

# 7500 SERIES

## POWER ANALYZER

### FEATURES

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- **Single/Three-Phase Capabilities:** For single (7510) or three-phase (7530) power measurements
- **Ranges:** Up to 600 V<sub>rms</sub> @ 20 A continuous duty
- **Interfaces:** USB & GPIB/IEEE-488 & Ethernet
- CAT II 1,000 V inputs
- **Data Transfer Rates:** Up to 100 per second
- **Accuracy:** Up to 0.1%
- **Vacuum Fluorescent Display:** High-quality, easy-to-read, customizable readout displays volts, amps, power and power factor
- **Measurement:** Continuous or cycle-by-cycle
- **Bandwidth:** DC up to 80 kHz
- **Input Power:** Accepts 85/264 V<sub>rms</sub>, 60/50 Hz power at 20 VA max
- **Auto Ranging:** Automatically scales instrument for most accurate range
- **Isolation:** 1000 V<sub>rms</sub> to earth, 750 V<sub>rms</sub> line-to-line
- **Average:** Displays running average of amps, volts and watts
- **Peak Hold:** Stores the highest value read. Values can include amps, watts and volts in any combination
- **External Shunt Input**
- **Calibration Certificate:** NIST Traceable
- **Rack Mounting:** 19" (482.6 mm) with handles



Fig.1 : 7500 Series Power Analyzer

### APPLICATIONS

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- AC/DC Motors
- Lighting Fixtures/Ballasts
- Office Equipment
- Household Appliances
- Power Tools
- HVAC Equipment
- Calibration of Test and Measuring Instruments
- Transformers

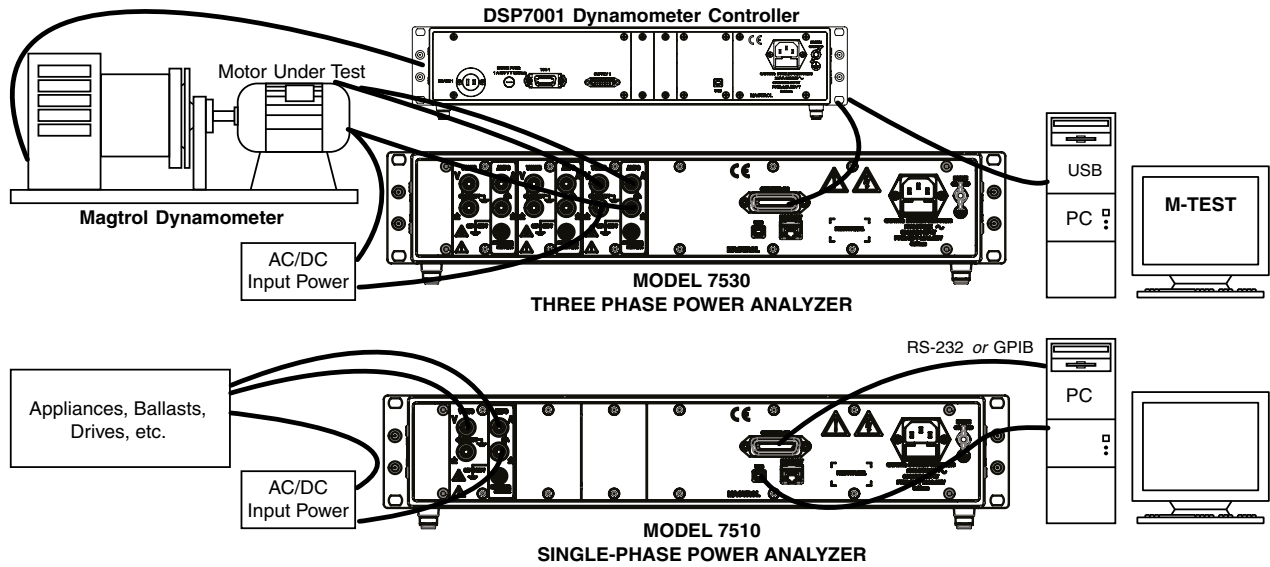
The 7500's data transfer rate makes it ideal for both static and dynamic tests.

