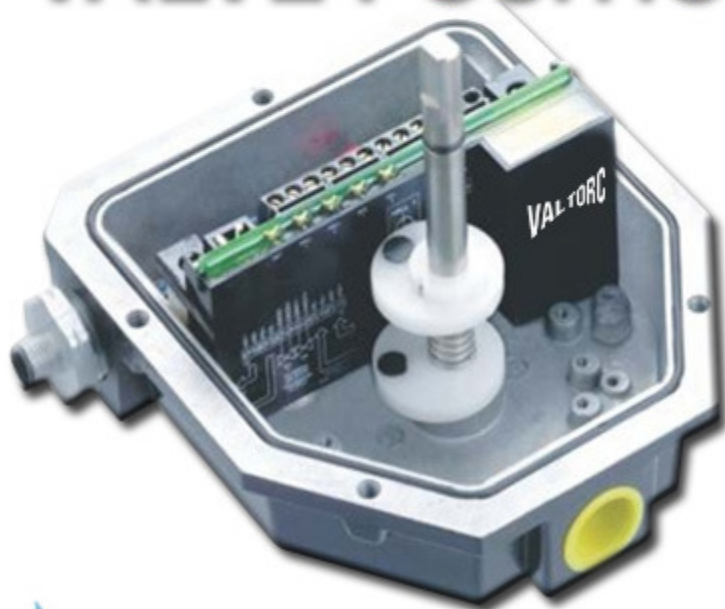# VALTORC DEVICENET VALVE POSITION CONTROLLERS



## DeviceNet Valve Position Controllers

The Valtorc VPCs with encapsulated **DeviceNet** interface cards adapt your on/off automated valves to an advanced **DeviceNet** valve network. Money and time can be saved as installation and maintenance are streamlined, reducing wiring runs and improving system diagnostics.

Based on the CAN protocol, the **DeviceNet** protocol was developed by Allen Bradley to provide industry with a simple and cost effective method of networking field devices. Valtorc supplies a full range of accessories including cable and quick-disconnect connectors to simplify installation.

## Advanced DeviceNet Platform Improves Reliability

**The Network Card.** A full function encapsulated network card for the network protocol includes the following benefits:

> Encapsulated electronics and position sensors ensures reliability in corrosive, humid and dirty environments.

> Hall effect position sensors designed into the card provide optimum stability in areas of high vibration.

> Two transistor outputs with a combined output of up to 4.8w @ 24VDC are available for your solenoid valves

> High visibility LEDs are located on-board for local indication of on-board sensors, auxiliary inputs, outputs and network status.

> Two additional inputs are available for local pressure or temperature switches.

**The Physical Platform.** Valtorc's platform is available in many configurations:

> Housings in Aluminum, Hard Anodized Aluminum or SuperTough Zytel ® for General Purpose or Hazardous Areas

> Valtorc's proven Engineered Loc-Ring Cam and Shaft Retention System assures stable output signals in difficult environments over a multi-million cycle life.

> Optional Mini and Micro plug connectors can be fitted to the conduit entries of the enclosures to speed installation.

**The Visual Indicator.** Valtorc's High Visibility Valve Position Indication preferred by users worldwide are available in a wide variety of colors and flow patterns.
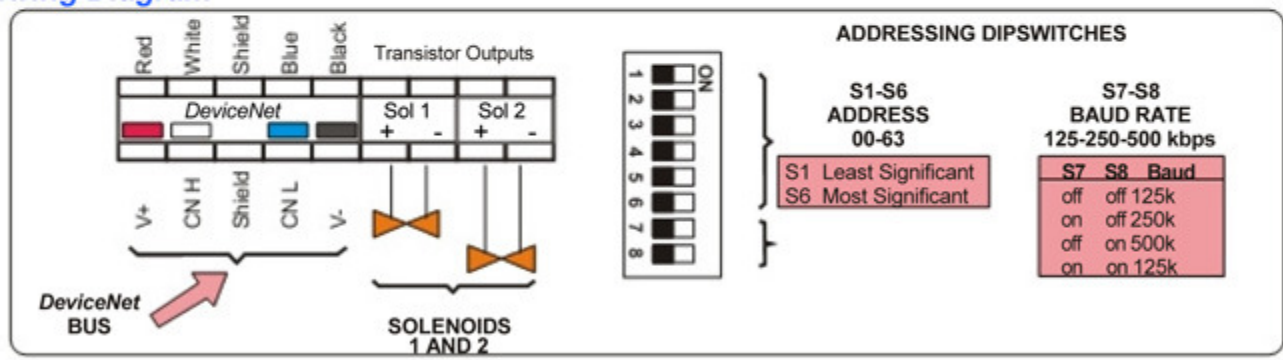
**The Solenoid Valve.** Low power solenoid valves optimized for the network card output are available with direct NAMUR actuator mounting or pre-wired to the VPC.

## DeviceNet ® Technical Information

> Each Network Supports up to 64 Nodes or Addresses

> 125K, 250K, and 500K Baud Rates

> Maximum Trunk Length = 1640 feet

> Thick and Thin Cable Types

> Trunkline / Dropline Topology

> Supports Online Node Insertion and Removal

# VALTORC DEVICENET
# VALVE POSITION CONTROLLERS

## Wiring Diagram



Red | White | Shield | Blue | Black | Transistor Outputs

DeviceNet | Sol 1 + - | Sol 2 + -

V+ | CN H | Shield | CN L | V-

DeviceNet BUS

SOLENOIDS 1 AND 2

**ADDRESSING DIPSWITCHES**

S1-S6 ADDRESS 00-63

S7-S8 BAUD RATE 125-250-500 kbps

S1 Least Significant
S6 Most Significant

| S7 | S8 | Baud |
|----|----|------|
| off | off | 125k |
| on | off | 250k |
| off | on | 500k |
| on | on | 125k |

## Standard DeviceNet ® Network Card Specifications

### Power
| | |
|---|---|
| Voltage | 24Vdc ±15% |
| Current | <70mA |

### Communication
| | |
|---|---|
| Type | Slave |
| Communication | Polled |
| Word | 1 byte TX - 1byte RX |
| Addressing | 0 to 63 Set by Dipswitch |
| Transmission Rate | 125-250-500 Kbs Baud Set by Dipswitch |
| Digital Filter | 25ms |

### Configuration
| | |
|---|---|
| Input - Byte 1 | Bit 0 - Sensor 1 |
| | Bit 1 - Sensor 2 |
| Output - Byte 1 | Bit 0 - Output 1 (sol. 1) |
| | Bit 1 - Output 2 (sol. 2) |

### Local Indication
| | |
|---|---|
| Green (Light) | Active and Allocated |
| Green (Flashing) | Active and Allocated |
| Red (Flashing) | Wrong Baud Rate or Lost Communication |
| Red (Light) | Double Address or Lost Communication |

### On-Board Sensor Inputs
| | |
|---|---|
| Type | (2) Hall Effect Solid-State Sensors, (1) for Each Valve Position |
| Local Indication | LEDs |

### Auxiliary Inputs
| | |
|---|---|
| Type | (2) Namur, by DIN19234 or Mechanical Switch |
| Voltage | 8Vdc ± 5% - Ripple 5% |
| Current | active <1mA Inactive >3mA |
| Indicator | (2) LEDs |
| Protection | Reversed Polarized |

### Output
| | |
|---|---|
| Type | (2) Transistor or Relay, Programmable NO or NC |
| Transistor Rating | 24VDC / 2 x 200 mA |
| Relay Voltage | 120 VAC, 220 VAC, 24 VDC |
| Relay Power | 0.30A |
| Indicator | (2) LEDS |