

CXpro^{HD} v1.07.05

Summary

This update includes new **CoV Reader** and **Multi-State Value** modules.

Features

NEW MODULES

COV READER

Function

The **COV Reader** module subscribes this device to receive **COV** notifications when there is a change to the **present-value** of a **BACnet® Object** on a remote device.

In **CXpro^{HD} 1.07.05**, **Analog** and **Binary Inputs/Outputs/Values** are the only **BACnet** Objects to which the **COV Reader** can subscribe.

The **present-value** of the target **BACnet® Object** can be used in the strategy as an **Analog** or **Digital** value by connecting wires to either the **Analog Output** or **Digital Output** nodes.

| COV Reader | |
|---|--|
| <input checked="" type="checkbox"/> Enabled | Analog Output |
| | Digital Output <input checked="" type="checkbox"/> |
| | Status Flags |
| | Subscribed <input checked="" type="checkbox"/> |

Note : The **COV Reader** module is supported with Firmware version **9.3.0** or later.

Implementation

Change of Value in BACnet®

If a client device is interested in the **present-value** of a **BACnet® Object** on a different device, it can frequently poll the target **BACnet® Object** for the value. However, it is often the case that the client device only needs to know when the value changes, and in that case, polling constantly can result in a large amount of unwanted network traffic.

The **Change of Value (COV)** concept in **BACnet®** provides a more efficient way to handle this scenario.

Using the **COV Reader** module the client device can subscribe to notifications from the target **BACnet® Object** on the target device. When the value of the target **BACnet® Object** changes by a specified amount, it sends out a **COV notification** containing the new value to all subscribers.

By only transmitting data when the value has changed, network traffic is significantly reduced over frequent polling.

The **COV-increment** property of the target **BACnet® Object** defines how much the **present-value** property must change before a **COV Notification** is sent.

COV Notification Type

The Notification Type specifies whether the target **BACnet® Object** sends the notification as a **Confirmed** or **Unconfirmed** service.

- A **Confirmed** service requires a positive handshake from the client when the notification is received, otherwise it will retry the notification numerous times (after a suitable timeout period).
- An **Unconfirmed** service sends the notification just once, doesn't require a handshake, and is not retried.

In either case the **COV** notification is unicast to a specific device that has subscribed.

MULTI STATE VALUE

Function

The **Multi State Value** module is an enumerated value, represented by **State Text** strings that can be defined in **CXproHD**. It allows between 2 and 10 states to be configured.

The **Output** of the **Multi State Value** module is an **Analog Value** representing the **present-value** of the **Multi-state (MV)** object. This value is associated with a specific **“State Text”** string, which may be used for example in **Front-End** software to provide a user-friendly description of the **MV’s** state.

When connected, the **Multi State Value** module’s optional **Input** writes to priority **16** of the **MV** object’s **priority-array**. This way it can be used to convert an **Analog value** from the running **strategy** to a text string to be displayed in **Front-End** software.

| Multi State Value 1 | |
|--|--------|
| MSV1 | |
| Input | Output |
| Number of States: 3; Default State: 1; State 1 Text: Open; State 2 Text: Off; State 3 Text: Open | |

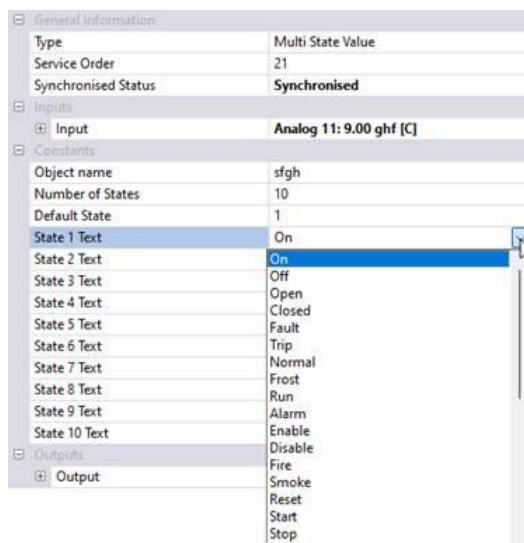
Note : The **Multi State Value** module is supported with **Firmware version 9.3.0** or later.

Implementation

State Text Strings for Multi-state Value

The **MV** object can have between 2 and 10 states, as configured for the object in **CXproHD**.

