Yokogawa DX Ethernet Driver

Yokogawa DX Ethernet Driver

Help version 1.044

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Overview

The Yokogawa DX Ethernet Driver provides a reliable way to connect Yokogawa DX Ethernet devices to OPC Client applications; including HMI, SCADA, Historian, MES, ERP and countless custom applications. It is intended for use with Yokogawa Data Acquisition and Data Recorder devices that support Ethernet TCP communications.

Setup

Supported Yokogawa Devices

DX102
DX104, DX204
DX106
DX112
DX208
DX210
DX220
DX230
MV100, MV200

DX Advanced Models

DX1002
DX1004, DX2004
DX1006
DX1012
DX2008
DX2010
DX2020
DX2030
DX2040
DX2048

Channel and Device Limits

The maximum number of channels supported by this driver is 100. The maximum number of devices supported by this driver is 1024 per channel.

Device ID

Yokogawa devices are networked using standard IP addressing. In general, the Device ID has the following format: *YYY.YYY.YYY.YYY*, where *YYY* designates the device's IP address. Each *YYY* byte should be in the range of 0 to 255.

Channel Properties — General

This server supports the use of multiple simultaneous communications drivers. Each protocol or driver used in a server project is called a channel. A server project may consist of many channels with the same communications driver or with unique communications drivers. A channel acts as the basic building block of an OPC link. This group is used to specify general channel properties, such as the identification attributes and operating mode.

Property Groups	Identification	
General	Name	
Write Optimizations	Description	
Advanced	Driver	
	Diagnostics	
	Diagnostics Capture	Disable
	Tag Counts	
	Static Tags	10

Identification

Name: Specify the user-defined identity of this channel. In each server project, each channel name must be unique. Although names can be up to 256 characters, some client applications have a limited display window when browsing the OPC server's tag space. The channel name is part of the OPC browser information. The property is required for creating a channel.

🔷 *For information on reserved characters, refer to "How To... Properly Name a Channel, Device, Tag, and Tag Group" in the server help.*

Description: Specify user-defined information about this channel.

🟢 Many of these properties, including Description, have an associated system tag.

Driver: Specify the protocol / driver for this channel. Specify the device driver that was selected during channel creation. It is a disabled setting in the channel properties. The property is required for creating a channel.

⬜ **Note**: With the server's online full-time operation, these properties can be changed at any time. This includes changing the channel name to prevent clients from registering data with the server. If a client has already acquired an item from the server before the channel name is changed, the items are unaffected. If, after the channel name has been changed, the client application releases the item and attempts to re-acquire using the old channel name, the item is not accepted. Changes to the properties should not be made once a large client application has been developed. Utilize proper user role and privilege management to prevent operators from changing properties or accessing server features.

Diagnostics

Diagnostics Capture: When enabled, this option makes the channel's diagnostic information available to OPC applications. Because the server's diagnostic features require a minimal amount of overhead processing, it is recommended that they be utilized when needed and disabled when not. The default is disabled.

⬜ **Note:** This property is not available if the driver does not support diagnostics.

🔷 *For more information, refer to Communication Diagnostics in the server help.*

Diagnostics

Diagnostics Capture: When enabled, this option allows the usage of statistics tags that provide feedback to client applications regarding the operation of the channel. Because the server's diagnostic features require a minimal amount of overhead processing, it is recommended that they be utilized when needed and disabled when not. The default is disabled.

⬜ **Note:** This property is not available if the driver does not support diagnostics.

🔷 *For more information, refer to Statistics Tags in the server help.*

Tag Counts

Static Tags: Provides the total number of defined static tags at this level (device or channel). This information can be helpful in troubleshooting and load balancing.

Channel Properties — Ethernet Communications

Ethernet Communication can be used to communicate with devices.

Ethernet Settings

Network Adapter: Specify the network adapter to bind. When left blank or Default is selected, the operating system selects the default adapter.

Channel Properties — Write Optimizations

The server must ensure that the data written from the client application gets to the device on time. Given this goal, the server provides optimization properties to meet specific needs or improve application responsiveness.

Property Groups	⊟ **Write Optimizations**	
General	Optimization Method	Write Only Latest Value for All Tags
Write Optimizations	Duty Cycle	10

Write Optimizations

Optimization Method: Controls how write data is passed to the underlying communications driver. The options are:

- **Write All Values for All Tags**: This option forces the server to attempt to write every value to the controller. In this mode, the server continues to gather write requests and add them to the server's internal write queue. The server processes the write queue and attempts to empty it by writing data to the device as quickly as possible. This mode ensures that everything written from the client applications is sent to the target device. This mode should be selected if the write operation order or the write item's content must uniquely be seen at the target device.
- **Write Only Latest Value for Non-Boolean Tags**: Many consecutive writes to the same value can accumulate in the write queue due to the time required to actually send the data to the device. If the server updates a write value that has already been placed in the write queue, far fewer writes are needed to reach the same final output value. In this way, no extra writes accumulate in the server's queue. When the user stops moving the slide switch, the value in the device is at the correct value at virtually the same time. As the mode states, any value that is not a Boolean value is updated in the server's internal write queue and sent to the device at the next possible opportunity. This can greatly improve the application performance.
  ◉ **Note**: This option does not attempt to optimize writes to Boolean values. It allows users to optimize the operation of HMI data without causing problems with Boolean operations, such as a momentary push button.
- **Write Only Latest Value for All Tags**: This option takes the theory behind the second optimization mode and applies it to all tags. It is especially useful if the application only needs to send the latest value to the device. This mode optimizes all writes by updating the tags currently in the write queue before they are sent. This is the default mode.

Duty Cycle: is used to control the ratio of write to read operations. The ratio is always based on one read for every one to ten writes. The duty cycle is set to ten by default, meaning that ten writes occur for each read operation. Although the application is performing a large number of continuous writes, it must be ensured that read data is still given time to process. A setting of one results in one read operation for every write operation. If there are no write operations to perform, reads are processed continuously. This allows optimization for applications with continuous writes versus a more balanced back and forth data flow.
◉ **Note**: It is recommended that the application be characterized for compatibility with the write optimization enhancements before being used in a production environment.

Channel Properties — Advanced

This group is used to specify advanced channel properties. Not all drivers support all properties; so the Advanced group does not appear for those devices.

Property Groups	Non-Normalized Float Handling	
General	Floating-Point Values	Replace with Zero
Write Optimizations	Inter-Device Delay	
Advanced	Inter-Device Delay (ms)	0

Non-Normalized Float Handling: A non-normalized value is defined as Infinity, Not-a-Number (NaN), or as a Denormalized Number. The default is Replace with Zero. Drivers that have native float handling may default to Unmodified. Non-normalized float handling allows users to specify how a driver handles non-normalized IEEE-754 floating point data. Descriptions of the options are as follows:

- **Replace with Zero**: This option allows a driver to replace non-normalized IEEE-754 floating point values with zero before being transferred to clients.
- **Unmodified**: This option allows a driver to transfer IEEE-754 denormalized, normalized, non-number, and infinity values to clients without any conversion or changes.

Note: This property is disabled if the driver does not support floating-point values or if it only supports the option that is displayed. According to the channel's float normalization setting, only real-time driver tags (such as values and arrays) are subject to float normalization. For example, EFM data is not affected by this setting.

For more information on the floating-point values, refer to "How To ... Work with Non-Normalized Floating-Point Values" in the server help.

Inter-Device Delay: Specify the amount of time the communications channel waits to send new requests to the next device after data is received from the current device on the same channel. Zero (0) disables the delay.

Note: This property is not available for all drivers, models, and dependent settings.

Device Properties — General

A device represents a single target on a communications channel. If the driver supports multiple controllers, users must enter a device ID for each controller.

Property Groups	Identification	
General	Name	
Scan Mode	Description	
	Channel Assignment	
	Driver	
	Model	
	ID Format	Decimal
	ID	2

Identification

Name: Specify the name of the device. It is a logical user-defined name that can be up to 256 characters long and may be used on multiple channels.

⬤ **Note**: Although descriptive names are generally a good idea, some OPC client applications may have a limited display window when browsing the OPC server's tag space. The device name and channel name become part of the browse tree information as well. Within an OPC client, the combination of channel name and device name would appear as "ChannelName.DeviceName".

✦ *For more information, refer to "How To... Properly Name a Channel, Device, Tag, and Tag Group" in server help.*

Description: Specify the user-defined information about this device.

🟢 Many of these properties, including Description, have an associated system tag.

Channel Assignment: Specify the user-defined name of the channel to which this device currently belongs.

Driver: Selected protocol driver for this device.

Model: Specify the type of device that is associated with this ID. The contents of the drop-down menu depend on the type of communications driver being used. Models that are not supported by a driver are disabled. If the communications driver supports multiple device models, the model selection can only be changed when there are no client applications connected to the device.

⬤ **Note:** If the communication driver supports multiple models, users should try to match the model selection to the physical device. If the device is not represented in the drop-down menu, select a model that conforms closest to the target device. Some drivers support a model selection called "Open," which allows users to communicate without knowing the specific details of the target device. *For more information, refer to the driver documentation.*

ID: Specify the device's driver-specific station or node. The type of ID entered depends on the communications driver being used. For many communication drivers, the ID is a numeric value. Drivers that support a Numeric ID provide users with the option to enter a numeric value whose format can be changed to suit the needs of the application or the characteristics of the selected communications driver. The format is set by the driver by default. Options include Decimal, Octal, and Hexadecimal.

⬤ **Note**: If the driver is Ethernet-based or supports an unconventional station or node name, the device's TCP/IP address may be used as the device ID. TCP/IP addresses consist of four values that are separated by periods, with each value in the range of 0 to 255. Some device IDs are string based. There may be additional properties to configure within the ID field, depending on the driver.

Operating Mode

Property Groups	Identification	
General	**Operating Mode**	
Scan Mode	Data Collection	Enable
	Simulated	No

Data Collection: This property controls the device's active state. Although device communications are enabled by default, this property can be used to disable a physical device. Communications are not attempted when a device is disabled. From a client standpoint, the data is marked as invalid and write operations are not accepted. This property can be changed at any time through this property or the device system tags.

Simulated: Place the device into or out of Simulation Mode. In this mode, the driver does not attempt to communicate with the physical device, but the server continues to return valid OPC data. Simulated stops physical communications with the device, but allows OPC data to be returned to the OPC client as valid data. While in Simulation Mode, the server treats all device data as reflective: whatever is written to the simulated

device is read back and each OPC item is treated individually. The data is not saved if the server removes the item (such as when the server is reinitialized). The default is No.

    Notes:

1. Updates are not applied until clients disconnect and reconnect.

2. The System tag (_Simulated) is read only and cannot be written to for runtime protection. The System tag allows this property to be monitored from the client.

3. In Simulation mode, the item's memory map is based on client update rate(s) (Group Update Rate for OPC clients or Scan Rate for native and DDE interfaces). This means that two clients that reference the same item with different update rates return different data.

4. When a device is simulated, updates may not appear faster than one (1) second in the client.

  Simulation Mode is for test and simulation purposes only. It should never be used in a production environment.

Tag Counts

Static Tags: Provides the total number of defined static tags at this level (device or channel). This information can be helpful in troubleshooting and load balancing.

Device Properties — Scan Mode

The Scan Mode specifies the subscribed-client requested scan rate for tags that require device communications. Synchronous and asynchronous device reads and writes are processed as soon as possible; unaffected by the Scan Mode properties.

Scan Mode: Specify how tags in the device are scanned for updates sent to subscribing clients. Descriptions of the options are:

- **Respect Client-Specified Scan Rate**: This mode uses the scan rate requested by the client.
- **Request Data No Faster than Scan Rate**: This mode specifies the value set as the maximum scan rate. The valid range is 10 to 99999990 milliseconds. The default is 1000 milliseconds.
    Note: When the server has an active client and items for the device and the scan rate value is increased, the changes take effect immediately. When the scan rate value is decreased, the changes do not take effect until all client applications have been disconnected.
- **Request All Data at Scan Rate**: This mode forces tags to be scanned at the specified rate for subscribed clients. The valid range is 10 to 99999990 milliseconds. The default is 1000 milliseconds.

- **Do Not Scan, Demand Poll Only**: This mode does not periodically poll tags that belong to the device nor perform a read to get an item's initial value once it becomes active. It is the OPC client's responsibility to poll for updates, either by writing to the _DemandPoll tag or by issuing explicit device reads for individual items. *For more information, refer to "Device Demand Poll" in server help*.
- **Respect Tag-Specified Scan Rate**: This mode forces static tags to be scanned at the rate specified in their static configuration tag properties. Dynamic tags are scanned at the client-specified scan rate.

Initial Updates from Cache: When enabled, this option allows the server to provide the first updates for newly activated tag references from stored (cached) data. Cache updates can only be provided when the new item reference shares the same address, scan rate, data type, client access, and scaling properties. A device read is used for the initial update for the first client reference only. The default is disabled; any time a client activates a tag reference the server attempts to read the initial value from the device.

Device Properties — Timing

The device Timing properties allow the driver's response to error conditions to be tailored to fit the application's needs. In many cases, the environment requires changes to these properties for optimum performance. Factors such as electrically generated noise, modem delays, and poor physical connections can influence how many errors or timeouts a communications driver encounters. Timing properties are specific to each configured device.

Property Groups	Communication Timeouts	
General	Connect Timeout (s)	3
Scan Mode	Request Timeout (ms)	1000
Timing	Attempts Before Timeout	3

Communications Timeouts

Connect Timeout: This property (which is used primarily by Ethernet based drivers) controls the amount of time required to establish a socket connection to a remote device. The device's connection time often takes longer than normal communications requests to that same device. The valid range is 1 to 30 seconds. The default is typically 3 seconds, but can vary depending on the driver's specific nature. If this setting is not supported by the driver, it is disabled.

 Note: Due to the nature of UDP connections, the connection timeout setting is not applicable when communicating via UDP.

Request Timeout: Specify an interval used by all drivers to determine how long the driver waits for a response from the target device to complete. The valid range is 50 to 9999999 milliseconds (167 minutes). The default is usually 1000 milliseconds, but can vary depending on the driver. The default timeout for most serial drivers is based on a baud rate of 9600 baud or better. When using a driver at lower baud rates, increase the timeout to compensate for the increased time required to acquire data.

Attempts Before Timeout: Specify how many times the driver issues a communications request before considering the request to have failed and the device to be in error. The valid range is 1 to 10. The default is typically 3, but can vary depending on the driver's specific nature. The number of attempts configured for an application depends largely on the communications environment. This property applies to both connection attempts and request attempts.

Timing

Inter-Request Delay: Specify how long the driver waits before sending the next request to the target device. It overrides the normal polling frequency of tags associated with the device, as well as one-time reads and writes. This delay can be useful when dealing with devices with slow turnaround times and in cases where network load is a concern. Configuring a delay for a device affects communications with all other devices on the channel. It is recommended that users separate any device that requires an inter-request delay to a separate channel if possible. Other communications properties (such as communication serialization) can extend this delay. The valid range is 0 to 300,000 milliseconds; however, some drivers may limit the maximum value due to a function of their particular design. The default is 0, which indicates no delay between requests with the target device.

⬤ **Note**: Not all drivers support Inter-Request Delay. This setting does not appear if it is not available.

Property Groups	Timing	
General	Inter-Request Delay (ms)	0
Scan Mode		
Timing		

Device Properties — Auto-Demotion

The Auto-Demotion properties can temporarily place a device off-scan in the event that a device is not responding. By placing a non-responsive device offline for a specific time period, the driver can continue to optimize its communications with other devices on the same channel. After the time period has been reached, the driver re-attempts to communicate with the non-responsive device. If the device is responsive, the device is placed on-scan; otherwise, it restarts its off-scan time period.

Property Groups	Auto-Demotion	
General	Demote on Failure	**Enable**
Scan Mode	Timeouts to Demote	3
Timing	Demotion Period (ms)	10000
Auto-Demotion	Discard Requests when Demoted	Disable

Demote on Failure: When enabled, the device is automatically taken off-scan until it is responding again.

⬤ **Tip**: Determine when a device is off-scan by monitoring its demoted state using the _AutoDemoted system tag.

Timeouts to Demote: Specify how many successive cycles of request timeouts and retries occur before the device is placed off-scan. The valid range is 1 to 30 successive failures. The default is 3.

Demotion Period: Indicate how long the device should be placed off-scan when the timeouts value is reached. During this period, no read requests are sent to the device and all data associated with the read requests are set to bad quality. When this period expires, the driver places the device on-scan and allows for another attempt at communications. The valid range is 100 to 3600000 milliseconds. The default is 10000 milliseconds.

Discard Requests when Demoted: Select whether or not write requests should be attempted during the off-scan period. Disable to always send write requests regardless of the demotion period. Enable to discard writes; the server automatically fails any write request received from a client and does not post a message to the Event Log.

Device Properties — Tag Generation

The automatic tag database generation features make setting up an application a plug-and-play operation. Select communications drivers can be configured to automatically build a list of tags that correspond to device-specific data. These automatically generated tags (which depend on the nature of the supporting driver) can be browsed from the clients.

🔹 *Not all devices and drivers support full automatic tag database generation and not all support the same data types. Consult the data types descriptions or the supported data type lists for each driver for specifics.*

If the target device supports its own local tag database, the driver reads the device's tag information and uses the data to generate tags within the server. If the device does not natively support named tags, the driver creates a list of tags based on driver-specific information. An example of these two conditions is as follows:

1. If a data acquisition system supports its own local tag database, the communications driver uses the tag names found in the device to build the server's tags.

2. If an Ethernet I/O system supports detection of its own available I/O module types, the communications driver automatically generates tags in the server that are based on the types of I/O modules plugged into the Ethernet I/O rack.

🔹 **Note**: Automatic tag database generation's mode of operation is completely configurable. *For more information, refer to the property descriptions below.*

Property Groups	⊟ **Tag Generation**	
General	On Device Startup	Do Not Generate on Startup
Scan Mode	On Duplicate Tag	Delete on Create
Timing	Parent Group	
Auto-Demotion	Allow Automatically Generated Subgroups	Enable
Tag Generation	Create	Create tags
Communications		
Redundancy		

On Property Change: If the device supports automatic tag generation when certain properties change, the **On Property Change** option is shown. It is set to **Yes** by default, but it can be set to **No** to control over when tag generation is performed. In this case, the **Create tags** action must be manually invoked to perform tag generation. To invoke via the Configuration API service, access /config/v1/project/channels/{name}/devices/{name}/services/TagGeneration.

