

Features

- Low current consumption for Intrinsically Safe bus applications
- 2 wire bus system with maintenance and diagnostics
- Fully encapsulated electronics module with 2 built-in Hall Effect sensors for OPEN/CLOSED detection
- Can be used with single or double acting actuators
- Galvanic isolation of outputs
- Addressable by DIP switches or bus line
- Self-calibration feature
- EMC certified to directive 89/336/EC (per standards EN50081 & EN50082)

Technical Specifications

Maximum Distance	1900 Meters (6200 ft)
Physical Media	1 twisted pair #18 AWG (0.8 mm ²)
Available I/O	2x2 (2 inputs, 2 outputs)
Network Topology	Bus, line, star, and combinations
Supported Baud Rate	31.25 Kbps
Number of addressable devices	up to 126

Ambient Temperatures

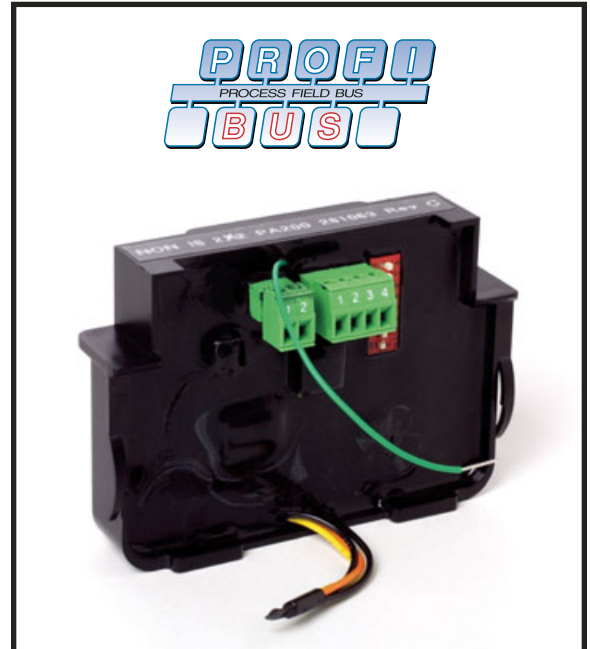
32°F to +140°F (0°C to +60°C)

Electrical

Connection is made using shielded two-wire Profibus PA cable
 Outputs - discrete output - 6.6VDC @ 1.6mA each
 (One output used at a time)
 Power consumption of 11.0mA

Approvals

Profibus certified
 CE marked
 ATEX (II 1 G EEx ia IIC T4)
 KEMA 03ATEX 1413X
 FM (Class 3610, 3611)
 EMC Directive 89/336/EC (per stds. EN50081, EN50082)



Optional Features

- ASCO Piezo valves
- SHORT CIRCUIT detection to determine condition of Piezo operator

How to Specify

Description	Code
2X2 NON "IS"	PA
2X2 "IS"	PC

Ordering Example: VR7B2YAW0PAA

Valve Information

Valve Man – 16 character text for user input of pilot valve manufacturer

Actuator Man – 16 character text for user input of actuator manufacturer

Valve Ser Num – 16 character text for user input of pilot valve serial #

Actuator Ser Num – 16 character text for user input of actuator serial #

Valve ID – 16 character text for user input of pilot valve ID (part number or type)

Actuator ID – 16 character text for user input of actuator ID (part number or type)

Configuration

Device can be configured by user for actuation of the following type:

Single Output – For Single Acting Actuator (Spring return) where only one 3-way pilot valve is needed. Pilot valve is energized to OPEN and de-energized to CLOSE the actuator.

Two Outputs – For Double Acting Actuator where two 3-way pilot valves are needed. One valve to OPEN and another valve to CLOSE the actuator. If a 4-way pilot valve is used then only 1 is required and configuration should be for single output.

Discrete Output Diagnostics

TRAVEL COUNT – actual number of cycle, OPEN-to-CLOSE or CLOSE-to-OPEN for the actuator. Two travel count equals 1 cycle.

TRAVEL COUNT LIMIT – operational cycle limit of the actuator. Once limit is exceeded a fault will be sent to PLC/DCS indicating limit exceeded.

Note: The Travel & Break Time below are accurate to 10ms

TRAVEL TIME OPEN-CLOSE ACT – the last time between the change-in-state command-CLOSE and the indication the valve is in the CLOSE position. This is the recorded value of the last time the valve was used.

TRAVEL TIME OPEN-CLOSE – calibration (setpoint) value of the time between the change-in-state command-CLOSE and the indication the valve is in the CLOSE position. This value is automatically recorded & saved during Calibration command.

TRAVEL TIME OPEN-CLOSE TOL – maximum allowable difference between Travel Time OPEN-to-CLOSE & Setpoint Travel Time OPEN-to-CLOSE.

TRAVEL TIME CLOSE-OPEN ACT – the last time between the change-in-state command-OPEN and the indication the valve is in the OPEN position. This is the recorded value of the last time the valve was used.

TRAVEL TIME CLOSE-OPEN – calibration (setpoint) value of the time between the change-in-state command-OPEN and the indication the valve is in the OPEN position. This value is automatically recorded & saved during Calibration command.

TRAVEL TIME CLOSE-OPEN TOL – maximum allowable difference between Travel Time CLOSE-to-OPEN & Setpoint Travel Time CLOSE-to-OPEN.

BREAK TIME OPEN-CLOSE ACT – the last recorded time between the change-in-state command-CLOSE and the indication the valve leaves the OPEN state.

BREAK TIME OPEN-CLOSE – calibration (setpoint) value of the time between the change-in-state command-CLOSE and the indication the valve leaves the OPEN state. This value is automatically recorded & saved during Calibration command.

BREAK TIME OPEN-CLOSE TOL – maximum allowable difference between Break Time OPEN-to-CLOSE & Setpoint Break Time OPEN-to-CLOSE.

BREAK TIME CLOSE-OPEN ACT – the last recorded time between the change-in-state command-OPEN and the indication the valve leaves the CLOSE state.

BREAK TIME CLOSE-OPEN – calibration (setpoint) value of the time between the change-in-state command-OPEN and the indication the valve leaves the CLOSE state. This value is automatically recorded & saved during Calibration command.

BREAK TIME CLOSE-OPEN TOL – maximum allowable difference between Break Time CLOSE-to-OPEN & Setpoint Break Time CLOSE-to-OPEN.

FAIL SAFE MODE – in the event that the PLC/DCS stops communicating, the device has the ability to automatically switch to a Fail Safe Mode. Fail Safe Mode is selectable to “Hold last good value” or go to “Fail Safe Position”. Fail Safe position is user defined to be either OPEN or CLOSE. In addition, a delay time can be set to allow the device to wait until switching to Fail Safe Mode.