

# DIGITAL LINEAR TEMPERATURE SENSING

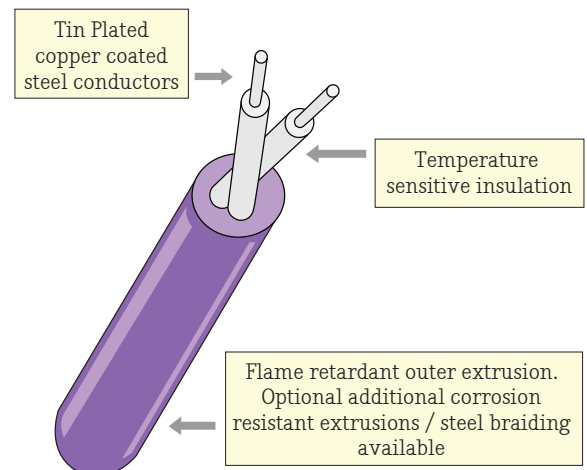


A.U.K. Registered Company: Number 4421495  
 V.A.T. Registered: GB 799 9244 45  
 web: www.lineardetection.com

An F.M. approved and U.L. listed temperature sensor which can provide Fire Prevention/Fire Detection at point of risk or for area protection applications, regardless of environmental conditions (including hazardous areas). No minimum length exposure required.

## Key Features

- Low cost and fast response
- User Friendly - with all Central Fire Alarm panels
- Connect to Central Alarm Panel address modules
- Approved for up to 10.6 metres / 35 feet spacing
- 92.1 ohms / conductor / km maximum resistance
- Overheat - Prevention of Fire
- Incipient Fire - Detection
- Continuous monitoring - 100% length of sensor
- Not affected by RFI or EMC
- Not restricted by local ambient temps: /exposure
- ATEX certified - zener barrier in hazardous areas.
- Use in temperatures -40C/-40F to +125C/+257F
- Alarm temperatures +68C/+155F to +185C/+365F
- Section replacement of sensor cable after alarm
- Optional Interface unit range - multiple outputs



## Description

Proline "TH" Digital linear temperature sensing cable is manufactured as 2 twisted and tensioned tin plated copper coated steel conductors around which is extruded temperature sensitive material which softens at its pre-determined temperature. At that temperature, the conductors come together to produce the required alarm signal. In the event of mechanical damage the conductors extrusion is maintained resulting in an open circuit fault signal.

Sensor cables are suitable for continued use within dirty, dusty, damp environments, areas of limited access and surveillance and within hazardous areas.

As a combined cable and detector which can be installed close to the risk or at ceiling / roof height (depending on application), overheat conditions can be detected at a pre - combustion level giving a Fire Prevention facility.

Optional interface units provide color coded LCD display, alarm point location, volt free output contacts (Alarm & Fault) as a minimum. Additional features include pre-alarm, ambient temperature rise alarm, site programmable additional alarm outputs (50 qty on 1 x 5000m "TH" sensor cable run), continued detection with break in cable including "TH" sensor cable.

## Operating Specifications

Alarm Rating	Approvals	Maximum Listed Spacing
68C / 155F	FM, UL, ULc	10.65 metres (35 ft.)
88C / 190F	FM, UL, ULc	10.65 metres (35 ft.)
105C / 221F	FM, UL, ULc	10.65 metres (35 ft.)
185C / 365F	UL, ULc	10.65 metres (35 ft.)

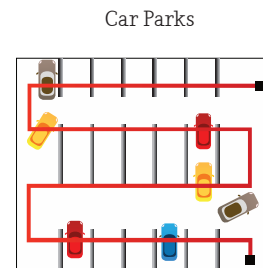
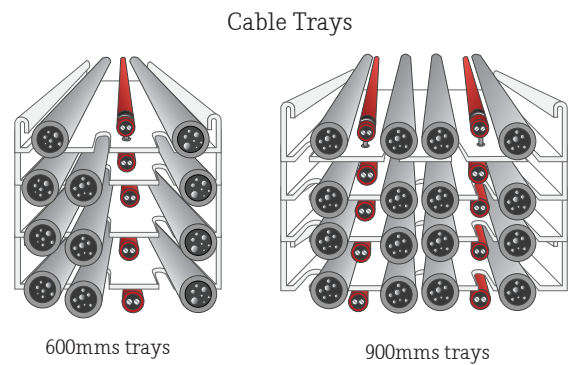
Part Number	Alarm	Maximum Ambient
TH 68	68C/155F	45C/113F*
TH 88	88C/190F	70C/158F*
TH 105	105C/221F	80C/176F*
TH 185	185C/365F	125C/257F*

\* Proline suggested maximum. F.M. approvals confirm operation within ambient temperature 10% below alarm threshold WITHOUT generation of unwanted alarm signal. TH78 (78C / 172F) Alarm temperature sensor not included as ambient temperature range covered by TH88.