On Device Startup: Specify when OPC tags are automatically generated. Descriptions of the options are as follows:

- **Do Not Generate on Startup**: This option prevents the driver from adding any OPC tags to the tag space of the server. This is the default setting.
- **Always Generate on Startup**: This option causes the driver to evaluate the device for tag information. It also adds tags to the tag space of the server every time the server is launched.
- **Generate on First Startup**: This option causes the driver to evaluate the target device for tag information the first time the project is run. It also adds any OPC tags to the server tag space as needed.

🔹 **Note**: When the option to automatically generate OPC tags is selected, any tags that are added to the server's tag space must be saved with the project. Users can configure the project to automatically save from the **Tools** | **Options** menu.

On Duplicate Tag: When automatic tag database generation is enabled, the server needs to know what to do with the tags that it may have previously added or with tags that have been added or modified after the communications driver since their original creation. This setting controls how the server handles OPC tags that were automatically generated and currently exist in the project. It also prevents automatically generated tags from accumulating in the server.

For example, if a user changes the I/O modules in the rack with the server configured to **Always Generate on Startup**, new tags would be added to the server every time the communications driver detected a new I/O module. If the old tags were not removed, many unused tags could accumulate in the server's tag space. The options are:

- **Delete on Create**: This option deletes any tags that were previously added to the tag space before any new tags are added. This is the default setting.
- **Overwrite as Necessary**: This option instructs the server to only remove the tags that the communications driver is replacing with new tags. Any tags that are not being overwritten remain in the server's tag space.
- **Do not Overwrite**: This option prevents the server from removing any tags that were previously generated or already existed in the server. The communications driver can only add tags that are completely new.
- **Do not Overwrite, Log Error**: This option has the same effect as the prior option, and also posts an error message to the server's Event Log when a tag overwrite would have occurred.

⬤ **Note:** Removing OPC tags affects tags that have been automatically generated by the communications driver as well as any tags that have been added using names that match generated tags. Users should avoid adding tags to the server using names that may match tags that are automatically generated by the driver.

Parent Group: This property keeps automatically generated tags from mixing with tags that have been entered manually by specifying a group to be used for automatically generated tags. The name of the group can be up to 256 characters. This parent group provides a root branch to which all automatically generated tags are added.

Allow Automatically Generated Subgroups: This property controls whether the server automatically creates subgroups for the automatically generated tags. This is the default setting. If disabled, the server generates the device's tags in a flat list without any grouping. In the server project, the resulting tags are named with the address value. For example, the tag names are not retained during the generation process.
⬤ **Note**: If, as the server is generating tags, a tag is assigned the same name as an existing tag, the system automatically increments to the next highest number so that the tag name is not duplicated. For example, if the generation process creates a tag named "AI22" that already exists, it creates the tag as "AI23" instead.

Create: Initiates the creation of automatically generated OPC tags. If the device's configuration has been modified, **Create tags** forces the driver to reevaluate the device for possible tag changes. Its ability to be accessed from the System tags allows a client application to initiate tag database creation.
⬤ **Note**: **Create tags** is disabled if the Configuration edits a project offline.

Device Properties — Device Configuration

⊟ **Communications Parameters**	
Maximum Request Size (bytes)	256

Property Groups

General

Scan Mode

Communications Parameters

Descriptions of the parameters are as follows:

- **Port:** Specify the port number that the remote device will be configured to use. This driver is currently set to use the Ethernet Exclusive port only (TCP port 34260), and requires Winsock V1.1 or higher.

- **Special Data Handling:** Specify how the driver will forward special ASCII strings to clients whenever special data is received from the device. Options include None, +INF, and -INF. The default setting is None. For more information, refer to **Special Data Handling**.

- **Polling Interval:** Specify a fixed time interval for all communications with a device. It can be used to prevent the driver from making excessive request to the device, and to prevent the OPC client from forcing the driver to run at its maximum update rate.

- **Date and Time:** Specify the origin of the data value of the Date and Time data types (which represent the date and time of the latest data). Options include Device Time and System Time. Descriptions of the options are as follows:
  - **Device Time:** When selected, this option will cause the Date and Time tags to return the date and time read from the device. This date and time represents the date and time that the latest data was measured or computed based on the internal device clock.
  - **System Time:** When selected, this option will cause the Date and Time tags to return the date and time that the requested data was returned from the device based on the internal system clock.

- **Date Format:** Specify the format of the return string for the Date data type. Options include MM/DD/YY (month/day/year), YY/MM/DD (year/month/day), or DD/MM/YY (day/month/year). The default setting is MM/DD/YY.

- **Set Clock on Start:** When checked, this option will inform the driver to send a command to the device at communication startup that will set the device clock to the date and time settings of the system clock. The default setting is unchecked.

- **Generate tag database using:** Specify the origin of the tag name used when auto generating a tag database. Options include Physical Channel Number, Device Tagname, and Device Tagname (Enhanced). The default setting is Physical Channel Number. Descriptions of the options are as follows:
  - **Physical Channel Number:** In this option, the driver will generate tag names based on an item's channel number. For example, "CH01 or CH01_alarm1."
  - **Device Tagname:** In this option, the driver will generate tag names using the tag name returned by the device for a channel. Special characters (such as slashes or pound signs) are not allowed. For example, "Flow" or "Flow_alarm1".
  - **Device Tagname (Enhanced):** In this option, the driver will generate tag names using the tag name returned by the device for a channel. Special characters are allowed. For example, "Flow_alarm/state" or "Flow_alarm#4".

- **/AS1 Security Option:** When checked, this option will change the login method to three parts: Username, User ID, and Password. It will also enable the User Function parameter. When unchecked, the driver will use the registered Username and Password login method. The default setting is unchecked.
  - **Note** This option is only available to the DX Advanced models.

- **Username:** Specify the registered username. If the device is configured with the login function enabled, only users that are registered can login to the DX. A maximum of 20 alphanumeric characters are allowed for Advanced DX models, whereas a maximum of 16 characters are allowed for regular DX models. The user name is case sensitive.

   ● **Note** Users must specify a user level to communicate with DX devices regardless of whether it is configured with the login function disabled. Enter the username "admin" or "user" to indicate the user level. In this case, a password is not required.

- **Password:** Specify the username's registered password for when the device is configured with the login function enabled. A maximum of 8 alphanumeric characters are allowed for Advanced DX models, whereas a maximum of 6 characters are allowed for regular DX models.

   ● **Note** Password entry will not be displayed on the screen.

- **User ID:** Specify the unique User ID for Advanced DX models utilizing the /AS1 Security Option. The default setting is blank.

- **User Function:** Specify the type of mode with which users will login to a DX device. Options include Monitor and Setting. The default setting is Monitor. Descriptions of the modes are as follows:

   - **Monitor:** This mode allows users to read all accessible data while allowing full operator access to the device through the front panel of the unit.

   - **Setting:** This mode allows users to read all accessible data and to write to Read/Write accessible tags; however, the front panel of the unit will be locked. This mode should only be selected when users want to write data to the device; otherwise, users should select Monitor to maintain operability of the unit front panel.

   ● **Note** This setting may be changed while the server is connected.

Special Data Handling

DX devices' measurement and math channels sometimes return "special data" instead of a measurement value or calculation result. Special data is used by the device to flag certain conditions. For example, one set of special data codes are used to indicate that values are out of range. Another special data code indicates that a channel has not been activated.

Users can configure the driver to forward clients a special ASCII string whenever special data is received from the device through the Data Handling parameter. Options include None, +INF, and -INF. Descriptions of the options are as follows:

- **None:** When selected, the actual special data value received from the device will be forwarded to a client. For example, the data value of a "measuring channel Over Range" would be forwarded as 32,767 and the data value of a "math channel Over Range" would be forwarded as 2,147,450,879.

- **+INF:** When selected, all special data values will be forwarded as an ASCII representation of positive infinity ("1.#INF"). The exception is an Under Range condition, which will always forwarded as negative infinity ("-1.#INF").

- **-INF:** When selected, all special data values will be forwarded as an ASCII representation of negative infinity ("-1.#INF"). The exception is an Over Range condition, which will always forwarded as positive infinity ("1.#INF").

Device Properties — Redundancy

Secondary Path: Specifies the explicit, unaliased path to the device serving as backup if the primary device fails. The valid format is <channel>.<Device>.

Operating Mode: Specify how the active device is chosen at runtime. Options include Switch On Failure, Switch On Trigger, Primary Only, and Secondary Only. The default setting is Switch On Failure. Descriptions of the options are as follows:

- **Switch On Failure:** In this mode, communication fails over to the secondary device when the primary device enters an error state (and vice versa). Initial communication begins on the primary device. The options are described below. For detailed information, refer to server help.
- **Switch On Trigger:** In this mode, the server monitors a configured trigger item. When the configured trigger condition becomes true, communication switches over to the secondary device. As long as the condition is false, communication remains on the primary device. Communication is initiated with the primary device until the trigger condition can be evaluated. The options are described below. For detailed information, refer to server help.
  Note: For Switch On Trigger mode, the communication path is dictated entirely by the trigger state. Unlike the Switch On Failure mode, the communication path is not updated in the case of compromised physical communication.
- **Primary Only:** In this mode, communication is fixed to the primary device regardless of the error state. This option is used for maintenance when the secondary device needs to be taken offline.
- **Secondary Only:** In this mode, communication is fixed to the secondary device regardless of the error state. This option is used for maintenance when the primary device needs to be taken offline.

The following properties are only available when Switch On Trigger operating mode is enabled:

- **Trigger Item:** Specify a fully qualified dynamic or static item reference. This item is used as the source of the trigger and is regularly evaluated at the configured scan rate to determine if a switchover is required. To choose a static item reference defined in the server, use the Tag Browser by pressing the browse (...) button.
  Note: The Trigger Item can be any server tag, but cannot be an array data type.
- **Scan Rate:** This is the frequency at which the Trigger item is evaluated
- **Trigger type:** This is the type of condition evaluated on the Trigger item. The supported trigger types are Quality Not Good, Value, and No Data Change.
  - **Quality Not Good:** When the trigger type is configured as Quality Not Good, the Trigger item change in quality to bad or uncertain causes communication to switch to the secondary device. When the Trigger item quality returns to good, communication switches back to the primary.
  - **Value:** When the trigger type is configured as Value, the item is compared using an operator from the drop-down list and data in the entry field. The value entered should be compatible with the data type of the enabled trigger item. When the trigger item value meets the condition defined by the configured string and operator, the trigger is considered "set" and

communication switches from the primary to the secondary. When the trigger item value no longer meets the criteria, communication switches back to the primary. Available operators are equals (=), does not equal (≠), greater than (>), greater than or equal to (≥), less than (<), and less than or equal to (≤).

🟢 **Tips:** This field accepts an arbitrary length string of alpha-numeric characters. When the trigger item is a string type, comparisons are case insensitive ("Hello, World" and "HELLO, WORLD" are considered a match). When the trigger item is a float type (double or float type), care must be exercised because comparisons do not consider precision loss (1.499999 is not considered equal to 1.5).

Monitor Item: This optional property specifies a valid device tag name or address on both the primary and secondary devices that is used to monitor communications on both devices. Valid formats include the device address (such as "400001") or a partially qualified tag name (such as "Tag1") to identify a static tag at the device level (or "Group1.Tag1" to identify a tag in "Group1" and so forth). The default setting is blank.
⬜ **Note**: Only tags that require device communication may be used. *For more information, refer to server help.*

Monitor Interval: Specify the rate at which the Monitor Item is polled on each device in a redundant pair. It is the rate at which the error tag updates on the inactive device in a pair. The valid range is 30 to 999 seconds. The default setting is 300 seconds.

Return to Primary: This option specifies whether the primary device should become the active device as soon as possible after a failover. When enabled, the primary is re-activated as soon as possible following a transition of its error state from True to False.

Optimizing Communications

The Yokogawa DX Ethernet Driver is designed to provide the best performance with the least amount of impact on the system's overall performance. While the Yokogawa DX Ethernet Driver is fast, there are a couple of guidelines that can be used to control and optimize the application and gain maximum performance.

The server refers to communications protocols like Yokogawa DX Ethernet as a channel. Each channel defined in the application represents a separate path of execution in the server. Once a channel has been defined, a series of devices must then be defined under that channel. Each of these devices represents a single Ethernet device from which data will be collected. While this approach to defining the application will provide a high level of performance, it won't take full advantage of the Yokogawa DX Ethernet Driver or the network. An example of how the application may appear when configured using a single channel is shown below.

Each device appears under a single channel. In this configuration, the driver must move from one device to the next as quickly as possible to gather information at an effective rate. As more devices are added or more information is requested from a single device, the overall update rate begins to suffer.
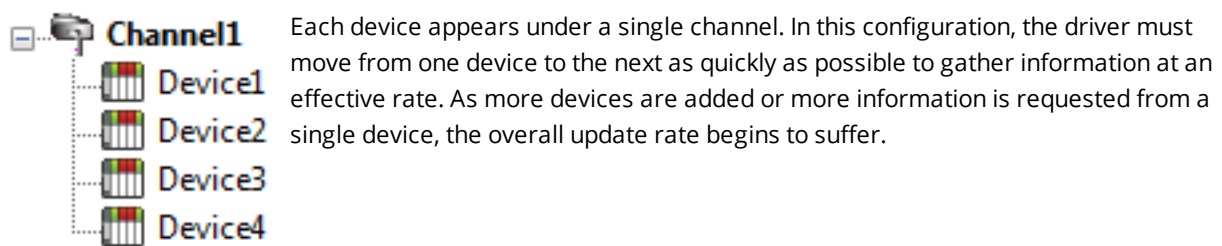
If the Yokogawa DX Ethernet Driver could only define one single channel, then the example shown above would be the only option available; however, the Yokogawa DX Ethernet Driver can define multiple channels. Using multiple channels distributes the data collection workload by simultaneously issuing multiple requests to the network. An example of how the same application may appear when configured using multiple channels to improve performance is shown below.

Each device can be defined under its own channel. In this configuration, a single path of execution is dedicated to the task of gathering data from each device.
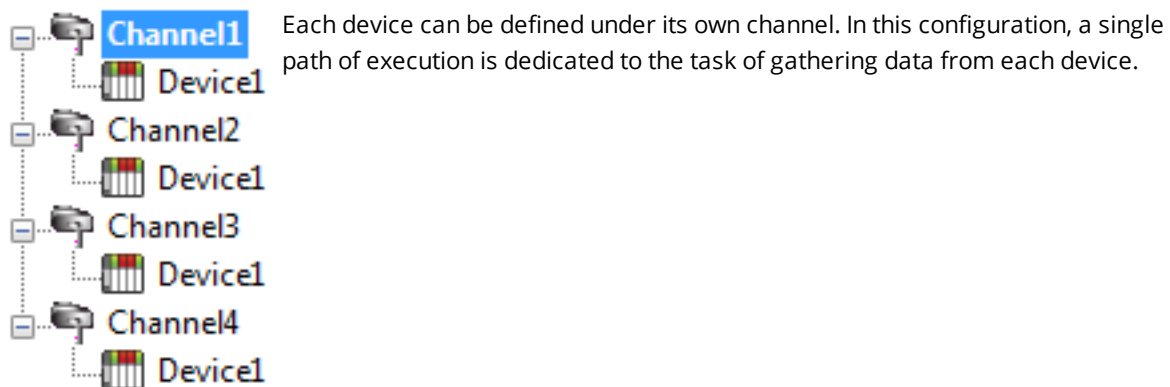
Data Types Description

Data Type	Description
Boolean	Single bit
Byte	Unsigned 8-bit value
Word	Unsigned 16-bit value
Short	Signed 16-bit value
Float	32-bit floating point value
Double	64-bit floating point value
String	Null-terminated ASCII string

Address Descriptions

Address specifications vary depending on the model in use. Select a link from the following list to obtain specific address information for the model of interest.

S120 Addressing for 100 Series

DX102 Addressing

DX104 Addressing

DX106 Addressing

DX112 Addressing

S120 Addressing for 200 Series

DX204 Addressing

DX208 Addressing

DX210 Addressing

DX220 Addressing

DX230 Addressing

S123 Addressing for DX210, DX220, DX230

MV100 Addressing

MV200 Addressing

DXAdvanced Models

DX1002 Addressing

DX1004 Addressing

DX1006 Addressing

DX1012 Addressing

DX2004 Addressing

DX2008 Addressing

DX2010 Addressing

DX2020 Addressing

DX2030 Addressing

DX2040 Addressing

DX2048 Addressing

S120 Addressing for 100 Series

The following table describes the addressing of the 100 series models when used with Yokogawa's /S120 Enhancement. For details on the /S120 Enhancement, please refer to the Yokogawa documentation. The default data type is shown in **bold**.

