



TTS

Transformer Test Systems

■ The **TTS** Series are self-contained test sets incorporating all features necessary for testing single- and three-phase distribution transformers. To perform tests, the output leads of the test set are connected to the secondary terminals (low voltage winding) of the transformer under test. The rated secondary voltage is then applied to the transformer. At rated voltage, excitation current and excitation losses are measured. Impedance loss, impedance voltage and full load current tests are performed by reconnecting the output of the test set to the primary of the transformer and shorting the secondary terminals. The test set is then used to circulate rated current.



FEATURES

- ☑ Main Power Circuit Breaker with Indicating Light
- ☑ On/Off Push-button Control
- ☑ Emergency Off Mushroom Switch
- ☑ High Voltage "On" Flashing Warning Light
- ☑ "Foot Switch" Safety Interlock
- ☑ External Interlock Provision for Test Cage or Other Safety Interlock
- ☑ "Zero Start" Interlock
- ☑ Slow and Fast-Acting Resettable Overload Protection
- ☑ Continuously Variable Output From Zero to Full Output Voltage
- ☑ Output Tap Selector Switch (Motorized)
- ☑ Solid State Digital Voltmeter, Ammeter and Wattmeter
- ☑ Solid State Digital Temperature Meter with Probe
- ☑ 15 Foot Flexible Output Cable with Heavy Duty Alligator Clips
- ☑ Separate Voltmeter Leads for Voltage Sensing at the Transformer Terminals
- ☑ Wave Form Distortion <4%
- ☑ Measure
- ☑ Excitation Current
- ☑ Excitation Losses, no load
- ☑ Full Load Current
- ☑ Impedance Voltage
- ☑ Impedance Loss