### DESCRIPTION

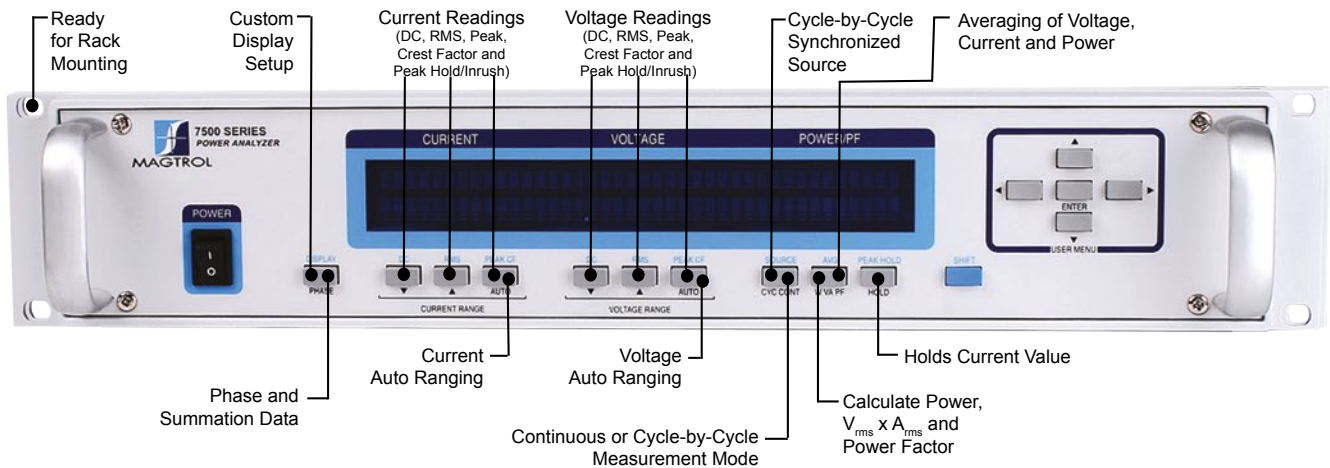
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The Magtrol 7500 Series Power Analyzer is an easy-to-use instrument ideal for numerous power measurement applications. From DC to 80 kHz AC, the 7500 measures volts, amps, watts, volt-amps, frequency, crest factor, V<sub>peak</sub>, A<sub>peak</sub> and power factor in one convenient display. They may be used either as stand-alone instruments or in conjunction with any Magtrol Hysteresis, Eddy-Current or Powder Brake Dynamometer; any Magtrol Dynamometer Controller and M-TEST Software for more demanding motor test applications.

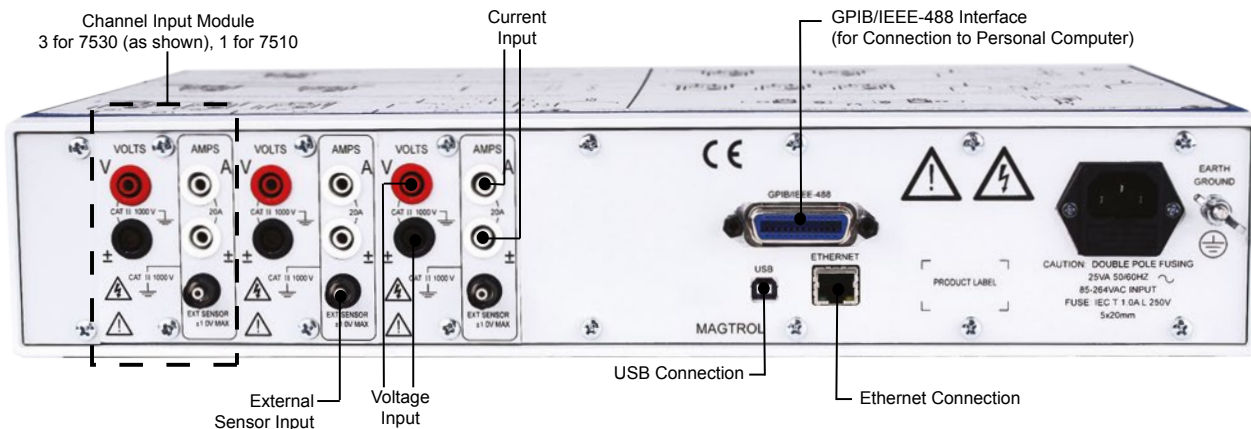
SYSTEM CONFIGURATIONS



FRONT PANEL



BACK PANEL



**SPECIFICATIONS**

	VOLTAGE INPUT	CURRENT INPUT	EXTERNAL SENSOR INPUT	POWER
Ranges	30 V, 150 V, 300 V, 600 V	1 A, 5 A, 10 A, 20 A	50 mV, 250 mV, 500 mV, 1 V	---
Maximum Voltage	750 V AC/DC terminal (V) to terminal ( $\pm$ ) and 1000 V AC/DC terminal to earth ground	1000 V AC/DC terminal to earth ground	$\pm 1$ V AC/DC	---
Crest Factor	1.7 @ full scale input	2.7 @ full scale input	2.4 @ full scale input	---
Impedance	2 m $\Omega$	12 m $\Omega$	17 K $\Omega$	---
Display Range	5 digits with 1 mV resolution	5 digits with 1 mA resolution	5 digits with 1 $\mu$ V resolution	5 digits with 1 mW resolution