Measured Channels

Address Type	Format	Range	Data Types	Access
Process Value of Channel	CHxx or CHxx.PV	01-02 (DX102) 01-04 (DX104)	**Double**, Float	Read Only

Address Type	Format	Range	Data Types	Access
		01-06 (DX106) 01-12 (DX112)		
Alarm Summary of Channel	CHxx.Alarm	01-02 (DX102) 01-04 (DX104) 01-06 (DX106) 01-12 (DX112)	**Short**, Word, Byte	Read Only
Alarm Level1 Status of Channel	CHxx.Alarm1	01-02 (DX102) 01-04 (DX104) 01-06 (DX106) 01-12 (DX112)	**Short**, Word, Byte	Read Only
Alarm Level2 Status of Channel	CHxx.Alarm2	01-02 (DX102) 01-04 (DX104) 01-06 (DX106) 01-12 (DX112)	**Short**, Word, Byte	Read Only
Alarm Level3 Status of Channel	CHxx.Alarm3	01-02 (DX102) 01-04 (DX104) 01-06 (DX106)	**Short**, Word, Byte	Read Only

Address Type	Format	Range	Data Types	Access
		01-12 (DX112)		
Alarm Level4 Status of Channel	CHxx.Alarm4	01-02 (DX102) 01-04 (DX104) 01-06 (DX106) 01-12 (DX112)	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Set-point	CHxx.ASP1	01-02 (DX102) 01-04 (DX104) 01-06 (DX106) 01-12 (DX112)	**Double**, Float	Read/Write
Set and Read Level2 Alarm Set-point	CHxx.ASP2	01-02 (DX102) 01-04 (DX104) 01-06 (DX106) 01-12 (DX112)	**Double**, Float	Read/Write
Set and Read Level3 Alarm Set-point	CHxx.ASP3	01-02 (DX102) 01-04 (DX104) 01-06 (DX106) 01-12 (DX112)	**Double**, Float	Read/Write
Set and Read Level4 Alarm Set-point	CHxx.ASP4	01-02	**Double**, Float	Read/Write

Address Type	Format	Range	Data Types	Access
		(DX102) 01-04 (DX104) 01-06 (DX106) 01-12 (DX112)		
Alarm type Numeric Level 1	CHxx.AlarmType1.Num	01-02 (DX102) 01-04 (DX104) 01-06 (DX106) 01-12 (DX112)	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 2	CHxx.AlarmType2.Num	01-02 (DX102) 01-04 (DX104) 01-06 (DX106) 01-12 (DX112)	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 3	CHxx.AlarmType3.Num	01-02 (DX102) 01-04 (DX104) 01-06 (DX106) 01-12 (DX112)	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 4	CHxx.AlarmType4.Num	01-02 (DX102) 01-04 (DX104)	**Short**, Word, Byte	Read Only

Address Type	Format	Range	Data Types	Access
		01-06 (DX106) 01-12 (DX112)		
Alarm type String Level 1	CHxx.AlarmType1.String	01-02 (DX102) 01-04 (DX104) 01-06 (DX106) 01-12 (DX112)	**String**	Read Only
Alarm type String Level 2	CHxx.AlarmType2.String	01-02 (DX102) 01-04 (DX104) 01-06 (DX106) 01-12 (DX112)	**String**	Read Only
Alarm type String Level 3	CHxx.AlarmType3.String	01-02 (DX102) 01-04 (DX104) 01-06 (DX106) 01-12 (DX112)	**String**	Read Only
Alarm type String Level 4	CHxx.AlarmType4.String	01-02 (DX102) 01-04 (DX104) 01-06 (DX106)	**String**	Read Only

Address Type	Format	Range	Data Types	Access
		01-12 (DX112)		
Upper Scale Value of Channel*	CHxx.scale_Hi	01-02 (DX102) 01-04 (DX104) 01-06 (DX106) 01-12 (DX112)	**Double**, Float	Read Only
Lower Scale Value of Channel*	CHxx.scale_Lo	01-02 (DX102) 01-04 (DX104) 01-06 (DX106) 01-12 (DX112)	**Double**, Float	Read Only
Unit String of Channel*	CHxx.unit	01-02 (DX102) 01-04 (DX104) 01-06 (DX106) 01-12 (DX112)	**String**	Read Only
Tagname of Channel*	CHxx.tag	01-02 (DX102) 01-04 (DX104) 01-06 (DX106) 01-12 (DX112)	**String**	Read Only
Status of Channel*	CHxx.status	01-02	**String**	Read Only

Address Type	Format	Range	Data Types	Access
		(DX102) 01-04 (DX104) 01-06 (DX106) 01-12 (DX112)		
Precision of Channel*	CHxx.Precision	01-02 (DX102) 01-04 (DX104) 01-06 (DX106) 01-12 (DX112)	**Short**, Word, Byte	Read Only
Lowest Measuring Channel*	CH.Low		**Short**, Word, Byte	Read Only
Highest Measuring Channel*	CH.High		**Short**, Word, Byte	Read Only

Math Channels

Address Type	Format	Range	Data Types	Access
Process Value of Math Channel	CHxx or CHxx.PV	31-34 (DX102) 31-34 (DX104) 31-42 (DX106) 31-42 (DX112)	**Double**, Float	Read Only
Alarm Summary of Math Channel	CHxx.Alarm	31-34 (DX102) 31-34 (DX104) 31-42 (DX106)	**Short**, Word, Byte	Read Only

Address Type	Format	Range	Data Types	Access
		31-42 (DX112)		
Alarm Level1 Status of Math Channel	CHxx.Alarm1	31-34 (DX102) 31-34 (DX104) 31-42 (DX106) 31-42 (DX112)	**Short**, Word, Byte	Read Only
Alarm Level2 Status of Math Channel	CHxx.Alarm2	31-34 (DX102) 31-34 (DX104) 31-42 (DX106) 31-42 (DX112)	**Short**, Word, Byte	Read Only
Alarm Level3 Status of Math Channel	CHxx.Alarm3	31-34 (DX102) 31-34 (DX104) 31-42 (DX106) 31-42 (DX112)	**Short**, Word, Byte	Read Only
Alarm Level4 Status of Math Channel	CHxx.Alarm4	31-34 (DX102) 31-34 (DX104) 31-42 (DX106) 31-42 (DX112)	**Short**, Word, Byte	Read Only

Address Type	Format	Range	Data Types	Access
Set and Read Level1 Alarm Set-point	CHxx.ASP1	31-34 (DX102) 31-34 (DX104) 31-42 (DX106) 31-42 (DX112)	**Double**, Float	Read/Write
Set and Read Level2 Alarm Set-point	CHxx.ASP2	31-34 (DX102) 31-34 (DX104) 31-42 (DX106) 31-42 (DX112)	**Double**, Float	Read/Write
Set and Read Level3 Alarm Set-point	CHxx.ASP3	31-34 (DX102) 31-34 (DX104) 31-42 (DX106) 31-42 (DX112)	**Double**, Float	Read/Write
Set and Read Level4 Alarm Set-point	CHxx.ASP4	31-34 (DX102) 31-34 (DX104) 31-42 (DX106) 31-42 (DX112)	**Double**, Float	Read/Write
Alarm type Numeric Level 1	CHxx.AlarmType1.Num	31-34 (DX102) 31-34	**Short**, Word, Byte	Read Only

Address Type	Format	Range	Data Types	Access
		(DX104) 31-42 (DX106) 31-42 (DX112)		
Alarm type Numeric Level 2	CHxx.AlarmType2.Num	31-34 (DX102) 31-34 (DX104) 31-42 (DX106) 31-42 (DX112)	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 3	CHxx.AlarmType3.Num	31-34 (DX102) 31-34 (DX104) 31-42 (DX106) 31-42 (DX112)	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 4	CHxx.AlarmType4.Num	31-34 (DX102) 31-34 (DX104) 31-42 (DX106) 31-42 (DX112)	**Short**, Word, Byte	Read Only
Alarm type String Level 1	CHxx.AlarmType1.String	31-34 (DX102) 31-34 (DX104) 31-42 (DX106)	**String**	Read Only

Address Type	Format	Range	Data Types	Access
		31-42 (DX112)		
Alarm type String Level 2	CHxx.AlarmType2.String	31-34 (DX102) 31-34 (DX104) 31-42 (DX106) 31-42 (DX112)	**String**	Read Only
Alarm type String Level 3	CHxx.AlarmType3.String	31-34 (DX102) 31-34 (DX104) 31-42 (DX106) 31-42 (DX112)	**String**	Read Only
Alarm type String Level 4	CHxx.AlarmType4.String	31-34 (DX102) 31-34 (DX104) 31-42 (DX106) 31-42 (DX112)	**String**	Read Only
Upper Scale Value of Math Channel*	CHxx.scale_Hi	31-34 (DX102) 31-34 (DX104) 31-42 (DX106) 31-42 (DX112)	**Double**, Float	Read Only

Address Type	Format	Range	Data Types	Access
Lower Scale Value of Math Channel*	CHxx.scale_Lo	31-34 (DX102) 31-34 (DX104) 31-42 (DX106) 31-42 (DX112)	**Double**, Float	Read Only
Unit String of Math Channel*	CHxx.unit	31-34 (DX102) 31-34 (DX104) 31-42 (DX106) 31-42 (DX112)	**String**	Read Only
Tagname of Math Channel*	CHxx.tag	31-34 (DX102) 31-34 (DX104) 31-42 (DX106) 31-42 (DX112)	**String**	Read Only
Status of Math Channel*	CHxx.status	31-34 (DX102) 31-34 (DX104) 31-42 (DX106) 31-42 (DX112)	**String**	Read Only
Precision of Math Channel*	CHxx.Precision	31-34 (DX102) 31-34	**Short**, Word, Byte	Read Only

Address Type	Format	Range	Data Types	Access
		(DX104) 31-42 (DX106) 31-42 (DX112)		
Lowest Math Channel*	CHA.Low		**Short**, Word, Byte	Read Only
Highest Math Channel*	CHA.High		**Short**, Word, Byte	Read Only

*Data associated with these addresses are only read from the device at the start of a communications session. Once read, the values will not be refreshed until the server has been restarted or the "Reset" tag has been invoked. To invoke a reset, a non zero value must be written to the Reset tag. Once the Reset tag has been invoked the driver will reinitialize all startup data from the device.

Alarm Setpoints

Data values for Alarm Setpoints that are undefined in the device will be returned as +INF. Data values can only be written to Alarm Setpoints that are defined in the device. Write operations to undefined Alarm Setpoints will return an error. Write operations are only available only for users logged in at the Administrator level; otherwise, they will return an error.

Scales

Data values for Scale_Hi and Scale_Lo for channels that are skipped will be returned as +INF.

Tag Names

For devices that do not support tag names and channels that have unspecified tag names, the driver will construct an internal tag name based on the channel number. For example, the tag name of address 'CH01' will be returned as 'CH01'.

General Device Data

Address Description	Address/Format	Range	Data Types	Access
Administrator Level	Admin		**Boolean**	Read Only
Date of Last Data	Date		**String**	Read Only
Time of Last Data	Time		**String**	Read Only
Model Series Reported by Device	Model		**String**	Read Only
Host Name of Device	Hostname		**String**	Read Only
Serial Number of Device	SerialNumber		**String**	Read Only
IP Address of Device	IP		**String**	Read Only
Math Communication Data	CDxx	1-4 (DX102) 1-4 (DX104) 1-12 (DX106)	**Float**	Read/Write

Address Description	Address/Format	Range	Data Types	Access
		1-12 (DX112)		
Control Math Execution	MathControl		**Short**, Word, Byte	Write Only
Reset Alarms	AlarmReset		**Boolean**	Write Only
Control Command and Response	Command		**String**	Read/Write
Previous Screen	PreScreen		**Boolean**	Write Only
Direct Reloading of Configuration	Reset		**Boolean**	Write Only
SetTime*	Tag		**Boolean**	Write Only

*The SetTime Tag updates the device time. Writing 0 or 1 to the tag will update the Device Date and Time (which can be verified from the Date Tag and the Time Tag). The SetTime Tag will always display 0 because it is Write Only. After a successful update, the following message will be posted: "Device Clock set to system time [Device <device_name>]."

Administrator Level

The Admin address type has a value of '1' or 'true' when the user has logged on at the Administrator level and a value of '0' or 'false' when the user has logged on at the User level.

Math Communication Data

The CD address type is only valid for devices equipped with the math option and write operations to CD addresses for non-math equipped devices will return an error. Write operations are available only for users logged in at the Administrator level; otherwise, they will return an error.

Model Series Reported by Device

The Model address type will have a string value of 'DX100' or 'DX200', indicating the model series returned by the device.

Control Math Execution

The MathControl address type is only available for devices equipped with the math option and write operations to the MathControl tag for non-math equipped devices will return an error.

Control Command and Response

The Command address allows the user to send a string command and receive a string response to and from the device. This allows the user to send any command to the device, including commands not directly supported by the driver. This tag is only available to users logged in at the Administrator level; otherwise, write operations will return an error.

🔶 **Caution**: Write operations using the Command address should be performed with caution.

🔹 **Note**: The actual number of addresses available for of each type depends on the configuration of the Yokogawa device. If the driver finds at Runtime that an address is not present in the device, it will post an error message and then remove the tag from its scan list.

Addresses that have Write Only access are assigned a default access of Read/Write; however, data values will be unreadable for these addresses and the associated tags will not be included in the scan list. The current data value for these tags will always be 0 for numeric data types and null string for string data types.

DX102 Addressing

The driver supports the following addresses for this device. The default data type is shown in **bold**.

Measured Channels

Address Type	Format	Range	Data Types	Access
Process Value of Channel	CHxx or CHxx.PV	01-02	**Double**, Float	Read Only
Alarm Summary of Channel	CHxx.Alarm	01-02	**Short**, Word, Byte	Read Only
Alarm Level1 Status of Channel	CHxx.Alarm1	01-02	**Short**, Word, Byte	Read Only
Alarm Level2 Status of Channel	CHxx.Alarm2	01-02	**Short**, Word, Byte	Read Only
Alarm Level3 Status of Channel	CHxx.Alarm3	01-02	**Short**, Word, Byte	Read Only
Alarm Level4 Status of Channel	CHxx.Alarm4	01-02	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Set-point	CHxx.ASP1	01-02	**Double**, Float	Read/Write
Set and Read Level2 Alarm Set-point	CHxx.ASP2	01-02	**Double**, Float	Read/Write
Set and Read Level3 Alarm Set-point	CHxx.ASP3	01-02	**Double**, Float	Read/Write
Set and Read Level4 Alarm Set-point	CHxx.ASP4	01-02	**Double**, Float	Read/Write
Alarm type Numeric Level 1	CHxx.AlarmType1.Num	01-02	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 2	CHxx.AlarmType2.Num	01-02	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 3	CHxx.AlarmType3.Num	01-02	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 4	CHxx.AlarmType4.Num	01-02	**Short**, Word, Byte	Read Only
Alarm type String Level 1	CHxx.AlarmType1.String	01-02	**String**	Read Only
Alarm type String Level 2	CHxx.AlarmType2.String	01-02	**String**	Read Only
Alarm type String Level 3	CHxx.AlarmType3.String	01-02	**String**	Read Only
Alarm type String Level 4	CHxx.AlarmType4.String	01-02	**String**	Read Only
Upper Scale Value of Channel*	CHxx.scale_Hi	01-02	**Double**, Float	Read Only
Lower Scale Value of Channel*	CHxx.scale_Lo	01-02	**Double**, Float	Read Only
Unit String of Channel*	CHxx.unit	01-02	**String**	Read Only
Tagname of Channel*	CHxx.tag	01-02	**String**	Read Only
Status of Channel*	CHxx.status	01-02	**String**	Read Only
Precision of Channel*	CHxx.Precision	01-02	**Short**, Word, Byte	Read Only

Address Type	Format	Range	Data Types	Access
Lowest Measuring Channel*	CH.Low		**Short**, Word, Byte	Read Only
Highest Measuring Channel*	CH.High		**Short**, Word, Byte	Read Only

Math Channels

Address Type	Format	Range	Data Types	Access
Process Value of Math Channel	CHxx or CHxx.PV	31-34	**Double**, Float	Read Only
Alarm Summary of Math Channel	CHxx.Alarm	31-34	**Short**, Word, Byte	Read Only
Alarm Level1 Status of Math Channel	CHxx.Alarm1	31-34	**Short**, Word, Byte	Read Only
Alarm Level2 Status of Math Channel	CHxx.Alarm2	31-34	**Short**, Word, Byte	Read Only
Alarm Level3 Status of Math Channel	CHxx.Alarm3	31-34	**Short**, Word, Byte	Read Only
Alarm Level4 Status of Math Channel	CHxx.Alarm4	31-34	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Setpoint	CHxx.ASP1	31-34	**Double**, Float	Read/Write
Set and Read Level2 Alarm Setpoint	CHxx.ASP2	31-34	**Double**, Float	Read/Write
Set and Read Level3 Alarm Setpoint	CHxx.ASP3	31-34	**Double**, Float	Read/Write
Set and Read Level4 Alarm Setpoint	CHxx.ASP4	31-34	**Double**, Float	Read/Write
Alarm type Numeric Level 1	CHxx.AlarmType1.Num	31-34	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 2	CHxx.AlarmType2.Num	31-34	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 3	CHxx.AlarmType3.Num	31-34	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 4	CHxx.AlarmType4.Num	31-34	**Short**, Word, Byte	Read Only
Alarm type String Level 1	CHxx.AlarmType1.String	31-34	**String**	Read Only
Alarm type String Level 2	CHxx.AlarmType2.String	31-34	**String**	Read Only
Alarm type String Level 3	CHxx.AlarmType3.String	31-34	**String**	Read Only
Alarm type String Level 4	CHxx.AlarmType4.String	31-34	**String**	Read Only
Upper Scale Value of Math Channel*	CHxx.scale_Hi	31-34	**Double**, Float	Read Only
Lower Scale Value of Math Channel*	CHxx.scale_Lo	31-34	**Double**, Float	Read Only
Unit String of Math Channel*	CHxx.unit	31-34	**String**	Read Only
Tagname of Math Channel*	CHxx.tag	31-34	**String**	Read Only
Status of Math Channel*	CHxx.status	31-34	**String**	Read Only
Precision of Math Channel*	CHxx.Precision	31-34	**Short**, Word,	Read Only

Address Type	Format	Range	Data Types	Access
			Byte	
Lowest Math Channel*	CHA.Low		**Short**, Word, Byte	Read Only
Highest Math Channel*	CHA.High		**Short**, Word, Byte	Read Only

*Data associated with these addresses are only read from the device at the start of a communications session. Once read, the values will not be refreshed until the server has been restarted or the "Reset" tag has been invoked. To invoke a reset, a non zero value must be written to the Reset tag. Once the Reset tag has been invoked the driver will reinitialize all startup data from the device.

Alarm Setpoints

Data values for Alarm Setpoints that are undefined in the device will be returned as +INF. Data values can only be written to Alarm Setpoints that are defined in the device. Write operations to undefined Alarm Setpoints will return an error. Write operations are only available only for users logged in at the Administrator level; otherwise, they will return an error.

Scales

Data values for Scale_Hi and Scale_Lo for channels that are skipped will be returned as +INF.

Tag Names

For devices that do not support tag names and channels that have unspecified tag names, the driver will construct an internal tag name based on the channel number. For example, the tag name of address 'CH01' will be returned as 'CH01'.

General Device Data

Address Description	Address/Format	Range	Data Types	Access
Administrator Level	Admin		**Boolean**	Read Only
Date of Last Data	Date		**String**	Read Only
Time of Last Data	Time		**String**	Read Only
Model Series Reported by Device	Model		**String**	Read Only
Host Name of Device	Hostname		**String**	Read Only
Serial Number of Device	SerialNumber		**String**	Read Only
IP Address of Device	IP		**String**	Read Only
Math Communication Data	CDxx	01-04	**Float**	Read/Write
Control Math Execution	MathControl		**Short**, Word, Byte	Write Only
Reset Alarms	AlarmReset		**Boolean**	Write Only
Control Command and Response	Command		**String**	Read/Write
Previous Screen	PreScreen		**Boolean**	Write Only
Direct Reloading of Configuration	Reset		**Boolean**	Write Only
SetTime*	Tag		**Boolean**	Write Only

*The SetTime Tag updates the device time. Writing 0 or 1 to the tag will update the Device Date and Time (which can be verified from the Date Tag and the Time Tag). The SetTime Tag will always display 0 because it is Write Only. After a successful update, the following message will be posted: "Device Clock set to system time [Device <device_name>]."

Administrator Level

The Admin address type has a value of '1' or 'true' when the user has logged on at the Administrator level and a value of '0' or 'false' when the user has logged on at the User level.

