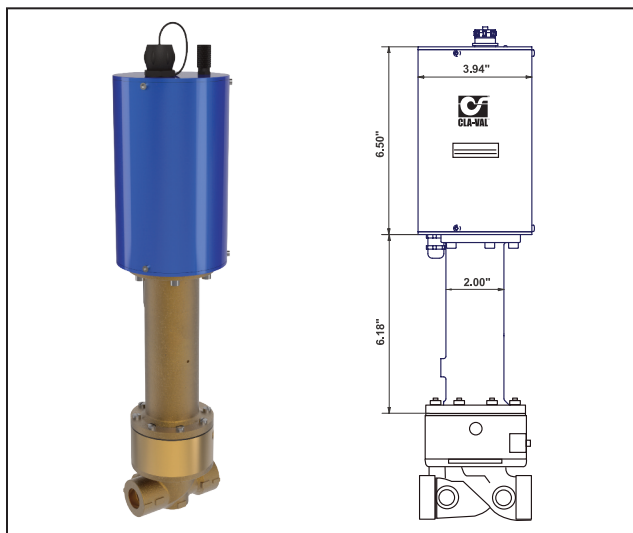




# — MODEL — CRL-34

## Electronic Actuated Pressure Sustaining Pilot Control



- Ideal for Electronic Actuated Pressure Sustaining
- Simplified Remote Valve Set-Point Control
- Modbus RTU Communication
- Easy integration with VC-22D Electronic Valve Controller
- 10 to 32 VDC Input Power
- Isolated Input
- Reverse Polarity Protection
- IP-68 Submersible



This product meets Federal Mandate for Lead Content Limit

The Model CRL-34 Electronic Actuated Pressure Sustaining Pilot Control provides remote set-point adjustment and accurate upstream pressure control on Cla-Val 350 Series Electronic Control Valves. Remote set-point command signals can be sent from Cla-Val's VC-22D e-Controller or any SCADA-type control system using an analog 4-20 mA signal, by contact closure for counter-clockwise / clockwise rotation or through Modbus RTU.

### Typical Application

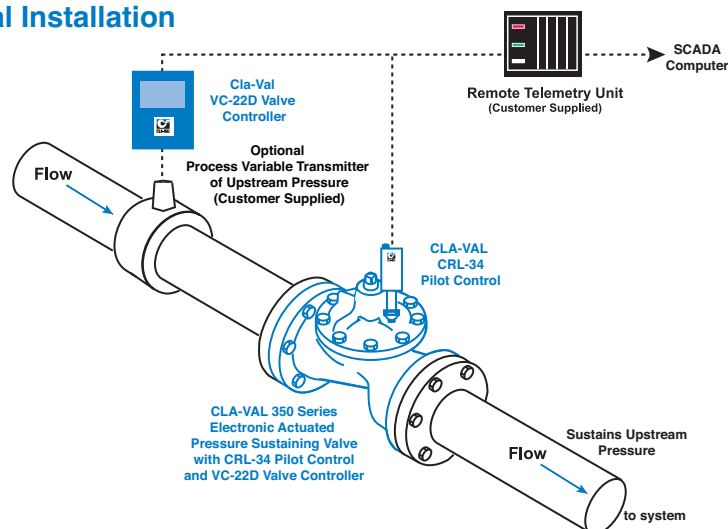
The CRL-34 is installed on Cla-Val 350 Series valves to maintain constant upstream pressure within close limits and require this pressure to be changed from a remote location. This pilot can be an effective solution for lowering costs associated with "confined space" requirements by eliminating the need for entry in valve structure for set-point adjustment. The 350 Series Valve can also be used for pressure relief, back pressure or unloading functions in a bypass system. An optional profiler can be used to create custom correlation between pressure and flow information. Flow information can be provided from the main valve using the Cla-Val Model X144 e-FlowMeter.

