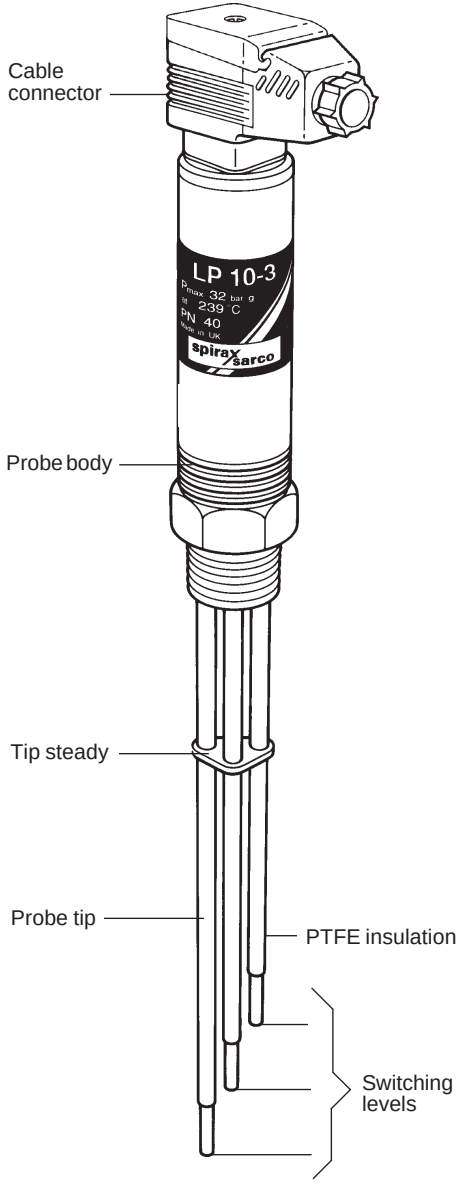
Level Probe LP 10-3
Installation and Maintenance Instructions

Application
The Spirax Sarco LP 10-3 level probe is used with the Spirax Sarco LC1000 Controller to provide on/off level control and/or alarm functions in steam boilers, tanks, or other vessels.
The probe is also suitable for use with a wide range of conductive liquids.

How the level probe works
The LP10-3 has three tips which are cut to length on installation to give the required switching levels. The probe body is earthed through its 1" BSP connection, and the boiler or tank normally forms the earth return path.
When a tip is immersed in liquid it completes an electrical circuit to earth.
When the level drops below the tip, the resistance to earth becomes high, signalling to the controller that the tip is out of the liquid.

Installation
For steam boiler applications, the probe may be installed in an external chamber or inside the boiler in a protection tube.
Caution
Wherever possible the boiler manufacturer should be consulted for advice on the working and alarm water levels. Note that under certain circumstances the water level inside a boiler can be different to that shown in the gauge glass. Separate literature is available from Spirax Sarco on this subject.
If the probe is to be used in a non-conductive tank, (concrete or plastic, for example), use one of the tips as an earth return, or provide a separate earthing rod or plate.

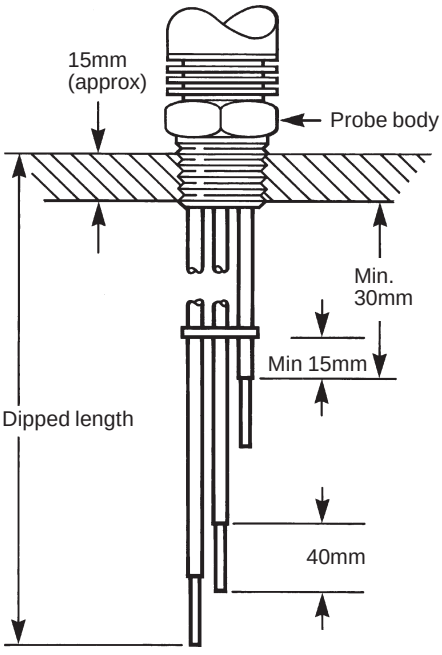


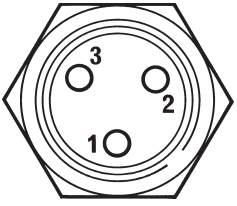
Cutting the probe tips to length

The switching levels are at the extreme end of the tips, which are cut to length to give the required alarm or pump signals.

Procedure:

1. Ensure the liquid is at the required level.
2. Mark a metal rod with a water soluble felt pen, and dip the vessel to find the depth from the top of the probe mounting flange to the liquid level.
   Alternatively, obtain this depth by transferring the level from a gauge glass.
   Caution
   It is essential that the PTFE insulation on the probe tips is not damaged during cutting.
   Use a short length of copper pipe or similar tubing to protect tips not being cut.
3. Measuring from the underside of the probe body, cut the selected probe tip to 15mm less than the dipped length with a fine hacksaw and de-burr (See diagram).
4. Cut back PTFE insulation 40mm from end of tip.
   Note: The minimum insulation length is 30mm.
5. Repeat the procedure for the remaining probe tips.
   Leave unused probe tips full length if possible.
6. Slide tip steady into a position where it is, ideally, above the working levels. The steady should support all probe tips, and be at least 15mm away from exposed end of tips.
7. Fit probe (1"BSP taper, 41 A/F), using PTFE thread sealing tape, not jointing compound. No gasket is required.

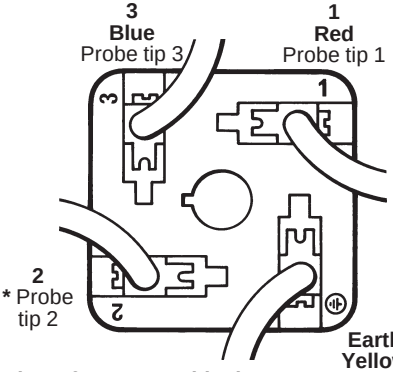




Underside of probe body showing tip identification

Wiring

Refer to the controller wiring diagram for full details.
Suitable cable is Pirelli FP200, 3 or 4 core, 1mm², or Delta Crompton Firetuf OHLS.
The cable gland has a Pg11 thread.
To unplug the DIN 43650 cable connector, remove the central screw.
Remove the hinged cover to gain access to the connector block.



View of connector block
(Cover removed)

Blue for 3-core cable
Black for 4-core cable
See controller wiring diagrams.

Maintenance

No special maintenance is required.
Steam boiler water level controls, however, do require regular testing and inspection.
For specific testing instructions for Spirax Sarco systems please see separate literature.