Math Communication Data

The CD address type is only valid for devices equipped with the math option and write operations to CD addresses for non-math equipped devices will return an error. Write operations are available only for users logged in at the Administrator level; otherwise, they will return an error.

Model Series Reported by Device

The Model address type will have a string value of 'DX100' or 'DX200', indicating the model series returned by the device.

Control Math Execution

The MathControl address type is only available for devices equipped with the math option and write operations to the MathControl tag for non-math equipped devices will return an error.

Control Command and Response

The Command address allows the user to send a string command and receive a string response to and from the device. This allows the user to send any command to the device, including commands not directly supported by the driver. This tag is only available to users logged in at the Administrator level; otherwise, write operations will return an error.

⬢ **Caution**: Write operations using the Command address should be performed with caution.

⬤ **Note**: The actual number of addresses available for of each type depends on the configuration of the Yokogawa device. If the driver finds at Runtime that an address is not present in the device, it will post an error message and then remove the tag from its scan list.

Addresses that have Write Only access are assigned a default access of Read/Write; however, data values will be unreadable for these addresses and the associated tags will not be included in the scan list. The current data value for these tags will always be 0 for numeric data types and null string for string data types.

DX104 Addressing

The driver supports the following addresses for this device. The default data type is shown in **bold**.

Measured Channels

Address Type	Format	Range	Data Types	Access
Process Value of Channel	CHxx or CHxx.PV	01-04	**Double**, Float	Read Only
Alarm Summary of Channel	CHxx.Alarm	01-04	**Short**, Word, Byte	Read Only
Alarm Level1 Status of Channel	CHxx.Alarm1	01-04	**Short**, Word, Byte	Read Only

Address Type	Format	Range	Data Types	Access
Alarm Level2 Status of Channel	CHxx.Alarm2	01-04	**Short**, Word, Byte	Read Only
Alarm Level3 Status of Channel	CHxx.Alarm3	01-04	**Short**, Word, Byte	Read Only
Alarm Level4 Status of Channel	CHxx.Alarm4	01-04	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Set-point	CHxx.ASP1	01-04	**Double**, Float	Read/Write
Set and Read Level2 Alarm Set-point	CHxx.ASP2	01-04	**Double**, Float	Read/Write
Set and Read Level3 Alarm Set-point	CHxx.ASP3	01-04	**Double**, Float	Read/Write
Set and Read Level4 Alarm Set-point	CHxx.ASP4	01-04	**Double**, Float	Read/Write
Alarm type Numeric Level 1	CHxx.AlarmType1.Num	01-04	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 2	CHxx.AlarmType2.Num	01-04	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 3	CHxx.AlarmType3.Num	01-04	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 4	CHxx.AlarmType4.Num	01-04	**Short**, Word, Byte	Read Only
Alarm type String Level 1	CHxx.AlarmType1.String	01-04	**String**	Read Only
Alarm type String Level 2	CHxx.AlarmType2.String	01-04	**String**	Read Only
Alarm type String Level 3	CHxx.AlarmType3.String	01-04	**String**	Read Only
Alarm type String Level 4	CHxx.AlarmType4.String	01-04	**String**	Read Only
Upper Scale Value of Channel*	CHxx.scale_Hi	01-04	**Double**, Float	Read Only
Lower Scale Value of Channel*	CHxx.scale_Lo	01-04	**Double**, Float	Read Only
Unit String of Channel*	CHxx.unit	01-04	**String**	Read Only
Tagname of Channel*	CHxx.tag	01-04	**String**	Read Only
Status of Channel*	CHxx.status	01-04	**String**	Read Only
Precision of Channel*	CHxx.Precision	01-04	**Short**, Word, Byte	Read Only
Lowest Measuring Channel*	CH.Low		**Short**, Word, Byte	Read Only
Highest Measuring Channel*	CH.High		**Short**, Word, Byte	Read Only

Math Channels

Address Type	Format	Range	Data Types	Access
Process Value of Math Channel	CHxx or CHxx.PV	31-34	**Double**, Float	Read Only
Alarm Summary of Math Channel	CHxx.Alarm	31-34	**Short**, Word, Byte	Read Only

Address Type	Format	Range	Data Types	Access
Alarm Level1 Status of Math Channel	CHxx.Alarm1	31-34	**Short**, Word, Byte	Read Only
Alarm Level2 Status of Math Channel	CHxx.Alarm2	31-34	**Short**, Word, Byte	Read Only
Alarm Level3 Status of Math Channel	CHxx.Alarm3	31-34	**Short**, Word, Byte	Read Only
Alarm Level4 Status of Math Channel	CHxx.Alarm4	31-34	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Setpoint	CHxx.ASP1	31-34	**Double**, Float	Read/Write
Set and Read Level2 Alarm Setpoint	CHxx.ASP2	31-34	**Double**, Float	Read/Write
Set and Read Level3 Alarm Setpoint	CHxx.ASP3	31-34	**Double**, Float	Read/Write
Set and Read Level4 Alarm Setpoint	CHxx.ASP4	31-34	**Double**, Float	Read/Write
Alarm type Numeric Level 1	CHxx.AlarmType1.Num	31-34	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 2	CHxx.AlarmType2.Num	31-34	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 3	CHxx.AlarmType3.Num	31-34	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 4	CHxx.AlarmType4.Num	31-34	**Short**, Word, Byte	Read Only
Alarm type String Level 1	CHxx.AlarmType1.String	31-34	**String**	Read Only
Alarm type String Level 2	CHxx.AlarmType2.String	31-34	**String**	Read Only
Alarm type String Level 3	CHxx.AlarmType3.String	31-34	**String**	Read Only
Alarm type String Level 4	CHxx.AlarmType4.String	31-34	**String**	Read Only
Upper Scale Value of Math Channel*	CHxx.scale_Hi	31-34	**Double**, Float	Read Only
Lower Scale Value of Math Channel*	CHxx.scale_Lo	31-34	**Double**, Float	Read Only
Unit String of Math Channel*	CHxx.unit	31-34	**String**	Read Only
Tagname of Math Channel*	CHxx.tag	31-34	**String**	Read Only
Status of Math Channel*	CHxx.status	31-34	**String**	Read Only
Precision of Math Channel*	CHxx.Precision	31-34	**Short**, Word, Byte	Read Only
Lowest Math Channel*	CHA.Low		**Short**, Word, Byte	Read Only
Highest Math Channel*	CHA.High		**Short**, Word, Byte	Read Only

*Data associated with these addresses are only read from the device at the start of a communications session. Once read, the values will not be refreshed until the server has been restarted or the "Reset" tag has been invoked. To invoke a reset, a non-zero value must be written to the Reset tag. Once the Reset tag has been invoked the driver will reinitialize all startup data from the device.

Alarm Setpoints

Data values for Alarm Setpoints that are undefined in the device will be returned as +INF. Data values can only be written to Alarm Setpoints that are defined in the device. Write operations to undefined Alarm Setpoints will return an error. Write operations are only available only for users logged in at the Administrator level; otherwise, they will return an error.

Scales

Data values for Scale_Hi and Scale_Lo for channels that are skipped will be returned as +INF.

Tag Names

For devices that do not support tag names and channels that have unspecified tag names, the driver will construct an internal tag name based on the channel number. For example, the tag name of address 'CH01' will be returned as 'CH01'.

General Device Data

Address Description	Address/Format	Range	Data Types	Access
Administrator Level	Admin		**Boolean**	Read Only
Date of Last Data	Date		**String**	Read Only
Time of Last Data	Time		**String**	Read Only
Model Series Reported by Device	Model		**String**	Read Only
Host Name of Device	Hostname		**String**	Read Only
Serial Number of Device	SerialNumber		**String**	Read Only
IP Address of Device	IP		**String**	Read Only
Math Communication Data	CDxx	01-04	**Float**	Read/Write
Control Math Execution	MathControl		**Short**, Word, Byte	Write Only
Reset Alarms	AlarmReset		**Boolean**	Write Only
Control Command and Response	Command		**String**	Read/Write
Previous Screen	PreScreen		**Boolean**	Write Only
Direct Reloading of Configuration	Reset		**Boolean**	Write Only
SetTime*	Tag		**Boolean**	Write Only

*The SetTime Tag updates the device time. Writing 0 or 1 to the tag will update the Device Date and Time (which can be verified from the Date Tag and the Time Tag). The SetTime Tag will always display 0 because it is Write Only. After a successful update, the following message will be posted: "Device Clock set to system time [Device <device_name>]."

Administrator Level

The Admin address type has a value of '1' or 'true' when the user has logged on at the Administrator level and a value of '0' or 'false' when the user has logged on at the User level.

Math Communication Data

The CD address type is only valid for devices equipped with the math option and write operations to CD addresses for non-math equipped devices will return an error. Write operations are available only for users logged in at the Administrator level; otherwise, they will return an error.

Model Series Reported by Device

The Model address type will have a string value of 'DX100' or 'DX200', indicating the model series returned by the device.

Control Math Execution

The MathControl address type is only available for devices equipped with the math option and write operations to the MathControl tag for non-math equipped devices will return an error.

Control Command and Response

The Command address allows the user to send a string command and receive a string response to and from the device. This allows the user to send any command to the device, including commands not directly supported by the driver. This tag is only available to users logged in at the Administrator level; otherwise, write operations will return an error.

⬣ **Caution**: Write operations using the Command address should be performed with caution.

⬤ **Note**: The actual number of addresses available for of each type depends on the configuration of the Yokogawa device. If the driver finds at Runtime that an address is not present in the device, it will post an error message and then remove the tag from its scan list.

Addresses that have Write Only access are assigned a default access of Read/Write; however, data values will be unreadable for these addresses and the associated tags will not be included in the scan list. The current data value for these tags will always be 0 for numeric data types and null string for string data types.

DX106 Addressing

The driver supports the following addresses for this device. The default data type is shown in **bold**.

Measured Channels

Address Type	Format	Range	Data Types	Access
Process Value of Channel	CHxx or CHxx.PV	01-06	**Double**, Float	Read Only
Alarm Summary of Channel	CHxx.Alarm	01-06	**Short**, Word, Byte	Read Only
Alarm Level1 Status of Channel	CHxx.Alarm1	01-06	**Short**, Word, Byte	Read Only
Alarm Level2 Status of Channel	CHxx.Alarm2	01-06	**Short**, Word, Byte	Read Only
Alarm Level3 Status of Channel	CHxx.Alarm3	01-06	**Short**, Word, Byte	Read Only
Alarm Level4 Status of Channel	CHxx.Alarm4	01-06	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Setpoint	CHxx.ASP1	01-06	**Double**, Float	Read/Write
Set and Read Level2 Alarm Setpoint	CHxx.ASP2	01-06	**Double**, Float	Read/Write
Set and Read Level3 Alarm Setpoint	CHxx.ASP3	01-06	**Double**, Float	Read/Write
Set and Read Level4 Alarm Setpoint	CHxx.ASP4	01-06	**Double**, Float	Read/Write

Address Type	Format	Range	Data Types	Access
Alarm type Numeric Level 1	CHxx.AlarmType1.Num	01-06	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 2	CHxx.AlarmType2.Num	01-06	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 3	CHxx.AlarmType3.Num	01-06	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 4	CHxx.AlarmType4.Num	01-06	**Short**, Word, Byte	Read Only
Alarm type String Level 1	CHxx.AlarmType1.String	01-06	**String**	Read Only
Alarm type String Level 2	CHxx.AlarmType2.String	01-06	**String**	Read Only
Alarm type String Level 3	CHxx.AlarmType3.String	01-06	**String**	Read Only
Alarm type String Level 4	CHxx.AlarmType4.String	01-06	**String**	Read Only
Upper Scale Value of Channel*	CHxx.scale_Hi	01-06	**Double**, Float	Read Only
Lower Scale Value of Channel*	CHxx.scale_Lo	01-06	**Double**, Float	Read Only
Unit String of Channel*	CHxx.unit	01-06	**String**	Read Only
Tagname of Channel*	CHxx.tag	01-06	**String**	Read Only
Status of Channel*	CHxx.status	01-06	**String**	Read Only
Precision of Channel*	CHxx.Precision	01-06	**Short**, Word, Byte	Read Only
Lowest Measuring Channel*	CH.Low		**Short**, Word, Byte	Read Only
Highest Measuring Channel*	CH.High		**Short**, Word, Byte	Read Only

Math Channels

Address Type	Format	Range	Data Types	Access
Process Value of Math Channel	CHxx or CHxx.PV	31-42	**Double**, Float	Read Only
Alarm Summary of Math Channel	CHxx.Alarm	31-42	**Short**, Word, Byte	Read Only
Alarm Level1 Status of Math Channel	CHxx.Alarm1	31-42	**Short**, Word, Byte	Read Only
Alarm Level2 Status of Math Channel	CHxx.Alarm2	31-42	**Short**, Word, Byte	Read Only
Alarm Level3 Status of Math Channel	CHxx.Alarm3	31-42	**Short**, Word, Byte	Read Only
Alarm Level4 Status of Math Channel	CHxx.Alarm4	31-42	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Setpoint	CHxx.ASP1	31-42	**Double**, Float	Read/Write
Set and Read Level2 Alarm Setpoint	CHxx.ASP2	31-42	**Double**, Float	Read/Write
Set and Read Level3 Alarm Setpoint	CHxx.ASP3	31-42	**Double**, Float	Read/Write
Set and Read Level4 Alarm Setpoint	CHxx.ASP4	31-42	**Double**, Float	Read/Write
Alarm type Numeric Level 1	CHxx.AlarmType1.Num	31-42	**Short**, Word,	Read Only

Address Type	Format	Range	Data Types	Access
			Byte	
Alarm type Numeric Level 2	CHxx.AlarmType2.Num	31-42	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 3	CHxx.AlarmType3.Num	31-42	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 4	CHxx.AlarmType4.Num	31-42	**Short**, Word, Byte	Read Only
Alarm type String Level 1	CHxx.AlarmType1.String	31-42	**String**	Read Only
Alarm type String Level 2	CHxx.AlarmType2.String	31-42	**String**	Read Only
Alarm type String Level 3	CHxx.AlarmType3.String	31-42	**String**	Read Only
Alarm type String Level 4	CHxx.AlarmType4.String	31-42	**String**	Read Only
Upper Scale Value of Math Channel*	CHxx.scale_Hi	31-42	**Double**, Float	Read Only
Lower Scale Value of Math Channel*	CHxx.scale_Lo	31-42	**Double**, Float	Read Only
Unit String of Math Channel*	CHxx.unit	31-42	**String**	Read Only
Tagname of Math Channel*	CHxx.tag	31-42	**String**	Read Only
Status of Math Channel*	CHxx.status	31-42	**String**	Read Only
Precision of Math Channel*	CHxx.Precision	31-42	**Short**, Word, Byte	Read Only
Lowest Math Channel*	CHA.Low		**Short**, Word, Byte	Read Only
Highest Math Channel*	CHA.High		**Short**, Word, Byte	Read Only

*Data associated with these addresses are only read from the device at the start of a communications session. Once read, the values will not be refreshed until the server has been restarted or the "Reset" tag has been invoked. To invoke a reset, a non-zero value must be written to the Reset tag. Once the Reset tag has been invoked the driver will reinitialize all startup data from the device.

Alarm Setpoints

Data values for Alarm Setpoints that are undefined in the device will be returned as +INF. Data values can only be written to Alarm Setpoints that are defined in the device. Write operations to undefined Alarm Setpoints will return an error. Write operations are only available only for users logged in at the Administrator level; otherwise, they will return an error.

Scales

Data values for Scale_Hi and Scale_Lo for channels that are skipped will be returned as +INF.

Tag Names

For devices that do not support tag names and channels that have unspecified tag names, the driver will construct an internal tag name based on the channel number. For example, the tag name of address 'CH01' will be returned as 'CH01'.

General Device Data

Address Description	Address/Format	Range	Data Types	Access
Administrator Level	Admin		**Boolean**	Read Only
Date of Last Data	Date		**String**	Read Only
Time of Last Data	Time		**String**	Read Only
Model Series Reported by Device	Model		**String**	Read Only
Host Name of Device	Hostname		**String**	Read Only
Serial Number of Device	SerialNumber		**String**	Read Only
IP Address of Device	IP		**String**	Read Only
Math Communication Data	CDxx	01-12	**Float**	Read/Write
Control Math Execution	MathControl		**Short**, Word, Byte	Write Only
Reset Alarms	AlarmReset		**Boolean**	Write Only
Control Command and Response	Command		**String**	Read/Write
Previous Screen	PreScreen		**Boolean**	Write Only
Direct Reloading of Configuration	Reset		**Boolean**	Write Only
SetTime*	Tag		**Boolean**	Write Only

*The SetTime Tag updates the device time. Writing 0 or 1 to the tag will update the Device Date and Time (which can be verified from the Date Tag and the Time Tag). The SetTime Tag will always display 0 because it is Write Only. After a successful update, the following message will be posted: "Device Clock set to system time [Device <device_name>]."

Administrator Level

The Admin address type has a value of '1' or 'true' when the user has logged on at the Administrator level and a value of '0' or 'false' when the user has logged on at the User level.

Math Communication Data

The CD address type is only valid for devices equipped with the math option and write operations to CD addresses for non-math equipped devices will return an error. Write operations are available only for users logged in at the Administrator level; otherwise, they will return an error.

Model Series Reported by Device

The Model address type will have a string value of 'DX100' or 'DX200', indicating the model series returned by the device.

Control Math Execution

The MathControl address type is only available for devices equipped with the math option and write operations to the MathControl tag for non-math equipped devices will return an error.

Control Command and Response

The Command address allows the user to send a string command and receive a string response to and from the device. This allows the user to send any command to the device, including commands not directly supported by the driver. This tag is only available to users logged in at the Administrator level; otherwise, write operations will return an error.

Caution: Write operations using the Command address should be performed with caution.

⬤ **Note**: The actual number of addresses available for of each type depends on the configuration of the Yokogawa device. If the driver finds at Runtime that an address is not present in the device, it will post an error message and then remove the tag from its scan list.

Addresses that have Write Only access are assigned a default access of Read/Write; however, data values will be unreadable for these addresses and the associated tags will not be included in the scan list. The current data value for these tags will always be 0 for numeric data types and null string for string data types.

DX112 Addressing

The driver supports the following addresses for this device. The default data type is shown in **bold**.

