



## 190 Series General Specifications & Accessories

### ACCESSORIES

CO, Combustion & Combustibles

Refrigeration Leak Detectors

Digital Manometers

Temperature Instruments

IAQ: Air Flow/Humidity

Digital Multimeters & Clamp-on Meters

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### GENERAL SPECIFICATIONS

Weight:	530g
Operating Temp:	0°C to 45°C (-32°F to 113°F)
Storage Temp:	-20°C to 60°C (-40°F to 140°F)
Relative Humidity:	0% to 80%: (0°C to 35°C/32°F to 95°F) 0% to 70%: (45°C to 55°C/95°F to 131°F)
Temp Coefficient:	0.1x (Specified Accuracy) per °C for temperature <18°C to >28°C
Power Supply	9 Volt Alkaline Battery

### STANDARD ACCESSORIES

A190	Protective Boot
A085	UL Listed Silicone Test Lead Set with Alligator Clips (Screw On)
A104	0.5 Amp/600V UL Ceramic Fuse for 100 series DMMs (2 each)
A110	10 Amp/600V UL Ceramic Fuse for 100 series DMMs (2 each)

### OPTIONAL ACCESSORIES

A100	Carrying case
A191	RS232 cable & software for optically isolated IR port
A251	AC Clamp-On Accessory for DMMs 0-400 Amps
A254	Low Current AC/DC Adapter for DMMs 10 Amp range, 0.001 resolution 60 Amp range, 0.01 resolution
A256	AC/DC Clamp-on Accessory for DMMs 0.1 A resolution
A296	AC/DC Clamp-On Accessory for DMMs 0-1,000 Amps
A301	Temperature Adapter with GK11M and battery, 0.1°C or °F resolution
A620	500psi Pressure/Vacuum Adapter for DMMs

### Distributed by:



To learn about the entire line of TPI products visit:

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## 190 Series 50,000 Count True RMS DMMs

### Three Models to Choose From

**190**  
Electrical  
Industrial  
HVAC

**192**  
Electronic

**194**  
Electrical  
Industrial  
600V CAT IV



tilt stand on all 190 series DMMs



separate battery & fuse compartment



LIMITED LIFE

All 190 series DMMs come with protective boot and silicone rubber (CAT IV 600V) test leads.



### Features

- **Large 50,000 count display** increases resolution and improves accuracy (1.7" x 2.75", 43mm x 70mm)
- **Triple Display** shows more than one reading simultaneously
- **51 Segment Analog Bar Graph** to catch fast AC fluctuations
- **Back Light** (LED Type) allows viewing in any light condition
- **Auto Range** automatically selects the best range for the measurement
- **Separate battery and fuse compartment** for easy replacement
- **True RMS** needed to accurately measure nonsinusoidal AC voltage and current waveforms found on controls and circuits
- **Increased safety** with Silicone rubber 1,000V CAT III, 600V CAT IV, 10A test leads (CE & cUL listed)
- **Capacitance** measures the value of capacitors

- **Auto Power Off** DMM will automatically power down after approximately 15 minutes of inactivity to extend battery life. Disable Auto Power Off: Hold down the REC button and turn the meter on.
- **Diode Test** displays approximate forward bias voltage
- **Continuity and buzzer** to check for opens and shorts

### ADDITIONAL FEATURES AVAILABLE ON 192 & 194 ONLY

- **Time Stamp Logging** logs up to 100 readings (min/max/avg) with a time stamp
- **Pulse Width** measures the duration of a pulse
- **Duty Cycle** displays the total "on" time of a component
- **Inductance** measures the value of inductors and coils
- **Conductance** measures the ability of a material to conduct electricity
- **Temperature** for use in HVAC, electrical, and electronic applications
- **dB Readout** displays a voltage level without regard for impedance

