



# spirax/sarco®



## LP 31 High Level Alarm Probe

- High integrity, self-monitoring high level alarm probe
- Suitable for pressures up to 464 psig, 462°F (32 barg, 239°C)
- Guards against the boiler flooding and water hammer in the steam mains
- Fail safe design
- Can also be used as a simple level probe

### Description

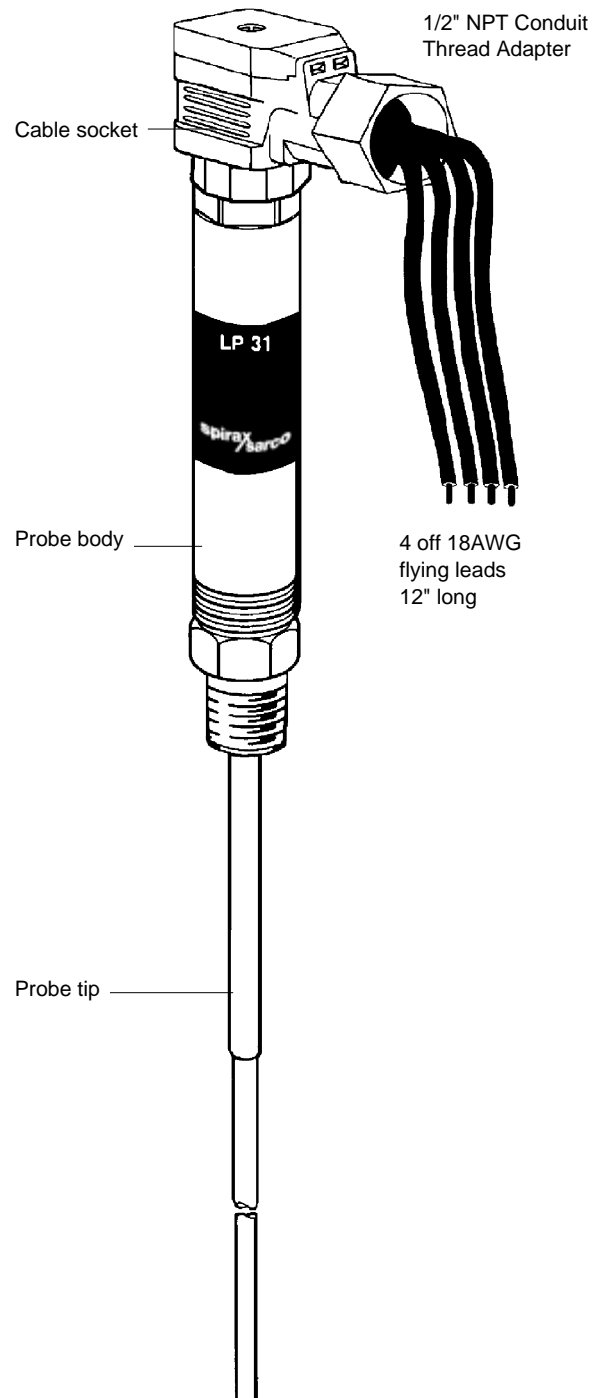
The Spirax Sarco LP 31 is used with an LC3000 controller to provide a high integrity, self monitoring high level alarm for detection of high water levels in steam boilers and other vessels. The probe is normally installed direct in the boiler shell in a protection tube, but can be mounted in an external chamber if regulations permit. The LP 31 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 to ground. If the water level rises to touch the probe tip, the resistance to ground drops, causing the alarm relays in the controller to be de-energized and the alarm to sound. The LP 31 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. A DIN 43650 cable socket with 1/2" NPT conduit thread and four 18AWG wire are supplied with the unit.

### Limiting Conditions

Maximum boiler pressure	464 psig (32 barg)
Maximum temperature	462°F (239°C)
Maximum ambient temperature	158°F (70°C)
Maximum probe cable length	165ft (50m)
Cable socket protection rating	IP65

