



Model **CRD-34** Model **CRA-34**

ELECTRONIC ACTUATED PRESSURE REDUCING PILOT CONTROL

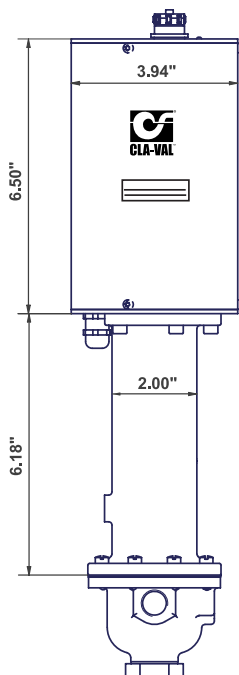


- Ideal for Pressure optimization
- Simplified Remote Valve set-Point Control
- Modbus RTU Communication
- Easy integration with VC-22D Electronic Valve Controller
- 12 to 24 VDC Input Power
- Isolated Input
- Reverse Polarity Protection
- IP-68 submersible

The Cla-Val Model CRD-34 and CRA-34 Electronic Actuated Pressure Reducing Pilot Controls provide remote set-point adjustment and accurate downstream pressure control on Cla-Val 390 Series Control Valves. Remote set-point command signals can be from any SCADA-type control system using an analog 4-20 mA signal, by contact closure for cc/ccw rotation or through Modbus RTU.

The CRD-34 senses valve outlet pressure directly and the CRA-34 senses downstream pressure with remote hydraulic connection. 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 90 Series Pressure Reducing control valves can be retrofitted with CRD-34 or CRA-34 to add remote set-point control of delivery pressure. Verification of downstream pressure may be sent to SCADA system from customer supplied pressure sensor attached to valve outlet.

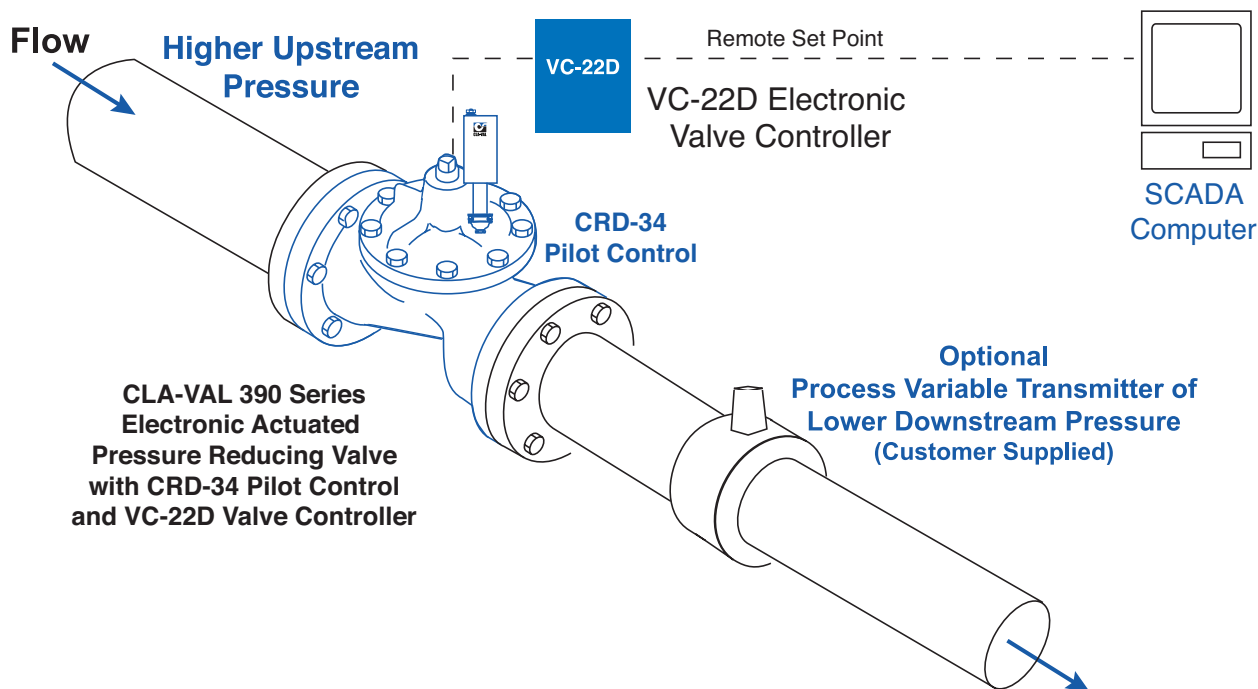
The CRD-34 and CRA-34 consist of a hydraulic pilot and integral controller that accepts a remote set-point and positions the pilot to maintain a pressure at valve outlet within preset limits. Pressure settings are linear between these settings. Pressure settings are calibrated to the specific spring range of the control. Special USB connector cable and free downloadable software can be used to change this range if needed. 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 Applications

