



Tel: +44 (0) 8452 602 702
Fax: +44 (0) 8452 602 902
Email: proline@linedetect.com
Web: www.lineardetection.com

UK OFFICE: 1 Wheatsheaf Close, Ottershaw, Surrey. KT16 0JA. United Kingdom

LINEAR HEAT DETECTION – SENSOR CABLE ACCESSORIES

1. LINEAR HEAT SENSOR CABLE FIXING DEVICES

Continuous Uninterrupted operation of a “TH” digital linear heat detection system, is reliant upon correct sensor cable positioning and regular fixing/support at 1metre intervals using manufacturer supplied or approved clips. This spacing will help prevent sensor cable sag and minimize the risk of mechanical damage.

System Operating Sensitivity can be adversely affected where long lengths of an installed sensor cable are in contact with heat absorbent surfaces. The exception being where a surface temperatures is to be monitored by the sensor cable – to protect against overheat conditions.

Inadequate sensor cable support and/or incorrect installation positioning in relation to the identified risk can lead to a reduction in protection or even a total loss of detection capability. PROLINE PROTECTION SYSTEMS LTD have carefully designed or sourced a range of suitable installation fixings. Primary considerations are flexibility of application, quality and cost. For non metallic fixing devices Low smoke zero halogen materials have been used in manufacture where possible.

The following fixings range provide firm support (without damage to the sensor cables), cover a broad range of applications, and consider the importance associated with correct sensor cable location.

NOTES:

1. Unless otherwise specified, supply of fixing devices DO NOT include for any nylon bush or cable tie which may have been included in an illustration to indicate how the heat sensor cable should be used with that particular fixing device.

2. Care must be taken when specifying or using any clips which rely exclusively upon a self adhesive base for permanent fixing as they rely upon clean smooth surfaces in order to achieve good “bonding”.

Ordering Information

A minimum order quantity is applicable for the illustrated ranges of clips – contact the office for details.

Where a purchase order is for clips / fixings only, a minimum 100:00 pounds sterling invoice value applies.

1A: Thermal Spacer – TS50

One of the most versatile and installation cost saving fixing devices available. It utilizes a unique labour saving “twist lock” installation principle. The multi – application clip is suitable for use on cable trays, dexion racking, concrete walls or roofs. Utilising its 6mm (0.2inch) diameter base located screw and washer fixing or 35x17x17mm (1.4x0.66x0.66inch) moulded “standoff”. An angled cut out on the side of the clip body allows for ease of sensor cable fixing whilst maintaining flexibility of lateral movement/ location adjustment of sensor between clips.

Rapid removal of sensor cable during local risk maintenance/repair programmes (if necessary) is achieved without having to remove the fixing.

Manufactured from LSF material, the fixing is available with a 50mm body length.

Shipping weight: 2kgs/100qty



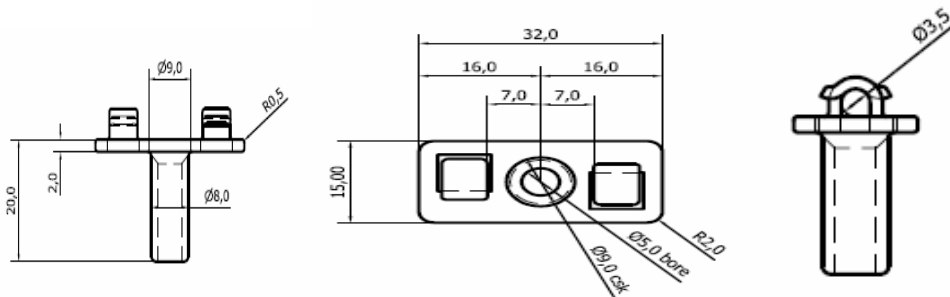
1B: "T" Clip – PR002

The "T" clip design provides the required clear airflow around the sensor cable for maximum efficiency. The design also allows for rapid temporary removal of the TH sensor cable – as may be called for by the end user for certain routine maintenance /repairs/replacement work within the area in which the sensor cable is installed. Without the necessity of having to also remove the clips.



Materials used in the manufacture of the clip are low smoke zero halogen.

Not to scale



All dimensions in mms

Specification

Material: Black Nylon 6
Flammability: Conforms to UL94
Melt Temperature: 220C
Specific Gravity: 1.18
Moisture Absorption: 1%
Weight (per 1000units): 2.5kgs

1C: SPN-3 sensor clamp

A versatile sensor fixing for use on multiple Industrial and commercial applications .A steel body (zinc electroplated for corrosion resistance) offers a firm mounting of sensor cables via screw fixing, with a santoprene cushion providing electrical insulation, vibration absorption and anti-chafing of the heat sensor cable.



1D: "L" Bracket

Manufactured from stainless steel, the "L" bracket provides the perfect support for heat sensor cables above the top tier of cable trays or secondary seal on floating roof storage tanks. The multiple height adjustment facility – provided by the drilled holes in the longest section of the bracket, assists in selection of the correct height and positioning of the sensor cable above the roof seal.



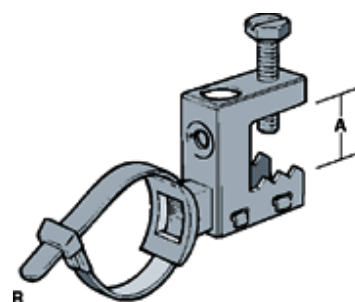
1E: "V" Clip

Simple but effective design for rapid installation on site. Typical risk applications are cable trays, where the spring steel construction of the clip allows fixing within holes in the traywork. Sensor cable passes through the base of the "V" with cable tie fixing between the cable and clip providing any necessary tensioning.



