PICU-1000
1000 A PRIMARY INJECTION TESTER

The PICU-1000 is a versatile Primary Injection Test Instrument designed for reliable testing and commissioning of high-current protection systems. With an output capacity of up to 1000 Amperes, it ensures accurate performance verification of protective devices and current transformers in power utilities, industries, and testing facilities.

Applications

- Timing Tests of Protective Relay through primary injection.
- Timing Tests of MCCBs and other circuit protection devices.
- Measurement of Current Transformer Turns Ratio (CTTR)

Key Features

- High Current Capability: Continuous output up to 1000A for primary injection applications.
- Multi-Purpose Testing: Suitable for testing Protective Relays, MCCBs (Moulded Case Circuit Breakers), and CT Turns Ratio.
- Accurate & Reliable: Provides precise measurement of current and operating time.
- Rugged & Portable: Designed for field and laboratory use under demanding conditions.
- Built-in Protection: Safety mechanisms safeguard both operator and equipment.
- Easy Operation: Simple controls and clear display for efficient testing.
- Frequency-selectable
- Fully Automatic
- 4.3-inch TFT touch colour Display
- PC Software (Reporting)
- Internal Memory

General Features

4.3" TFT touch display shows all measurement results on a single screen. With a USB, users can record/ store and copy measurement results to a PC. If setting up a laptop or PC for the field test is difficult, users can record data to the device's internal memory or an external USB flash memory.
Multi-language capability and user-friendly operation menu make it easy to use. It is a light, compact and rugged device with the protection class IP67 (case lid closed).

Timing Tests of MCCB

The PICU-1000 provides a reliable method for testing Moulded Case Circuit Breakers (MCCBs) under primary injection conditions. By delivering the required high current, it allows verification of breaker tripping performance, including long-time, short-time, and instantaneous trip characteristics, ensuring MCCBs operate within their specified protection parameters.

Timing Tests of Relays

The PICU-1000 is capable of performing timing tests on protective relays by injecting high primary currents and accurately measuring the relay's operating time. By supplying the required fault-level current and monitoring the relay's trip contact response, the PICU-1000 enables precise verification of relay pickup and operating characteristics in line with time–current curves.

CT Turns Ratio Tests

With its high-current injection capability, the PICU-1000 can also be used to verify the turns ratio and polarity of Current Transformers (CTs). By applying a controlled current to the primary side and measuring the corresponding secondary output, it ensures CTs maintain accuracy and reliability in protection and metering applications.