Measured Channels

Address Type	Format	Range	Data Types	Access
Process Value of Channel	CHxx or CHxx.PV	01-12	**Double**, Float	Read Only
Alarm Summary of Channel	CHxx.Alarm	01-12	**Short**, Word, Byte	Read Only
Alarm Level1 Status of Channel	CHxx.Alarm1	01-12	**Short**, Word, Byte	Read Only
Alarm Level2 Status of Channel	CHxx.Alarm2	01-12	**Short**, Word, Byte	Read Only
Alarm Level3 Status of Channel	CHxx.Alarm3	01-12	**Short**, Word, Byte	Read Only
Alarm Level4 Status of Channel	CHxx.Alarm4	01-12	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Setpoint	CHxx.ASP1	01-12	**Double**, Float	Read/Write
Set and Read Level2 Alarm Setpoint	CHxx.ASP2	01-12	**Double**, Float	Read/Write
Set and Read Level3 Alarm Setpoint	CHxx.ASP3	01-12	**Double**, Float	Read/Write
Set and Read Level4 Alarm Setpoint	CHxx.ASP4	01-12	**Double**, Float	Read/Write
Alarm type Numeric Level 1	CHxx.AlarmType1.Num	01-12	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 2	CHxx.AlarmType2.Num	01-12	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 3	CHxx.AlarmType3.Num	01-12	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 4	CHxx.AlarmType4.Num	01-12	**Short**, Word, Byte	Read Only
Alarm type String Level 1	CHxx.AlarmType1.String	01-12	**String**	Read Only
Alarm type String Level 2	CHxx.AlarmType2.String	01-12	**String**	Read Only
Alarm type String Level 3	CHxx.AlarmType3.String	01-12	**String**	Read Only
Alarm type String Level 4	CHxx.AlarmType4.String	01-12	**String**	Read Only
Upper Scale Value of Channel*	CHxx.scale_Hi	01-12	**Double**, Float	Read Only

Address Type	Format	Range	Data Types	Access
Lower Scale Value of Channel*	CHxx.scale_Lo	01-12	**Double**, Float	Read Only
Unit String of Channel*	CHxx.unit	01-12	**String**	Read Only
Tagname of Channel*	CHxx.tag	01-12	**String**	Read Only
Status of Channel*	CHxx.status	01-12	**String**	Read Only
Precision of Channel*	CHxx.Precision	01-12	**Short**, Word, Byte	Read Only
Lowest Measuring Channel*	CH.Low		**Short**, Word, Byte	Read Only
Highest Measuring Channel*	CH.High		**Short**, Word, Byte	Read Only

Math Channels

Address Type	Format	Range	Data Types	Access
Process Value of Math Channel	CHxx or CHxx.PV	31-42	**Double**, Float	Read Only
Alarm Summary of Math Channel	CHxx.Alarm	31-42	**Short**, Word, Byte	Read Only
Alarm Level1 Status of Math Channel	CHxx.Alarm1	31-42	**Short**, Word, Byte	Read Only
Alarm Level2 Status of Math Channel	CHxx.Alarm2	31-42	**Short**, Word, Byte	Read Only
Alarm Level3 Status of Math Channel	CHxx.Alarm3	31-42	**Short**, Word, Byte	Read Only
Alarm Level4 Status of Math Channel	CHxx.Alarm4	31-42	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Setpoint	CHxx.ASP1	31-42	**Double**, Float	Read/Write
Set and Read Level2 Alarm Setpoint	CHxx.ASP2	31-42	**Double**, Float	Read/Write
Set and Read Level3 Alarm Setpoint	CHxx.ASP3	31-42	**Double**, Float	Read/Write
Set and Read Level4 Alarm Setpoint	CHxx.ASP4	31-42	**Double**, Float	Read/Write
Alarm type Numeric Level 1	CHxx.AlarmType1.Num	31-42	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 2	CHxx.AlarmType2.Num	31-42	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 3	CHxx.AlarmType3.Num	31-42	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 4	CHxx.AlarmType4.Num	31-42	**Short**, Word, Byte	Read Only
Alarm type String Level 1	CHxx.AlarmType1.String	31-42	**String**	Read Only
Alarm type String Level 2	CHxx.AlarmType2.String	31-42	**String**	Read Only
Alarm type String Level 3	CHxx.AlarmType3.String	31-42	**String**	Read Only
Alarm type String Level 4	CHxx.AlarmType4.String	31-42	**String**	Read Only
Upper Scale Value of Math Channel*	CHxx.scale_Hi	31-42	**Double**, Float	Read Only

Address Type	Format	Range	Data Types	Access
Lower Scale Value of Math Channel*	CHxx.scale_Lo	31-42	**Double**, Float	Read Only
Unit String of Math Channel*	CHxx.unit	31-42	**String**	Read Only
Tagname of Math Channel*	CHxx.tag	31-42	**String**	Read Only
Status of Math Channel*	CHxx.status	31-42	**String**	Read Only
Precision of Math Channel*	CHxx.Precision	31-42	**Short**, Word, Byte	Read Only
Lowest Math Channel*	CHA.Low		**Short**, Word, Byte	Read Only
Highest Math Channel*	CHA.High		**Short**, Word, Byte	Read Only

*Data associated with these addresses are only read from the device at the start of a communications session. Once read, the values will not be refreshed until the server has been restarted or the "Reset" tag has been invoked. To invoke a reset, a non-zero value must be written to the Reset tag. Once the Reset tag has been invoked the driver will reinitialize all startup data from the device.

Alarm Setpoints

Data values for Alarm Setpoints that are undefined in the device will be returned as +INF. Data values can only be written to Alarm Setpoints that are defined in the device. Write operations to undefined Alarm Setpoints will return an error. Write operations are only available only for users logged in at the Administrator level; otherwise, they will return an error.

Scales

Data values for Scale_Hi and Scale_Lo for channels that are skipped will be returned as +INF.

Tag Names

For devices that do not support tag names and channels that have unspecified tag names, the driver will construct an internal tag name based on the channel number. For example, the tag name of address 'CH01' will be returned as 'CH01'.

General Device Data

Address Description	Address/Format	Range	Data Types	Access
Administrator Level	Admin		**Boolean**	Read Only
Date of Last Data	Date		**String**	Read Only
Time of Last Data	Time		**String**	Read Only
Model Series Reported by Device	Model		**String**	Read Only
Host Name of Device	Hostname		**String**	Read Only
Serial Number of Device	SerialNumber		**String**	Read Only
IP Address of Device	IP		**String**	Read Only
Math Communication Data	CDxx	01-12	**Float**	Read/Write
Control Math Execution	MathControl		**Short**, Word, Byte	Write Only
Reset Alarms	AlarmReset		**Boolean**	Write Only

Address Description	Address/Format	Range	Data Types	Access
Control Command and Response	Command		**String**	Read/Write
Previous Screen	PreScreen		**Boolean**	Write Only
Direct Reloading of Configuration	Reset		**Boolean**	Write Only
SetTime*	Tag		**Boolean**	Write Only

*The SetTime Tag updates the device time. Writing 0 or 1 to the tag will update the Device Date and Time (which can be verified from the Date Tag and the Time Tag). The SetTime Tag will always display 0 because it is Write Only. After a successful update, the following message will be posted: "Device Clock set to system time [Device <device_name>]."

Administrator Level

The Admin address type has a value of '1' or 'true' when the user has logged on at the Administrator level and a value of '0' or 'false' when the user has logged on at the User level.

Math Communication Data

The CD address type is only valid for devices equipped with the math option and write operations to CD addresses for non-math equipped devices will return an error. Write operations are available only for users logged in at the Administrator level; otherwise, they will return an error.

Model Series Reported by Device

The Model address type will have a string value of 'DX100' or 'DX200', indicating the model series returned by the device.

Control Math Execution

The MathControl address type is only available for devices equipped with the math option and write operations to the MathControl tag for non-math equipped devices will return an error.

Control Command and Response

The Command address allows the user to send a string command and receive a string response to and from the device. This allows the user to send any command to the device, including commands not directly supported by the driver. This tag is only available to users logged in at the Administrator level; otherwise, write operations will return an error.

⬢ **Caution**: Write operations using the Command address should be performed with caution.

⬢ **Note**: The actual number of addresses available for of each type depends on the configuration of the Yokogawa device. If the driver finds at Runtime that an address is not present in the device, it will post an error message and then remove the tag from its scan list.

Addresses that have Write Only access are assigned a default access of Read/Write; however, data values will be unreadable for these addresses and the associated tags will not be included in the scan list. The current data value for these tags will always be 0 for numeric data types and null string for string data types.

S120 Addressing for 200 Series

The following table describes the addressing of the 200 series models when used with Yokogawa's /S120 Enhancement. For details on the /S120 Enhancement, please refer to the Yokogawa documentation. The default data type is shown in **bold**.

Measured Channels

Address Type	Format	Range	Data Types	Access
Process Value of Channel	CHxx or CHxx.PV	01-04 (DX204) 01-08 (DX208) 01-10 (DX210) 01-20 (DX220) 01-30 (DX230)	**Double**, Float	Read Only
Alarm Summary of Channel	CHxx.Alarm	01-04 (DX204) 01-08 (DX208) 01-10 (DX210) 01-20 (DX220) 01-30 (DX230)	**Short**, Word, Byte	Read Only
Alarm Level1 Status of Channel	CHxx.Alarm1	01-04 (DX204) 01-08 (DX208) 01-10 (DX210) 01-20 (DX220) 01-30 (DX230)	**Short**, Word, Byte	Read Only
Alarm Level2 Status of Channel	CHxx.Alarm2	01-04 (DX204) 01-08 (DX208)	**Short**, Word, Byte	Read Only

Address Type	Format	Range	Data Types	Access
		01-10 (DX210) 01-20 (DX220) 01-30 (DX230)		
Alarm Level3 Status of Channel	CHxx.Alarm3	01-04 (DX204) 01-08 (DX208) 01-10 (DX210) 01-20 (DX220) 01-30 (DX230)	**Short**, Word, Byte	Read Only
Alarm Level4 Status of Channel	CHxx.Alarm4	01-04 (DX204) 01-08 (DX208) 01-10 (DX210) 01-20 (DX220) 01-30 (DX230)	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Set-point	CHxx.ASP1	01-04 (DX204) 01-08 (DX208) 01-10 (DX210) 01-20 (DX220)	**Double**, Float	Read/Write

Address Type	Format	Range	Data Types	Access
		01-30 (DX230)		
Set and Read Level2 Alarm Set-point	CHxx.ASP2	01-04 (DX204) 01-08 (DX208) 01-10 (DX210) 01-20 (DX220) 01-30 (DX230)	**Double**, Float	Read/Write
Set and Read Level3 Alarm Set-point	CHxx.ASP3	01-04 (DX204) 01-08 (DX208) 01-10 (DX210) 01-20 (DX220) 01-30 (DX230)	**Double**, Float	Read/Write
Set and Read Level4 Alarm Set-point	CHxx.ASP4	01-04 (DX204) 01-08 (DX208) 01-10 (DX210) 01-20 (DX220) 01-30 (DX230)	**Double**, Float	Read/Write
Alarm type Numeric Level 1	CHxx.AlarmType1.Num	01-04 (DX204)	**Short**, Word, Byte	Read Only

Address Type	Format	Range	Data Types	Access
		01-08 (DX208) 01-10 (DX210) 01-20 (DX220) 01-30 (DX230)		
Alarm type Numeric Level 2	CHxx.AlarmType2.Num	01-04 (DX204) 01-08 (DX208) 01-10 (DX210) 01-20 (DX220) 01-30 (DX230)	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 3	CHxx.AlarmType3.Num	01-04 (DX204) 01-08 (DX208) 01-10 (DX210) 01-20 (DX220) 01-30 (DX230)	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 4	CHxx.AlarmType4.Num	01-04 (DX204) 01-08 (DX208) 01-10 (DX210)	**Short**, Word, Byte	Read Only

Address Type	Format	Range	Data Types	Access
		01-20 (DX220) 01-30 (DX230)		
Alarm type String Level 1	CHxx.AlarmType1.String	01-04 (DX204) 01-08 (DX208) 01-10 (DX210) 01-20 (DX220) 01-30 (DX230)	**String**	Read Only
Alarm type String Level 2	CHxx.AlarmType2.String	01-04 (DX204) 01-08 (DX208) 01-10 (DX210) 01-20 (DX220) 01-30 (DX230)	**String**	Read Only
Alarm type String Level 3	CHxx.AlarmType3.String	01-04 (DX204) 01-08 (DX208) 01-10 (DX210) 01-20 (DX220) 01-30 (DX230)	**String**	Read Only

Address Type	Format	Range	Data Types	Access
Alarm type String Level 4	CHxx.AlarmType4.String	01-04 (DX204) 01-08 (DX208) 01-10 (DX210) 01-20 (DX220) 01-30 (DX230)	**String**	Read Only
Upper Scale Value of Channel*	CHxx.scale_Hi	01-04 (DX204) 01-08 (DX208) 01-10 (DX210) 01-20 (DX220) 01-30 (DX230)	**Double**, Float	Read Only
Lower Scale Value of Channel*	CHxx.scale_Lo	01-04 (DX204) 01-08 (DX208) 01-10 (DX210) 01-20 (DX220) 01-30 (DX230)	**Double**, Float	Read Only
Unit String of Channel*	CHxx.unit	01-04 (DX204) 01-08 (DX208)	**String**	Read Only

Address Type	Format	Range	Data Types	Access
		01-10 (DX210) 01-20 (DX220) 01-30 (DX230)		
Tagname of Channel*	CHxx.tag	01-04 (DX204) 01-08 (DX208) 01-10 (DX210) 01-20 (DX220) 01-30 (DX230)	**String**	Read Only
Status of Channel*	CHxx.status	01-04 (DX204) 01-08 (DX208) 01-10 (DX210) 01-20 (DX220) 01-30 (DX230)	**String**	Read Only
Precision of Channel*	CHxx.Precision	01-04 (DX204) 01-08 (DX208) 01-10 (DX210) 01-20 (DX220)	**Short**, Word, Byte	Read Only

Address Type	Format	Range	Data Types	Access
		01-30 (DX230)		
Lowest Measuring Channel*	CH.Low		**Short**, Word, Byte	Read Only
Highest Measuring Channel*	CH.High		**Short**, Word, Byte	Read Only

Math Channels

Address Type	Format	Range	Data Types	Access
Process Value of Math Channel	CHxx or CHxx.PV	31-38 (DX204) 31-38 (DX208) 31-60 (DX210) 31-60 (DX220) 31-60 (DX230)	**Double**, Float	Read Only
Alarm Summary of Math Channel	CHxx.Alarm	31-38 (DX204) 31-38 (DX208) 31-60 (DX210) 31-60 (DX220) 31-60 (DX230)	**Short**, Word, Byte	Read Only
Alarm Level1 Status of Math Channel	CHxx.Alarm1	31-38 (DX204) 31-38 (DX208) 31-60 (DX210) 31-60	**Short**, Word, Byte	Read Only

Address Type	Format	Range	Data Types	Access
		(DX220) 31-60 (DX230)		
Alarm Level2 Status of Math Channel	CHxx.Alarm2	31-38 (DX204) 31-38 (DX208) 31-60 (DX210) 31-60 (DX220) 31-60 (DX230)	**Short**, Word, Byte	Read Only
Alarm Level3 Status of Math Channel	CHxx.Alarm3	31-38 (DX204) 31-38 (DX208) 31-60 (DX210) 31-60 (DX220) 31-60 (DX230)	**Short**, Word, Byte	Read Only
Alarm Level4 Status of Math Channel	CHxx.Alarm4	31-38 (DX204) 31-38 (DX208) 31-60 (DX210) 31-60 (DX220) 31-60 (DX230)	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Set-point	CHxx.ASP1	31-38	**Double**, Float	Read/Write

Address Type	Format	Range	Data Types	Access
		(DX204) 31-38 (DX208) 31-60 (DX210) 31-60 (DX220) 31-60 (DX230)		
Set and Read Level2 Alarm Set-point	CHxx.ASP2	31-38 (DX204) 31-38 (DX208) 31-60 (DX210) 31-60 (DX220) 31-60 (DX230)	**Double**, Float	Read/Write
Set and Read Level3 Alarm Set-point	CHxx.ASP3	31-38 (DX204) 31-38 (DX208) 31-60 (DX210) 31-60 (DX220) 31-60 (DX230)	**Double**, Float	Read/Write
Set and Read Level4 Alarm Set-point	CHxx.ASP4	31-38 (DX204) 31-38 (DX208) 31-60	**Double**, Float	Read/Write

Address Type	Format	Range	Data Types	Access
		(DX210) 31-60 (DX220) 31-60 (DX230)		
Alarm type Numeric Level 1	CHxx.AlarmType1.Num	31-38 (DX204) 31-38 (DX208) 31-60 (DX210) 31-60 (DX220) 31-60 (DX230)	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 2	CHxx.AlarmType2.Num	31-38 (DX204) 31-38 (DX208) 31-60 (DX210) 31-60 (DX220) 31-60 (DX230)	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 3	CHxx.AlarmType3.Num	31-38 (DX204) 31-38 (DX208) 31-60 (DX210) 31-60 (DX220) 31-60	**Short**, Word, Byte	Read Only

Address Type	Format	Range	Data Types	Access
		(DX230)		
Alarm type Numeric Level 4	CHxx.AlarmType4.Num	31-38 (DX204) 31-38 (DX208) 31-60 (DX210) 31-60 (DX220) 31-60 (DX230)	**Short**, Word, Byte	Read Only
Alarm type String Level 1	CHxx.AlarmType1.String	31-38 (DX204) 31-38 (DX208) 31-60 (DX210) 31-60 (DX220) 31-60 (DX230)	**String**	Read Only
Alarm type String Level 2	CHxx.AlarmType2.String	31-38 (DX204) 31-38 (DX208) 31-60 (DX210) 31-60 (DX220) 31-60 (DX230)	**String**	Read Only
Alarm type String Level 3	CHxx.AlarmType3.String	31-38 (DX204) 31-38 (DX208)	**String**	Read Only

Address Type	Format	Range	Data Types	Access
		31-60 (DX210)		
		31-60 (DX220)		
		31-60 (DX230)		
Alarm type String Level 4	CHxx.AlarmType4.String	31-38 (DX204)	**String**	Read Only
		31-38 (DX208)		
		31-60 (DX210)		
		31-60 (DX220)		
		31-60 (DX230)		
Upper Scale Value of Math Channel*	CHxx.scale_Hi	31-38 (DX204)	**Double**, Float	Read Only
		31-38 (DX208)		
		31-60 (DX210)		
		31-60 (DX220)		
		31-60 (DX230)		
Lower Scale Value of Math Channel*	CHxx.scale_Lo	31-38 (DX204)	**Double**, Float	Read Only
		31-38 (DX208)		
		31-60 (DX210)		
		31-60 (DX220)		

Address Type	Format	Range	Data Types	Access
		31-60 (DX230)		
Unit String of Math Channel*	CHxx.unit	31-38 (DX204) 31-38 (DX208) 31-60 (DX210) 31-60 (DX220) 31-60 (DX230)	**String**	Read Only
Tagname of Math Channel*	CHxx.tag	31-38 (DX204) 31-38 (DX208) 31-60 (DX210) 31-60 (DX220) 31-60 (DX230)	**String**	Read Only
Status of Math Channel*	CHxx.status	31-38 (DX204) 31-38 (DX208) 31-60 (DX210) 31-60 (DX220) 31-60 (DX230)	**String**	Read Only
Precision of Math Channel*	CHxx.Precision	31-38 (DX204)	**Short**, Word, Byte	Read Only

Address Type	Format	Range	Data Types	Access
		31-38 (DX208) 31-60 (DX210) 31-60 (DX220) 31-60 (DX230)		
Lowest Math Channel*	CHA.Low		**Short**, Word, Byte	Read Only
Highest Math Channel*	CHA.High		**Short**, Word, Byte	Read Only

*Data associated with these addresses are only read from the device at the start of a communications session. Once read, the values will not be refreshed until the server has been restarted or the "Reset" tag has been invoked. To invoke a reset, a non zero value must be written to the Reset tag. Once the Reset tag has been invoked the driver will reinitialize all startup data from the device.

