



Ratio Measurement
0.8 to 50,000

Test Voltages
1 V to 250 V

High Accuracy
0.08%

TURA-03 3 Φ Transformer Turns Ratio Tester with Built-in Printer

TURA-03 is designed using advanced engineering technology to measure the turns ratio of single-phase and three-phase transformers.

TURA-03 has easy, fast and accurate turns ratio measurement features for current, voltage and power transformers using its user-friendly software.

By using ANSI/IEEE C57.12.90 measurement method TURA-03 can produce precise results. TURA-03 is one of the most accurate devices with its wide range (0.8 to 50,000) ratio measurement capability and high precision (0.08 %).

Besides the ratio measurement, TURA-03 can also measure excitation current, phase angle, polarity, ratio error and magnetic balance. Even though TURA-03 has three-phase cable configuration, users can also make single-phase transformer tests as well.

TURA-03 can detect vector groups automatically. TURA-03 has a wide operation range from high excitation value current transformer to high powered power transformer at substations with 1V, 4V, 10V, 40V, 100V and 250V AC test voltages generation capability.

A 7-inch TFT touch display allows TURA-03 to show all measurement results on a single screen. USB, Bluetooth (Option) and Flash Memory features allow TURA-03 to control, record and store measurement results (up to 100 Test Records).

With the HighTest Data Management Platform (DMP Software), user can control TURA-03 and analyse measurement results. Operators can easily print the measurement results with the 2.28-inch built-in Printer of TURA-03.

Multi-language capability and user-friendly operation menu make it easy to control TURA-03, even by less trained staffs. TURA-03 can control tap changer (raise and lower) via its tap changer outputs.

TURA-03 is a light, compact and rugged device with the protection class IP67 (case closed).

In addition to ratio tests, TURA-03 can be used to perform Magnetic Balance Test as well.



Built-in Printer



Features

- Turns Ratio Measurement (Single-phase and three-phase measurement)
- Ranges from 0.8 to 50,000 ratio measurement
- High Accuracy (0.08 %)
- 1V, 4V, 10V, 40V, 100V and 250V AC test voltages
- 1V, 4V, 8V, 10V, 40V, 100V and 250V AC test voltages
- Ratio Error Measurement
- Excitation Current, Phase Angle, Polarity Measurement, Magnetic Balance
- Built-in Printer
- Automatic vector group detection feature
- Internal memory, USB Flash Drive
- PC control via USB cable
- Optional Bluetooth control and communication
- 7-inch TFT touch display

Technical Specifications

Measurement Parameters	Turns Ratio Measurement, Excitation Current, Phase Angle, Polarity, Ratio Error (%), Vector group detection, Magnetic Balance
Ratio Measurement Modes	CT Mode, PT Mode (Single-Phase and Three-Phase)
Measurement Method	ANSI/IEEE C57.12
Test Voltages	CT Mode: 1 V and 4 V ; PT Mode: 1, 4, 10, 40, 100 & 250 V
Optional Test Voltages	1, 4, 8, 10, 40, 100, 250 V
Ratio Range	0.8 – 50,000
Phase Angle Measurement	0-360 Degree, ±0.2 degree (±1 digit)
Excitation Current	0 to 2 A
Excitation Current Accuracy	±0.1 mA
Power Supply	100-240 V, 47/63 Hz,
Battery	Yes, 14.4 V 3.45 Ah Optional (Models: TURA-03B, TURA-03B BLUE)
Memory	Up to 102 records (include up to 25 tap results) Unlimited Storage using an external USB
Printer	2.28-inch Built-in Printer
Communication	USB 2.0/1.1 Standard-A, USB 2.0/1.1 Standard-B, Bluetooth(Models: TURA-03 BLUE & TURA-03B BLUE)
PC Software	DMP Software
Display	7-inch TFT touch display
Dimensions	16.7" x 13.4" x 6.8" (424 mm x 340 mm x 173 mm)
Weight	7.1 kg (models with battery)
Working Temperature	-10 °C to +60 °C
Storage Temperature	-30 °C to +70 °C
Humidity	95% RH Non-condensing
Protection Class	IP67 (case closed)
Set of Package	TURA-03, Power Cable, Ground Cable , 5m Standard Test Cable Set, 10m Extension Cable Set, Tap Changer Cable Set, USB Cable, Printer Paper (x2), USB flash drive, Instruction Manual (Soft Copy), DMP Software, Cable Bag
Options	Hard Carrying Case, Bluetooth (factory install option), Battery (factory install option)

Ordering Information

TURA-03



Three-Phase Transformer Turns Ratio Tester with Built-in Printer

TURA-03 BLUE



Three-Phase Transformer Turns Ratio Tester with Built-in Bluetooth & Printer

TURA-03B



Three-Phase Transformer Turns Ratio Tester with Built-in Battery & Printer

TURA-03B BLUE



Three-Phase Transformer Turns Ratio Tester with Built-in Battery, Bluetooth & Printer



Ratio Measurement
0.8 to 50,000

Test Voltages
1 V to 430 V

High Accuracy
0.08%

TURA-X **TRUE 3Φ Transformer Turns Ratio** **Tester with Built-in Printer**

TURA-X is designed using advanced engineering technology to measure the turns ratio of single-phase and three-phase transformers.

Turns ratio measurement of phase-shifting transformers can be done by using TURA-X. It has fast, easy and accurate turns ratio measurement features for current, voltage and power transformers using its user-friendly software.

