

# spirax/sarco®

## LC 2300 Level Controller



- Proportional controller for pneumatically actuated valves
- Three stage wave filter – wide turbulence tolerance
- 110V or 220/240V supply
- Output signal may be reversed

### Description

The Spirax Sarco LC 2300 is used to control the positioner of a pneumatic valve in response to a signal from a capacitance probe, providing proportional modulating control of liquid levels. It can be used for level control of boilers, de-aerators, and tanks, where the 4-20 or 0-20mA output from the controller is used as the input to the positioner on the pneumatically actuated feedwater valve.

The LC 2300 can also be used with any two-wire 4-20mA transmitter, for example for pressure, temperature, or level control using a pressure or differential pressure transmitter.

A dc power supply for a two wire transmitter is included.

The LC2300 is set up before installation to suit the mains supply voltage and to provide the required functions, using internal switches. Calibration of set point and proportional band is done using the potentiometers on the front panel, so calibration can be altered if required without removing or dismantling the unit.

The LC 2300 is supplied set so that a rising level at the probe will give a falling output from the controller.

A rising controller output for a rising level at the probe may be selected if required.

The LC 2300 has a three stage wave filter (input signal damping).

This switch-selectable feature gives an averaged output, maintaining a stable signal under the very different turbulence conditions found in tanks and high output boilers.

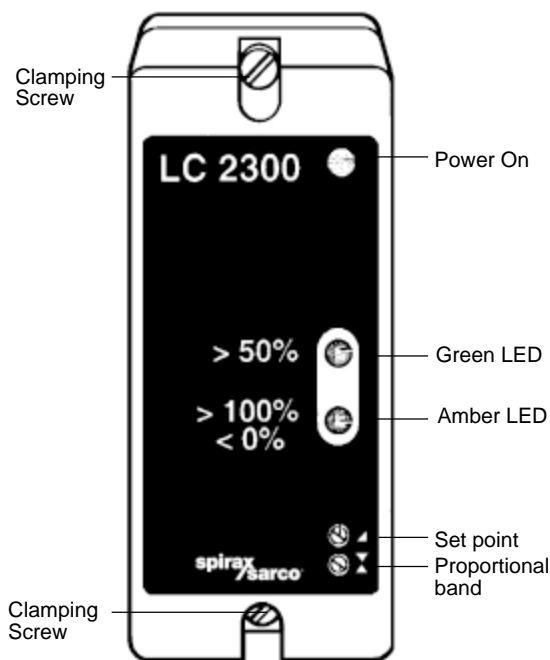
A green LED at the top of the front panel indicates power on.

The green (>50%) LED indicates that the output current is greater than 50%. i.e. above the set point output current.

The amber (>100%/<0%) LED indicates that the output is greater than 20mA or less than 0/4mA.

### Limiting conditions

Enclosure rating	IP 40
Maximum ambient temperature	130°F (55°C)
Maximum cable length (controller to probe)	300ft (100m)



### Installation

**WARNING:-Isolate the mains supply before unplugging the controller as live terminals at mains voltage will be exposed in the controller base.**

The controller must be installed in an industrial control panel or box enclosure to provide environmental protection (pollution degree 2).

CAUTION: Allow 0.6" (15mm) spacing between multiple units for air circulation.

Spirax Sarco can provide suitable enclosures. The controller may be mounted on a 'top hat' section DIN rail using the mounting clip provided, or the clip may be removed and the controller base screwed direct to a chassis plate.

Only copper cable is to be used. Screened cable is required for the probe. A suitable cable is Pirelli FP200 or Delta Crompton Firetuf OHLS, 3-core 1mm<sup>2</sup>.

The same type of cable may also be used for the mains wiring and 0/4-20mA output. Full wiring diagrams, selection switch settings, and adjustments are given in the Installation and Maintenance Instructions supplied with each controller.

# LC 2300 Level Controller

## Technical data

<b>Mains supply voltage</b>	
230V setting	198V-264V
115v setting	99V-121V
Frequency	50-60Hz
Fuse	20mm 100mA, antisurge UL Recognized
<b>Maximum power consumption 6VA</b>	
<b>Selectable inputs</b>	
Input 1	0-6V 0-2V 4-20mA 0-20mA
Input 2 (Opposite sense to input 1)	0-20mA 4-20mA
Output (Isolated)	0-20mA into 1k $\Omega$ max. 4-20mA into 1k $\Omega$ max. or 20-0mA into 1k $\Omega$ max. 20-4mA into 1k $\Omega$ max.
<b>Wave filter</b>	
Response band width (Designed for slowly varying signals)	
Filter 1 position (Min. damping)	0.07Hz.
Filter 2 position (Med. damping)	0.02Hz.
Filter 3 position (Max. damping)	0.01Hz.
Set point range	0%-100% of input
Proportional band range	5%-100% of input
Transducer supply	18-35Vdc 20mA max.

## Materials

Enclosure base and conductor	Noryl SE1 GFN2
Enclosure cover and intermediate plate	R-ABS 90.00

## Field Wiring/Terminal Details

Max Wire Gauge	2x16AWG (1.5mm <sup>2</sup> )
Conductor material	Copper
Terminal Torque rating	9lb/in

## Approvals

UL United States Standard	UL 508 Industrial Control Equipment E203559
cUL CSA Canadian Standard	C22.2 Number14-M91 Industrial Control Equipment E203559

## How to specify

Dual voltage proportional level controller with current output, adjustable set point, proportional band and wave filter.

## How to order

Spirax Sarco LC2300 UL Level Controller

## General wiring diagram

