



LP 31 High Integrity, Self-Monitoring High Water Level Alarm Probe

Description

The Spirax Sarco LP31 is used in conjunction with an LC3050 controller to provide a high integrity, self-monitoring alarm for detection of high water levels in steam boilers and other vessels.

The probe is normally installed direct in the boiler shell in a protection tube, but can be mounted in an external chamber if regulations permit.

The LP31 is supplied in three nominal tip lengths, and is cut to the exact length required prior to installation.

In normal operation, the tip is above the water level, and has a high resistance path to earth. If the water level rises to touch the probe tip, the resistance to earth drops, causing the alarm relays in the controller to be de-energised and the alarm to sound.

The LP31 is designed so that its tip and wiring connection integrity is monitored by the controller, causing an alarm signal in the event of a fault occurring.

The LP31 can also be used as a simple (non self-monitoring) high or low level probe with an LC1350 level controller.

A DIN 43650 cable socket with Pg 11 cable gland is supplied with the unit.

Approvals:

The LP31 is available with a 1/2" NPT screwed connection, approved to UL61010. *Please note that this version will not be marked and is not suitable for Europe.*

Caution: The probe is not suitable for outside installation without additional environmental protection.

Available tip lengths inches (mm)

19.7" (500), 39.4" (1000) and 59" (1500).

Limiting conditions

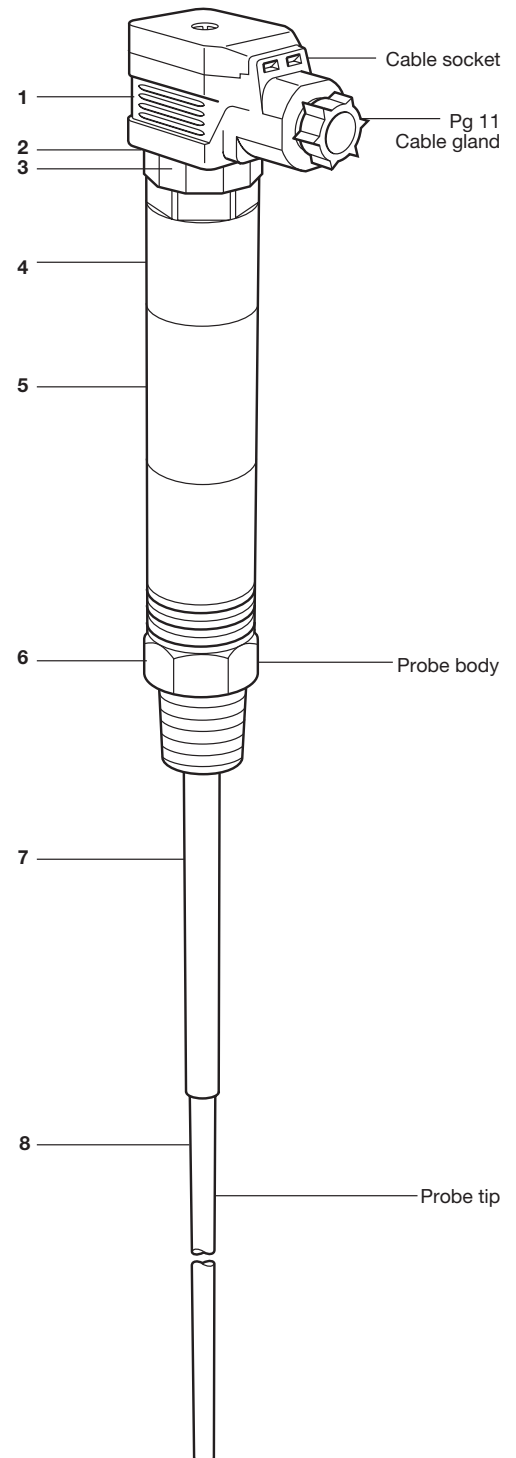
Nominal pressure rating	PN40
Maximum boiler pressure	464 psi g (32 bar g)
Maximum temperature	462°F (239°C)
Maximum ambient temperature	158°F (70°C)

Technical data

Maximum probe cable length	164 ft (50 metres)
Cable socket protection rating	IP65
Minimum conductivity	LC1350 1 mS/cm or 1 ppm
	LC3050 30 mS/cm or 30 ppm

Materials

No.	Description	Material
1	Cable socket	Polyamide, glass filled
2	Flat gasket	Silicone rubber
3	Probe connector	Polyamide, glass filled
4	Cover assembly	Austenitic stainless steel
5	Name-plate	Polycarbonate
6	Body	Austenitic stainless steel BS EN 10088-3 (1.4306)
7	Probe tip sleeving	PTFE
8	Probe tip	Austenitic stainless steel ASTM A276 316L