Alarm Setpoints

Data values for Alarm Setpoints that are undefined in the device will be returned as +INF. Data values can only be written to Alarm Setpoints that are defined in the device. Write operations to undefined Alarm Setpoints will return an error. Write operations are only available only for users logged in at the Administrator level; otherwise, they will return an error.

Scales

Data values for Scale_Hi and Scale_Lo for channels that are skipped will be returned as +INF.

Tag Names

For devices that do not support tag names and channels that have unspecified tag names, the driver will construct an internal tag name based on the channel number. For example, the tag name of address 'CH01' will be returned as 'CH01'.

General Device Data

Address Description	Address/Format	Range	Data Types	Access
Administrator Level	Admin		**Boolean**	Read Only
Date of Last Data	Date		**String**	Read Only
Time of Last Data	Time		**String**	Read Only
Model Series Reported by Device	Model		**String**	Read Only
Host Name of Device	Hostname		**String**	Read Only
Serial Number of Device	SerialNumber		**String**	Read Only
IP Address of Device	IP		**String**	Read Only

Address Description	Address/Format	Range	Data Types	Access
Math Communication Data	CDxx	1-8 (DX204) 1-8 (DX208) 1-30 (DX210) 1-30 (DX220) 1-30 (DX230)	**Float**	Read/Write
Control Math Execution	MathControl		**Short**, Word, Byte	Write Only
Reset Alarms	AlarmReset		**Boolean**	Write Only
Control Command and Response	Command		**String**	Read/Write
Previous Screen	PreScreen		**Boolean**	Write Only
Direct Reloading of Configuration	Reset		**Boolean**	Write Only
SetTime*	Tag		**Boolean**	Write Only

*The SetTime Tag updates the device time. Writing 0 or 1 to the tag will update the Device Date and Time (which can be verified from the Date Tag and the Time Tag). The SetTime Tag will always display 0 because it is Write Only. After a successful update, the following message will be posted: "Device Clock set to system time [Device <device_name>]."

Administrator Level
The Admin address type has a value of '1' or 'true' when the user has logged on at the Administrator level and a value of '0' or 'false' when the user has logged on at the User level.

Math Communication Data
The CD address type is only valid for devices equipped with the math option and write operations to CD addresses for non-math equipped devices will return an error. Write operations are available only for users logged in at the Administrator level; otherwise, they will return an error.

Model Series Reported by Device
The Model address type will have a string value of 'DX100' or 'DX200', indicating the model series returned by the device.

Control Math Execution
The MathControl address type is only available for devices equipped with the math option and write operations to the MathControl tag for non-math equipped devices will return an error.

Control Command and Response
The Command address allows the user to send a string command and receive a string response to and from the device. This allows the user to send any command to the device, including commands not directly supported by the driver. This tag is only available to users logged in at the Administrator level; otherwise, write operations will return an error.

⬢**Caution**: Write operations using the Command address should be performed with caution.

⬤ **Note**: The actual number of addresses available for of each type depends on the configuration of the Yokogawa device. If the driver finds at Runtime that an address is not present in the device, it will post an error message and then remove the tag from its scan list.

Addresses that have Write Only access are assigned a default access of Read/Write; however, data values will be unreadable for these addresses and the associated tags will not be included in the scan list. The current data value for these tags will always be 0 for numeric data types and null string for string data types.

DX204 Addressing

The driver supports the following addresses for this device. The default data type is shown in **bold**.

Measured Channels

Address Type	Format	Range	Data Types	Access
Process Value of Channel	CHxx or CHxx.PV	01-04	**Double**, Float	Read Only
Alarm Summary of Channel	CHxx.Alarm	01-04	**Short**, Word, Byte	Read Only
Alarm Level1 Status of Channel	CHxx.Alarm1	01-04	**Short**, Word, Byte	Read Only
Alarm Level2 Status of Channel	CHxx.Alarm2	01-04	**Short**, Word, Byte	Read Only
Alarm Level3 Status of Channel	CHxx.Alarm3	01-04	**Short**, Word, Byte	Read Only
Alarm Level4 Status of Channel	CHxx.Alarm4	01-04	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Setpoint	CHxx.ASP1	01-04	**Double**, Float	Read/Write
Set and Read Level2 Alarm Setpoint	CHxx.ASP2	01-04	**Double**, Float	Read/Write
Set and Read Level3 Alarm Setpoint	CHxx.ASP3	01-04	**Double**, Float	Read/Write
Set and Read Level4 Alarm Setpoint	CHxx.ASP4	01-04	**Double**, Float	Read/Write
Alarm type Numeric Level 1	CHxx.AlarmType1.Num	01-04	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 2	CHxx.AlarmType2.Num	01-04	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 3	CHxx.AlarmType3.Num	01-04	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 4	CHxx.AlarmType4.Num	01-04	**Short**, Word, Byte	Read Only
Alarm type String Level 1	CHxx.AlarmType1.String	01-04	**String**	Read Only
Alarm type String Level 2	CHxx.AlarmType2.String	01-04	**String**	Read Only

Address Type	Format	Range	Data Types	Access
Alarm type String Level 3	CHxx.AlarmType3.String	01-04	**String**	Read Only
Alarm type String Level 4	CHxx.AlarmType4.String	01-04	**String**	Read Only
Upper Scale Value of Channel*	CHxx.scale_Hi	01-04	**Double**, Float	Read Only
Lower Scale Value of Channel*	CHxx.scale_Lo	01-04	**Double**, Float	Read Only
Unit String of Channel*	CHxx.unit	01-04	**String**	Read Only
Tagname of Channel*	CHxx.tag	01-04	**String**	Read Only
Status of Channel*	CHxx.status	01-04	**String**	Read Only
Precision of Channel*	CHxx.Precision	01-04	**Short**, Word, Byte	Read Only
Lowest Measuring Channel*	CH.Low		**Short**, Word, Byte	Read Only
Highest Measuring Channel*	CH.High		**Short**, Word, Byte	Read Only

Math Channels

Address Type	Format	Range	Data Types	Access
Process Value of Math Channel	CHxx or CHxx.PV	31-38	**Double**, Float	Read Only
Alarm Summary of Math Channel	CHxx.Alarm	31-38	**Short**, Word, Byte	Read Only
Alarm Level1 Status of Math Channel	CHxx.Alarm1	31-38	**Short**, Word, Byte	Read Only
Alarm Level2 Status of Math Channel	CHxx.Alarm2	31-38	**Short**, Word, Byte	Read Only
Alarm Level3 Status of Math Channel	CHxx.Alarm3	31-38	**Short**, Word, Byte	Read Only
Alarm Level4 Status of Math Channel	CHxx.Alarm4	31-38	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Setpoint	CHxx.ASP1	31-38	**Double**, Float	Read/Write
Set and Read Level2 Alarm Setpoint	CHxx.ASP2	31-38	**Double**, Float	Read/Write
Set and Read Level3 Alarm Setpoint	CHxx.ASP3	31-38	**Double**, Float	Read/Write
Set and Read Level4 Alarm Setpoint	CHxx.ASP4	31-38	**Double**, Float	Read/Write
Alarm type Numeric Level 1	CHxx.AlarmType1.Num	31-38	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 2	CHxx.AlarmType2.Num	31-38	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 3	CHxx.AlarmType3.Num	31-38	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 4	CHxx.AlarmType4.Num	31-38	**Short**, Word, Byte	Read Only
Alarm type String Level 1	CHxx.AlarmType1.String	31-38	**String**	Read Only
Alarm type String Level 2	CHxx.AlarmType2.String	31-38	**String**	Read Only
Alarm type String Level 3	CHxx.AlarmType3.String	31-38	**String**	Read Only

Address Type	Format	Range	Data Types	Access
Alarm type String Level 4	CHxx.AlarmType4.String	31-38	**String**	Read Only
Upper Scale Value of Math Channel*	CHxx.scale_Hi	31-38	**Double**, Float	Read Only
Lower Scale Value of Math Channel*	CHxx.scale_Lo	31-38	**Double**, Float	Read Only
Unit String of Math Channel*	CHxx.unit	31-38	**String**	Read Only
Tagname of Math Channel*	CHxx.tag	31-38	**String**	Read Only
Status of Math Channel*	CHxx.status	31-38	**String**	Read Only
Precision of Math Channel*	CHxx.Precision	31-38	**Short**, Word, Byte	Read Only
Lowest Math Channel*	CHA.Low		**Short**, Word, Byte	Read Only
Highest Math Channel*	CHA.High		**Short**, Word, Byte	Read Only

Initialized Data

Data associated with the addresses denoted by an (*) are read from the device only at the start of a communications session. Once read, the values will not be refreshed until the server has been restarted or the "Reset" tag has been invoked. To invoke a reset, a non zero value must be written to the Reset tag. Once the Reset tag has been invoked the driver will reinitialize all startup data from the device.

Alarm Setpoints

Data values for Alarm Setpoints that are undefined in the device will be returned as +INF. Data values can only be written to Alarm Setpoints that are defined in the device. Write operations to undefined Alarm Setpoints will return an error. Write operations are only available only for users logged in at the Administrator level; otherwise, they will return an error.

Scales

Data values for Scale_Hi and Scale_Lo for channels that are skipped will be returned as +INF.

Tag Names

For devices that do not support tag names and channels that have unspecified tag names, the driver will construct an internal tag name based on the channel number. For example, the tag name of address 'CH01' will be returned as 'CH01'.

General Device Data

Address Description	Address/Format	Range	Data Types	Access
Administrator Level	Admin		**Boolean**	Read Only
Date of Last Data	Date		**String**	Read Only
Time of Last Data	Time		**String**	Read Only
Model Series Reported by Device	Model		**String**	Read Only
Host Name of Device	Hostname		**String**	Read Only
Serial Number of Device	SerialNumber		**String**	Read Only
IP Address of Device	IP		**String**	Read Only

Address Description	Address/Format	Range	Data Types	Access
Math Communication Data	CDxx	01-08	**Float**	Read/Write
Control Math Execution	MathControl		**Short**, Word, Byte	Write Only
Reset Alarms	AlarmReset		**Boolean**	Write Only
Control Command and Response	Command		**String**	Read/Write
Previous Screen	PreScreen		**Boolean**	Write Only
Direct Reloading of Configuration	Reset		**Boolean**	Write Only
SetTime*	Tag		**Boolean**	Write Only

*The SetTime Tag updates the device time. Writing 0 or 1 to the tag will update the Device Date and Time (which can be verified from the Date Tag and the Time Tag). The SetTime Tag will always display 0 because it is Write Only. After a successful update, the following message will be posted: "Device Clock set to system time [Device <device_name>]."

Administrator Level

The Admin address type has a value of '1' or 'true' when the user has logged on at the Administrator level and a value of '0' or 'false' when the user has logged on at the User level.

Math Communication Data

The CD address type is only valid for devices equipped with the math option and write operations to CD addresses for non-math equipped devices will return an error. Write operations are available only for users logged in at the Administrator level; otherwise, they will return an error.

Model Series Reported by Device

The Model address type will have a string value of 'DX100' or 'DX200', indicating the model series returned by the device.

Control Math Execution

The MathControl address type is only available for devices equipped with the math option and write operations to the MathControl tag for non-math equipped devices will return an error.

Control Command and Response

The Command address allows the user to send a string command and receive a string response to and from the device. This allows the user to send any command to the device, including commands not directly supported by the driver. This tag is only available to users logged in at the Administrator level; otherwise, write operations will return an error.

⬤ **Caution**: Write operations using the Command address should be performed with caution.

⬤ **Note**: The actual number of addresses available for of each type depends on the configuration of the Yokogawa device. If the driver finds at Runtime that an address is not present in the device, it will post an error message and then remove the tag from its scan list.

Addresses that have Write Only access are assigned a default access of Read/Write; however, data values will be unreadable for these addresses and the associated tags will not be included in the scan list. The current data value for these tags will always be 0 for numeric data types and null string for string data types.

DX208 Addressing

The driver supports the following addresses for this device. The default data type is shown in **bold**.

Measured Channels

Address Type	Format	Range	Data Types	Access
Process Value of Channel	CHxx or CHxx.PV	01-08	**Double**, Float	Read Only
Alarm Summary of Channel	CHxx.Alarm	01-08	**Short**, Word, Byte	Read Only
Alarm Level1 Status of Channel	CHxx.Alarm1	01-08	**Short**, Word, Byte	Read Only
Alarm Level2 Status of Channel	CHxx.Alarm2	01-08	**Short**, Word, Byte	Read Only
Alarm Level3 Status of Channel	CHxx.Alarm3	01-08	**Short**, Word, Byte	Read Only
Alarm Level4 Status of Channel	CHxx.Alarm4	01-08	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Set-point	CHxx.ASP1	01-08	**Double**, Float	Read/Write
Set and Read Level2 Alarm Set-point	CHxx.ASP2	01-08	**Double**, Float	Read/Write
Set and Read Level3 Alarm Set-point	CHxx.ASP3	01-08	**Double**, Float	Read/Write
Set and Read Level4 Alarm Set-point	CHxx.ASP4	01-08	**Double**, Float	Read/Write
Alarm type Numeric Level 1	CHxx.AlarmType1.Num	01-08	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 2	CHxx.AlarmType2.Num	01-08	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 3	CHxx.AlarmType3.Num	01-08	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 4	CHxx.AlarmType4.Num	01-08	**Short**, Word, Byte	Read Only
Alarm type String Level 1	CHxx.AlarmType1.String	01-08	**String**	Read Only
Alarm type String Level 2	CHxx.AlarmType2.String	01-08	**String**	Read Only
Alarm type String Level 3	CHxx.AlarmType3.String	01-08	**String**	Read Only
Alarm type String Level 4	CHxx.AlarmType4.String	01-08	**String**	Read Only
Upper Scale Value of Channel*	CHxx.scale_Hi	01-08	**Double**, Float	Read Only
Lower Scale Value of Channel*	CHxx.scale_Lo	01-08	**Double**, Float	Read Only
Unit String of Channel*	CHxx.unit	01-08	**String**	Read Only
Tagname of Channel*	CHxx.tag	01-08	**String**	Read Only
Status of Channel*	CHxx.status	01-08	**String**	Read Only
Precision of Channel*	CHxx.Precision	01-08	**Short**, Word, Byte	Read Only
Lowest Measuring Channel*	CH.Low		**Short**, Word,	Read Only

Address Type	Format	Range	Data Types	Access
			Byte	
Highest Measuring Channel*	CH.High		**Short**, Word, Byte	Read Only

Math Channels

Address Type	Format	Range	Data Types	Access
Process Value of Math Channel	CHxx or CHxx.PV	31-38	**Double**, Float	Read Only
Alarm Summary of Math Channel	CHxx.Alarm	31-38	**Short**, Word, Byte	Read Only
Alarm Level1 Status of Math Channel	CHxx.Alarm1	31-38	**Short**, Word, Byte	Read Only
Alarm Level2 Status of Math Channel	CHxx.Alarm2	31-38	**Short**, Word, Byte	Read Only
Alarm Level3 Status of Math Channel	CHxx.Alarm3	31-38	**Short**, Word, Byte	Read Only
Alarm Level4 Status of Math Channel	CHxx.Alarm4	31-38	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Setpoint	CHxx.ASP1	31-38	**Double**, Float	Read/Write
Set and Read Level2 Alarm Setpoint	CHxx.ASP2	31-38	**Double**, Float	Read/Write
Set and Read Level3 Alarm Setpoint	CHxx.ASP3	31-38	**Double**, Float	Read/Write
Set and Read Level4 Alarm Setpoint	CHxx.ASP4	31-38	**Double**, Float	Read/Write
Alarm type Numeric Level 1	CHxx.AlarmType1.Num	31-38	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 2	CHxx.AlarmType2.Num	31-38	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 3	CHxx.AlarmType3.Num	31-38	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 4	CHxx.AlarmType4.Num	31-38	**Short**, Word, Byte	Read Only
Alarm type String Level 1	CHxx.AlarmType1.String	31-38	**String**	Read Only
Alarm type String Level 2	CHxx.AlarmType2.String	31-38	**String**	Read Only
Alarm type String Level 3	CHxx.AlarmType3.String	31-38	**String**	Read Only
Alarm type String Level 4	CHxx.AlarmType4.String	31-38	**String**	Read Only
Upper Scale Value of Math Channel*	CHxx.scale_Hi	31-38	**Double**, Float	Read Only
Lower Scale Value of Math Channel*	CHxx.scale_Lo	31-38	**Double**, Float	Read Only
Unit String of Math Channel*	CHxx.unit	31-38	**String**	Read Only
Tagname of Math Channel*	CHxx.tag	31-38	**String**	Read Only
Status of Math Channel*	CHxx.status	31-38	**String**	Read Only
Precision of Math Channel*	CHxx.Precision	31-38	**Short**, Word, Byte	Read Only

Address Type	Format	Range	Data Types	Access
Lowest Math Channel*	CHA.Low		**Short**, Word, Byte	Read Only
Highest Math Channel*	CHA.High		**Short**, Word, Byte	Read Only

*Data associated with these addresses are only read from the device at the start of a communications session. Once read, the values will not be refreshed until the server has been restarted or the "Reset" tag has been invoked. To invoke a reset, a non-zero value must be written to the Reset tag. Once the Reset tag has been invoked the driver will reinitialize all startup data from the device.

Alarm Setpoints

Data values for Alarm Setpoints that are undefined in the device will be returned as +INF. Data values can only be written to Alarm Setpoints that are defined in the device. Write operations to undefined Alarm Setpoints will return an error. Write operations are only available only for users logged in at the Administrator level; otherwise, they will return an error.

