

LAND



AET AQT

Aluminium Extrusion & Quench Thermometer Systems Mountings and Accessories

Installation Guide

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LAND

An **AMETEK**® Company

PRODUCT WARRANTY

Thank you for purchasing your new product from Land Instruments International. This Land manufacturer's 'back-to-base' warranty covers product malfunctions arising from defects in design or manufacture. The warranty period commences on the instrument despatch date from the Land Instruments International Ltd. factory in Dronfield, UK.

36 MONTHS WARRANTY



Building upon the reputation for reliability and longevity that System 4 and UNO thermometers have earned, Land are delighted to be able to provide our customers with an industry-leading 36 month warranty for the following products:-

- System 4 thermometers, processors, accessories and mountings and special instruments based on System 4.
- UNO thermometers, accessories and mountings and special instruments based on UNO.
- Application-dedicated processors based on LANDMARK® Graphic.
- ABTS/S and ABTS/U.
- FTS.
- VDT/S and VDT/U.
- DTT.
- FLT5/A.

This 36 month warranty is provided as standard for all orders for the products listed above received from 1st May 2002.

We believe that our customers expect us to set the standard in terms of performance, quality, reliability and value for money. This 36 months warranty, as a part of an on-going program of continuous improvement, is just one way in which Land strive to maintain our position as the temperature measurement partner of choice.

12 MONTHS WARRANTY

All Land Instruments International products not provided with 36 months warranty (see list above), are provided with a 12 months warranty.

PRODUCT WARRANTY

EXCLUSIONS FROM WARRANTY

It should be noted that costs associated with calibration checks which may be requested during the warranty period are not covered within the warranty.

Land reserve the right to charge for service/calibration checks undertaken during the warranty period if the cause is deemed to fall outside the terms of the warranty.

This Land manufacturer's warranty does not cover product malfunction arising from:-

- incorrect electrical wiring.
- connection to electrical power sources outside the rating of the product.
- physical shock (being dropped, etc.) and impact damage.
- inappropriate routing, support, physical shock & strain protection, etc. of the lightguide (Fiberoptic thermometers only).
- environmental conditions exceeding the IP / NEMA rating of the product.
- environmental conditions outside the Ambient Temperature, Humidity and Vibration rating of the product.
- environmental contamination (solvent vapours, deposition of airborne contamination, cooling liquids of non-neutral pH, etc.).
- overheating as a result of interruption of water/air flow through cooling jackets or of incorrect installation.
- inappropriate modification of product (drilling holes in thermometer bodies, etc.).
- inappropriate recalibration which results in product calibration being taken outside specification.
- improper resealing of thermometer following parameter adjustment (UNO, FLT5/A, etc.).
- attempted repair by a non-Land-authorized repair centre.

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About This Guide

This guide gives information about the range of mountings and accessories available for use with **AET** and **AQT** thermometer systems. Further detailed information is contained within the **AET/AQT** Installation and User Guides. It is important to check the equipment with which you have been supplied to ensure that all ordered items, including accessories, have been delivered.

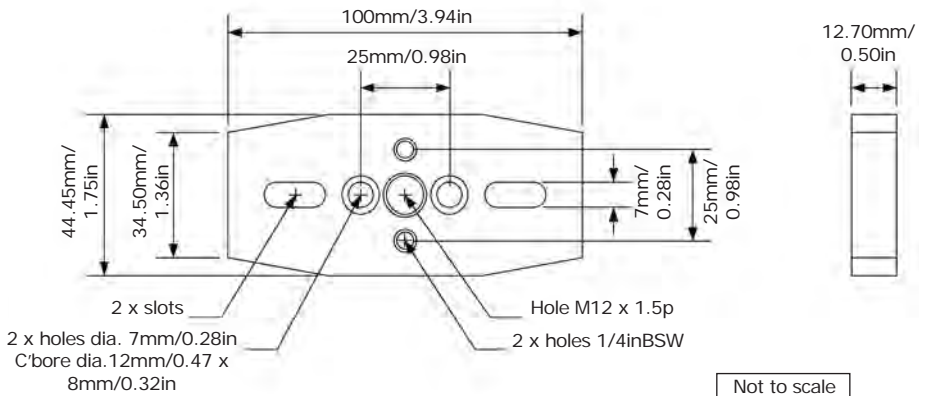
i **NOTE**

If the thermometer is to be used in an environment where the ambient temperature is higher than that specified, or where the atmosphere contains a high proportion of dust/smoke/steam etc, then the thermometer must be housed in an Environmental Protective Jacket.

