

CB LCS-150E.1 LEVEL CONTROL SYSTEM

The Cleaver-Brooks LCS-150E.1 Level Control System utilizes a level transmitter and programmable controller to control water level and water level alarms.

System includes modulating make-up valve with user-selectable manual or automatic control.

FEATURES AND BENEFITS

Standard Features:

- Programmable controller with display, trending, data logging, and Modbus RTU communications
- Set points, alarm points, transmitter span, and PI controls configurable using controller keypad
- Manual or automatic control of up to two make-up valves
- Easy-to-read level indication
- No sight glass - water is contained in a pressure-tight housing

PRODUCT OFFERING

The following are included as standard in each LCS-150E.1 control system:

- Programmable controller
- Controller display with keypad
- I/O module
- Level sensor and transmitter
- Modulating feed water valve and actuator
- Alarm horn and silence button
- High-High, High, Low, Low-Low and Low Water Cut-Off alarm lights

ENGINEERING DATA

- Supply voltage 120 VAC
- Max load 3 amps
- Ambient temperature range 32 - 122 deg F
- Humidity, non condensing 5-95%
- Degree of protection
 - Display/keypad: IP65, Type 3R, Type 12R
 - Panel Nema 4/12
 - Lights and switches IP66
 - Level indicator / transmitter Nema 4
 - Siemens valve Nema 1; optional weather shield will change it to Nema 3R

Sample Specifications

CB LCS-150E.1 Level Control System

1.1 GENERAL

General

- A. Each LCS-150E.1 system shall be factory equipped with controller including display and I/O, NEMA 12 cabinet, primary and optional secondary make up valves and GEMS magnetic level sensor with transmitter.
- B. System shall provide the following functions:
 - 1. Adjustable transmitter span
 - 2. Individual adjustable water level set point for each MUV
 - 3. Adjustable high-high water alarm point (with differential)
 - 4. Adjustable high water alarm point (with differential)
 - 5. Adjustable low water alarm point (with differential)
 - 6. Adjustable low-low water alarm point (with differential)
 - 7. Adjustable low water cutoff point (with differential)
 - 8. Adjustable P and I (proportional and integral gain) parameters
 - 9. Manual or automatic make-up valve operation
 - 10. On-screen alarm indication and relay outputs for high water, low water, low water cutoff, and general alarms
 - 11. Alarm Silence input
 - 12. On-screen trending, Modbus RTU communications and data logging to an optional micro SD card.

2.1 PRODUCTS

Standard System

- A. Hardware Platform
 - 1. Controller with backlit graphic display
 - 2. Power Supply 115VA/24VDC 30 Watts
 - 3. I/O module:
 - (12) 24VDC inputs
 - (12) 24VDC outputs
 - (2) 4-20 mA analog output for 2 make-up valves
 - (1) 4-20 mA input for a level transmitter
- B. Level sensor and transmitter
 - 1. GEMS Mini Sure Site magnetic level indicator
 - 2. Level transmitter 4-20 mA
- C. Make-up valve
 - 1. Siemens modulating feed water valve - sized per application
 - 2. Electronic actuator 4-20 mA.

D. Alarms

1. Panel mounted alarm horn
2. Alarm silence switch
3. LED alarm lights for High-High, High, Low, Low-Low and Low Water Cut- Off
4. Customer Relay contacts for High-High, High, Low, Low-Low and Low Water Cut-Off