



The Brain® Model DRV40 Water Temperature Control - Recirculation Systems

The Brain® Model DRV40

DRV40 Digital Recirculation Valve (DRV) designed specifically to be the primary water temperature controller in a continuously pumped circulating hot water system.

Digital technology provides enhanced water temperature control accuracy which resists zero system demand "Temperature Creep" without the use of a manual throttling valve or a temperature activated pump shut-off device (aquastat).

Operational Specifications

- +/-1 °C water temperature control at points of use
- Minimum distance to first outlet: 7.5 m
- +/-1 °C water temperature control at the DRV during zero system demand "idling" periods
- 1 °C minimum valve inlet to outlet temperature requirement (system recirculation temperature loss)
- Automatic shutoff of hot water flow upon cold water inlet supply failure
- Automatic shutoff of hot water flow in the event of a power failure
- Programmable set point range of 27-71 °C
- Programmable thermal disinfection mode
- Programmable 1st level hi/lo temp alarm display
- Programmable temperature error level for safety shutdown

Technical Specifications

- 100-240 V AC
- Polymer Electronics Enclosure
- Stainless Steel Valve Construction
- Lead Free compliant
- Maximum inlet HW supply temperature 85 °C
- Minimum Circulation Flow - 19 LPM
- Minimum System Draw Off - 0
- ASSE 1017, CSA B125 and CE Certified
- Operational water pressure of 1 - 10 barg
- Display in °C or °F
- Shipping weight 4,5 kg

Connectivity

VOLT Free Contact – Provides error signals for remote monitoring of alarm or error mode.

LCD Display – Provides information on set point, delivered temperature, error codes and alert conditions.

RS485 Serial Port – Connects the DRV to either BrainScan or Modbus.

BrainScan® – BMS interface for Modbus, Bacnet™ or LonWorks™ plus operates as a web server.

Modbus – DRV can be configured to communicate directly with Building Automation Systems (BAS) using Modbus protocols.

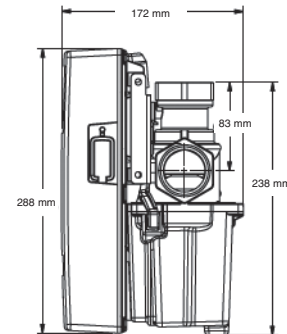
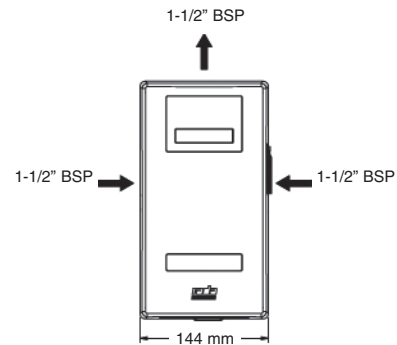
Programming

Software is provided to enable all aspects of the valves control functions to be programmed via a PC/Laptop device.

Operation

In precisely controlling the temperature of circulating mixed water the DRV40 performs two functions:

- Mixes hot water with cold water and/or re-circulate water to a safe pre-determined outlet temperature when showers, baths and other washing points are used.
- Maintains this circuit temperature when no draw-off is taking place.



Flow Diagram