All system mountings and accessories are available from Land Instruments International.

Mounting Adapter Plate S4MA (Land Part Number: 029.264)

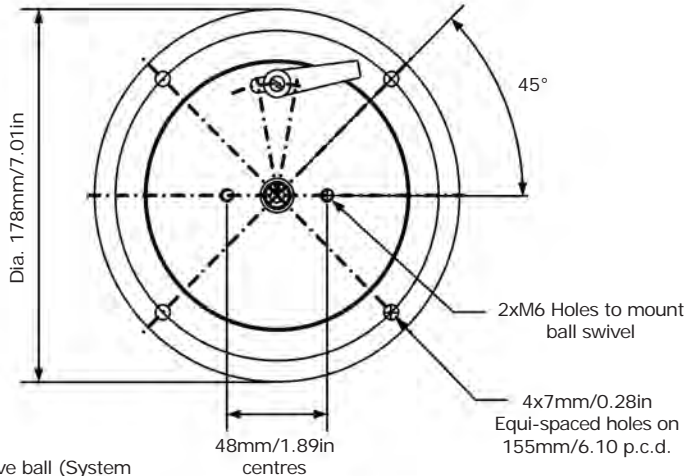
The S4MA adapter plate is utilised when the **AET/AQT** thermometer mounting jacket is to be mounted onto the M12 ball swivel of either the quick-adjust mounting plate or the actuator unit.



Manual Quick-Adjust Mounting Plate (Land Part Number: 030.448)

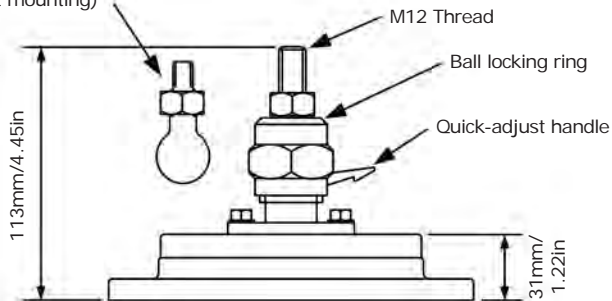
The quick-adjust mounting plate accessory allows an **AET/AQT** thermometer to be rotated quickly and easily, during initial alignment or re-alignment of the thermometer with the target area. When the quick-adjust mounting plate is to be utilised with the protective jacket assembly, an S4MA adapter plate is required, which allows the protective jacket to be directly mounted onto the M12 thread of the quick-adjust mounting plate ball swivel.

Plan view
(without ball
swivel unit)



Spare alternative ball (System
3 Jacket mounting)

End view
(with ball
swivel unit)



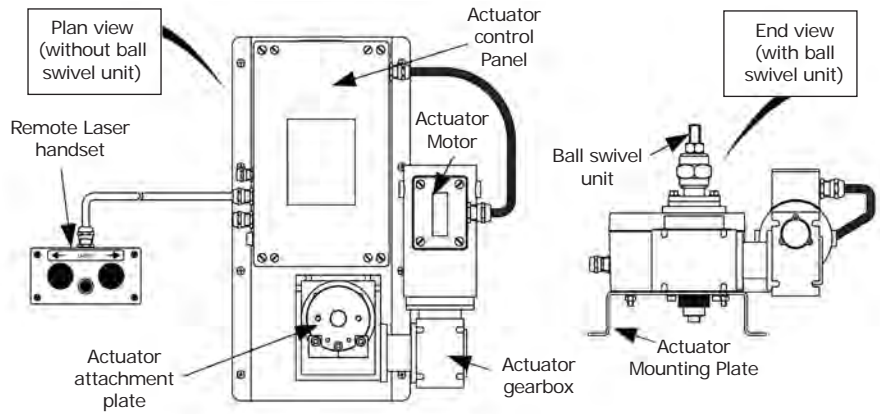
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Calibration Unit (Land Part Number: 092.530)