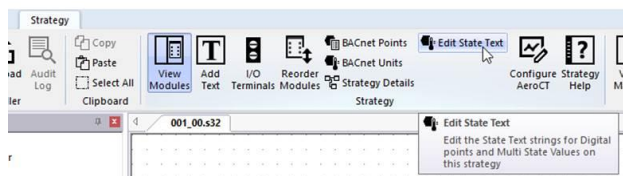
The text associated with each state can be specified from a drop-down menu in the **Properties window** when the **Multi State Value** module is selected.



Configuring State Text strings

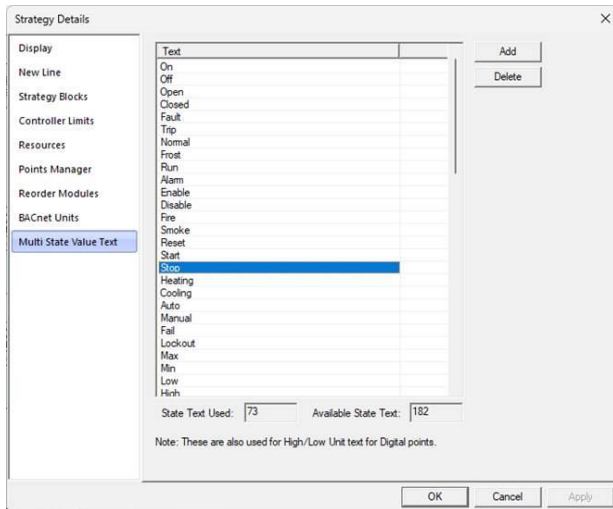
The **State Text** Strings are strings that can be displayed in the front end to represent the value of the **MV** object. These strings can be configured (per **strategy**) as follows:

On the **Strategy** tab of the **CXproHD** Ribbon, click **Edit State Text** to open the **Edit State Text** dialog.



This dialog will show all **State Text** strings for the current **strategy**.

These strings are also used for the Low and High units of Digital Setpoints, Digital Hardware Points, and Digital Virtual Points.



To add a new string, click the **Add** button.

To delete an existing string, select the string and click the **Delete** button

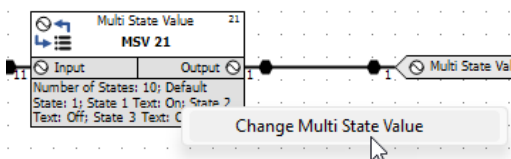
Changing a Multi-state Value

As a tool to test a **strategy**, it is possible to manually set the value of one of the priorities in the **MV's** **priority-array** when connected to the site.

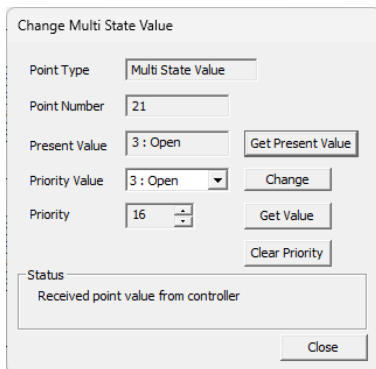
- This is intended for testing only and must be manually cleared when no longer required.
- The **Multi State Value** module must be on the running **strategy** to change the value this way.

To change a Multi-state Value (MV):

Right-click on a **Multi-State Value** module and select **Change Multi-State Value** from the context menu.



This will open the **Change Multi-State Value** dialog:



Select one of the configured **State Texts** from the **Value** dropdown menu and specify a **Priority** to read from / write to the **priority-array** property of the **MV** object.

To read the current value at the selected **priority** from the **MV** object, click the **Get Value** button.

To change the value at the selected **priority** to the specified value, click the **Change** button

To write **NULL** to the selected **priority** (i.e. to clear the current value) click the **Clear** button.

The **Get Present Value** button will read the **present-value** property and the current highest priority of the **MV** object.

RESOLVED ISSUES

- ST-11133 (CCB-1324) CXpro^{HD} will no longer automatically update Router IP Addresses when connecting
- ST-11174 (CCB-1331) CXpro^{HD} is now prevented from closing when the File menu is double-clicked.
- ST-11224 (CCB-1283) Fixed an issue where a CXpro^{HD} download could fail due to old, uploaded data.
- ST-11213 Fixed an issue where CXpro^{HD} download could fail if the strategy had an open macro.
- ST-11237 Fixed an issue where Modbus device in the properties could not be selected if the Modbus module was in a macro.
- ST-11169 Corrected typo in the "(ST) Input Type" property of the Digital Input BACnet object.
- ST-11193 Renamed "Description" column to "Status" in AeroCT Configuration dialog.

Customer Impact

Customers affected by any of the issues listed here should update to v1.07.05 as soon as is practical.