Moniteur

# DeviceNet® Valve Networking

## *Moniteur DeviceNet Valve Position Controllers*

Moniteur VPCs with encapsulated DeviceNet interface cards adapt your on/off automated valves to an advanced DeviceNet valve network. Money and time will be saved as installation and maintenance are streamlined with reduced wiring and improved 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. Moniteur supplies a full range of accessories including cable and quick- disconnect connectors to simplify installation.

## *Moniteur's Advanced DeviceNet Platform Improves Reliability*

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

A) Encapsulated electronics and position sensors ensures reliability in corrosive, humid and dirty environments.
B) Hall effect position sensors designed for the card and provide optimum stability in areas of high vibration.
C) Two transistor outputs with a combined output of 4.8w @ 24VDC are available for your solenoid valves
E) High visibility LEDs are located on-board for local indication of on -board sensors, auxiliary inputs, outputs and network state.
F) Two additional inputs are available for local pressure or temperature switches.

**2) The Enclosure.** Moniteur's platform is available in many configurations:

A) Housings in Aluminum, Hard Anodized Aluminum or SuperTough Zytel® for General Purpose or Hazardous Areas
B) Moniteur's Engineered Loc-Ring Cam and Shaft Retention System assures stable output signals in difficult environments and a multi-million cycle life.
C) Optional DIN 5-pin Female Micro plug connectors can be fitted to the conduit entries of the enclosures to speed installation.

**3) The Visual Indicator.** Moniteur's High Visibility Valve Position Indication preferred by users worldwide, available in a wide variety of colors and flow patterns.

**4) The Solenoid Valve.** Low power solenoid valves optimized for the network card output, available pre- wired with the VPC or with direct NAMUR actuator mounting.

MONITEUR DEVICES INCORPORATED
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Form VN6-0602

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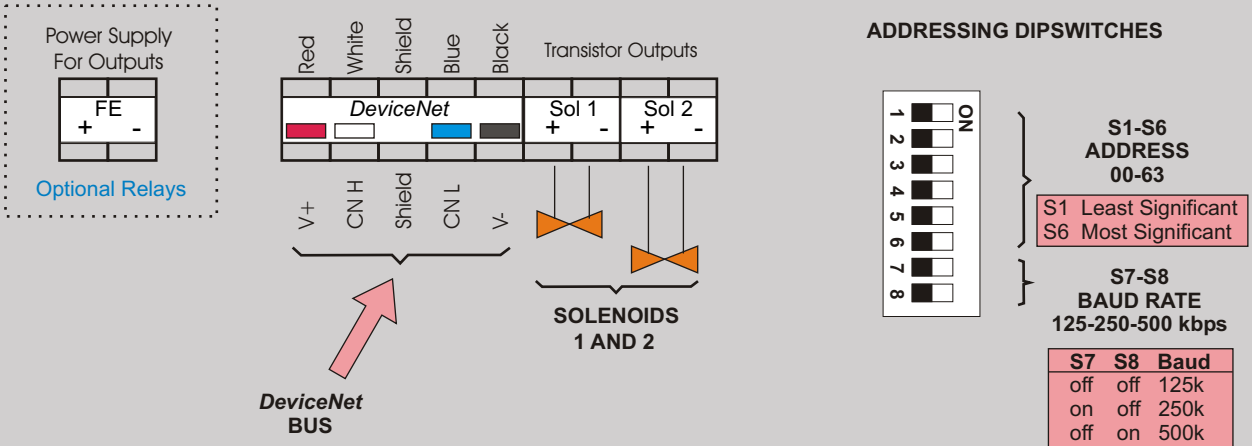
## DeviceNet® Technical Information

- Each network supports up to 64 nodes or addresses
- 125K, 250K, and 500K bit/sec.
- 1640ft. maximum trunk length
- Thick and Thin cable types
- Trunkline / Dropline topology
- Supports online node insertion and removal

## Wiring Diagram




| 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<br>bit 1 - sensor 2 |
| Output - Byte 1 | bit 0 - output 1 (sol. 1)<br>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 to NO or NC |
| transistor rating | 24VDC / 400 mA |
| relay voltage | 120 VAC, 220 VAC, 24 VDC |
| relay power | 0.30A |
| indicator | (2) LEDS |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## *Intelligent Part Number System*

| F | M | Y | B | - | 5 | S | 2 | 0 | - | D | N | 7 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Series* | *Cover* | *Moniteur* | *Bearing* | | *Shaft* | *Switch* | *Quantity* | *Conduit* | | *Network* | | |

**Base unit includes:** Encapsulated Network Module (2) ½" F NPT conduit entries
2 Onboard Sensors **('S')** , 2 Outputs Low profile NAMUR shaft
Moniteur Visual Indicator

| Description | Code |
|---|---|
| **Series** | |
| Sentinel | A |
| Survivor | P |
| Watchman | F |
| **Conduit (Sentinel 'A' )** | |
| (2) 3/4" F NPT | 0 |
| (2) 3/4" F+ 1 ½"F NPT | 6 |
| **(Survivor/ Watchman 'F/P')** | |
| (2) ½: F NPT | 0 |
| (3) ½" F NPT | 6 |

| Description | Code |
|---|---|
| **Switch -** On Board Sensors | S |
| **Network Card - ASI** | |
| 2 onboard sensors, 2 solenoid outputs | AS7 |
| **Network Card - DeviceNet** | |
| 2 onboard sensors, 2 solenoid outputs | DN7 |
| **Network Card - Profibus DP** | |
| 2 onboard sensors, 2 solenoid outputs | DP7 |

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