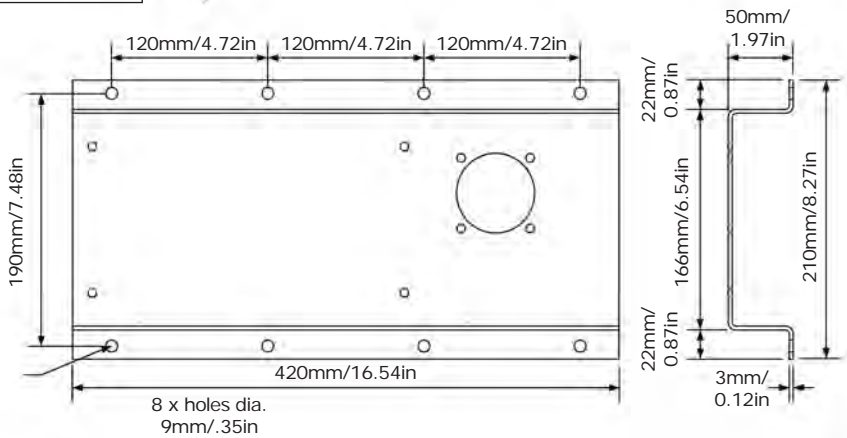
The Land **AET/AQT** calibration box is a hand-held, surface thermocouple and display unit which has been specifically calibrated to provide an accurate instrument checking device for use with aluminium thermometer systems. For further information including operation and maintenance, cross-refer to the **AET/AQT** User Guide.

Actuator Assembly (Land Part Number: 110V ~ 092.578/230V ~ 092.582)

The **AET** actuator accessory is used for mounting the **AET** (die-exit) thermometer onto the press face or suitable near-by part of the press superstructure. It may also be used, where applicable, for the alignment of an **AQT** quench thermometer when mounted at the exit of a quench box or nearby structure, to allow for aiming onto sections exiting the quench. The actuator mounting plate is mounted onto the selected structure using a minimum of 4 x M8 screws fitted with either nyloc nuts or anti-vibration washers. For further information, cross-refer to the **AET** Actuator Installation and Operating Instructions.



Plan and end view of actuator mounting plate



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Mountings & Accessories Installation Information

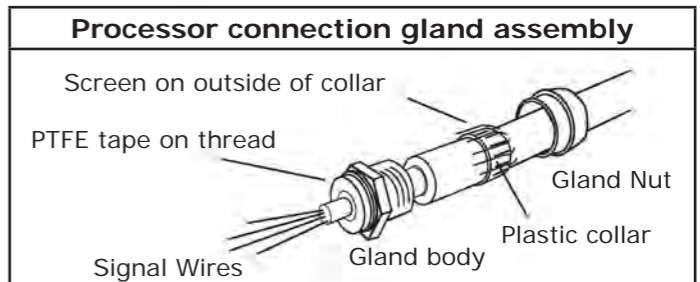
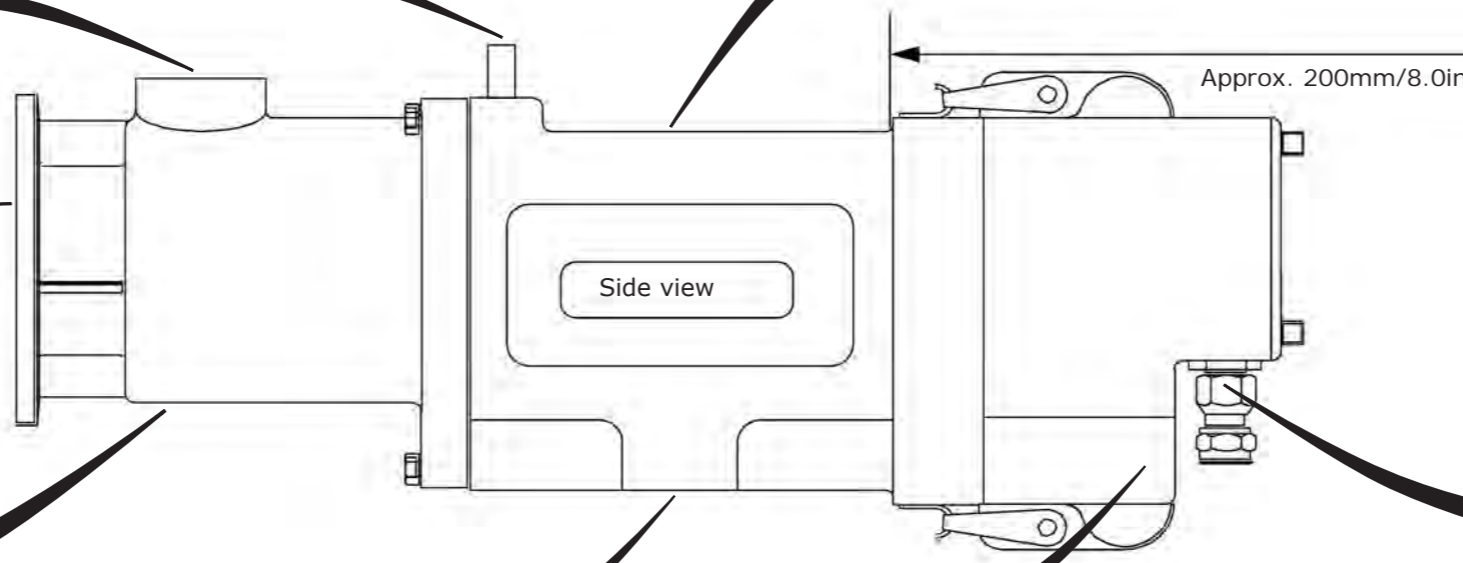
Purge air inlet
 Threaded inlet suitable for G1 (BS) size air connector.
 Inlet pressure: 350N/m² / 3.5mbar (0.05psi).
 Flow rate: <1l/sec / 2cfm.
Caution Ensure that the air supply to the air purge system is clean and free from contaminants.

