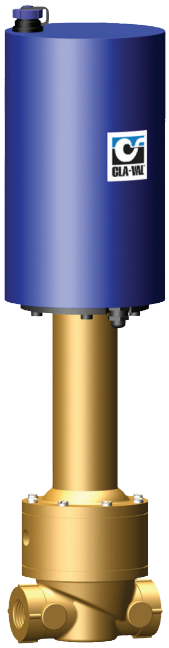
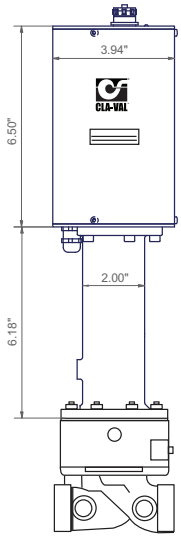
CLA-VAL™

— MODEL — **CRL-33**

Electronic Actuated Pressure Sustaining Pilot Control



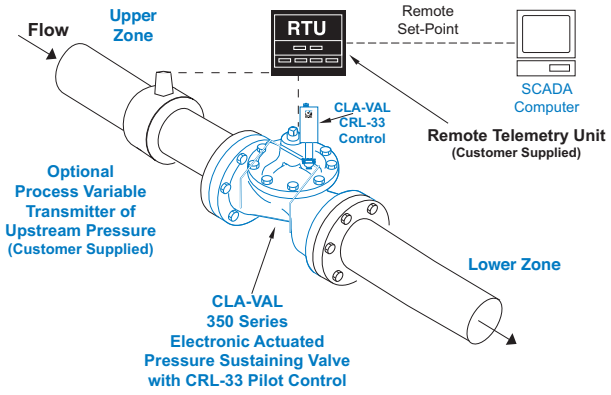


- **Simplified Remote Valve Set-Point Control**
- **12-24VDC Input Power**
- **Isolated Input**
- **Reverse Polarity Protection**
- **Reliable Hydraulic Operation**
- **IP-68 Submersible**

The Cla-Val Model CRL-33 Electronic Actuated Pressure Sustaining Pilot Control provides remote set-point adjustment and accurate pressure sustaining control on Cla-Val 350 Series Control Valves. Remote set-point command signals can be from any SCADA-type control system using an analog 4-20 mA signal or by contact closure for cc/ccw rotation.

The CRL-33 senses upstream pressure with a remote hydraulic connection. Operating on 12 to 24 VDC and consuming very little power, it is an ideal control system for remote valve sites that may even be solar powered. Existing manually-set Cla-Val 50 Series Pressure Sustaining control valves can be retrofitted with CRL-33 to add remote set-point control of minimum inlet pressure. Verification of inlet pressure may be sent to SCADA system from customer supplied pressure sensor attached upstream of valve.

The CRL-33 consists of a hydraulic pilot and integral controller that accepts a 4-20 mA remote set-point and positions the pilot to maintain a minimum pressure at valve inlet within preset limits. Pressure settings are linear between these settings. Pressure settings are calibrated to the specific spring range of the control. Special USB connector cable and free downloadable software can be used to change this range if needed. Continuous internal monitoring of actuator position results in smooth transitions between pilot set-points with no backlash or dithering. Should power or control input fail, the CRL-33 pilot remains in automatic hydraulic control assuring system stability under all conditions.



Typical Applications

The CRL-33 is installed on Cla-Val 350 Series valves that maintain minimum upstream pressure by relieving excess pressure to lower zone and require this pressure setting to be changed from a remote location. It is also an effective solution for lowering costs associated with "confined space" requirements by eliminating the need for entry in valve structure for set point adjustment. Flow information can also be provided from the main valve, see E-133VF. Additional pilot controls, hydraulic and/or electronic, are also available to perform multiple functions to fit exact system requirements.

