

Controls / Functions / International Symbols

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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 REL% mode
- Range** Activates manual ranging
- EDIT** Activates the EDIT mode for Compare and Relative% functions
- HOLD** Activates two-hold data-hold mode
- ON/OFF** Turns DMM on and off
- Data-H** Activates the data hold function

Rotary Switch

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

Rotary Switch cont'd

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

International Symbols



CAUTION: RISK OF ELECTRICAL SHOCK



GROUND



AC (ALTERNATION CURRENT)



DOUBLE INSULATION



DC (DIRECT CURRENT)



EITHER DC OR AC



REFER TO INSTRUCTION MANUAL



FUSE

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To learn about the entire line of TPI products visit:

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L TAW DMM 1005
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DMM 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



120 122 126 133 135 153 163 183 190 ~ 196 440

Palm Size
120, 122, 126

Full Size
133, 135, 153, 163,
183, 190, 192, 194,
196

True Rms
183, 190, 192, 194,
440

50,000 Count High Resolution
190, 192, 194, 196

Wave Form Display
440

Process Loop Calibration
196

True RMS Plus Waveform
440

- Determine the maximum over voltage installation category (CAT I ~ CAT IV) the multimeter will be used in and narrow your choice to those meters meeting the requirement. The Category rating for each meter is listed on page 2 in the specifications table.
- Narrow your choice by selecting meters with the features required for your intended applications. For example, if your applications require a CAT III meter with true RMS, frequency, and RS232 output capabilities, the TPI 183 or TPI190 would be good choices. See applications listed below.
- Finally, select a meter with enough range, accuracy, and resolution for the tests you will perform. For example: the TPI 183 and the TPI 190 meet your application needs, but you require precision high-resolution measurements. Then the 50,000 count TPI 190 would be the better choice.

APPLICATIONS

Application	Market				Function	120	122	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				⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
High resolution, high accuracy	•	•			ALL												⊙	⊙
High resolution, high accuracy	•	•			ALL												⊙	⊙
Category IV tests	•	•			ACV/DCV												⊙	⊙
Process loop calibration	•				mA Out													⊙
Power Quality	•	•			ACV/ACA													⊙
Audio	•				ACV/ACA													⊙
Video	•				ACV													⊙
Logic Tests	•				LOGIC													⊙
Waveform Display	•	•			AC+DCV+A													⊙

*Requires A301 adapter

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

