

# CVT Turns Ratio Tester

## CTR700



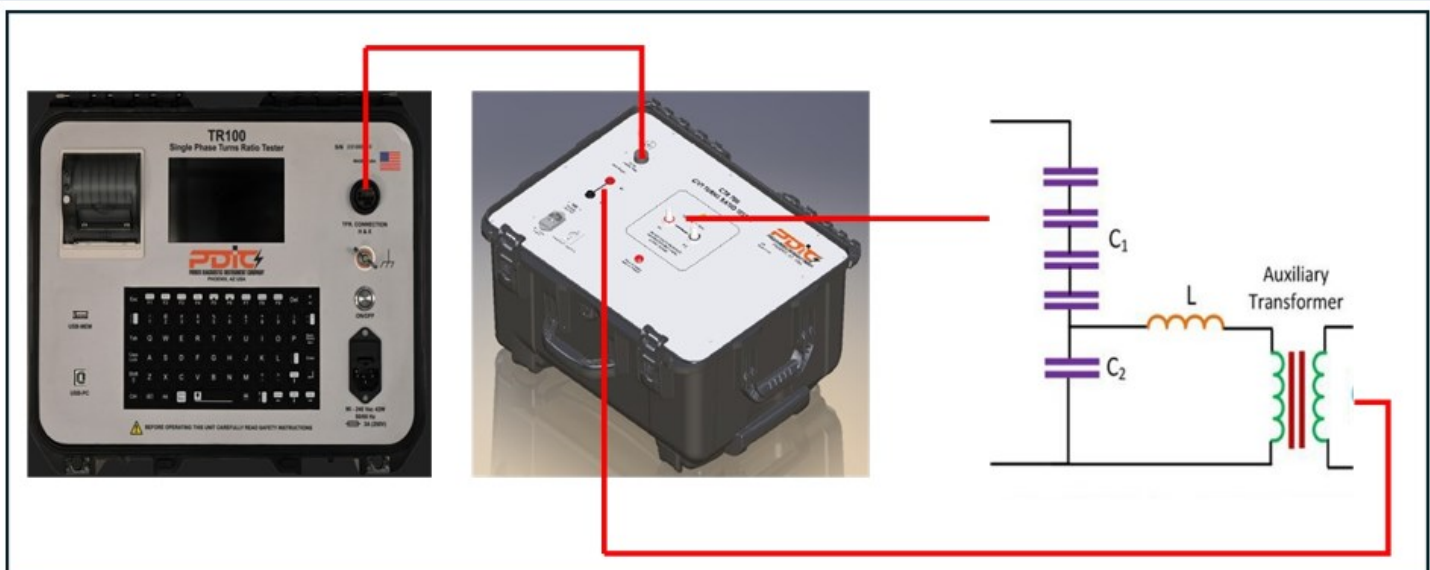
- Accurately measures turns ratio with 0.15% accuracy
- Testing performed at 7500 Volts AC 50/60 HZ per IEC spec
- Selectable input voltage 120V/240 VAC
- Measures CVT TTR with single phase (TR100) or 3 ph. phase TTR (TR300)
- local indication of high voltage present for safety
- Safety switch starts the test for operator safety
- Wheels and handle for easy transportation
- IP-67 weatherproof Enclosure

### Introduction:

The PDIC CTR 700 is a microprocessor-based, single phase, automatic, transformer turns-ratio tester. This portable test unit is specifically designed to work with PDIC's single phase Transformer turns ratio instrument TR100 or three phase Transformer Turns Ratio tester TR300. It measures the turns-ratios of Capacitor Voltage Transformers (CVT's) up to ratings of 765 KV with 0.15% accuracy. The CTR 700 determines the transformer turns-ratio using the IEEE C57.12.90 measuring method. It uses a 7500 VAC excitation voltage source to accurately measure the turns-ratio of Capacitor Voltage Transformers with a rating of up to 765KV. The transformer turns-ratio is determined by precisely measuring the voltages across the unloaded transformer windings.