TECHNICAL SPECIFICATIONS

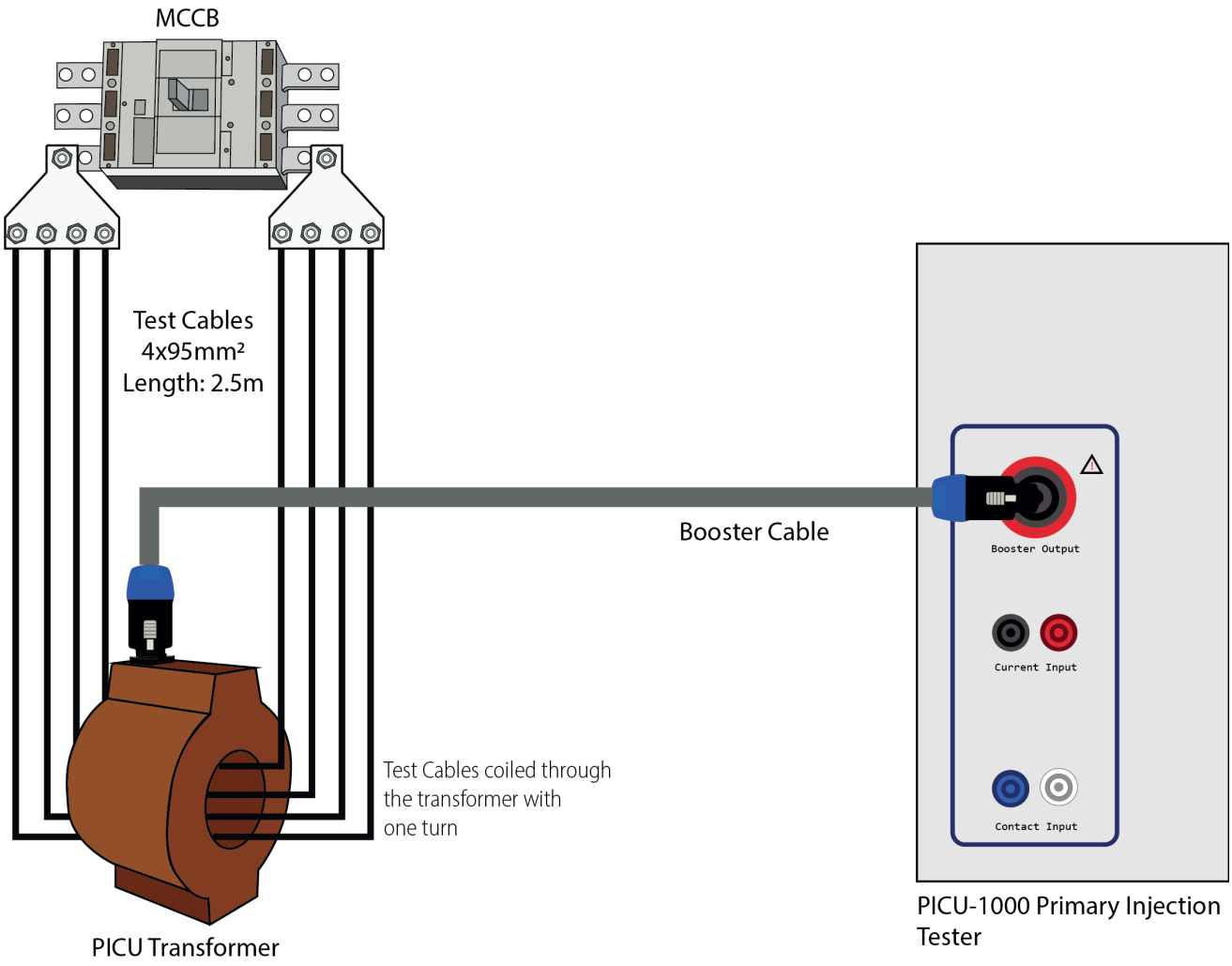
Measurement Parameters	MCCB Timing Tests, CT Turns Ratio, Protection Relay Delay Timing Test
Output Current	Up to 1000 A
Maximum Output Power	1000 VA
Output Frequency	40-70 Hz
Input Power	100-240 V 47/63 Hz
Internal Meter Range	Up to 1000A; Accuracy: 0.05%
External Meter Range	10 mA – 10 A; Accuracy: 0.5%
Timer Reading Range	1ms – 2 hours; Accuracy: 0.1% of reading ±0.5ms
Timer Stop Input	Dry Contact Input, Voltage Input (Wet 12V)
Type	5A-1000 A (Optional cable set required for 5A-32A current application)
Memory	Up to 100 records, Unlimited Storage using an external USB
Communication	USB 2.0/1.1 Standard-A, USB 2.0/1.1 Standard-B
PC Software	DMP Software (Reporting)
Display	4.3-inch colour touch display
Dimensions	(424 x 340 x 173) mm (16.7 × 13.4 × 6.8)"
Weight	9 kg (device), 15 kg (Current Source)
Temperature	Working: -10°C to +60°C Storage: -30°C to +70°C
Humidity	95% RH Non-condensing
Safety	Designed to meet IEC61010 (1995), UL61010A-1, CSA-C22.2 standards
Protection	IP67 (case lid closed)
Included in the package	1 KVA Transformer-Current Source (1 pcs), 2.5m Measurement Cable (95 mm2) Set (4 pcs), Heavy duty Clamps for MCS-PICU Cable Set (2 pcs), 1.5m Booster Cable (between PICU & Transformer Source) (1 pcs), 5m Contact Cable (Blue) (1 pcs), 5m Contact Cable (White), (1 pcs), 5m Current Cable (Red), (1 pcs), 5m Current Cable (Black) (1 pcs), 1.8m Power Cord with Type F plug (1 pcs), 2.5m Hightest Standard Ground Cable (1 pcs), 1.8m USB Cable to connect Hightest devices with PCs USB Flash drive (Manual, Brochure) (1 pcs), Hard Carry Case for Accessories (1 pcs)
Options	Hard Case, Cable Set for current application up to 32 A

Specifications are valid at/under 25 °C temperature.
**Content subject to change without notice.*

ORDERING INFORMATION

PICU-1000 1000A Primary Injection Tester

CONNECTON DIAGRAM - MCCB



Please refer the instruction manual for more connection diagram examples.

