

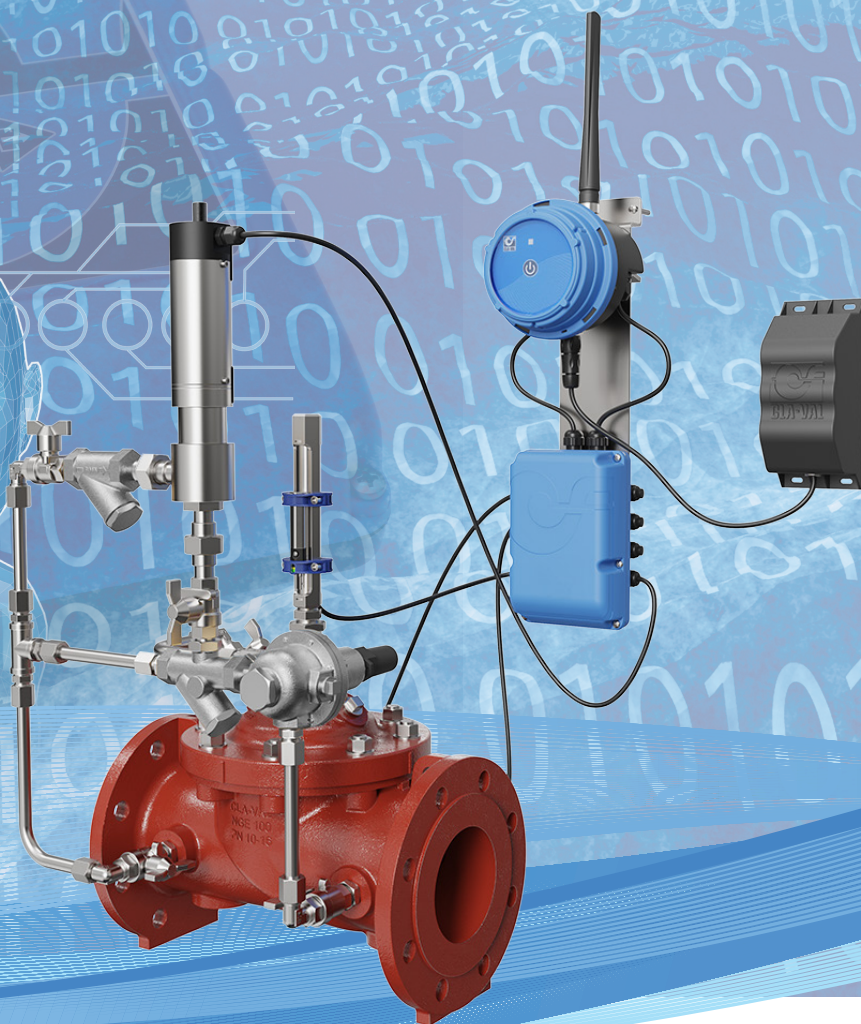
Cla-Val SERIES MD35

PRV Pressure Modulator

- Innovative autonomous pressure modulation solution
- Extremely easy setup and retrofit onto existing CLA-VAL PRV's
- On site wireless configuration from any smartphone, tablet, or PC
- Data communication through 4G LTE-M & NB-IoT with remote configuration
- Battery-operated with 5-year autonomy*
- IP68 protection



**Leading
the Innovation**





CLA-VAL MD35 SERIES

PRV Pressure Modulator

DESCRIPTION

CLA-VAL SERIES MD35 is an innovative pressure management solution, bringing pressure modulation to a new level of excellence.

It fulfills the needs for an ultra-low-power, very easy to install and set up pressure modulation solution, capable of advanced hydraulic regulation in locations where very low or no electrical energy is available.

Based on a standard Pressure Reducing Valve (PRV), only adding the **CLA-VAL MD35 Battery-Operated Electronic Controller** coupled with the **M-35 Actuator** allows automatic adjustment to downstream pressure according to water network conditions.

The combination of precise, field proven, CLA-VAL CRD pressure reducing hydraulic pilot, and the easy-to-use CLA-VAL MD35 electronic controller, allows advanced regulation while keeping full hydraulic control.

CLA-VAL SERIES MD35 valves can be connected to the **CLA-VAL Link2Valves™** web platform for remote valve diagnostic and control, or to a custom server or SCADA secured system.

MD35 HYDRAULIC OPERATION

CLA-VAL SERIES MD35 pressure modulation solution offers both very precise regulation and easy setup.

Based on a standard hydraulic PRV, the addition of a variable orifice at the inlet allows varying the pressure setpoint at the outlet of the valve with up to 3 bar modulating range, fully regulated by CLA-VAL CRD hydraulic pilot.

A CLA-VAL retrofit kit is available and allows transforming a standard CLA-VAL pressure reducing valve into a pressure modulating valve in less than 15 minutes.



