



ETI PRECISION

PI-1600 Gen2

Portable Circuit Breaker Test Set

Our Mission is Reliability

ETI Precision manufactures industry-leading high-current circuit breaker testers and AC/DC variable power supplies. Our products are manufactured in the USA and deployed at testing companies and within critical environments nationwide, ensuring technical functionality, accuracy, and increased equipment availability.



DESCRIPTION

The PI-1600 Circuit Breaker Test System incorporates modular design and flexibility to provide unequaled capability in a portable unit. This tester has been designed and built with a focus on reliability, durability, and ease-of-use.

- **Peak Output of 16,000A:** This test set achieves peak output of approximately 16,000A, making the unit ideal for testing draw-out breakers and molded-case breakers up to 1,600A continuous.
- **Built for Field Service:** The PI-1600 test set is built with interlocking enclosures that each weigh no more than 125 pounds. It comprises the PI-800 and the PI-AUX.
- **Easy and Accurate:** Basic operation is very simple, and the proven MAC-21 instrumentation provides optimal output control and measurement. The MAC-21 instrumentation is supplied in a separate rugged portable case, interlocks with the PI-800, and connects to a cable in the rear of the test set.
- **Maximizing Testing Flexibility:** Available in two switch-selectable input voltage options including:
 - Option A Input: 120, 208-240 VAC
 - Option B Input: 208, 240 and 277 VAC
- **Prioritizing Safety:** Upgrades and improvements include protecting your equipment and technicians from accidental mains overvoltage situations.

APPLICATIONS

This test set will test low-voltage, molded-case, and metal-clad, direct acting AC circuit breakers from various manufacturers. The test set can also be used for high-current applications like ratio transformers and heat runs. Using SCR's the PI-1600 eliminates closing time errors. Initiation at the zero crossover point eliminates DC offset in the current waveform and results in accurate, repeatable test results even with short-duration currents for high-speed, solid-state, or electromechanical trip devices.

Current Ranges:

- 0-1000 Amps
- 5 Kilo-Amps
- 25 Kilo-Amps
- 100 Kilo-Amps

Current Accuracy:

- +/- 0.5% of reading + 0.5% of range continuous
- +/- 1% of reading + 1% of range pulse

Timer Ranges:

- 0-9999.999 Seconds
- 0-9999.9 Cycles

Timer Accuracy:

- +/- 0.5% of Reading +/- 1 Count

Dimensions and Weight (MAC-21):

- Height: 11.5 in. (292 mm)
- Width: 21.5 in. (546 mm)
- Depth with Lids: 22.5 in. (572 mm)
- Weight: 30 lb. (13 kg)

Dimensions and Weight (PI-800):

- Height: 11.5 in. (292 mm)
- Width: 21.5 in. (546 mm)
- Depth with Lids: 22.5 in. (572 mm)
- Weight: 125 lb. (57 kg)

Dimensions and Weight (PI-AUX):

- Height: 11.5 in. (292 mm)
- Width: 21.5 in. (546 mm)
- Depth with Lids: 22.5 in. (572 mm)
- Weight: 115 lb. (52 kg)

Included Accessories:

Accessory	Part #	Quantity
Series Bar Outer	M-D167	2 EA
Series Bar Inner	M-D166	4 EA
Series Bar 1600	M-D231	1 EA
Connection Bar 1600	M-D175	2 EA
Output Bar	M-D168	4 EA
1/2 inch Stab Assembly	S-B182	2 EA
Contacts Leads	S-B194	1 EA
Remote Initiate Cable	S-B143	1 EA
Power Input Lead Set 20 feet	OP-121-3	1 EA
Control Harness AUX to 800	S-B413	1 EA
Power Harness AUX to 800	S-B414	1 EA
MAC-21 Cable MAC to 800	S-B444	1 EA
Rugged Accessory Case	M-E222	1 EA
Technical Manual	S-A121	1 EA

SPECIFICATIONS¹

Option A: Output Current & Overload Capabilities

5 V	10 V	20 V	Overload	Duty	Max ON Time	Min OFF Time	Max Input Curr 240V
1600 A	800 A	400 A	1X	100%	Continuous	N/A	38 A
2250 A	1125 A	563 A	1.4 X	50%	15 Min	15 Min	53 A
3200 A	1600 A	800 A	2 X	25%	5 Min	15 Min	75 A
4800 A	2400 A	1200 A	3 X	10%	2.5 Min	20 Min	112 A
6400 A	3200 A	1600 A	4 X	6%	75 Sec	20 Min	150 A
8000 A	4000 A	2000 A	5 X	4%	4 Sec	2 Min	187 A
11200 A	5600 A	2800 A	7 X	2%	2 Sec	2 Min	262 A
16000 A	8000 A	4000 A	10 X	1%	0.6 Sec	1 Min	375 A

Option B: Output Current & Overload Capabilities

5 V	10 V	20 V	Overload	Duty	Max ON Time	Min OFF Time	Max Input Curr 208V	Max Input Curr 240V	Max Input Curr 277V
1600 A	800 A	400 A	1X	100%	Continuous	N/A	43 A	38 A	32 A
2250 A	1125 A	563 A	1.4 X	50%	15 Min	15 Min	61 A	53 A	45 A
3200 A	1600 A	800 A	2 X	25%	5 Min	15 Min	86 A	75 A	65 A
4800 A	2400 A	1200 A	3 X	10%	2.5 Min	20 Min	129 A	112 A	97 A
6400 A	3200 A	1600 A	4 X	6%	75 Sec	20 Min	173 A	150 A	129 A
8000 A	4000 A	2000 A	5 X	4%	4 Sec	2 Min	216 A	187 A	161 A
11200 A	5600 A	2800 A	7 X	2%	2 Sec	2 Min	303 A	262 A	226 A
16000 A	8000 A	4000 A	10 X	1%	0.6 Sec	1 Min	433 A	375 A	323 A

¹Specifications are subject to change without notice.

Optional Accessories:

Accessory	Part #
MAC Report Generator Software	OP-112

Serial Port:

- Standard serial port for connection to printer, computer, or other device to print or store time and current values in ASCII format.

Input Supply:

- Option A: 120 or 208-240 VAC + 10%, -15% (Switch Selectable), Single Phase
- Option B: 208, 240 or 277 VAC + 10%, -15% (Switch Selectable), Single Phase
- 60 Hz (50 Hz at 10% Lower Maximum Line Voltages)
- 9.8 KVA (Continuous) at 8.8 KVA (90% Efficiency)