VALTORC ASi BUS
VALVE POSITION INDICATOR

Valtorc makes it simple. Valtorc’s Positioners with encapsulated ASi BUS interface cards adapt your on/off automated valves to an advanced 2-wire ASi valve network. Money and time will be saved as installation and maintenance are streamlined with reduced wiring and improved system diagnostics.

An ASi network can interface directly with your plant’s PLCs or through other protocols such as DeviceNet, Foundation Fieldbus, Profinet or Modbus utilizing a gateway. Valtorc can supply total ASi packages including power supplies, gateways, held-hand programmers, cable and quick disconnect connectors.

Valtorc’s Advanced ASi BUS 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 4W @ 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.

ASi BUS Technical Information

- Supports up to 64 Addresses (1-31 A + B)
- Baud Rate at 157Kbit (No Termination Required)
- Scan Time < 10ms for a Fully Loaded System
- Deterministic - Each Slave Adds 150 µs to the Scan Time
- Can Be Installed in Any Topology
- Bus Power and Communications Share the Same 2 Wire Cable
- Standard 16AWG or Special AS-Interface Flat Cable Can Be Used
- 990 ft. Total Bus Length (with Maximum 2 Repeaters)
- High Level of Noise and Temperature Immunity Makes ASi an Excellent Choice for the Process Plant Environment.
- Each AS-Interface Node Requires its Own Unique Address (Master/Slave)
- No Configuration Software Required
- Nodes Can Be Addressed Using Buttons on Master, Hard-Held Programmer, or Through Serial Communications
Wiring Diagram

Standard ASi BUS Bitmap Configuration

<table>
<thead>
<tr>
<th>Data Bits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bit D0</td>
<td>Output Transistor #1</td>
</tr>
<tr>
<td>Bit D1</td>
<td>Output Transistor #2</td>
</tr>
<tr>
<td>Bit D2</td>
<td>Proximity Switch #1</td>
</tr>
<tr>
<td>Bit D3</td>
<td>Proximity Switch #2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parameter Bits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bits P0, P1, P2, P3</td>
<td>Not Used</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IO/IDs</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IO code</td>
<td>IO = B</td>
</tr>
<tr>
<td>ID code</td>
<td>ID = A</td>
</tr>
<tr>
<td>ID1 code</td>
<td>7 or F</td>
</tr>
<tr>
<td></td>
<td>ID1=7 if Address=1A...31A</td>
</tr>
<tr>
<td></td>
<td>ID1=F if Address=1B...31B</td>
</tr>
<tr>
<td>ID2 code</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address (from factory)</td>
<td>0</td>
</tr>
<tr>
<td>Watchdog</td>
<td>On</td>
</tr>
<tr>
<td>Parameter</td>
<td>7</td>
</tr>
</tbody>
</table>

Standard ASi BUS Network Card Specifications

**Power**
- Voltage: 30Vdc (ASi Standard)
- Current: <30mA
- Local Indication: Green LEDs

**Communication**
- Type: Slave
- Addressing: 1 to 31 A/B (Total=62)
- Cycle Time: Less Than 5ms

**On Board Sensor Inputs**
- Type: (2) Hall Effect Solid-State Sensors, (1) for Each Valve Position
- Local Indication: Red LEDs (Each Input)

**Auxiliary Inputs (Optional)**
- Type: (2) Namur (DIN 19234) or Mechanical Switch
- Voltage: 8Vdc ± 5% - Ripple 5%
- Current: Active <1mA, Inactive >3mA
- Local Indication: Red LED (Each Input)
- Protection: Reverse Polarized

**Output**
- Type: (2) Transistor
- Transistor Rating: 2 x 120 mA @ 24 VDC
- Local Indication: Red LEDs