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CRL-33 Purchase Specifications

The Electronic Actuated Pressure Sustaining Pilot Control shall have an integral hydraulic pilot and electronic controller contained in a IP-68 rated submersible enclosure to provide interface between remote telemetry and valve set-point control. It will compare a remote analog command signal with an internal position sensor signal and adjust the hydraulic pilot control spring mechanism to a new set-point position. Remote analog signal input shall be isolated and reverse polarity protected. 4-20 mA actuator position feedback output shall be supplied standard. A second command control input shall be from dry-contact switch closure for clockwise or counter clockwise actuator rotation. Assembly shall be factory calibrated to the spring range listed below.
If power fails, the control pilot valve shall continue to control main valve to last set-point command. If the Remote Set-Point signal is lost the actuator shall be programmable to go to either the 4mA, Last, or 20mA command set-point. No mechanical adjustments shall be necessary to the actuator. The low and high position range adjustment shall be accomplished only with valve manufacturer's components and instructions to be supplied in a separate kit. The assembly shall be supplied with 30 feet of cable.

The Electronic Actuated Pressure Sustaining Pilot Control shall be Cla-Val Model CRL-33 as manufactured by Cla-Val, Newport Beach, CA.

Pilot Control Subassembly Specifications

Adjustment Ranges
0 to 75 psi
20 to 105 psi
20 to 200 psi

End Connection
1/2" NPT

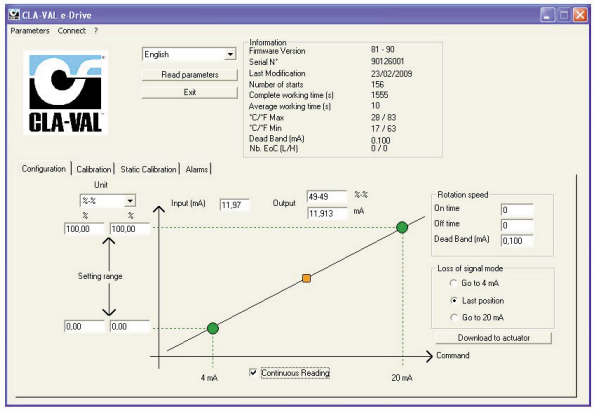
Temperature Range
Water: to 180°F

Materials
Pilot Control: Bronze ASTM B62
Trim: Stainless Steel Type 303
Rubber:Buna-N® Synthetic Rubber

Available with optional Stainless Steel or Monel materials at additional cost. Consult factory for details.
Note: Total Shipping Weight: 8 Lbs.

Options:

- Re-ranging software - free download from www.cla-val.com. Ranging software makes it easy to set low (4mA) and high (20mA) set-point limits.



- USB connection cable required when changing range parameters or restoring range parameters after servicing pilot control subassembly.

CRL-33 Electronic Actuator Specifications

Supply Power Input:	12V to 24V DC No Load draw: 50 mA Max. Load draw: 250 mA
Remote Command Inputs:	• 4-20mA, analog signal (isolated and reverse-polarity protected) • Dry contact closure (CW/CCW)
Position Feedback Signal:	4-20 mA
Alarm Output:	Dry-contact closure (High/Low)
Speed of Rotation:	Adjustable On/Off time, max 6 rpm
Diagnostic:	LED Indicator
Loss of Power:	Actuator will remain in last commanded position.
Loss of Signal Position:	Programmable - 4 mA, Last, or 20 mA
Electrical Connections:	Single, 30 feet of permanently attached cable with color-coded power supply and signal wires

Mechanical Specifications:

Environmental	
Protection Class:	IP-68 (Temporary submersible)
Ambient Temperature:	15° to 150° F (-10° to 65° C)

Materials

Electronics Enclosure:	Anodized Aluminum
Mechanical Housing:	Bronze
Coupling Assembly:	Stainless Steel
Gear Train:	Stainless Steel, permanently lubricated

When Ordering, Please Specify

1. Catalog No. CRL-33
2. Materials - Pilot Control - Wetted Parts

CLA-VAL
PO Box 1325 Newport Beach CA 92659-0325
Phone: 949-722-4800 • Fax: 949-548-5441

CLA-VAL CANADA
4687 Christie Drive
Beamsville, Ontario
Canada L0R 1B4
Phone: 905-563-4963
Fax: 905-563-4040

CLA-VAL EUROPE
Chemin dés Mesanges 1
CH-1032 Romanel/
Lausanne, Switzerland
Phone: 41-21-643-15-55
Fax: 41-21-643-15-50

www.cla-val.com

Represented By:

E-CRL-33 (R-2/2012)