Scales

Data values for Scale_Hi and Scale_Lo for channels that are skipped will be returned as +INF.

Tag Names

For devices that do not support tag names and channels that have unspecified tag names, the driver will construct an internal tag name based on the channel number. For example, the tag name of address 'CH01' will be returned as 'CH01'.

General Device Data

Address Description	Address/Format	Range	Data Types	Access
Administrator Level	Admin		**Boolean**	Read Only
Date of Last Data	Date		**String**	Read Only
Time of Last Data	Time		**String**	Read Only
Model Series Reported by Device	Model		**String**	Read Only
Host Name of Device	Hostname		**String**	Read Only
Serial Number of Device	SerialNumber		**String**	Read Only
IP Address of Device	IP		**String**	Read Only
Math Communication Data	CDxx	01-08	**Float**	Read/Write
Control Math Execution	MathControl		**Short**, Word, Byte	Write Only
Reset Alarms	AlarmReset		**Boolean**	Write Only
Control Command and Response	Command		**String**	Read/Write
Previous Screen	PreScreen		**Boolean**	Write Only
Direct Reloading of Configuration	Reset		**Boolean**	Write Only
SetTime*	Tag		**Boolean**	Write Only

*The SetTime Tag updates the device time. Writing 0 or 1 to the tag will update the Device Date and Time (which can be verified from the Date Tag and the Time Tag). The SetTime Tag will always display 0 because it is Write Only. After a successful update, the following message will be posted: "Device Clock set to system time [Device <device_name>]."

Administrator Level

The Admin address type has a value of '1' or 'true' when the user has logged on at the Administrator level and a value of '0' or 'false' when the user has logged on at the User level.

Math Communication Data

The CD address type is only valid for devices equipped with the math option and write operations to CD addresses for non-math equipped devices will return an error. Write operations are available only for users logged in at the Administrator level; otherwise, they will return an error.

Model Series Reported by Device

The Model address type will have a string value of 'DX100' or 'DX200', indicating the model series returned by the device.

Control Math Execution

The MathControl address type is only available for devices equipped with the math option and write operations to the MathControl tag for non-math equipped devices will return an error.

Control Command and Response

The Command address allows the user to send a string command and receive a string response to and from the device. This allows the user to send any command to the device, including commands not directly supported by the driver. This tag is only available to users logged in at the Administrator level; otherwise, write operations will return an error.

⬤ **Caution**: Write operations using the Command address should be performed with caution.

⬤ **Note**: The actual number of addresses available for of each type depends on the configuration of the Yokogawa device. If the driver finds at Runtime that an address is not present in the device, it will post an error message and then remove the tag from its scan list.

Addresses that have Write Only access are assigned a default access of Read/Write; however, data values will be unreadable for these addresses and the associated tags will not be included in the scan list. The current data value for these tags will always be 0 for numeric data types and null string for string data types.

DX210 Addressing

The driver supports the following addresses for this device. The default data type is shown in **bold**.

Measured Channels

Address Type	Format	Range	Data Types	Access
Process Value of Channel	CHxx or CHxx.PV	01-10	**Double**, Float	Read Only
Alarm Summary of Channel	CHxx.Alarm	01-10	**Short**, Word, Byte	Read Only
Alarm Level1 Status of Channel	CHxx.Alarm1	01-10	**Short**, Word, Byte	Read Only
Alarm Level2 Status of Channel	CHxx.Alarm2	01-10	**Short**, Word, Byte	Read Only
Alarm Level3 Status of Channel	CHxx.Alarm3	01-10	**Short**, Word, Byte	Read Only

Address Type	Format	Range	Data Types	Access
Alarm Level4 Status of Channel	CHxx.Alarm4	01-10	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Set-point	CHxx.ASP1	01-10	**Double**, Float	Read/Write
Set and Read Level2 Alarm Set-point	CHxx.ASP2	01-10	**Double**, Float	Read/Write
Set and Read Level3 Alarm Set-point	CHxx.ASP3	01-10	**Double**, Float	Read/Write
Set and Read Level4 Alarm Set-point	CHxx.ASP4	01-10	**Double**, Float	Read/Write
Alarm type Numeric Level 1	CHxx.AlarmType1.Num	01-10	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 2	CHxx.AlarmType2.Num	01-10	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 3	CHxx.AlarmType3.Num	01-10	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 4	CHxx.AlarmType4.Num	01-10	**Short**, Word, Byte	Read Only
Alarm type String Level 1	CHxx.AlarmType1.String	01-10	**String**	Read Only
Alarm type String Level 2	CHxx.AlarmType2.String	01-10	**String**	Read Only
Alarm type String Level 3	CHxx.AlarmType3.String	01-10	**String**	Read Only
Alarm type String Level 4	CHxx.AlarmType4.String	01-10	**String**	Read Only
Upper Scale Value of Channel*	CHxx.scale_Hi	01-10	**Double**, Float	Read Only
Lower Scale Value of Channel*	CHxx.scale_Lo	01-10	**Double**, Float	Read Only
Unit String of Channel*	CHxx.unit	01-10	**String**	Read Only
Tagname of Channel*	CHxx.tag	01-10	**String**	Read Only
Status of Channel*	CHxx.status	01-10	**String**	Read Only
Precision of Channel*	CHxx.Precision	01-10	**Short**, Word, Byte	Read Only
Lowest Measuring Channel*	CH.Low		**Short**, Word, Byte	Read Only
Highest Measuring Channel*	CH.High		**Short**, Word, Byte	Read Only

Math Channels

Address Type	Format	Range	Data Types	Access
Process Value of Math Channel	CHxx or CHxx.PV	31-60	**Double**, Float	Read Only
Alarm Summary of Math Channel	CHxx.Alarm	31-60	**Short**, Word, Byte	Read Only
Alarm Level1 Status of Math Channel	CHxx.Alarm1	31-60	**Short**, Word, Byte	Read Only
Alarm Level2 Status of Math Channel	CHxx.Alarm2	31-60	**Short**, Word, Byte	Read Only

Address Type	Format	Range	Data Types	Access
Alarm Level3 Status of Math Channel	CHxx.Alarm3	31-60	**Short**, Word, Byte	Read Only
Alarm Level4 Status of Math Channel	CHxx.Alarm4	31-60	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Setpoint	CHxx.ASP1	31-60	**Double**, Float	Read/Write
Set and Read Level2 Alarm Setpoint	CHxx.ASP2	31-60	**Double**, Float	Read/Write
Set and Read Level3 Alarm Setpoint	CHxx.ASP3	31-60	**Double**, Float	Read/Write
Set and Read Level4 Alarm Setpoint	CHxx.ASP4	31-60	**Double**, Float	Read/Write
Alarm type Numeric Level 1	CHxx.AlarmType1.Num	31-60	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 2	CHxx.AlarmType2.Num	31-60	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 3	CHxx.AlarmType3.Num	31-60	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 4	CHxx.AlarmType4.Num	31-60	**Short**, Word, Byte	Read Only
Alarm type String Level 1	CHxx.AlarmType1.String	31-60	**String**	Read Only
Alarm type String Level 2	CHxx.AlarmType2.String	31-60	**String**	Read Only
Alarm type String Level 3	CHxx.AlarmType3.String	31-60	**String**	Read Only
Alarm type String Level 4	CHxx.AlarmType4.String	31-60	**String**	Read Only
Upper Scale Value of Math Channel*	CHxx.scale_Hi	31-60	**Double**, Float	Read Only
Lower Scale Value of Math Channel*	CHxx.scale_Lo	31-60	**Double**, Float	Read Only
Unit String of Math Channel*	CHxx.unit	31-60	**String**	Read Only
Tagname of Math Channel*	CHxx.tag	31-60	**String**	Read Only
Status of Math Channel*	CHxx.status	31-60	**String**	Read Only
Precision of Math Channel*	CHxx.Precision	31-60	**Short**, Word, Byte	Read Only
Lowest Math Channel*	CHA.Low		**Short**, Word, Byte	Read Only
Highest Math Channel*	CHA.High		**Short**, Word, Byte	Read Only

*Data associated with these addresses are only read from the device at the start of a communications session. Once read, the values will not be refreshed until the server has been restarted or the "Reset" tag has been invoked. To invoke a reset, a non zero value must be written to the Reset tag. Once the Reset tag has been invoked the driver will reinitialize all startup data from the device.

Alarm Setpoints

Data values for Alarm Setpoints that are undefined in the device will be returned as +INF. Data values can only be written to Alarm Setpoints that are defined in the device. Write operations to undefined Alarm Setpoints will return an error. Write operations are only available only for users logged in at the Administrator level; otherwise, they will return an error.

Scales

Data values for Scale_Hi and Scale_Lo for channels that are skipped will be returned as +INF.

Tag Names

For devices that do not support tag names and channels that have unspecified tag names, the driver will construct an internal tag name based on the channel number. For example, the tag name of address 'CH01' will be returned as 'CH01'.

General Device Data

Address Description	Address/Format	Range	Data Types	Access
Administrator Level	Admin		**Boolean**	Read Only
Date of Last Data	Date		**String**	Read Only
Time of Last Data	Time		**String**	Read Only
Model Series Reported by Device	Model		**String**	Read Only
Host Name of Device	Hostname		**String**	Read Only
Serial Number of Device	SerialNumber		**String**	Read Only
IP Address of Device	IP		**String**	Read Only
Math Communication Data	CDxx	01-30	**Float**	Read/Write
Control Math Execution	MathControl		**Short**, Word, Byte	Write Only
Reset Alarms	AlarmReset		**Boolean**	Write Only
Control Command and Response	Command		**String**	Read/Write
Previous Screen	PreScreen		**Boolean**	Write Only
Direct Reloading of Configuration	Reset		**Boolean**	Write Only
SetTime*	Tag		**Boolean**	Write Only

*The SetTime Tag updates the device time. Writing 0 or 1 to the tag will update the Device Date and Time (which can be verified from the Date Tag and the Time Tag). The SetTime Tag will always display 0 because it is Write Only. After a successful update, the following message will be posted: "Device Clock set to system time [Device <device_name>]."

Administrator Level

The Admin address type has a value of '1' or 'true' when the user has logged on at the Administrator level and a value of '0' or 'false' when the user has logged on at the User level.

Math Communication Data

The CD address type is only valid for devices equipped with the math option and write operations to CD addresses for non-math equipped devices will return an error. Write operations are available only for users logged in at the Administrator level; otherwise, they will return an error.

Model Series Reported by Device

The Model address type will have a string value of 'DX100' or 'DX200', indicating the model series returned by the device.

Control Math Execution

The MathControl address type is only available for devices equipped with the math option and write operations to the MathControl tag for non-math equipped devices will return an error.

Control Command and Response

The Command address allows the user to send a string command and receive a string response to and from the device. This allows the user to send any command to the device, including commands not directly supported by the driver. This tag is only available to users logged in at the Administrator level; otherwise, write operations will return an error.

⬥**Caution**: Write operations using the Command address should be performed with caution.

⬤ **Note**: The actual number of addresses available for of each type depends on the configuration of the Yokogawa device. If the driver finds at Runtime that an address is not present in the device, it will post an error message and then remove the tag from its scan list.

Addresses that have Write Only access are assigned a default access of Read/Write; however, data values will be unreadable for these addresses and the associated tags will not be included in the scan list. The current data value for these tags will always be 0 for numeric data types and null string for string data types.

DX220 Addressing

The driver supports the following addresses for this device. The default data type is shown in **bold**.

Measured Channels

Address Type	Format	Range	Data Types	Access
Process Value of Channel	CHxx or CHxx.PV	01-20	**Double**, Float	Read Only
Alarm Summary of Channel	CHxx.Alarm	01-20	**Short**, Word, Byte	Read Only
Alarm Level1 Status of Channel	CHxx.Alarm1	01-20	**Short**, Word, Byte	Read Only
Alarm Level2 Status of Channel	CHxx.Alarm2	01-20	**Short**, Word, Byte	Read Only
Alarm Level3 Status of Channel	CHxx.Alarm3	01-20	**Short**, Word, Byte	Read Only
Alarm Level4 Status of Channel	CHxx.Alarm4	01-20	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Setpoint	CHxx.ASP1	01-20	**Double**, Float	Read/Write
Set and Read Level2 Alarm Setpoint	CHxx.ASP2	01-20	**Double**, Float	Read/Write
Set and Read Level3 Alarm Setpoint	CHxx.ASP3	01-20	**Double**, Float	Read/Write
Set and Read Level4 Alarm Setpoint	CHxx.ASP4	01-20	**Double**, Float	Read/Write
Alarm type Numeric Level 1	CHxx.AlarmType1.Num	01-20	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 2	CHxx.AlarmType2.Num	01-20	**Short**, Word, Byte	Read Only

Address Type	Format	Range	Data Types	Access
Alarm type Numeric Level 3	CHxx.AlarmType3.Num	01-20	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 4	CHxx.AlarmType4.Num	01-20	**Short**, Word, Byte	Read Only
Alarm type String Level 1	CHxx.AlarmType1.String	01-20	**String**	Read Only
Alarm type String Level 2	CHxx.AlarmType2.String	01-20	**String**	Read Only
Alarm type String Level 3	CHxx.AlarmType3.String	01-20	**String**	Read Only
Alarm type String Level 4	CHxx.AlarmType4.String	01-20	**String**	Read Only
Upper Scale Value of Channel*	CHxx.scale_Hi	01-20	**Double**, Float	Read Only
Lower Scale Value of Channel*	CHxx.scale_Lo	01-20	**Double**, Float	Read Only
Unit String of Channel*	CHxx.unit	01-20	**String**	Read Only
Tagname of Channel*	CHxx.tag	01-20	**String**	Read Only
Status of Channel*	CHxx.status	01-20	**String**	Read Only
Precision of Channel*	CHxx.Precision	01-20	**Short**, Word, Byte	Read Only
Lowest Measuring Channel*	CH.Low		**Short**, Word, Byte	Read Only
Highest Measuring Channel*	CH.High		**Short**, Word, Byte	Read Only

Math Channels

Address Type	Format	Range	Data Types	Access
Process Value of Math Channel	CHxx or CHxx.PV	31-60	**Double**, Float	Read Only
Alarm Summary of Math Channel	CHxx.Alarm	31-60	**Short**, Word, Byte	Read Only
Alarm Level1 Status of Math Channel	CHxx.Alarm1	31-60	**Short**, Word, Byte	Read Only
Alarm Level2 Status of Math Channel	CHxx.Alarm2	31-60	**Short**, Word, Byte	Read Only
Alarm Level3 Status of Math Channel	CHxx.Alarm3	31-60	**Short**, Word, Byte	Read Only
Alarm Level4 Status of Math Channel	CHxx.Alarm4	31-60	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Setpoint	CHxx.ASP1	31-60	**Double**, Float	Read/Write
Set and Read Level2 Alarm Setpoint	CHxx.ASP2	31-60	**Double**, Float	Read/Write
Set and Read Level3 Alarm Setpoint	CHxx.ASP3	31-60	**Double**, Float	Read/Write
Set and Read Level4 Alarm Setpoint	CHxx.ASP4	31-60	**Double**, Float	Read/Write
Alarm type Numeric Level 1	CHxx.AlarmType1.Num	31-60	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 2	CHxx.AlarmType2.Num	31-60	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 3	CHxx.AlarmType3.Num	31-60	**Short**, Word,	Read Only

Address Type	Format	Range	Data Types	Access
			Byte	
Alarm type Numeric Level 4	CHxx.AlarmType4.Num	31-60	**Short**, Word, Byte	Read Only
Alarm type String Level 1	CHxx.AlarmType1.String	31-60	**String**	Read Only
Alarm type String Level 2	CHxx.AlarmType2.String	31-60	**String**	Read Only
Alarm type String Level 3	CHxx.AlarmType3.String	31-60	**String**	Read Only
Alarm type String Level 4	CHxx.AlarmType4.String	31-60	**String**	Read Only
Upper Scale Value of Math Channel*	CHxx.scale_Hi	31-60	**Double**, Float	Read Only
Lower Scale Value of Math Channel*	CHxx.scale_Lo	31-60	**Double**, Float	Read Only
Unit String of Math Channel*	CHxx.unit	31-60	**String**	Read Only
Tagname of Math Channel*	CHxx.tag	31-60	**String**	Read Only
Status of Math Channel*	CHxx.status	31-60	**String**	Read Only
Precision of Math Channel*	CHxx.Precision	31-60	**Short**, Word, Byte	Read Only
Lowest Math Channel*	CHA.Low		**Short**, Word, Byte	Read Only
Highest Math Channel*	CHA.High		**Short**, Word, Byte	Read Only

*Data associated with these addresses are only read from the device at the start of a communications session. Once read, the values will not be refreshed until the server has been restarted or the "Reset" tag has been invoked. To invoke a reset, a non zero value must be written to the Reset tag. Once the Reset tag has been invoked the driver will reinitialize all startup data from the device.

Alarm Setpoints

Data values for Alarm Setpoints that are undefined in the device will be returned as +INF. Data values can only be written to Alarm Setpoints that are defined in the device. Write operations to undefined Alarm Setpoints will return an error. Write operations are only available only for users logged in at the Administrator level; otherwise, they will return an error.

Scales

Data values for Scale_Hi and Scale_Lo for channels that are skipped will be returned as +INF.

Tag Names

For devices that do not support tag names and channels that have unspecified tag names, the driver will construct an internal tag name based on the channel number. For example, the tag name of address 'CH01' will be returned as 'CH01'.

General Device Data

Address Description	Address/Format	Range	Data Types	Access
Administrator Level	Admin		**Boolean**	Read Only
Date of Last Data	Date		**String**	Read Only

Address Description	Address/Format	Range	Data Types	Access
Time of Last Data	Time		**String**	Read Only
Model Series Reported by Device	Model		**String**	Read Only
Host Name of Device	Hostname		**String**	Read Only
Serial Number of Device	SerialNumber		**String**	Read Only
IP Address of Device	IP		**String**	Read Only
Math Communication Data	CDxx	01-30	**Float**	Read/Write
Control Math Execution	MathControl		**Short**, Word, Byte	Write Only
Reset Alarms	AlarmReset		**Boolean**	Write Only
Control Command and Response	Command		**String**	Read/Write
Previous Screen	PreScreen		**Boolean**	Write Only
Direct Reloading of Configuration	Reset		**Boolean**	Write Only
SetTime*	Tag		**Boolean**	Write Only

*The SetTime Tag updates the device time. Writing 0 or 1 to the tag will update the Device Date and Time (which can be verified from the Date Tag and the Time Tag). The SetTime Tag will always display 0 because it is Write Only. After a successful update, the following message will be posted: "Device Clock set to system time [Device <device_name>]."