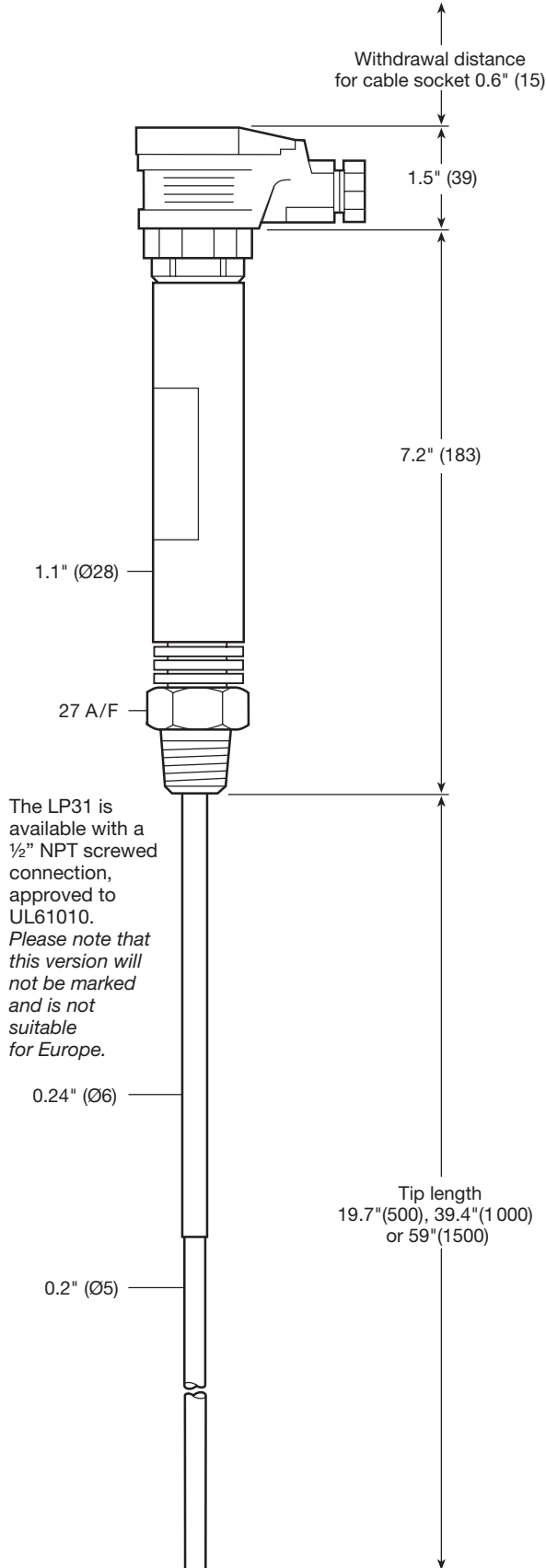


Local regulation may restrict the use of this product below the conditions quoted. Limiting conditions refer to standard connections only. In the interests of development and improvement of the product, we reserve the right to change the specification.

TI-P402-81-US 5.17

LP 31 High Integrity, Self-Monitoring High Water Level Alarm Probe

Dimensions (approximate) in inches and millimeters



Weights (approximate) in lb (kg)

Tip length	19.7" (500 mm)	39.4" (1000 mm)	59.1" (1500 mm)
Weight	1.1 (0.51)	1.3 (0.59)	1.5 (0.67)

Safety information, installation and maintenance

This document does not contain sufficient information to install the product safely. See the Installation and Maintenance Instructions provided with each unit.

Installation note:

The LP31 tip is cut to length and de-burred prior to installation. The LP31 has been designed to work with a Spirax Sarco LC3050 controller.

A protection tube is required for boiler shell or turbulent tank fitting. Install the probe in a 1/2" NPT parallel female connection using PTFE tape.

Note: Do not install the probe outdoors without additional weather protection.

Maintenance note:

No special maintenance is required. Boiler water level controls do, however, require periodic testing and inspection, which is described in separate literature.

Spare parts

There are no available spare parts for this unit.

How to specify

High integrity high level alarm probes shall be Spirax Sarco self-monitoring type LP31 with an austenitic stainless steel body and probe tip, PTFE probe sleeving, and DIN 43650 cable socket with Pg 11 cable gland. They shall be cut to length on installation and be used with an appropriate Spirax Sarco controller.

How to order

Example: 1 off Spirax Sarco LP31 high integrity, self-monitoring, high water level alarm probe with 39.4" (1000 mm) tip.