

THERMASSET™ MONITOR

Fiber Optic Transformer Winding Temperature Measurement

Fluoroptic®

Cost-effective fiber optic hot spot monitor for small and medium size transformers

“WORKHORSE” FIBER OPTICS

The ThermAsset™ Monitor is a fiber optic thermometry module designed for cost effective hot spot monitoring of utility transformers down to 25 mVA. Using the same ruggedized probes and core electronics as Luxtron's 4th generation WTS-22 hot spot controller, the ThermAsset™ extends the benefits of best practice hot spot monitoring previously affordable only on large (>100 MVA) transformers. A streamlined design with no relays or display makes the ThermAsset a cost-effective temperature monitor for small and medium-sized transformers.

DIRECT, DYNAMIC, REAL TIME

The ThermAsset™ Monitor allows direct, real time, accurate measurement of the transformer winding temperature — providing valuable input to calibrate thermal models and enabling dynamic load control. Conventional winding temperature indicators (WTI) "infer" hot spot temperature by measuring the top or bottom oil temperature. Industry studies have proven there can be a significant lag between change in hot spot temperature and when the change is sensed by a WTI. This makes the WTI unsuitable for dynamic load operation, possibly leading to insulation damage and reduction in transformer life.

- ◆ **Direct, Real Time, Accurate Measurement of Hot Spot Temperature, -30 to 200°C**
- ◆ **Applications**
 - *Dynamic Loading*
 - *Heat Run Test / Determine Overload Capability*
 - *Thermal Model Calibration / Recalibration*
 - *Protection Against Overloading*
- ◆ **Reliable by Design**
 - *No Calibration or Scheduled Maintenance Required*
 - *Solid State Fluoroptic® Light Source, No Lamps*
 - *Rugged Double PFA Teflon® Jacketed, Kevlar Cabled Probes*



ThermAsset Monitor also Available with Optional Display

In contrast, the ThermAsset™ Monitor measures the winding hot spot temperature directly. No inferences. In real time. As a critical input to thermal models and control schemes, the ThermAsset™ Monitor is a key enabler for dynamic load operation and improved asset management all of which contribute to improved power throughput, at minimal cost, while enhancing system reliability.

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BUILT FOR THE FIELD, NOT JUST THE LAB

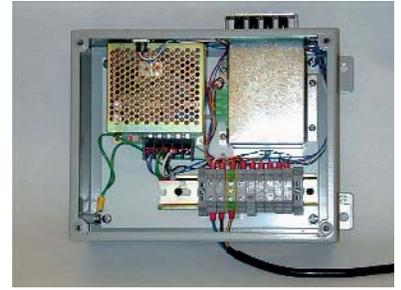
Based on 20+ years of field proven designs, ThermAsset™ Monitors come in a compact, rugged, NEMA enclosure and use sturdy ring lug connectors for all electrical connections. A solid-state LED light source means no calibration and no field failures from burned out lamps.

With both RS232 digital and 0-1mA or 4-20mA analog outputs, the ThermAsset™ Monitor is designed to integrate easily with a standard SCADA system or PC.

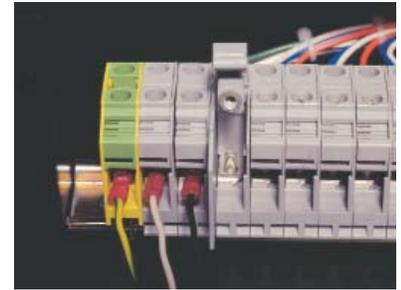
Like the WTS-22, the ThermAsset™ Monitor is based on Luxtron's patented Fluoroptic® technology, which is inherently immune to EMI, safe, reliable, and stable. Sensors are made of an inert ceramic attached directly to the end of a PFA Teflon® jacketed, ruggedized fiber optic probe that never require calibration. The electrically inert probes are built from materials specifically tested for long-term compatibility in oil filled high voltage power transformers and field proven for over twenty years.

3rd GENERATION RUGGED PROBES

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



Interior View ThermAsset Box



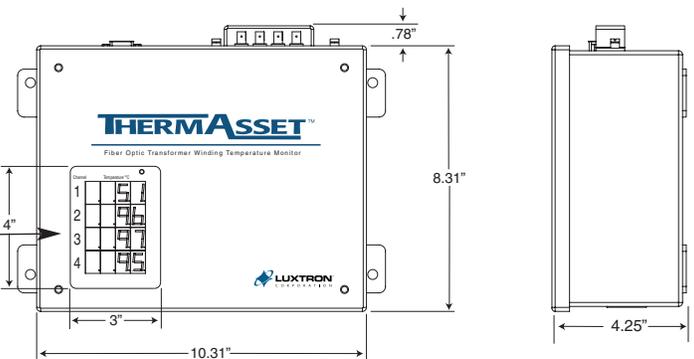
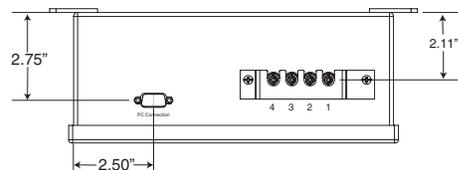
Ring-lug Connector



Rugged Fiber Optic Probe

TECHNICAL SPECIFICATIONS

Number of Channels	1, 2 or 4
Measurement Range	-30 to +200°C
Accuracy	±2 °C
Analog Outputs	0-1 mA or 4-20mA
Digital Communication Logging	RS-232
Operating Environment	-30 to +65°C
Power	Universal AC and DC (85-264VAC / 110-370VDC)



- Complete ThermAsset™ Solution Should Include**
- ThermAsset™ Instrument
 - Fiber Optic Probe*
 - Tank Wall Penetrator*
 - Tank Wall Adapter Plate*
 - External Fiber Optic Extension Cable*
 - Optional LED Display *
 - Optional Tank Wall Cover Box*
- * indicates items sold separately

- Optional Red LED Display**
- Large
 - Durable
 - Easy to Read

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