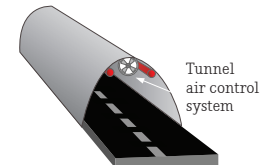
*Information detailed within this document is accurate at the time of issue.  
 Product specifications may be subject to change without notice.*

# "TH" Sensor Cables - Technical Specification

External Diameter	3.5 mm (0.138 in)
Dielectric Withstand	500Vdc - UL tested
Conductors	Tin Plated Copper coated Steel
Electrical Rating	30Vac (42.4Vdc) 10A
Conductor Resistance	88.1 ohms min: per 1000m 92.1 ohms max: per 1000m
Conductor Extrusion	Temperature Sensitive Polymer
External Sheath	Color coded polymer Lead & Cadmium free / UV resistant
Tensile Strength	1.700min: (N/mm <sup>2</sup> ) tested to BS EN 60811-1
Optional Extrusions	Corrosion & Abrasion resistant 316 Stainless Steel braid
Messenger Wire	Nylon covered 316 Stainless Steel 1.05mm: / 0.04 in:
Capacitance	TH68: 150pF/m TH88: 97pF/m TH105: 88pF/m
Inductance	TH68: 960nH/m TH88: 540 nH/m TH105: 1060 nH/m
Impedance	TH68: ~80 ohms TH88: ~75 ohms TH105: ~110 ohms
Minimum Bend Radius	100 mm: / 4.0 in
Shipping Weight	27 kg: / 60 lb



## Tunnel Protection

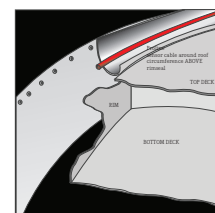


Zone 1 of 2 illustration or return of zone 1 with alarm point location

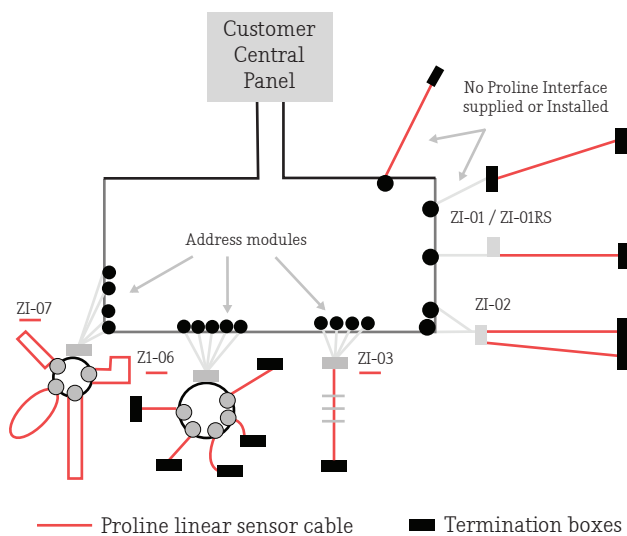
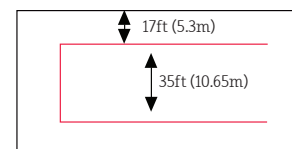
## Optional Interface Units

Where ALARM POINT LOCATION identification could be of advantage, as in overheat detection without visible flame, Proline have a range of OPTIONAL interface units. All of which include the alarm location facility in addition to color coded LCD display for local visual status indication and solid state volt free contact outputs for Fire / Alarm and Fault / Trouble. In addition, Pre-Alarm, Ambient rise indication, site programmable alarm outputs (50 maximum on 5000 m / 16,400 ft sensor cable) and continued detection with break in sensor cable or in supply / monitoring cable may be provided - depending on interface unit specified.

## Floating Roof Tanks



## Warehousing



For detailed application information and sample installation sketches visit Proline website at [www.lineardetection.com](http://www.lineardetection.com) or e mail us on [proline\\_lhd@gmail.com](mailto:proline_lhd@gmail.com)