

**Venable Instruments**  
Model 350 Frequency Response Analyzer  
*Specifications*

***SYSTEM***

Maximum output (AC + DC)	Voltage: $\pm 20V$ Current: $\pm 100mA$
Output Control	Signal output always starts and stops at phase 0 degrees. Output level is settled to 0V just on moment the setting of 0V is performed. ON/OFF control for output of AC or DC is independently available.
Frequency sweep- Range	0.0001 Hz to 2.2 MHz
- Sweep step	Log sweep: 0.1 to 2000 steps/decade or 1 to 20684 steps/sweep
Linear Sweep	Frequency (within a 4 digit decimal of max. sweep frequency) or 1 to 10000 steps/sweep
Isolation- Withstanding voltage	$\pm 500 Vdc$ (to chassis) $\pm 300 Vdc$ (to signal input)
- Capacitance	Less than 700pF

***ANALYZER***

Input channel	3 channels (CH-1, CH-2, CH-3)
Impedance	1 Megaohm $\pm 2\%$ , shunted by $50 \pm 5pF$
IMRR	DC to 60Hz: more than 120dB
DC bias elimination	Automatically eliminated
Isolation	
- Withstanding voltage	$\pm 500 Vdc$ (to chassis) $\pm 300 Vdc$ (to oscillator output)
- Capacitance	Less than 220pF (to chassis)
Frequency range	0.1 mHz to 2.2 MHz
Amplitude	10mV to 100 Vrms (10dB step) Fixed or Auto ranging selectable
Max. Input voltage	AC + DC 300V peak AC 140 Vrms Overload lamp lights and buzzer alarms
Overload indication	also available

***MEASUREMENT***

Repeat	Repetitive measurements at fixed frequency
Single	Single measurements at fixed frequency
Sweep	AUTO: Starts sweep and measurement automatically within a sweep range by start command. MANUAL: Starts single step sweep and measurement by start command.
Delay Time	0 to 9999 cycles 0 to 10000s
Integration Time	1 to 9999 cycles $2.56E - 2$ to 10000s
Auto integration	Integral calculation is repeated until the confidence interval with confidence level of 90% reaches: SHORT: Within less than $\pm 10\%$ of reading LONG: Within less than $\pm 1\%$ of reading

***HARMONICS AND NOISE REJECTION***

Normal mode DC	:60dB
Wide band white noise	:50dB
Harmonics (less than 10th)	:60dB (less than 100 kHz): 40dB (less than 2.2 MHz)

***GENERAL***

Power requirement	AC 90 to 132V or 180 to 264V 48 to 62 Hz 140VA
Display Indicator	40 X 2 characters liquid crystal display
Display Contents	Measurement result of selected channel Frequency OSC output level OSC DC BIAS level Error status
Remote Control	Full programmable GP-IB interface
Calibration	Internal oscillator calibrates each gain of analysis channel.

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