

Controls / Functions / International Symbols

TPI offers a complete line of...

CO, Combustibles & Combustion (CEA)
Refrigerant Leak Detectors

Digital Manometers

Temperature Contact & IR Instruments

IAQ: Air Flow / Humidity

Handheld Oscilloscopes

Digital Multimeters & Clamp-on Meters

Accessories & Kits

Test Products International, Inc.
Headquarters:
9615 SW Allen Blvd.
Beaverton, OR 97005
USA
503-502-9197
Fax: 503-520-1225
email:
info@tpi-thevalueleader.com

Test Products International, Ltd.
342 Bronte St. South
Unit 9
Milton, Ontario L9T
5B7
Canada
905-693-8558
Fax: 905-693-0888
email:
info@tpicanada.com

Test Products International UK Ltd.
Longley House, East Park
Crawley, West Sussex
RH10 6AP England
Tel: +44 (0)1293 561212
Fax: +44 (0)1293813465
contactus@tpieurope.com

Controls and Functions

Push Buttons

- REC Activates back light for LCD (automatically turns off after approx. 70 sec.)
- COMP Activates the Min/Max/Ave mode
- REL% Activates the Compare mode
- Range Activates the REL% mode
- EDIT Activates manual ranging
- HOLD Activates the EDIT mode for Compare and Relative% functions
- ON/OFF Activates two-hold data-hold mode
- Data-H Activates special dual functions on LCD. (Min/MAX time references)
- Turns DMM on and off
- Activates the data hold function

Rotary Switch cont'd

- Selects the diode test function
- Selects resistance function. (Push the yellow button to activate continuity buzzer)
- Selects the DC mA function
- Selects the DCA function (10A max.)
- Selects the ACA function (10A max.)
- Selects the AC mA function
- Selects the Capacitance function
- Selects the Frequency function

Input Jacks

- A Red test lead connection for current measurements on the 2 and 10 ACA and DCA functions
- mApA Red test lead connection for current measurement on the mA and A DCA and ACA functions
- COM Black test lead connection for all functions
- V Red test lead connection for all OHM, DCV, and ACV functions

Rotary Switch

- Selects the DCV function. Select the best range for the voltage to be measured
- Selects the ACV function. Select the best range for the voltage to be measured
- Selects the DCA function. Select the best range for the current to be measured
- Selects the ACA function. Select the best range for current to be measured
- Selects resistance, diode, or continuity function
- Turns the instrument off
- Selects the DC mV function
- Selects the DCV function
- Selects the ACV function (Push the yellow button to display frequency of measured voltage on lower display)

International Symbols



CAUTION: RISK OF ELECTRICAL SHOCK



AC (ALTERNATION CURRENT)



DC (DIRECT CURRENT)



REFER TO INSTRUCTION MANUAL



GROUND



DOUBLE INSULATION



EITHER DC OR AC



FUSE

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To learn about the entire line of TPI products visit:

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DMM SELECTION 0804
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FAQ

1. Is there a way to measure higher current with a TPI DMM?

TPI DMMs (except the 120 and 126) have the capacity to read up to 10A AC/DC. Optional adapters are available for all models to increase the current range. Our shunt adapters are available to increase the range up to 1,000A AC/DC.

2. What other adapters are available for TPI DMMs?

Various adapters including carbon monoxide (A771), pressure (A620/630), and clamp-on low current (A254) are available. Contact TPI for additional information.

3. Which of the TPI DMMs will measure temperature?

All TPI DMMs can measure temperature by using the optional A301 K-Type thermocouple temperature adapter.

4. Which TPI DMMs can measure DC millivolts?

All TPI DMMs measure millivolts. Models are available with 1 or 0.1 millivolt resolution.

5. Which TPI DMMs can measure DC microamps?

The TPI 126, 133, 135, 153, 163, 183, 190, 194, 196, and 440 all have this capability.

6. Which TPI DMMs will measure capacitance?

The TPI 135, 183, 190, 192, 194, and 440 all have this capability.

7. What is continuity?

Continuity refers to a test performed on wires and circuits to see if a break(open) exists. If the wire or circuit is continuous, the resistance reading will be at or near zero. The continuity range on a meter provides audible indication of a continuous circuit, allowing quicker tests without having to take your eyes off the circuit or wire under test.



DMM Selection Guide

TPI's wide range of multimeters offers the features necessary for the most demanding applications.



120 126 133 135 153 163 183 190 ~ 196 440

From the compact size 120 series to the 440 oscilloscope DMM, you will find tremendous value and performance for the price.

Selecting the proper meter for your application is important. The application chart, terminology definitions and FAQ's on this page are designed to assist in the selection process. Once you have reviewed this page please look at the chart on the back for a comparison of each DMM. Use this chart to choose the meter that is right for you.

APPLICATIONS

Application	Market				Function	120	126	133	135	153	163	183	190	192	194	196	440
	HVACR	Electrical	Electronic	Industrial													
Thermocouples in furnaces and gas appliances	•				DCmV	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
Heat anticipator current in thermostats	•				ACA			⊙									
Line voltages	•	•	•	•	ACV	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
Control voltages	•	•	•	•	ACV/DCV	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
Flame safety control current	•				DCuA		⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
Heating element resistance	•				Ohms	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
Compressor winding resistance	•				Ohms	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
Contact and relay coil resistance	•	•		•	Ohms	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
Motor run and start capacitors	•	•			CAP			⊙				⊙	⊙		⊙		⊙
Use bar graph to indicate rapid fluctuations	•	•	•	•	ALL							⊙	⊙	⊙	⊙	⊙	⊙
Continuity of wiring	•	•	•	•	Ohms	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
Measure frequency on control and line voltage	•	•	•	•	Hz							⊙	⊙	⊙	⊙	⊙	⊙
Record minimum and maximum of measurements	•	•	•	•	REC		⊙			⊙		⊙	⊙	⊙	⊙	⊙	⊙
Measure temperature*	•	•	•	•	DCV	⊙	*	⊙	*	⊙	*	⊙	*	⊙	*	⊙	*
Measure True RMS of distorted or non-linear signals	•	•	•	•	ACV/ACA							⊙	⊙	⊙	⊙	⊙	⊙
Measure line current up to 10 amps	•	•			ACA			⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
Test continuity of circuit breakers and fuses	•	•			Ohms	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
Measure voltage of direct drive DC motors	•				DCV	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
Measure power supply voltage				•	ACV/DCV	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
Measure power supply current				•	ACA/DCA	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
Power Quality		•		•	ACV/ACA												⊙
Audio		•			ACV/ACA												⊙
Video				•	ACV												⊙
Logic Tests				•	LOGIC												⊙
Waveform Display		•		•	AC+DC V+A												⊙
Process Loop Calibration				•	MA OUT												⊙

*Requires A301 adapter

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See page 3 inside for ranges, specifications, and features.

