

# Getting Started with Modbus® and OPC Systems

## Fisher™ 4320 Wireless Position Monitor with On/Off Control Option

### Modbus Mapping of Set Point and Discrete Switch States Using Coils

When the DISCRETE SET POINT is written as true, the set point is written as Open. When written as false, the set point is written as Closed.

The Discrete Switch State feedbacks are read back as True/False for the State value shown.

Note: The set point must be 'Open' and the switch state must 'Opened'.

Register	Point Name	State	Invert
<input type="checkbox"/> 101	4300.DISCRETE_SET_POINT	OPEN	<input type="checkbox"/>
<input type="checkbox"/> 102	4300.DISCRETE_SWITCH_STATE	OPENED	<input type="checkbox"/>
<input type="checkbox"/> 103	4300.DISCRETE_SWITCH_STATE	CLOSED	<input type="checkbox"/>

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When the DISCRETE SET POINT is written as true, the set point is written as Closed. When written as false, the set point is written as Open.

The Discrete Switch State feedbacks are read back as True/False for the State value shown.

Register	Point Name	State	Invert
<input type="checkbox"/> 101	4300.DISCRETE_SET_POINT	CLOSED	<input type="checkbox"/>
<input type="checkbox"/> 102	4300.DISCRETE_SWITCH_STATE	OPENED	<input type="checkbox"/>
<input type="checkbox"/> 103	4300.DISCRETE_SWITCH_STATE	CLOSED	<input type="checkbox"/>

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### Writing Set Point through Modbus Register or OPC

There are 4 valid values for the Set Point variable:

- 4 - Close    5 - Open    6 - Closed\*    46 - Opened\*

Writing one of the above values will cause the gateway to send the corresponding set point.

\*Recommended values for set point so the switch state will equal the value for the set point when the valve has reached it's final position.

The Discrete Switch State will report the current switch position. It's enumeration values for control are:

- 6 - Closed            18 - Closing            52 - Partially Open
- 17 - Opening        46 - Opened            48 - Error

1. Supplement to Fisher 4320 Wireless Position Monitor with On/Off Control Option Instruction Manual (D103621X012), available from your [Emerson Automation Solutions sales office](#).

This supplement also pertains to TopWorx™ 4310 Wireless Position Monitors with On/Off Control Option (Supported Status), see instruction manual [D103622X012](#), available at [www.Fisher.com](http://www.Fisher.com).



To complete the Closed Loop process, the 'Closed' and 'Opened' states should match the corresponding set point.

Register	Point Name	State	Invert
<input type="checkbox"/> 40001	4300.DISCRETE_SET_POINT		<input type="checkbox"/>
<input type="checkbox"/> 40002	4300.DISCRETE_SWITCH_STATE		<input type="checkbox"/>

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### Mapped Variable Examples

Register	Point Name
<input type="checkbox"/> 40001	4300.PERCENT_OF_SPAN
<input type="checkbox"/> 40003	4300.CLOSED_TRIGGER
<input type="checkbox"/> 40005	4300.OPEN_TRIGGER
<input type="checkbox"/> 40007	4300.DEVICE_TEMPERATURE
<input type="checkbox"/> 40009	4300.BATTERY_VOLTAGE
<input type="checkbox"/> 40011	4300.SET_POINT
<input type="checkbox"/> 40013	4300.SWITCH_STATE
<input type="checkbox"/> 40015	4300.CLOSE_STROKE_TIME

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Register	Point Name
<input type="checkbox"/> 40017	4300.OPEN_STROKE_TIME
<input type="checkbox"/> 40019	4300.MESSAGE_0_TIMESTAMP
<input type="checkbox"/> 40021	4300.MESSAGE_1_TIMESTAMP
<input type="checkbox"/> 40023	4300.MESSAGE_2_TIMESTAMP
<input type="checkbox"/> 40025	4300.OPEN_DWELL_TIME
<input type="checkbox"/> 40027	4300.CLOSED_DWELL_TIME
<input type="checkbox"/> 40029	4300.PARTIALLY_OPEN_DWELL_TIME
<input type="checkbox"/> 40031	4300.CYCLE_COUNTS

### Mapped Alert Examples

Register	Point Name	State	Invert
<input type="checkbox"/> 10001	4300.BATTERY_WARNING_GETTING_LOV	TRUE	<input type="checkbox"/>
<input type="checkbox"/> 10002	4300.CRITICAL_POWER_FAILURE	TRUE	<input type="checkbox"/>
<input type="checkbox"/> 10003	4300.CYCLE_COUNT_ALERT	TRUE	<input type="checkbox"/>

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