1F: Beam Clamp: MCCT-5.5

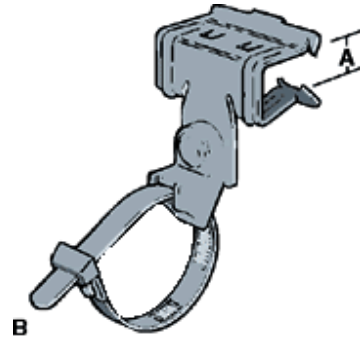
This provides firm yet flexible support for heat sensor cables for a diverse range of applications and installations. The flexibility being achieved by selection of the most appropriate "tie" or sub clip assembly to meet the risk requirements.



1G: Edge Clip: BCCT50-5.5R

This offers firm support of heat sensor cables, and ensures a clear airflow is present between the sensor and the structure to which it is being fixed. Thereby ensuring any “heat sink” effect from the structure does not reduce the linear detection system sensitivity.

A range of clips to accommodate structure thickness of between 3 mm and 20 mm is available. Please specify when ordering.



1H: Turnbuckle (ref: STT) / Eyebolt (ref: STE) + Tensioning Wire (ref “MW”)

There are certain applications – typically bulk warehouse protection – where regular fixing points for the linear heat sensor cable is not practical or possible. In such cases, the use of the Proline “TH” sensor cable with support wire (supplied on separate reel for on site installation around the sensor cable at a recommended 3 turns per metre) is recommended. The support wire is a flexible nylon covered stainless steel construction – 1.05mm diameter with strength – 90kgs.

The Turnbuckle/eyebolt fixings (supplied complete with nut and washer) will provide the required degree of tension on the sensor cable via the support wire. The maximum length between turnbuckles/ eyebolts – without intermediate support/s should not exceed 75metres. It is also recommended that intermediate supports be provided at maximum 15m intervals to eliminate excessive “sag” in the sensor cable when turnbuckles and eyebolts are used at the 75m maximum spacing.



STE- Eyebolt



STT-Eyebolt & Tensioner



MW- Tensioning Wire

2. JUNCTION/TERMINATION BOXES

On site installation of PROLINE digital linear heat sensor cables will involve at least one of the following wiring connections:

A) Sensor cable to Sensor cable: For i) Existing installation length extensions, ii) Sectional replacements/repairs iii) To achieve multiple alarm temperatures on a single zone by jointing cables with different alarm temperature ratings.

B) Sensor cable to short term fire-proof interconnecting cabling - Where interface units are installed “remote” from the risk area

C) Remote end termination of sensor cable - Unit supplied complete with end of line resistor for open circuit fault condition monitoring.

The most reliable and most commonly end user specified method for sensor cable jointing remains Junction/Termination boxes. PROLINE has researched a number of manufacturers of such boxes, and offers the following range of units – based upon quality and price.

Full Descriptions and photographs - next page.

2A: Heavy Duty Industrial Units

Photographs below are not to scale; gland image enlarged for increased detail

The unique design of the type **COM308** junction / termination box provides for maximum internal working space . Approximately 10% more than more “conventional” shaped devices. The unit is manufactured from polypropylene, re-inforced glass fibre:sealing thermoplastic elastomere. The COM308 is flame retardant, halogen free and is highly resistant to animal and vegetable fats, mineral oil, deisel, weak acids, strong and weak alkaline solutions and alcohol.

Dimensions: 85 x 85 x 51 mms

Temperature range: -30C to +100C continuous

Voltage:400 v rating

Rating: IP66 classification to EN 60 529.

Flame Protection: glow wire test 750C to EN 60695-2-11

Cable entry: Compression glands or use of 8 elastic self sealing membranes

Fixing: Mounting clip for snap on fixing or 4 internal openings outside of sealing area.

Cover: 4 captive quick release screws.

Terminal/poles: 4mm².

Colour; RAL 7035 light Grey (also available in black, white and grey box/red cover)



COM 308



Glands



Reducers

(TH sensor cable entries only)

2B: EExe Hazardous Area Unit



The type **COM Eexe100301** In line jointing and end of line termination boxes are manufactured from impact corrosion and UV resistant glass re-inforced polyester compound. High temperature resistant and anti-static properties. Screw on lid allows ease of installation locked with specialkey to prevent unauthorised tampering.

No exposed metal parts. No drilling or tapping of entries required. Supplied c/w M20 glands

Dimensions: 90x 89 x 58 mms (3.6 x 3.6 x 2.3 inches)

Combustion Behaviour: VO-self-extinguishing UL94

Internal Mounting: Approved EExe Terminals

Cable Glands: Approved EExe glands

IP rating: IP68

Colour: Black

Hazardous Area Classification: CENELEC/ATEX – Category 2, Category3, EexeII 2GD

Compliance Code

EN50014:1997, EN50019:2000

EN50281-1-1 1999

Certification No.

DEMKO 01 ATEX 130324 (Apparatus), 130515U (Unfinished)

DEMKO 01 ATEX 130324 (Apparatus), 130515U (Unfinished)

Impact Protection

14 joules

Ingress protection

IP66/67/68

Operating Temperature

-30C to + 130C

Fire Rating (red boxes)

750C for 30 minutes

The information provided on this data sheet is accurate at time of going to print. In the interests of improving quality and design, PROLINE PROTECTION SYSTEMS LIMITED reserve the right to amend specifications without prior notice.

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Registered Office – KingsWorthy House , Court Road , KingsWorthy , Winchester , Hampshire . SO 23 7QA U. K.

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