The Value Leader™

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# 190 Series Functions



Actual size 4.5" w x 8.0" h x 2.0" d

# 190 Series Features & Specifications

Features (for all models)	
Basic DC accuracy:	0.05%
Compare:	Compares stored value with measured value for matching components
Data Hold:	Enables the reading on the display to be frozen. The two hold system holds the previous reading when a new one is received
Relative:	Display a measured value as a percentage of a stored value. Useful for component testing
Record:	Record Minimum, Maximum, and average reading.
Auto Range:	Automatically selects the best range for measurement
Continuity & Buzzer:	Check for opens and shorts
RS232:	Optically isolated software optional
Safety:	Designed to meet cULus 3111 and IEC1010
LCD:	Large 50,000 count display
Triple Display:	Shows more than one reading simultaneously
Bar Graph:	51 Segments Analog Bar Graph to catch fast AC fluctuations
Back Light:	Allows viewing in any light condition
True RMS:	Needed to accurately measure nonsinusoidal AC voltage and current waveforms found on controls and circuits
Test Leads:	Silicone rubber 1,000 CAT III, 600V CAT IV, 10A
Auto Power Off:	DMM will automatically power down after approximately 15 minutes of inactivity to extend battery life. Disable Auto Power Off: Hold down the REC button and turn the meter on
Diode Test:	Displays approximate forward bias voltage

Specification	190 (resolution)	192 (resolution)	194 (resolution)
AC Volts	Max. reading 750 Frequency (45Hz to 20kHz) Best resolution (0.0001V)	750 (45Hz to 20kHz) (0.0001V)	750 45Hz to 20kHz (0.0001V)
DC millivolts	Max. reading 500 Best resolution (0.001mV)	500 (0.001mV)	500 (0.001mV)
DC Volts	Max. reading 1,000 Best resolution (0.0001V)	1,000 (0.0001V)	1,000 (0.0001V)
DC Microamps	Max. reading 5,000 Best resolution (0.01uA)	5,000 (0.01uA)	5,000 (0.01uA)
DC Milliamps	Max. reading 500 Best resolution (0.001mA)	500 (0.001mA)	500 (0.001mA)
DC Amps	Max. reading 10 Best resolution (0.0001A)	10 (0.0001A)	10 (0.0001A)
AC Microamps	Max. reading 5,000 Best resolution (0.01uA)	5,000 (0.01uA)	5,000 (0.01uA)
AC Milliamps	Max. reading 500 Best resolution (0.001mA)	500 (0.001mA)	500 (0.001mA)
AC Amps	Max. reading 10 Best resolution (0.0001A)	10 (0.0001A)	10 (0.0001A)
Ohms	Max. reading 500 Best resolution (0.01 ohm)	500 (0.01 ohm)	500 (0.01 ohm)
Kohms	Max. reading 500 Best resolution (0.0001 Kohm)	500 (0.0001 Kohm)	500 (0.0001 Kohm)
Mohms	Max. reading 50 Best resolution (0.0001 Mohm)	50 (0.0001 Mohm)	50 (0.0001 Mohm)
Frequency Hz	Max. reading 500 Best resolution (0.001Hz)	500 (0.001Hz)	500 (0.001Hz)
Frequency KHz	Max. reading 500 Best resolution (0.0001kHz)	500 (0.0001kHz)	500 (0.0001kHz)
Inductance mH	Max. reading no Best resolution	300 (0.01)	300 0.01
Temperature (maximum)		2,462°F	2,462°F
Resolution (maximum)		0.1°F	0.1°F
Capacitance	Max. reading 20,000 Best resolution (0.001)	100 (0.001)	20,000 (0.001)
Micro farads		50nS	50nS
Conductance		0.1 to 99.9%	0.1 to 99.9%
Duty Cycle		500mS, 1S	500mS, 1S
Pulse Width		60dB	60dB
dB		600V 500mA 600V 10A	1000V 440mA 1000V 11A
Fuse		CAT II 1,000V CAT III 600V pending	CAT II 1,000V CAT III 600V pending
Agency Approval:	CEIC61010 cULus3111		CAT III 1,000V CAT IV 600V pending