**ACCURACY**

DC	$\pm(0.1\% \text{ Reading} + 0.2\% \text{ Range})$	0.4% of VA range
5 Hz - 500 Hz	$\pm(0.1\% \text{ Reading} + 0.1\% \text{ Range})$	0.2% of VA range
500 Hz - 10 kHz	$\pm((0.015 \times F(\text{kHz})\% \text{ Reading}) + 0.3\% \text{ Range})$	0.6% of VA range
10 kHz - 80 kHz	$\pm((0.015 \times F(\text{kHz})\% \text{ Reading}) + 0.3\% \text{ Range})$	0.6% + (0.03% $\times$ F(kHz)% of VA range)
> 80 kHz	N/A (measurement band limited to DC–80 kHz)	

**FREQUENCY**

Source	V <sub>1</sub> , A <sub>1</sub> , V <sub>2</sub> , A <sub>2</sub> , V <sub>3</sub> , A <sub>3</sub> (For V <sub>x</sub> and A <sub>x</sub> , source input must be >10% of range setting)
Accuracy	20 Hz to 500 Hz; 0.05%

**DIMENSIONS**

Width	19.0 in	483 mm
Height	3.5 in	89 mm
Depth	12.4 in	315 mm
with handles	13.8 in	351 mm
Weight (max)	12.97 lb	5.88 kg

**OPTIONS AND ACCESSORIES**

**EXTERNAL SHUNTS/SENSORS**

If currents continuously reach above 20 amps, an external sensor must be used. Magtrol offers three different types of external shunts for use with Magtrol Model 7500 High-Speed Power Analyzer.

The HA Series shunt, designed for power cable hook-up utilizing 3/8-16 screws, has an insulating base and can be mounted on conductive surfaces. The LAB Series shunt also comes with an insulating base, along with thumb screws for the power leads and knurled nuts on the sensing terminals. The FL Series is a relatively small bus, bar-mounted shunt with large end blocks. The comparatively large end blocks and short spacing aid in cooling and allow the shunt to operate in more extreme environments. All shunts are calibrated on equipment with current certifications traceable to N.I.S.T.

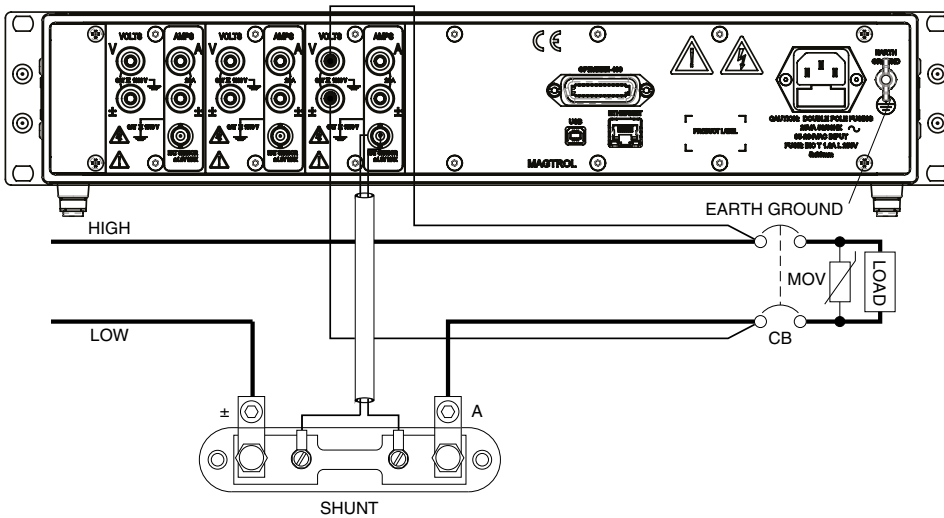
**SPECIFICATIONS**

	HA Series	LAB Series	FL Series
Rated Current	50 to 500 A	750 to 1000 A	2000 to 3000 A
Output	50 mV		
Bandwidth	DC to 60 Hz		
Accuracy	± 0.25% (± 0.1% accuracy with calibration certificate is available for an additional cost)		
Operating Temperature	For optimum accuracy, temperature of shunt should be 30 °C to 70 °C		

**AVAILABLE MODELS**

Type	P/N	Current
HA	004640	50
HA	004641	100
HA	004642	150
HA	004643	200
HA	004644	250
HA	004645	300
HA	004646	400
HA	004647	500
LAB	004648	750
LAB	004649	1000
FL	005214	2000
FL	005286	3000

**SENSOR SUBSTITUTION WIRING CONNECTION**



**Ordering Information**

**7510** Single-Phase Power Analyzer  
**7530** Three-Phase Power Analyzer