The CRD-34 and CRA-34 are installed on Cla-Val 390 Series valves that maintain downstream pressure and require this pressure to be changed from a remote location. It 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. It is also ideal for pressure management, and can be programmed to minimum night time and optimum daytime pressures. Optional profiler can be used to create custom correlation between pressure and flow information. Flow information can also be provided from the main valve.

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



CRD-34 and CRA-34 Purchase Specifications

The Electronic Actuated Pressure Reducing Pilot Control shall have an integral hydraulic pilot and electronic controller contained in an 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 Reducing Pilot Control shall be Cla-Val Model CRD-34 or CRA-34, manufactured by Cla-Val, Costa Mesa, CA.



Pilot Control Subassembly Specifications

Adjustment Range

2 to 30 psi
15 to 75 psi
20 to 105 psi
40 to 140 psi

End Connection

3/8" NPT

Temperature

Water: to 176°F / 80°C

Materials

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

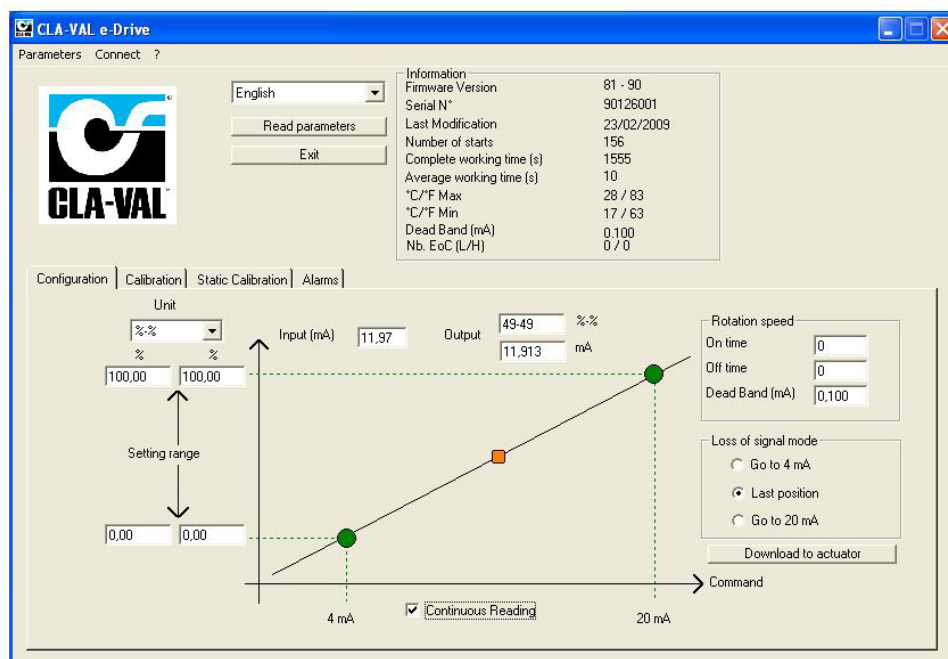
Available with optional Stainless Steel or Monel materials. Consult factory for details.

Note: Available with remote sensing control (specify CRA-34)

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.



CRD-34 and CRA-34 Electronic Pilot Specifications

Supply Power Input

12 to 24 VDC
12 Watts Max at 230 psi
No Load draw: 30 mA

Remote Command Inputs

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

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
Coupling Assembly: Stainless Steel
Gear Train: Stainless Steel, permanently lubricated





Model VC-22D
Valve Controller



Model X143IP
Power Generator



Model X145
Electronic Display

When Ordering, Please Specify

- 1. Catalog No. CRD-34 (Direct Sensing) or CRA-34 (Remote Sensing)
- 2. Materials - Pilot Control - Wetted Parts

