

spirax/sarco®

LC 2200 Level Controller

- Proportional controller for electrically actuated valves
- Three stage wave filter – wide turbulence tolerance
- High or low alarm as standard
- Control levels may be altered without de-commissioning boiler
- Valve positioner built in

Description

The Spirax Sarco LC 2200 is used to control an electrically actuated 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, deaerators, and tanks.

The controller 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 LC 2200 has an alarm output, which can be set high or low, and has a filter which allows accurate alarm signalling under varying turbulence conditions. The controller also has an 'out of range' alarm which releases the alarm relay if the probe or wiring is damaged or has been incorrectly wired, enabling prompt action to be taken to rectify any potentially dangerous situation.

The LC 2200 has a three stage level 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.

A test button is provided below the red alarm LED to check the alarm output.

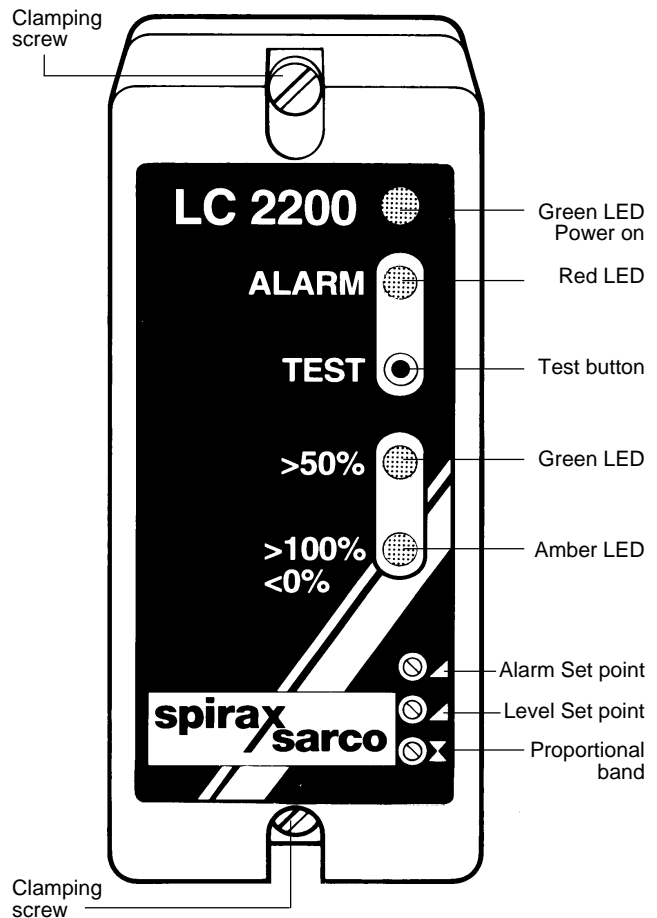
The green (>50%) LED indicates that the level is higher than 50% i.e. above the set point.

The amber (>100%/<0%) LED indicates that the level is outside the proportional band.

The LC 2200 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 carried out using the potentiometers on the front panel, so calibration can be altered if required without removing or dismantling the unit.

Limiting conditions

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



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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 should be installed in an enclosure or control panel to provide environmental protection.

CAUTION: Allow 1/2" (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.

Screened cable is required for the probe. A suitable cable is Pirelli FP200 or Delta Crompton Firetuf OHLS, 3-core 1mm².

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

Technical data

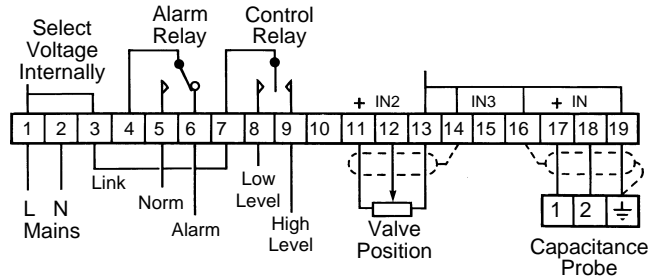
Mains supply voltage	230V setting	198V-264V
	115v setting	99V-121V
Frequency	50-60Hz	
Fuse	20mm cartridge 100mA Anti-surge	
Maximum power consumption	6VA	
Input 1 (selectable)	0-6V (27 k Ω) 0-2V (9 k Ω) 4-20mA (110 Ω) 0-20mA (110 Ω)	
Input 2	1k Ω Potentiometer	
Potentiometer input	1k Ω Potentiometer	
Input 3 (Opposite sense to input 1)	0-20mA (110 Ω) 4-20mA (110 Ω)	
Relay outputs	3A max.	
Alarm output to be protected with 3A fast-acting fuse		
Level wave filter	Approx. response time (63%) (Designed for slowly varying signals)	
Filter 1 position (Min. damping)	6 seconds	
Filter 2 position (Med. damping)	15 seconds	
Filter 3 position (Max. damping)	45 seconds	
Alarm wave filter	Approx. response time (63%)	
Filter switch OFF	5 seconds	
Filter switch ON	27 seconds	
Set point range	0%-100% of input	
Proportional band range	2%-100% of input	
Transducer supply	17-31Vdc 20mA max.	

Switch selectable options

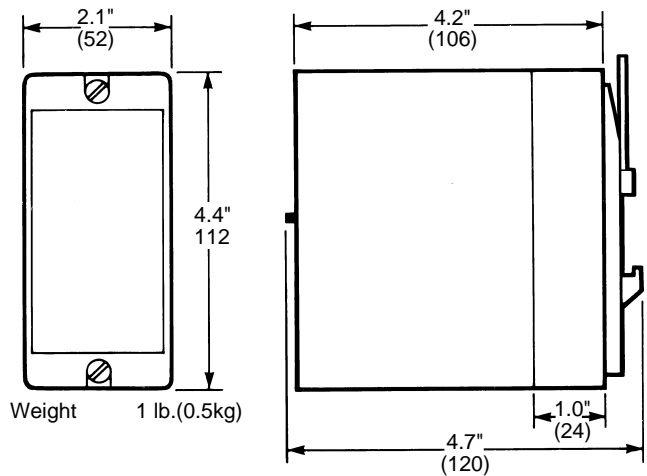
The LC2200 is supplied with the switches set as indicated on the diagram in bold type.

Capacitance Probe Input (Voltage)		Current Input (4-20mA)
Capacitance Probe Input (Voltage)		Current Input (4-20mA) and 0-2V input
Input Out of Range OFF		Input Out of Range OFF
High Alarm		Low Alarm
Alarm Wave Filter OFF		Alarm Wave Filter OFF
Level Wave Filter Position 1/2		Level Wave Filter Position 3
Level Filter Position 1		Level Filter Position 2/3
Not Used		

General wiring diagram



Dimensions (approximate) in inches and millimetres



Weight 1 lb.(0.5kg)

How to specify

Proportional level controller for electrically actuated valves with alarm output, three stage wave filter and out of range alarm.

How to order

Spirax Sarco LC 2200 controller