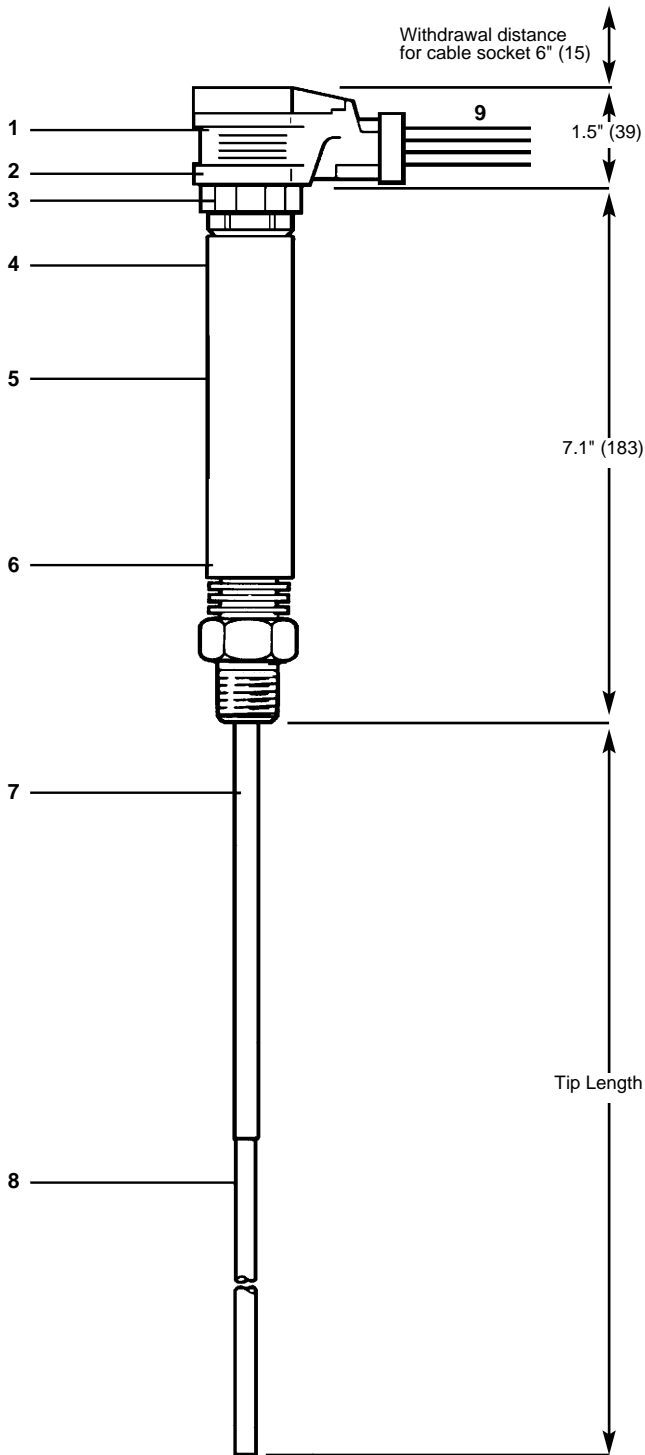
### Available Lengths

Tips are available in lengths of 19.7" (500 mm), 39.4" (1,000 mm), 59.1" (1,500 mm).



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**Dimensions** (approximate) in inches and millimeters



## 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	Nameplate	Aluminum foil
6	Body	Austenitic Stainless Steel Type 316Ti W/S No. 1.4571
7	Probe Tip Sleeveing	PTFE
8	Probe Tip	Austenitic Stainless Steel ASTM A276 316L
9	Flying leads	Copper conductor, PVC insulation 18AWG CSA TEW105°C, UL1015 105°C, 600V

## Weight (approximate) including immediate packaging

19.7" (500mm) tip	1 lb (.51 kg)
39.4" (1000mm) tip	1.3 lb (.59 kg)
59.1" (1500mm) tip	1.5 lb (.67 kg)

## Installation

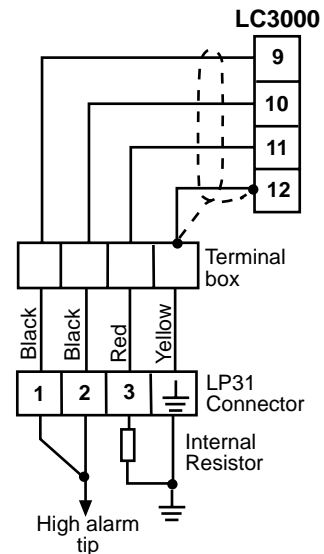
The LP 31 tip is cut to length and de-burred prior to installation. The probe is installed in a 1/2" NPT thread using PTFE tape. Full installation and wiring instructions are provided with each unit.

## How to Specify

Single tip, high integrity, self monitoring high alarm probe with all wetted parts in austenitic stainless steel/PTFE.

## How to Order

Spirax Sarco UL/FM LP31 (1/2" NPT) probe with 39.4" (1000mm) tip.



## Approvals

UL United States Standard	UL353 Limit Controls MH25452
ULC Canadian Standard	C22.2 No. 24-93 MH25452
Factory Mutual Research (FM)	FMRC Class 7710 Water Level Limit Control J.I.0Z8A4.AF

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