The CTR 700 can measure the turns-ratios of Capacitor Voltage Transformers ranging from 75 to 15,000. The measured turns-ratio, winding polarity, and winding phase angle are displayed on the TR100 or TR300 connected to CTR 700 unit. A transformer's nameplate voltages can be entered on TR100 or TR300 user interface and the CTR 700 will measure the turns ratio accurately indicating percentage error by comparing the test results with the nameplate voltage values. This convenient feature eliminates any user calculation errors when testing CVT. The CVT-765 can be operated from 100 - 120 Vac or 220 - 240 Vac. The proper voltage can be set using the voltage selection switch on the front panel. CTR 700 is housed in strong field portable ABS plastic case with handle and wheels for easy transportation.

Safety switch with 10' cable is provided with CTR700 will start the test for the operator safety and also provides the visual indication of the high voltage present on front panel of CTR 700.



# True Three Phase Turns Ratio Tester TR 300 Technical Spec.

<b>Physical Specifications</b>	
Dimensions	21" w x 8" H x 17" D (53 cm x 20.5 cm x 43 cm) weatherproof IP-67 Enclosure
Weight	Weight without Battery: 34 lbs. (15 Kg), Weight with Battery: 36 lbs.. (16 Kg)
Operating Voltage	90 – 240 Vac, 50/60 Hz
Measuring Method	ANSI/IEEE C57.12.90, C57.12.91 and IEC 60076-1
Battery Back up (Built in)	10 Ah 12 V LiFePo4 for 3 hours of operation
<b>Turns Ratio Accuracy</b>	
	<b>4 Vac &amp; 12 Vac:</b> 0.8– 3000 : Typ. $\pm 0.05\%$ typ (0.1% max) , 3,000 - 50,000: $\pm 0.25\%$ typ (max 0.4%) Resolution : 0.0001
	<b>40 Vac:</b> 0.8– 10,000 : $\pm 0.05\%$ typ (0.1% max), 10,000 - 50,000: $\pm 0.25\%$ typ (max 0.4%) Resolution : 0.0001
	<b>100 Vac:</b> 0.8– 10,000 : $\pm 0.05\%$ typ (0.1% max), 10,000 - 50,000: $\pm 0.25\%$ typ (max 0.4%) Resolution : 0.0001
	<b>250 Vac:</b> 0.8– 10,000 : $\pm 0.05\%$ typ (0.1% max), 10,000 - 50,000: $\pm 0.25\%$ typ (max 0.4%) Resolution : 0.0001
<b>Excitation Current Range</b>	0 – 2 Ampere; Accuracy: $\pm 0.1$ mA, $\pm 1\%$ of reading ( $\pm 1$ mA)
<b>Phase Angle Measurement</b>	
Range	0 – 360 degrees
Accuracy	$\pm 0.1$ degree Resolution : 0.01 degree
Polarity Reading	In-phase or out-of-phase indication
<b>Tap Changer Contacts</b>	240 V AC, 2A
<b>Display</b>	Touch enabled 800 x 480 pixels back-lit color LCD; viewable in direct sunlight
<b>Printer</b>	3.5" Thermal paper printer ( optional)
<b>Keyboard</b>	Full-sized "QWERTY"-style industrial keyboard
<b>OPERATING/STORAGE TEMPERATURES</b>	
Temperature	Operating: $-10^{\circ}\text{C}$ to $+50^{\circ}\text{C}$ ( $+15^{\circ}\text{F}$ to $+122^{\circ}\text{F}$ ) Storage: $-30^{\circ}\text{C}$ to $+70^{\circ}\text{C}$ ( $-22^{\circ}\text{F}$ to $+158^{\circ}\text{F}$ )
Humidity	90% RH @ $+40^{\circ}\text{C}$ ( $+104^{\circ}\text{F}$ )
<b>DATA STORAGE AND ANALYSIS</b>	
Internal Test Record Storage	Up to 128 records with max 99 results per record
External Test Record Storage	USB Flash drive interface and firmware updates
<b>Included Cables</b>	One 15' (4.57 m) 3-phase cable set for HV & LV side, one 10' (3.3 m) safety ground cable, one USB cable, one power cord, one 10' (3.3m) LTC control cable & cable bag
<b>Optional Cables</b>	25' extension cable for HV and LV side