

FLUOROPTIC® THERMOMETER

WTS-22 Controller

Fiber Optic Winding Hot Spot Temperature Measurement and Control

Field Proven Since 1982

Luxtron's WTS products enable direct monitoring and control of transformer winding "hotspots." The WTS-22 represents Luxtron's 4th generation of transformer winding temperature measurement system, incorporating knowledge gained from over 20 years field experience working with leading utilities in hundreds of installations around the world.

The WTS-22 is based on Luxtron's patented Fluoroptic® technology using a stable, inert ceramic sensor that never requires calibration. This photoluminescent sensor is attached directly to the end of a fiberoptic probe. The electrically inert fiberoptic probes developed for WTS systems are fabricated from materials specifically tested for long term compatibility in oil filled high voltage power transformers.

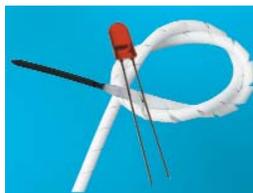
The greatest benefit of the WTS system is that it provides direct, real-time, accurate measurement of the transformer winding temperature. Conventional Winding Temperature Indicators (WTI) only simulate the temperature based on a thermal model of the transformer using bulk top oil temperature. These techniques are only as accurate as the model and typically lag the "real" hotspot temperature by hours.

Direct, Dynamic, Real Time

With easy-to-use features, including programmable alarm setpoints, logic functions and relays, the WTS-22 allows utility companies to safely manage transformer overloading and more effectively control auxiliary cooling systems.

3rd Generation Rugged Probes

Luxtron's 3rd generation rugged Fluoroptic® probes are flexible, armored, and have a dual O-ring seal at the transformer tank wall interface. Made with an all-silica 200mm fiber, these probes are more flexible, stronger, and more resilient than earlier generation probes.



Result: Probe installation success rate >95%.



Direct, Real Time, Accurate Measurement of Hot Spot Temperature, -30 to 200°C

Field Proven Design

- Programmable Temperature Setpoints and Relays
- Double PFA Teflon Jacketed, Kevlar Cabled Fluoroptic® Probes
- Probes Cross-compatible Between WTS-22, ThermAsset® and m600 Utility FOT Module
- Rugged Probes are RF and EMI Immune
- Solid State Fluoroptic® Light Source
- No Calibration Required
- Large, Durable, Easy-to-Read LED Display
- 3000V Surge Protection per IEEE C37.90.1

FLUOROPTIC® THERMOMETER

WTS-22 Controller

Fiber Optic Winding Hot Spot Temperature Measurement and Control

Specifications

	WTS-22 SE	WTS-22 LE
Number of Channels	4	4
Measurement Range	-30°C to +200°C	-30°C to +200°C
Accuracy	±2°C	±2°C
Analog Outputs	4 - 20 mA	0 - 1 mA
No. Programmable Relays	6 Form C	10 Form A, 8 Form B
System Fault Relay	1 Form C	1 Form C
Digital Com. Logging	RS-232	RS-232
Operating Environment	-30°C to +65°C	-30°C to +65°C
Power	Universal AC and DC	
Surge Protection	3000V (IEEE C37.90.1-1989)	

Complete System for Easy Installation

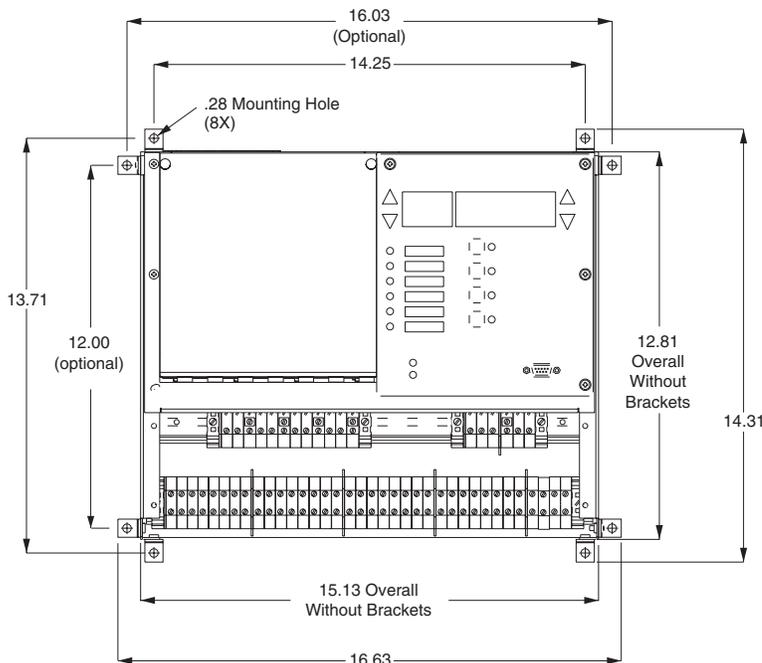
Luxtron provides all necessary components and documentation to install a complete WTS-22 system. Clear instructions and application support are based on the experience of hundreds of installations. Luxtron offers a variety of mounting configurations. Users can choose between 19" rack mount, wall mount, or a NEMA enclosure mounted WTS-22. Product offerings include all necessary accessories, such as fittings for passing fiberoptic sensors through the transformer tank wall.

Complete WTS-22 System Includes:

- WTS 22 SE or LE Unit
- 4 Ruggedized Probes (Standard or Dip-tip)
- 4 External Fiber Optic Extensions
- 4 Tank Wall Feedthrough Penetrators and Plate
- NEMA Enclosure (Optional)

Programmable Setpoints

Multiple temperature setpoints can be programmed to respond to changes in transformer winding temperature. By connecting these setpoints to internal relays within the WTS-22, users can instantly activate different cooling measures or alarms when the transformer winding reaches specific temperatures. Such precise monitoring of the windings and control of the transformer accessories extends equipment life, ensures reliable power delivery during peak loads and minimizes the event of unplanned or catastrophic failure.



Specifications subject to change without notice. Luxtron, ThermAsset, and Fluoroptic are registered trademarks of Luxtron Corporation. ©2005 Luxtron Corporation. All rights reserved.

