



Ballistic Peak Pressure Monitoring System

Captures and Compares Peak Output from Piezoelectric Ballistic Pressure Sensors

Highlights

- Peak Pressure Detection as Required by SAAMI and C.I.P. Standards
- Displays Peak Voltage or Pressure Directly in Engineering Units
- Dual Set Points for Establishing "Acceptable" Limits
- Operates with ICP® and Charge Output Piezoelectric Sensors
- Normalizes Sensor Output for Ease of Data Interpretation
- Long Discharge Time Constant Mode for Sensor Calibration



The Model 444A53 is a modular-style signal conditioner that combines a dual-mode amplifier module (443B102), a peak voltage monitoring module (444A152), and an AC power supply module (441A101) into one, integrated device. The unit connects directly with an ICP® or charge output pressure sensor, normalizes sensor sensitivity, and displays peak transient measurement signals in voltage or pressure units.

Unlike a digitizing peak detector, which is limited in accuracy by the sampling rate, the 444A152 peak monitoring module captures the true peak voltage of the transient event. Additionally, the module incorporates a 20 kHz low pass filter, offers reset capability between events, and delivers an analog output signal to profile the entire pressure event.

This device is ideal for barrel chamber pressure testing, lot testing of ammunition, and cartridge load studies. Two alternative versions (Models 444A51 and 444A52) eliminate the dual mode amplifier module and are intended for direct connection to ICP® pressure sensors, voltage inputs, or for existing systems that already use a separate charge amplifier.

As with all PCB® instrumentation, this equipment is complemented with toll-free applications assistance, 24-hour customer service, and is backed by a no-risk policy that guarantees satisfaction or your money refunded.



Model 444A53
Ballistic Peak Pressure Monitoring System

Specifications	
Model	444A53
Performance	
Channels	1
Input Sensor Type (selectable)	ICP®, charge, voltage
Input Sensitivity Adjustment (normalization)	0.001 to 9999 (pC or mV per unit)
Excitation Supplied (ICP® mode)	24 VDC @ 0 to 20 mA
Voltage Gain (ICP® or voltage mode)	0.1 to 1000
Charge Converter (charge mode)	0.1 to 10,000 mV/pC
Charge Input Limit	100,000 pC
Drift (long DTC mode)	<0.03 pC/sec
Discharge Time Constant (selectable)	0.18, 1.8, 10, 100, 1000, >100,000 sec
Peak / DVM Display	4-digit LCD
Peak Voltage Display Range (infinite hold)	± 10 V
Accuracy	± 1%
Display Mode	Peak, DVM, Bias Test (for ICP® sensors)
Rise Time	<1 µsec
Low Pass Filter	20 kHz
Peak Reset	Manual, Remote, or Auto (1 to 99 sec)
Environmental	
Temperature Range	+32 to +120 °F 0 to +50 °C
Electrical	
Power Required	100 to 240 VAC, 50 to 60 Hz
Relays (2 Form C each with HI or LOW setpoint)	1 A @ 30 VDC, 1/2 A @ 125 VAC
Physical	
Size (h x w x d)	6.2 x 6.06 x 10.2 in 157.5 x 153.9 x 259.1 mm
Electrical Connectors (input, peak/DVM output, analog output, remote reset)	BNC Jack

Alternate Configurations

The modular nature of this equipment permits custom configurations to suit particular requirements. For complete details and specifications, contact a factory applications engineer or your local sales representative.

Standard Configurations

For Ballistics applications:

Model 444A53 includes in a common enclosure:

- Model 443B102 Dual-Mode Amplifier Module
- Model 444A152 Peak Monitoring Module (with 20 kHz filter)
- Model 441A101 AC Power Supply Module*

Model 444A52 includes in a common enclosure:

- Model 444A152 Peak Monitoring Module (with 20 kHz filter)
- Model 441A101 AC Power Supply Module*

For Pressure, Force, Vibration, Shock, and Impact applications:

Model 444A51 includes in a common enclosure:

- Model 444A151 Peak Monitoring Module (without 20 kHz filter)
- Model 441A101 AC Power Supply Module*

Options:

*Model 441A102 DC Power Supply Module - contains internal, rechargeable battery source and connector for external DC power input (substitute for Model 441A101 AC power supply module)



Models 444A51, 444A52
Peak Monitoring Systems



Model 441A102*
DC Power Supply Module



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AS9100 CERTIFIED ■ ISO 9001 CERTIFIED ■ A2LA ACCREDITED to ISO 17025

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