Coolant inlet/outlet pipe connections
 9.5mm / 3/8in OD plain tube connectors for attachment of water or air coolant inlet/outlet pipelines.
 Water coolant flow: <1 l/min / 13 gals/hr.
 Air coolant flow: <450 l/min / 16cfm.
 Maximum working pressure: 700kN/m² / 7bar (100psi)

S4J Protective jacket assembly (Part N° 091.560)
 The S4J Protective jacket assembly provides an effective air or water cooling facility for the **AET/AQT** thermometer. It protects the thermometer from the excessive environmental conditions encountered during the aluminium pressing process.

Thermometer removal clearance distance
 This clearance distance allows the **AET/AQT** thermometer to be removed from the protective jacket assembly with the least amount of disturbance to the system.

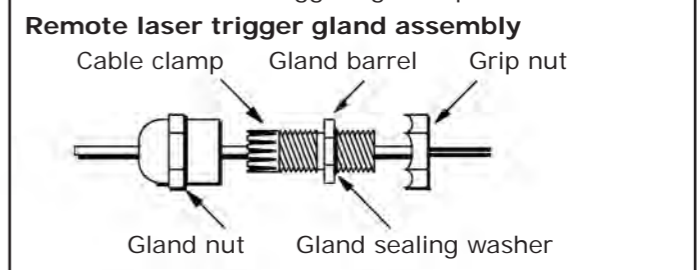
Mounting holes
 Three equi-spaced holes for mounting or support of the unit.
 Hole sizes: 6.5mm / 0.26in to 7.0mm / 0.28in clearance for M6 bolts.



Cable glands and blanks

Item	Land Part N°
Processor connection gland	150.697
Remote laser trigger gland	150.698
Remote laser trigger blank	150.701

The S4CA End cap assembly is supplied with the Processor connection gland and Remote laser trigger blank fitted. The Remote laser trigger gland is also supplied loose and should be fitted for installations where remote laser triggering is required.