Hydraulic retrofit Kit

Standard CLA-VAL 90-01 PRV

MD35 BATTERY-OPERATED CONTROLLER

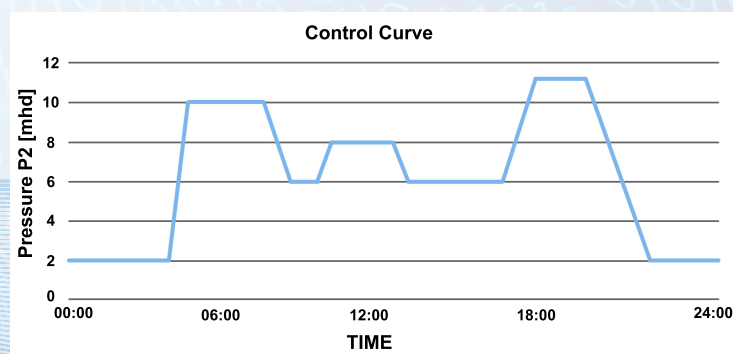
CLA-VAL MD35 Controller allows quick and easy commissioning, thanks to a compact and ergonomic design, and user-intuitive configuration. The MD35 can be configured from any smartphone, tablet, or computer through WiFi (auto-generated).

No need for cables or special software installation. Its intuitive user interface allows easy configuration and real-time information, including inputs, regulation setpoints, data communication, battery capacity or other system settings.

To ease deployment, product configurations can be saved and loaded in multiple devices.

The MD35 controller embeds useful regulation tools, simplifying setup, without the need for any programming knowledge:

- **Control Curves:** Offer an easy graphical interface to define a pressure regulation profile as a function of time or flow. Multiple Control Curves can be created, allowing specific adaptations such as seasonal or weekend adjustments.



Example of a custom pressure control curve as a function of time.

- **PID:** Maintains the valve at a defined setpoint. Real-time chart view helps visualize the valve response and tune the controller accordingly. Perfect valve control is achieved by CLA-VAL features, such as programmable setpoint ramping to prevent hydraulic shocks.
- **Actions:** Takes "action" (or alarms) on an output when a configured condition is met.

CLA-VAL MD35 integrates a large internal memory allowing the data logging over its full lifetime. The controller can optionally transmit data through the new generation 4G network, optimized for data communication (IoT).

SPECIFICATION

MD35 ELECTRONIC CONTROLLER



Power Supply

- High-capacity lithium external battery 133 Ah
- Option: external power supply (6-24 VDC) compatible with CLA-VAL e-Power MP turbine

Inputs

- 4x analog (ratiometric / 0-5 V / 0-10 V)
- 2x digital (dry contact or pulse)

Outputs

- 1x M-35 actuator control (I2C interface)
- 1x digital (dry contact or pulse)
- 2x latching solenoids (6 VDC)

Logger & data storage

- Configurable logging interval
- Memory: 8 GB Micro-SD
- Interface to **Link2Valves™** for remote data access and configuration (optional) or communication to custom server (optional)

User Interface

- WiFi 802.11 n/ac for local configuration (auto-generated)
- Interface to **CLA-VAL Link2Valves™** for remote configuration

Data Communication (option)

- 4G (LTE-M1, NB-IoT) and 2G (GPRS)
- Micro SIM card (accessible)**
- Extendable antenna with flexible cable

Embedded Intelligence

- Option: **ValveFlow™** valve flowrate computation (requires CLA-VAL sensors)
- Basic and advanced regulation rules

Housing & General

- Dimensions: l 155 mm x L 130 mm x H 601 mm
- Easy opening system without screws or tools
- Material: PC / ABS plastic UV resistant
- Protection: IP68 (2 m, 1 month)
- Operating Temperature: -10°C to 70°C
- Storage Temperature: -20°C to 80°C

SPECIFICATION

M-35 ACTUATOR



MD35 Interface

- User interface
- Command signal (I2C)
- Position feedback (I2C)
- Calibration
- Power supply (5VDC)

Firmware Update

- Computer software interface
- Dedicated cable

Housing & General

- Ø 50 mm x L 251 mm
- Protection : IP 68 (2m, 1 month)

* Battery life valid for one communication a day with an optimal network connection (>80dBm)

** SIM card and data communication package sold separately or provided by the user



SWITZERLAND

Europe, Middle East & Africa
Chemin des Mésanges 1
CH-1032 Romanel-sur-Lausanne
☎ + 41 21 643 15 55

UAE - DUBAI

Office 2004 , JBC5 - Cluster W - JLT
P.O. Box 336812 Dubai, UAE
☎ +971 4 5667665

USA

Global Headquarters
1701 Placentia Avenue, Costa Mesa
CA 92627-4475
☎ + 949 722 4800

UNITED KINGDOM

Dainton House, Goods Station Road
CGB - Tunbridge Wells
Kent TN1 2 DH England
☎ + 44 1892 514 400

FRANCE

ZAC du Champ du Périer
1, Porte du Grand Lyon
FR - 01700 Neyron
☎ + 33 4 72 25 92 93

CANADA

4687 Christie Drive
Beamsville, Ontario
Canada LOR 1B4
☎ + 905 563-4963

WATERWORKS

From the reservoir to the customer tap, the CLA-VAL Company has developed more than 3,500 Automatic Control Valve models.

Accurately controlling pressure, tank level and flows within water networks is the result of more than 80 years of unparalleled expertise.

NEW ZEALAND

45 Kennaway Road
1 Woolston, Christchurch, 8023
☎ + 64 396 44860

MEXICO

Tubrialco, S.A. de C.V.
Circunvalacion Jorge Alvarez
del Castillo No 1206-3
Col. Chapultepec Country
CP 44620 - Guadalajara, Jalisco
☎ + (33) 11309329



WWW.CLA-VAL.CH