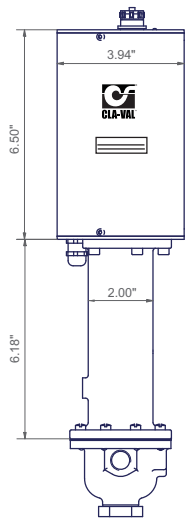
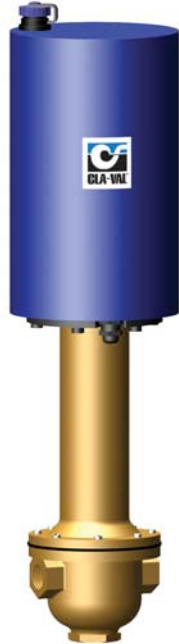




# — MODELS — CRD-33 and CRA-33

## Electronic Actuated Pressure Reducing Pilot Control

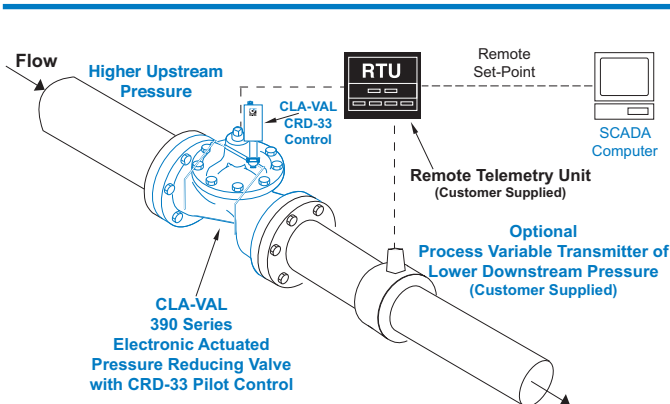


- Ideal for Pressure Management
- Simplified Remote Valve Set-Point Control
- Isolated Input
- 12-24VDC Input Power
- Reverse Polarity Protection
- IP-68 Submersible

The Cla-Val Model CRD-33 and CRA-33 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 or by contact closure for cc/ccw rotation.

The CRD-33 senses valve outlet pressure directly and the CRA-33 senses downstream pressure with remote hydraulic connection. Operating on 12 to 24 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-33 or CRA-33 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-33 and CRA-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 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. 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 CRD-33 or CRA-33 pilot remains in automatic hydraulic control assuring system stability under all conditions.



### Typical Applications

The CRD-33 and CRA-33 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, see E-133VF. Additional pilot controls, hydraulic and/or electronic, are also available to perform multiple functions to fit exact system requirements.



## CRD-33 and CRA-33 Purchase Specifications

The Electronic Actuated Pressure Reducing 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 Reducing Pilot Control shall be Cla-Val Model CRD-33 or CRA-33 as manufactured by Cla-Val, Newport Beach, CA.

### Pilot Control Subassembly Specifications

#### Adjustment Ranges

- 2 to 30 psi
- 15 to 75 psi
- 20 to 105 psi
- 30 to 300 psi

#### End Connection

3/8" NPT

#### Temperature Range

Water: to 180°F

#### Materials

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

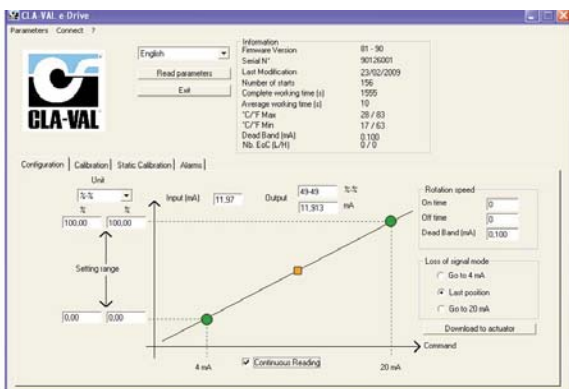
Available with optional Stainless Steel or Monel materials at additional cost. Consult factory for details.

Note: Available with remote sensing control (specify CRA-33)

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.

### CRD-33 and CRA-33 Electronic Actuator Specifications

#### Supply Power Input:

12V to 24V DC/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

Enclosure and Bracket: Anodized Aluminum

Coupling Assembly: Stainless Steel

Gear Train: Stainless Steel, permanently lubricated

### When Ordering, Please Specify

- Catalog No. CRD-33 (Direct Sensing) or CRA-33 (Remote Sensing)
- Materials - Pilot Control - Wetted Parts



E-CRD-33 and CRA-33 (R-9/2011)

## 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 des Mesanges 1  
CH-1032 Romanel/  
Lausanne, Switzerland  
Phone: 41-21-643-15-55  
Fax: 41-21-643-15-50

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