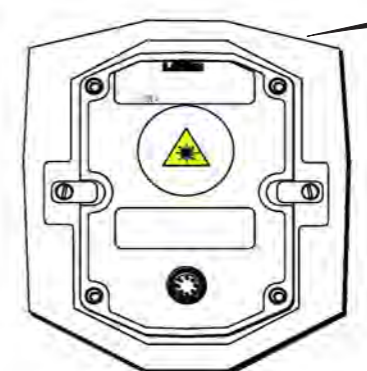
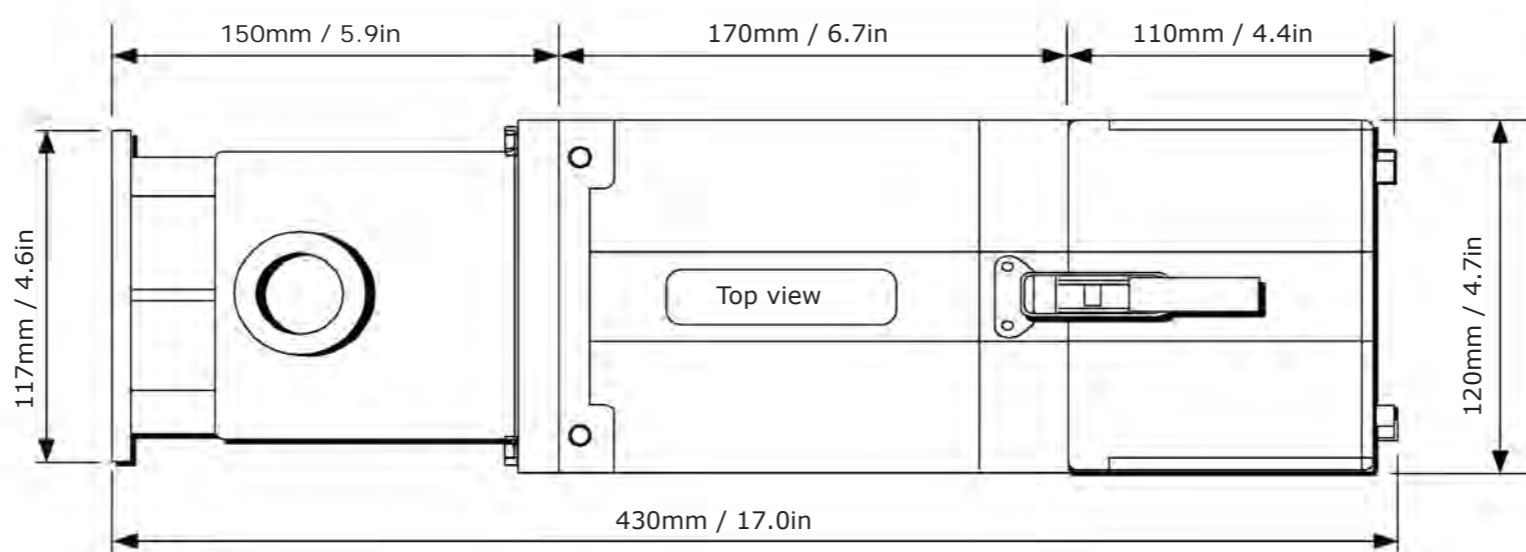


S4P Air purge assembly (Part N° 091.561)
 The S4P Air purge assembly provides a stream of clean, dry air to the lens of the **AET/AQT** thermometer, ensuring that the lens is kept free from condensation, dirt and any other contaminants which may otherwise settle onto and soil the lens surface.

Jacket mounting
 Two mounting holes on the underside of the jacket for mounting or support of the unit.
 Holes: Threaded M6 on 70mm / 2.8in centres.
 Position: 75.2mm / 2.9in from front face of the jacket.
 If the application requires the jacket to be mounted to an actuator assembly or quick-adjust mounting plate, an adapter plate is available (S4MA), which utilises the M6 mounting holes in the jacket and accepts the M12 thread of the actuator or mounting plate ball unit.

S4CA End cap assembly for AET/AQT (Part N° 092.699)
 The S4CA End cap assembly provides environmental protection for the electrical connections to the **AET/AQT** thermometer. Connections are made to the terminal strip inside the end cap cover. Camlock fasteners ensure that the end cap is securely fastened to the protective jacket.

Safety warnings
 Class 2 laser product.
 DO NOT stare into the laser beam. (1.0mW maximum output at 635nm)
 DO NOT look directly towards the thermometer window, or into the laser beam during operation.
 If the laser beam is projected onto a highly reflective surface, DO NOT look at the laser spot from a position where a direct ('mirror-like') reflection may enter the eye. DO NOT attempt to disassemble the laser unit or any of its mounting components. Embedded laser has a maximum output of 5mW with a beam divergence of <5mrad.
Caution Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.



Securing the thermometer
 The **AET/AQT** thermometer fits snugly inside the protective jacket. Two spring-loaded retaining clips engage in recesses in the thermometer housing, ensuring that the thermometer is fully secured.

End View (with S4CA End cap removed)

Not to scale