: 42 Vpk or 30 Vrms Electrostatic capacitance against casing: 300 pF or less

Analysis processing section

Measuring mode	CH2/CH1, CH2/OSC
Integration time	Cycle setting range: 1 to 999 Time setting range: 0.01 to 999.99 s
Ratio accuracy	0.1 Hz to 20 kHz: Gain ±0.05 dB (±0.5%), phase ±0.3° Outside the range above: Gain ±0.15 dB (±15%), phase ±1° (Input signal levels of both channels: 10 mVrms or higher)

Measurement processing section

Measuring operation	Sweep measurement/graph display Spot measurement/numeric display Scan measurement (Up to ten spots are measured in sequence.)
Sweep control	Frequency axes: Linear/logarithmic Sweep operations: Up, down, hold, stop Delay time setting range: 0.00 to 999.99 s

Display section (3.5-inch color TFT-LCD)

Graph display	Bode plots (gain dB, phase vs. frequency split display) Orthogonal coordinate display: Numeric display of the value of a + jb
Spot display	Numeric display of frequency, gain, phase, and amplitude GO/NO-GO judgment based on the range specification of gain and phase
Numeric display of measurement values	Gain: ±199.99 dB when dB 0, ±(1.0000E - 9 to 9.9999E + 9) when linear Phase: Any 360° in ±360.00° a, b: 0, ±(1.0000E - 9 to 9.9999E + 9) Amplitude: 0.000 mVrms to 19.99 Vrms
Measured data memory	Memory units: 2 Memory capacity: up to 1,000 points (per memory unit)
Memory display mode	A, B, A & B (overlapping), A/B (vector ratio)

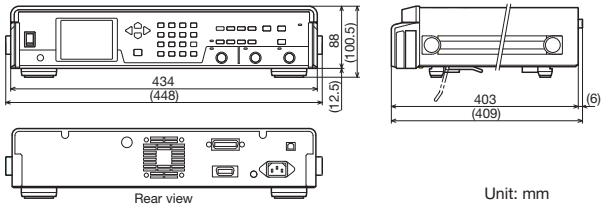
Other

Setting memory	10
Interface	GPIB, USB: USBTMC
DC power supply output	Connector for 5055 (sold separately), ±24 V
Memory backup	The settings immediately before power-off and measured data are retained.
Power supply	AC 100 V to AC 230 V ±10% (AC 250 V or lower) 50 Hz/60 Hz ±2 Hz
Power consumption	55 VA max.
Overvoltage category	Ⅱ
Temperature and humidity for guarantee	+5 to +35°C, 5 to 85% relative humidity (Absolute humidity of 1 to 25 g/m³ with no condensation)
Dimensions	434(W)×88(H)×403(D) (not including projections)
Weight	About 6.8 kg
Accessories	1 instruction manual, 1 power supply cable, 1 CD-ROM (data display software, LabVIEW driver, sample program)

Data display software (included as standard)

Data capture	Measured data loaded from FRA to PC
Data save	Measured data stored in CSV format
Graph display	Bode, Nyquist, Nicols, and Cole-Cole plots
Parameter setting	Main FRA parameters are set and controlled.

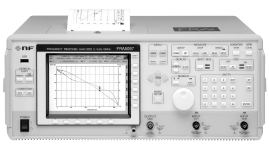
External drawings



※A rack mount bracket kit is available.

High-end model for even higher measurement accuracy

FREQUENCY RESPONSE ANALYZER FRA5087/FRA5097



FRA5097

- Frequencies measured: FRA5087 0.1 mHz to 10 MHz
  FRA5097 0.1 mHz to 15 MHz
- Amplitude accuracy: ±0.05 dB, Phase accuracy: ±0.3°
- Dynamic range: 140 dB
- Isolation voltage: 250 Vrms
- Equipped with impedance display function* and calculation functions such as automatic integration and amplitude compression.

*optional for FRA5087

*The contents of this catalog are current as of April 9, 2007.

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