Image: Sample test set up

CURRENT TABLE

Cable Size	Cable Length	Turn Number	Load	Current	Duration	Note
95mm²	2.5m	1	SC	100A	120 sec	Continuous
				500A	120 sec	Continuous
				560A	60 sec	Max
		2		100A	120 sec	Continuous
				500A	120 sec	Continuous
				900A	20 sec	Max
		3		100A	120 sec	Continuous
				500A	120 sec	Continuous
				1000A	20 sec	Max
190mm² (2x95mm² Parallelly Connected)	2.5m	1	SC	100A	120 sec	Continuous
				500A	120 sec	Continuous
				650A	60 sec	Max
		2		100A	120 sec	Continuous
				500A	120 sec	Continuous
				1000A	60 sec	Max
285mm² (3x95mm² Parallelly Connected)	2.5m	1	SC	100A	120 sec	Continuous
				500A	120 sec	Continuous
				750A	60 sec	Max
		2		100A	120 sec	Continuous
				500A	120 sec	Continuous
				1000A	60 sec	Max
380mm² (4x95mm² Parallelly Connected)	2.5m	1	SC	100A	120 sec	Continuous
				500A	120 sec	Continuous
				800A	60 sec	Max
		2		100A	120 sec	Continuous
				500A	120 sec	Continuous
				1000A	60 sec	Max
95mm²	5m (2x2.5m Serially Connected)	1	SC	100A	120 sec	Continuous
				350A	120 sec	Max
		2		100A	120 sec	Continuous
				500A	120 sec	Continuous
				600A	60 sec	Max
		3		100A	120 sec	Continuous
				500A	120 sec	Continuous
				600A	60 sec	Max
		4		100A	120 sec	Continuous
				500A	120 sec	Continuous
				750A	30 sec	Max
95mm²	10m (4x2.5m Serially Connected)	1	SC	100A	120 sec	Continuous
				200A	120 sec	Max
		2		100A	120 sec	Continuous
				350A	60 sec	Max

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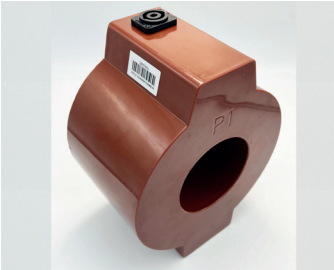
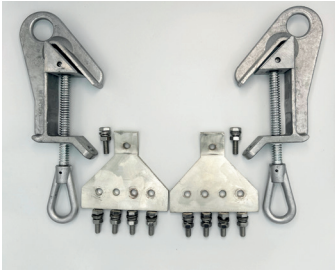
ACCESSORIES



1 KVA Transformer-Current Source
Part: TR-1KVA
Ordering Code: 81102

2.5m, 95mm² Measurement Cable Set,4pcs
Part: MCS-PICU
Ordering Code: 81910



Heavy duty Clamps, 2 pcs
Part: MC-CLAMP
Ordering Code: 81911

1.5m Booster Cable
Part: BOOSTER
Ordering Code: 81912

5m Contact Cable (Blue)
Part: CON-INB
Ordering Code: 81913

5m Contact Cable (White)
Part: CON-INW
Ordering Code: 81914

5m Current Cable (Red)
Part: I-INR
Ordering Code: 81915

5m Current Cable (Black)
Part: I-INB
Ordering Code: 81916

1.8m Power Cord (EU/US/UK)
Part: PWC-01(EU)/02 (US)/03 (UK)
Ordering Code: 90110/90113/90115

2.5m Grounding Cable & Crocodile Clip
Part: GC-01
Ordering Code: 90120

1.8m USB Cable
Part: USB-01
Ordering Code: 90130

8 GB USB Flash
Part: USB-02
Ordering Code: 90130

Hard Carry Case for accessories
Part: HARD CASE
Ordering Code: 90999

CONTACT US

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