APPLICATIONS

- Verify Loss Data
- Evaluate Transformer Stockpile
- Verify Performance

TECHNICAL SPECIFICATIONS

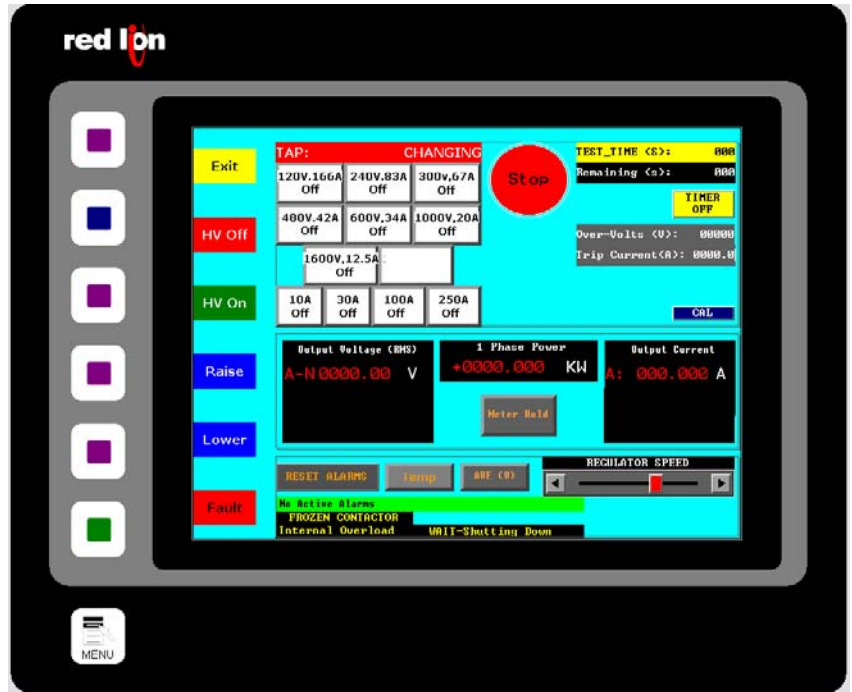
Model	Tap	Voltage Rating	Continuous Duty	Excitation Loss	Full Load Current Impedance Loss
TTS-90	1	0 ... 240V	114A	4500 kVA	1500 kVA
	2	0 ... 300V	91.0A	4500 kVA	1500 kVA
	3	0 ... 480V	57.0A	4500 kVA	1500 kVA
	4	0 ... 600V	46.0A	4500 kVA	1500 kVA
	5	0 ... 1200V	23.5A	4500 kVA	1500 kVA
	6	0 ... 1800V	15.0A	4500 kVA	1500 kVA
	7	0 ... 2400V	11.5A	4500 kVA	1500 kVA
TTS-155	1	0 ... 240V	190.0A	7500 kVA	2500 kVA
	2	0 ... 300V	152.5A	7500 kVA	2500 kVA
	3	0 ... 480V	95.0A	7500 kVA	2500 kVA
	4	0 ... 600V	76.5A	7500 kVA	2500 kVA
	5	0 ... 1200V	39.0A	7500 kVA	2500 kVA
	6	0 ... 1800V	25.0A	7500 kVA	2500 kVA
	7	0 ... 2400V	18.5A	7500 kVA	2500 kVA
TTS-500	1	0 ... 240V	1200.0A	25,000 kVA	8300 kVA
	2	0 ... 480V	600.0A	25,000 kVA	8300 kVA
	3	0 ... 600V	480.0A	25,000 kVA	8300 kVA
	4	0 ... 1200V	240.0A	25,000 kVA	8300 kVA
	5	0 ... 1800V	160.0A	25,000 kVA	8300 kVA
	6	0 ... 2400V	120.0A	25,000 kVA	8300 kVA
	7	0 ... 3600V	80.0A	25,000 kVA	8300 kVA
	8	0 ... 4800V	60.0A	25,000 kVA	8300 kVA
	9	0 ... 8400V	34.4A	25,000 kVA	8300 kVA
	10	0 ... 15,000V	19.2A	25,000 kVA	8300 kVA
TTS-750	1	0 ... 480V	902.0A	37,500 kVA	12,450 kVA
	2	0 ... 600V	720.0A	37,500 kVA	12,450 kVA
	3	0 ... 1200V	360.0A	37,500 kVA	12,450 kVA
	4	0 ... 1800V	240.0A	37,500 kVA	12,450 kVA
	5	0 ... 2400V	180.0A	37,500 kVA	12,450 kVA
	6	0 ... 3600V	120.0A	37,500 kVA	12,450 kVA
	7	0 ... 4800V	90.0A	37,500 kVA	12,450 kVA
	8	0 ... 8400V	52.0A	37,500 kVA	12,450 kVA
	9	0 ... 15,000V	28.8A	37,500 kVA	12,450 kVA
TTS-1200	1	0 ... 1200V	577.0A	60,000 kVA	19,920 kVA
	2	0 ... 1600V	433.0A	60,000 kVA	19,920 kVA
	3	0 ... 2400V	289.0A	60,000 kVA	19,920 kVA
	4	0 ... 3300V	210.0A	60,000 kVA	19,920 kVA
	5	0 ... 4200V	165.0A	60,000 kVA	19,920 kVA
	6	0 ... 7200V	96.0A	60,000 kVA	19,920 kVA
	7	0 ... 9600V	72.0A	60,000 kVA	19,920 kVA
	8	0 ... 13,800V	50.0A	60,000 kVA	19,920 kVA
	9	0 ... 18,000V	38.5A	60,000 kVA	19,920 kVA
	10	0 ... 24,000V	28.9A	60,000 kVA	19,920 kVA
	11	0 ... 36,000V	19.0A	60,000 kVA	19,920 kVA
TTS-1500	1	0 ... 960V	902.A	75,000 kVA	24,900 kVA
	2	0 ... 1200V	722.0A	75,000 kVA	24,900 kVA
	3	0 ... 1600V	541.0A	75,000 kVA	24,900 kVA
	4	0 ... 2400V	362.0A	75,000 kVA	24,900 kVA
	5	0 ... 3300V	262.0A	75,000 kVA	24,900 kVA
	6	0 ... 4200V	206.0A	75,000 kVA	24,900 kVA
	7	0 ... 7200V	120.0A	75,000 kVA	24,900 kVA
	8	0 ... 9600V	90.0A	75,000 kVA	24,900 kVA
	9	0 ... 13,800V	52.8A	75,000 kVA	24,900 kVA
	10	0 ... 18,000V	48.1A	75,000 kVA	24,900 kVA
	11	0 ... 24,000V	36.1A	75,000 kVA	24,900 kVA
	12	0 ... 34,500V	25.1A	75,000 kVA	24,900 kVA

- Notes:
1. Excitation loss based on excitation current of 2%.
 2. Full load current impedance loss based on 6.25% impedance and maximum primary voltage of 34.5 kV.
 3. Additional power ratings & tap values are available upon request, consult factory
 4. Other duty cycles are available, consult factory.

CONTROLS

On board Programmable Logic Control (PLC) will be supplied to control the following:

- ☑ Tap Selector and Tap Status Indicator
- ☑ AC Output Voltage On/Off
- ☑ Rate of Rise Selector
- ☑ AC Output Voltage Raise/Lower
- ☑ AC Output Voltage Meters – one per phase
- ☑ AC Output Current Meters – one per phase
- ☑ AC Output Wattmeter (4 wire sensing)
- ☑ Test Timer Setting – 0-99 Hours, 59 Minutes
- ☑ Test Timer On/Off
- ☑ AC Output Overload Indicator and Reset– 110%, 250%
- ☑ External Interlock Open
- ☑ Off Zero Indicator
- ☑ Fault Indicator
- ☑ Emergency Off pushbutton Switch
- ☑ Alarm Indicator and Reset
- ☑ Ground Fault Indicator
- ☑ Thermal Overload Indicator



METERING

Wattmeter:

Digital, 4-digit display monitoring watts loss in transformer. 3-phase, 4-wire wattmeter.

- Accuracy: +/-0.5% Full Scale @ 1.0 Power Factor
- +/-1.5% Full Scale @ 0.3 Power Factor

Voltmeters:

Digital, 4-digit display monitoring voltage applied to transformer under test.

- Accuracy: 600V tap and below: +/-0.5%

Ammeters:

Digital, 4-digit display monitoring current applied to transformer under test.

- Accuracy: +/-0.5%

***For greater accuracy measuring system please consult Haefely TMS 580 flyer*

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