Additional pilot controls, hydraulic and/or electronic, are also available to perform multiple functions to fit exact system requirements.

The CRL-34 senses valve inlet pressure directly. Operating on 10 to 32 VDC and consuming very little power, they are an ideal control system for remote valve sites that may even be solar-powered. Existing manually-set Cla-Val 50 Series Pressure Relief/ Pressure Sustaining Control valves can be retrofitted with CRL-34 pilots to add remote set-point control of upstream pressure. Verification of minimal upstream pressure may be sent to SCADA systems from customer supplied pressure sensors attached to the valve inlet.

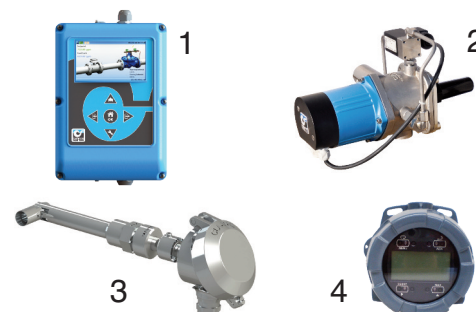
The CRL-34 consists of a hydraulic pilot and integral controller that accepts a remote set-point and positions the pilot system to sustain a pressure at the valve inlet within preset limits. Pressure settings are linear between these settings. Pressure settings are calibrated to the specific spring range of the pilot control. Special USB connector cable and software can be used to change this range if needed. The internal setting can also be changed through Modbus. 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, this pilot remains in automatic hydraulic control, assuring system stability under all conditions

### Typical Installation



### Complementary Products

1. VC-22D Valve Controller
2. X143IP Power Generator
3. X144 e-FlowMeter
4. X145 Electronic Display



## CRL-34 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-34 as manufactured by Cla-Val, Newport Beach, CA.

### Pilot Control Subassembly Specifications

#### Adjustment Ranges

- 0 to 75 psi
- 20 to 105 psi
- 20 to 145 psi

#### End Connection

1/2" and 3/4" Threaded

#### Temperature Range

Water: to 176°F / 80°C

#### Materials

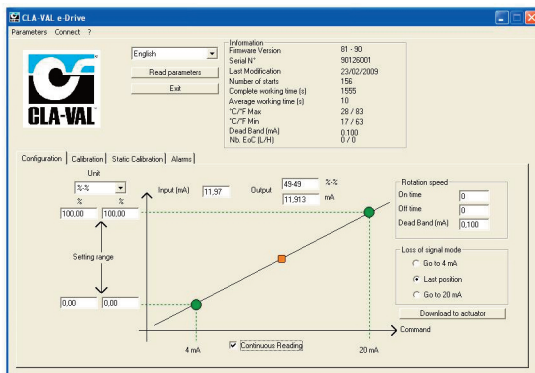
- Pilot Control: UNS C87850 Low Lead Bronze
- Trim: Stainless Steel Type 303
- Rubber: Buna-N® Synthetic Rubber

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](http://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-34 Electronic Actuator Specifications

#### Supply Power Input:

- 10V to 32V DC
- 12 Watts Max at 230 psi
- No Load draw: 30 mA

#### Remote Command Inputs:

- 4-20mA, analog signal (isolated and reverse-polarity protected)
- 2x Dry contact closure (CW/CCW)
- Modbus RTU

#### Position Feedback Signal:

4-20 mA

#### Alarm Output:

Dry-contact closure (High/Low) or Modbus

#### Speed of Rotation:

Adjustable On/Off time, max 16 rpm  
LED Indicator

#### Diagnostic:

#### 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

- Enclosure and Bracket: Anodized Aluminum
- Coupling Assembly: Stainless Steel
- Gear Train: Stainless Steel, permanently lubricated

### When Ordering, Please Specify

1. Catalog No. CRL-34 (Direct Sensing)
2. Materials - Pilot Control - Wetted Parts



E-CRL-34 (R-09/2017)

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