

QUALITROL® T2™ PROBE



Fiber optic temperature probe for transformers

Field proven high accuracy probe for measuring hot spot temperature

- 200 micron fiber, providing the best flexibility and endurance in the industry
- Long term survivability, zero-drift results
- Does not require recalibration or complex input to operate
- Withstands kerosene desorption, long term oil immersion and vibrations
- Surpasses ASTM dielectric strength standards, and PD requirements
- Suitable for UHV and HVDC windings, for power transformers and reactors
- Dielectric connector and retaining disk options are also available

Product Summary

Description Robust, oil-permeable Qualitrol Neoptix T2™ temperature probes for highly accurate measurements of power transformer temperatures. Optimized for installation in standard winding spacers for direct measurements; and any other locations inside the transformer tank.

Application For use inside oil-filled or dry-type power transformers and reactors. Can also be used for any other applications where high electromagnetic fields are present, such as in switchgears, tap changers, busbars, etc. Compatible with all Qualitrol® intelligent transformer monitors, and all Neoptix optical conditioner systems.

Fibers by 



Sensor area: 300 μ O.D.
Material: GaAs
Resistivity: $10^7 \Omega$ -m

Crystal bonding optimized for long term thermal and mechanical stresses
Continuous longitudinal slit allowing perfect oil penetration throughout probe length
US patent 8568025

Polyimide tubing
Dielectric strength: > 22,000 V/mm
Tested per ASTM D149

Optical fiber glass/quartz with polyimide coating (200 μ m diameter)
Dielectric strength: >15,000 V/mm

High performance epoxy bonding
Dielectric strength: > 17,000 V/mm

PTFE Teflon™ internal tube and reinforcement spiral wrap
Dielectric strength : >18,000 V/mm

QUALITROL®
Defining Reliability



Field proven high accuracy probe for measuring hot spot temperature

- Direct measurements inside transformer yield highly accurate temperature readings, reducing risk of failure or unnecessary reduction in transformer life
- Tens of thousands already installed and in service

Long term, drift-free survivability

- All materials have exceptional dielectric and chemical resistance properties
- GaAs mounting ensures extreme resistance to vibrations and thermal stresses (patented)

Does not require recalibration or complex input to operate

- Based on Gallium Arsenide (GaAs) measurement principle

Surpasses ASTM dielectric strength standards for use inside transformers

- Patented longitudinal slit insures perfect oil impregnation over entire probe length, for negligible PD operation

Retaining disk option

- Offers the strongest retaining force in the industry, > 40 N. Simplifies probe installation

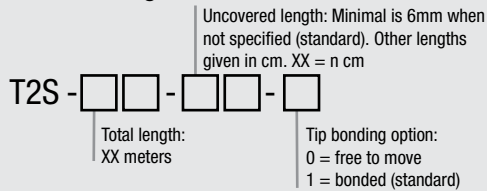
Optional dielectric connector

- Field installable: Allows on-site extension and repair of probes

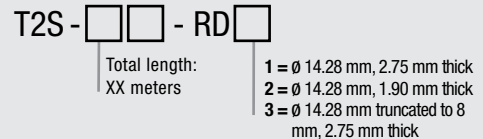
TECHNICAL SPECIFICATIONS

Environmental	Certification	ASTM D149 and ASTM D2413 Partial discharge < 5 pC
	Chemical resistance	Oil, solvent and chemical resistance (kerosene, etc.)
	Measurement range	-80 to 250 °C
	Probe oil permeability	Patented longitudinal continuous slit on cable ensures perfect oil impregnation
Mechanical	Connector type	Telecom multimode ST connector
	Probe material	All highly resistant materials (chemical, dielectric and temperature): Teflon™, Torlon™, polyimide, epoxy and glass optical fiber
	Probe sensor	Gallium Arsenide. Contact measurement with sensitive area of 300 μ O.D.
	Probe lengths	1 to 15 meters, in increments of 1 meter. Special request up to 500 meters
Specifications	Accuracy	±1 °C (system accuracy)
	Response time	250 milliseconds
	Ordering code	

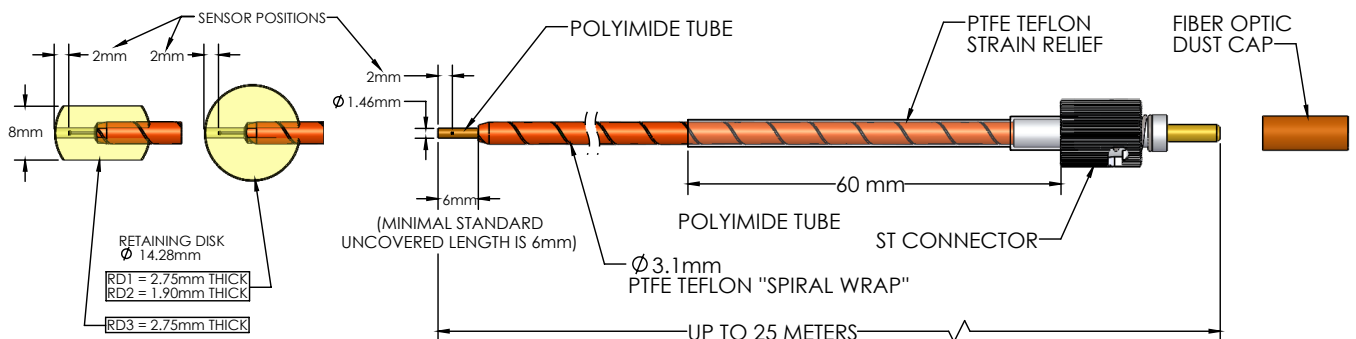
Standard configuration:



With retaining disk (14.28 mm O.D.):



Disk installation kit: NXP-631



About QUALITROL®:

QUALITROL® manufactures substation and transformer monitoring and protection devices used by electric utilities and manufacturing companies. It is the global leader in sales and installations of transformer asset protection equipment, fault recorders, and fault locators. Established in 1945, QUALITROL® produces thousands of different types of products on demand, each customized to customers' unique requirements.
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