By ANSI/IEEE C57.12.90 measurement method TURA-X can make precise results. TURA-X is one of the most accurate devices with its wide range ratio (0.8 to 50,000) measurement capability and high precision (0.08 %).

Besides the ratio measurement, TURA-X can also measure excitation current, phase angle, polarity and ratio error.

Even though TURA-X has three-phase cable configuration, users can make single-phase transformer tests as well.

TURA-X can detect vector group automatically. TURA-X has a wide operations range from high excitation value current transformer to high powered power transformer at substation with the 1V, 4V, 10V, 40 V, 100 V, 250 V and 430 V AC test voltages generation capability.

A 7-inch colour touch display allows TURA-X to show all measurement results on a single screen.

USB, Bluetooth (Option) and Flash Memory features allow TURA-X to control, record and store measurement results (up to 100 Test Record).

With the HighTest Data Management Platform (DMP Software), users can control TURA-X and analyse measurement results.

Operators can easily print the measurement results with the 2.28-inch built-in Printer of TURA-X.

Multi-language capability and user-friendly operation menu make it easy to control TURA-X, even by less trained staffs.

TURA-X can control tap changer (raise and lower) via its tap changer outputs. TURA-X is a light, compact and rugged device with the protection class IP67 (case closed).

In addition to ratio tests, TURA-X can be used to perform Magnetic Balance Test as well.



Built-in Printer
TRUE 3-Phase

Features

- Turns Ratio Measurement (Single-phase and TRUE three-phase measurement)
- Ranges from 0.8 to 50,000 ratio measurement
- High Accuracy (0.08 %)
- 1V, 4V, 10V, 40V, 100V, 250V & 430V AC test voltage
- Ratio Error Measurement
- Magnetic Balance Test
- Excitation Current, Phase Angle, Polarity Measurement
- Automatic vector group detection feature
- Internal memory, USB Flash Drive
- PC control via USB cable
- Built-in Printer
- Optional Battery
- Optional Bluetooth control and communication
- 7-inch TFT touch display

Technical Specifications

Measurement Parameters	Turns Ratio Measurement, Excitation Current, Phase Angle, Polarity, Ratio Error (%), Vector group detection, Magnetic Balance		
Ratio Measurement Modes	CT Mode, PT Mode (Single-Phase and TRUE Three-Phase)		
Measurement Method	ANSI/IEEE C57.12		
Test Voltages	CT Mode Single-Phase : 1 V and 4 V PT Mode; TRUE Three-Phase (Phase to Neutral): 1, 4, 10, 40, 100 & 250 V PT Mode; TRUE Three-Phase (Phase to Phase): 1, 4, 10, 40, 100, 250 & 430 V		
Ratio Range	0.8 – 50,000		
Accuracy	Mode	Ratio	Accuracy
	CT Mode (1V-4 V)	0.8000- 399.99	0.08 %
		400.00- 4000.0	0.1 %
	PT Mode(10 V- 430 V)	0.8000- 5000.0	0.08 %
5000.1- 12000 12001- 50000		0.15 % 0.5 %	
Phase Angle Measurement	0-360 Degree, ± 0.2 degree (± 1 digit)		
Excitation Current	2 A, 2 % of reading (± 1 mA)		
Accuracy	Range	Resolution	Accuracy
	Up to 1.0000 mA	0.2 μ A	0.25 % rdg \pm 500 μ A
	1.0000 mA to 10.000 mA	1 μ A	0.25 % rdg \pm 500 μ A
	10.000 mA to 100.00 mA	10 μ A	0.25 % rdg \pm 500 μ A
	100.00 mA to 2000.0 mA	100 μ A	0.25 % rdg \pm 500 μ A
Power Supply	100-240 V, 47/63 Hz		
Battery	Yes, 14.4 V 3.45 Ah Optional (Models: TURA-XB & TURA-XB BLUE)		
Memory	Up to 100 records (include up to 25 tap results)		
Printer	2.28-inch Built-in Printer		
Communication	USB 2.0/1.1 Standard-A, USB 2.0/1.1 Standard-B, Bluetooth (Models: TURA-X BLUE & TURA-XB BLUE)		
PC Software	DMP Software		
Display	7-inch TFT touch display		
Dimensions	16.7" x 13.4" x 6.8" (424 mm x 340 mm x 173 mm)		
Weight	7.1 kg (models with battery)		
Temperature	Storage: -10 °C to + 60 °C ; Working: -30 °C to + 70 °C		
Protection Class	IP67 (case closed)		
Set of Package	TURA-X, Power Cable, Ground Cable , 5m Standard Test Cable Set, 10m Extension Cable Set, Tap Changer Cable Set, USB Cable, Printer Paper (x2), USB flash drive, Instruction Manual (Soft Copy), DMP Software, Cable Bag		
Options	Hard Carrying Case, Battery, Bluetooth (factory install option)		
Ordering Information	TURA-X , True Three-Phase Transformer Turns Ratio Tester with Built-in Printer		
	TURA-X BLUE , True Three-Phase Transformer Turns Ratio Tester with Built-in Bluetooth & Printer		
	TURA-XB , True Three-Phase Transformer Turns Ratio Tester with Built-in Battery & Printer		
	TURA-XB BLUE , True Three-Phase Transformer Turns Ratio Tester with Built-in Battery, Bluetooth & Printer		

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