Administrator Level

The Admin address type has a value of '1' or 'true' when the user has logged on at the Administrator level and a value of '0' or 'false' when the user has logged on at the User level.

Math Communication Data

The CD address type is only valid for devices equipped with the math option and write operations to CD addresses for non-math equipped devices will return an error. Write operations are available only for users logged in at the Administrator level; otherwise, they will return an error.

Model Series Reported by Device

The Model address type will have a string value of 'DX100' or 'DX200', indicating the model series returned by the device.

Control Math Execution

The MathControl address type is only available for devices equipped with the math option and write operations to the MathControl tag for non-math equipped devices will return an error.

Control Command and Response

The Command address allows the user to send a string command and receive a string response to and from the device. This allows the user to send any command to the device, including commands not directly supported by the driver. This tag is only available to users logged in at the Administrator level; otherwise, write operations will return an error.

⬤ **Caution**: Write operations using the Command address should be performed with caution.

⬤ **Note**: The actual number of addresses available for of each type depends on the configuration of the Yokogawa device. If the driver finds at Runtime that an address is not present in the device, it will post an error message and then remove the tag from its scan list.

Addresses that have Write Only access are assigned a default access of Read/Write; however, data values will be unreadable for these addresses and the associated tags will not be included in the scan list. The current data value for these tags will always be 0 for numeric data types and null string for string data types.

DX230 Addressing

The driver supports the following addresses for this device. The default data type is shown in **bold**.

Measured Channels

Address Type	Format	Range	Data Types	Access
Process Value of Channel	CHxx or CHxx.PV	01-30	**Double**, Float	Read Only
Alarm Summary of Channel	CHxx.Alarm	01-30	**Short**, Word, Byte	Read Only
Alarm Level1 Status of Channel	CHxx.Alarm1	01-30	**Short**, Word, Byte	Read Only
Alarm Level2 Status of Channel	CHxx.Alarm2	01-30	**Short**, Word, Byte	Read Only
Alarm Level3 Status of Channel	CHxx.Alarm3	01-30	**Short**, Word, Byte	Read Only
Alarm Level4 Status of Channel	CHxx.Alarm4	01-30	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Set-point	CHxx.ASP1	01-30	**Double**, Float	Read/Write
Set and Read Level2 Alarm Set-point	CHxx.ASP2	01-30	**Double**, Float	Read/Write
Set and Read Level3 Alarm Set-point	CHxx.ASP3	01-30	**Double**, Float	Read/Write
Set and Read Level4 Alarm Set-point	CHxx.ASP4	01-30	**Double**, Float	Read/Write
Alarm type Numeric Level 1	CHxx.AlarmType1.Num	01-30	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 2	CHxx.AlarmType2.Num	01-30	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 3	CHxx.AlarmType3.Num	01-30	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 4	CHxx.AlarmType4.Num	01-30	**Short**, Word, Byte	Read Only
Alarm type String Level 1	CHxx.AlarmType1.String	01-30	**String**	Read Only
Alarm type String Level 2	CHxx.AlarmType2.String	01-30	**String**	Read Only
Alarm type String Level 3	CHxx.AlarmType3.String	01-30	**String**	Read Only
Alarm type String Level 4	CHxx.AlarmType4.String	01-30	**String**	Read Only
Upper Scale Value of Channel*	CHxx.scale_Hi	01-30	**Double**, Float	Read Only
Lower Scale Value of Channel*	CHxx.scale_Lo	01-30	**Double**, Float	Read Only
Unit String of Channel*	CHxx.unit	01-30	**String**	Read Only

Address Type	Format	Range	Data Types	Access
Tagname of Channel*	CHxx.tag	01-30	**String**	Read Only
Status of Channel*	CHxx.status	01-30	**String**	Read Only
Precision of Channel*	CHxx.Precision	01-30	**Short**, Word, Byte	Read Only
Lowest Measuring Channel*	CH.Low		**Short**, Word, Byte	Read Only
Highest Measuring Channel*	CH.High		**Short**, Word, Byte	Read Only

Math Channels

Address Type	Format	Range	Data Types	Access
Process Value of Math Channel	CHxx or CHxx.PV	31-60	**Double**, Float	Read Only
Alarm Summary of Math Channel	CHxx.Alarm	31-60	**Short**, Word, Byte	Read Only
Alarm Level1 Status of Math Channel	CHxx.Alarm1	31-60	**Short**, Word, Byte	Read Only
Alarm Level2 Status of Math Channel	CHxx.Alarm2	31-60	**Short**, Word, Byte	Read Only
Alarm Level3 Status of Math Channel	CHxx.Alarm3	31-60	**Short**, Word, Byte	Read Only
Alarm Level4 Status of Math Channel	CHxx.Alarm4	31-60	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Setpoint	CHxx.ASP1	31-60	**Double**, Float	Read/Write
Set and Read Level2 Alarm Setpoint	CHxx.ASP2	31-60	**Double**, Float	Read/Write
Set and Read Level3 Alarm Setpoint	CHxx.ASP3	31-60	**Double**, Float	Read/Write
Set and Read Level4 Alarm Setpoint	CHxx.ASP4	31-60	**Double**, Float	Read/Write
Alarm type Numeric Level 1	CHxx.AlarmType1.Num	31-60	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 2	CHxx.AlarmType2.Num	31-60	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 3	CHxx.AlarmType3.Num	31-60	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 4	CHxx.AlarmType4.Num	31-60	**Short**, Word, Byte	Read Only
Alarm type String Level 1	CHxx.AlarmType1.String	31-60	**String**	Read Only
Alarm type String Level 2	CHxx.AlarmType2.String	31-60	**String**	Read Only
Alarm type String Level 3	CHxx.AlarmType3.String	31-60	**String**	Read Only
Alarm type String Level 4	CHxx.AlarmType4.String	31-60	**String**	Read Only
Upper Scale Value of Math Channel*	CHxx.scale_Hi	31-60	**Double**, Float	Read Only
Lower Scale Value of Math Channel*	CHxx.scale_Lo	31-60	**Double**, Float	Read Only

Address Type	Format	Range	Data Types	Access
Unit String of Math Channel*	CHxx.unit	31-60	**String**	Read Only
Tagname of Math Channel*	CHxx.tag	31-60	**String**	Read Only
Status of Math Channel*	CHxx.status	31-60	**String**	Read Only
Precision of Math Channel*	CHxx.Precision	31-60	**Short**, Word, Byte	Read Only
Lowest Math Channel*	CHA.Low		**Short**, Word, Byte	Read Only
Highest Math Channel*	CHA.High		**Short**, Word, Byte	Read Only

*Data associated with these addresses are only read from the device at the start of a communications session. Once read, the values will not be refreshed until the server has been restarted or the "Reset" tag has been invoked. To invoke a reset, a non zero value must be written to the Reset tag. Once the Reset tag has been invoked the driver will reinitialize all startup data from the device.

Alarm Setpoints

Data values for Alarm Setpoints that are undefined in the device will be returned as +INF. Data values can only be written to Alarm Setpoints that are defined in the device. Write operations to undefined Alarm Setpoints will return an error. Write operations are only available only for users logged in at the Administrator level; otherwise, they will return an error.

Scales

Data values for Scale_Hi and Scale_Lo for channels that are skipped will be returned as +INF.

Tag Names

For devices that do not support tag names and channels that have unspecified tag names, the driver will construct an internal tag name based on the channel number. For example, the tag name of address 'CH01' will be returned as 'CH01'.

General Device Data

Address Description	Address/Format	Range	Data Types	Access
Administrator Level	Admin		**Boolean**	Read Only
Date of Last Data	Date		**String**	Read Only
Time of Last Data	Time		**String**	Read Only
Model Series Reported by Device	Model		**String**	Read Only
Host Name of Device	Hostname		**String**	Read Only
Serial Number of Device	SerialNumber		**String**	Read Only
IP Address of Device	IP		**String**	Read Only
Math Communication Data	CDxx	01-30	**Float**	Read/Write
Control Math Execution	MathControl		**Short**, Word, Byte	Write Only
Reset Alarms	AlarmReset		**Boolean**	Write Only
Control Command and Response	Command		**String**	Read/Write
Previous Screen	PreScreen		**Boolean**	Write Only

Address Description	Address/Format	Range	Data Types	Access
Direct Reloading of Configuration	Reset		**Boolean**	Write Only
SetTime*	Tag		**Boolean**	Write Only

*The SetTime Tag updates the device time. Writing 0 or 1 to the tag will update the Device Date and Time (which can be verified from the Date Tag and the Time Tag). The SetTime Tag will always display 0 because it is Write Only. After a successful update, the following message will be posted: "Device Clock set to system time [Device <device_name>]."

Administrator Level
The Admin address type has a value of '1' or 'true' when the user has logged on at the Administrator level and a value of '0' or 'false' when the user has logged on at the User level.

Math Communication Data
The CD address type is only valid for devices equipped with the math option and write operations to CD addresses for non-math equipped devices will return an error. Write operations are available only for users logged in at the Administrator level; otherwise, they will return an error.

Model Series Reported by Device
The Model address type will have a string value of 'DX100' or 'DX200', indicating the model series returned by the device.

Control Math Execution
The MathControl address type is only available for devices equipped with the math option and write operations to the MathControl tag for non-math equipped devices will return an error.

Control Command and Response
The Command address allows the user to send a string command and receive a string response to and from the device. This allows the user to send any command to the device, including commands not directly supported by the driver. This tag is only available to users logged in at the Administrator level; otherwise, write operations will return an error.

⬤ **Caution**: Write operations using the Command address should be performed with caution.

⬤ **Note**: The actual number of addresses available for of each type depends on the configuration of the Yokogawa device. If the driver finds at Runtime that an address is not present in the device, it will post an error message and then remove the tag from its scan list.

Addresses that have Write Only access are assigned a default access of Read/Write; however, data values will be unreadable for these addresses and the associated tags will not be included in the scan list. The current data value for these tags will always be 0 for numeric data types and null string for string data types.

S123 Addressing for DX210, DX220, DX230

The following table describes the addressing of models DX210, DX220 and DX230 when used with Yokogawa's /S123 Expandable Input option. For details on the /S123 enhancement option, please refer to the Yokogawa documentation. The default data type is shown in **bold**.

⬤ **Note**: The /S123 Expandable Input option is available for the DX210, DX220 and DX230 models only.

Measured Channels

Address Type	Format	Range	Data Types	Access
Process Value of Channel	CHxx or CHxx.PV	01-10 (DX210) 01-20 (DX220) 01-30 (DX230)	**Double**, Float	Read Only
Alarm Summary of Channel	CHxx.Alarm	01-10 (DX210) 01-20 (DX220) 01-30 (DX230)	**Short**, Word, Byte	Read Only
Alarm Level1 Status of Channel	CHxx.Alarm1	01-10 (DX210) 01-20 (DX220) 01-30 (DX230)	**Short**, Word, Byte	Read Only
Alarm Level2 Status of Channel	CHxx.Alarm2	01-10 (DX210) 01-20 (DX220) 01-30 (DX230)	**Short**, Word, Byte	Read Only
Alarm Level3 Status of Channel	CHxx.Alarm3	01-10 (DX210) 01-20 (DX220) 01-30 (DX230)	**Short**, Word, Byte	Read Only
Alarm Level4 Status of Channel	CHxx.Alarm4	01-10 (DX210) 01-20 (DX220) 01-30	**Short**, Word, Byte	Read Only

Address Type	Format	Range	Data Types	Access
		(DX230)		
Set and Read Level1 Alarm Set-point	CHxx.ASP1	01-10 (DX210) 01-20 (DX220) 01-30 (DX230)	**Double**, Float	Read/Write
Set and Read Level2 Alarm Set-point	CHxx.ASP2	01-10 (DX210) 01-20 (DX220) 01-30 (DX230)	**Double**, Float	Read/Write
Set and Read Level3 Alarm Set-point	CHxx.ASP3	01-10 (DX210) 01-20 (DX220) 01-30 (DX230)	**Double**, Float	Read/Write
Set and Read Level4 Alarm Set-point	CHxx.ASP4	01-10 (DX210) 01-20 (DX220) 01-30 (DX230)	**Double**, Float	Read/Write
Alarm type Numeric Level 1	CHxxx.AlarmType1.Num	01-10 (DX210) 01-20 (DX220) 01-30 (DX230)	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 2	CHxxx.AlarmType2.Num	01-10 (DX210) 01-20 (DX220) 01-30	**Short**, Word, Byte	Read Only

Address Type	Format	Range	Data Types	Access
		(DX230)		
Alarm type Numeric Level 3	CHxxx.AlarmType3.Num	01-10 (DX210) 01-20 (DX220) 01-30 (DX230)	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 4	CHxxx.AlarmType4.Num	01-10 (DX210) 01-20 (DX220) 01-30 (DX230)	**Short**, Word, Byte	Read Only
Alarm type String Level 1	CHxxx.AlarmType1.String	01-10 (DX210) 01-20 (DX220) 01-30 (DX230)	**String**	Read Only
Alarm type String Level 2	CHxxx.AlarmType2.String	01-10 (DX210) 01-20 (DX220) 01-30 (DX230)	**String**	Read Only
Alarm type String Level 3	CHxxx.AlarmType3.String	01-10 (DX210) 01-20 (DX220) 01-30 (DX230)	**String**	Read Only
Alarm type String Level 4	CHxxx.AlarmType4.String	01-10 (DX210) 01-20 (DX220) 01-30	**String**	Read Only

Address Type	Format	Range	Data Types	Access
		(DX230)		
Upper Scale Value of Channel*	CHxx.scale_Hi	01-10 (DX210) 01-20 (DX220) 01-30 (DX230)	**Double**, Float	Read Only
Lower Scale Value of Channel*	CHxx.scale_Lo	01-10 (DX210) 01-20 (DX220) 01-30 (DX230)	**Double**, Float	Read Only
Unit String of Channel*	CHxx.unit	01-10 (DX210) 01-20 (DX220) 01-30 (DX230)	**String**	Read Only
Tagname of Channel*	CHxx.tag	01-10 (DX210) 01-20 (DX220) 01-30 (DX230)	**String**	Read Only
Status of Channel*	CHxx.status	01-10 (DX210) 01-20 (DX220) 01-30 (DX230)	**String**	Read Only
Precision of Channel*	CHxx.Precision	01-10 (DX210) 01-20 (DX220) 01-30	**Short**, Word, Byte	Read Only

Address Type	Format	Range	Data Types	Access
		(DX230)		
Lowest Measuring Channel*	CH.Low		**Short**, Word, Byte	Read Only
Highest Measuring Channel*	CH.High		**Short**, Word, Byte	Read Only

Math Channels

Address Type	Format	Range	Data Types	Access
Process Value of Math Channel	CHxxx or CHxxx.PV	31-60	**Double**, Float	Read Only
Alarm Summary of Math Channel	CHxxx.Alarm	31-60	**Short**, Word, Byte	Read Only
Alarm Level1 Status of Math Channel	CHxxx.Alarm1	31-60	**Short**, Word, Byte	Read Only
Alarm Level2 Status of Math Channel	CHxxx.Alarm2	31-60	**Short**, Word, Byte	Read Only
Alarm Level3 Status of Math Channel	CHxxx.Alarm3	31-60	**Short**, Word, Byte	Read Only
Alarm Level4 Status of Math Channel	CHxxx.Alarm4	31-60	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Set-point	CHxxx.ASP1	31-60	**Double**, Float	Read/Write
Set and Read Level2 Alarm Set-point	CHxxx.ASP2	31-60	**Double**, Float	Read/Write
Set and Read Level3 Alarm Set-point	CHxxx.ASP3	31-60	**Double**, Float	Read/Write
Set and Read Level4 Alarm Set-point	CHxxx.ASP4	31-60	**Double**, Float	Read/Write
Alarm type Numeric Level 1	CHxxx.AlarmType1.Num	31-60	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 2	CHxxx.AlarmType2.Num	31-60	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 3	CHxxx.AlarmType3.Num	31-60	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 4	CHxxx.AlarmType4.Num	31-60	**Short**, Word, Byte	Read Only
Alarm type String Level 1	CHxxx.AlarmType1.String	31-60	**String**	Read Only
Alarm type String Level 2	CHxxx.AlarmType2.String	31-60	**String**	Read Only
Alarm type String Level 3	CHxxx.AlarmType3.String	31-60	**String**	Read Only
Alarm type String Level 4	CHxxx.AlarmType4.String	31-60	**String**	Read Only
Upper Scale Value of Math Channel*	CHxxx.scale_Hi	31-60	**Double**, Float	Read Only
Lower Scale Value of Math Channel*	CHxxx.scale_Lo	31-60	**Double**, Float	Read Only

Address Type	Format	Range	Data Types	Access
Unit String of Math Channel*	CHxxx.unit	31-60	**String**	Read Only
Tagname of Math Channel*	CHxxx.tag	31-60	**String**	Read Only
Status of Math Channel*	CHxxx.status	31-60	**String**	Read Only
Precision of Math Channel*	CHxxx.Precision	31-60	**Short**, Word, Byte	Read Only
Lowest Math Channel*	CHA.Low		**Short**, Word, Byte	Read Only
Highest Math Channel*	CHA.High		**Short**, Word, Byte	Read Only

Extended Channels

These extended channels are enabled by Yokogawa's /S123 Expandable Input Option.

Address Type	Format	Range	Data Types	Access
External Input Channel	CHxxx or CHxxx.PV	101-270	**Double**, Float	Read/Write
Alarm Summary for External Input Channel	CHxxx.Alarm	101-270	**Short**, Word, Byte	Read Only
Alarm Level1 Status of External Input	CHxxx.Alarm1	101-270	**Short**, Word, Byte	Read Only
Alarm Level2 Status of External Input	CHxxx.Alarm2	101-270	**Short**, Word, Byte	Read Only
Alarm Level3 Status of External Input	CHxxx.Alarm3	101-270	**Short**, Word, Byte	Read Only
Alarm Level4 Status of External Input	CHxxx.Alarm4	101-270	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Setpoint	CHxxx.ASP1	101-270	**Double**, Float	Read/Write
Set and Read Level2 Alarm Setpoint	CHxxx.ASP2	101-270	**Double**, Float	Read/Write
Set and Read Level3 Alarm Setpoint	CHxxx.ASP3	101-270	**Double**, Float	Read/Write
Set and Read Level4 Alarm Setpoint	CHxxx.ASP4	101-270	**Double**, Float	Read/Write
Alarm type Numeric Level1 for External Input Channel	CHxxx.AlarmTypeNum1	101-270	**Short**, Word, Byte	Read Only
Alarm type Numeric Level2 for External Input Channel	CHxxx.AlarmTypeNum2	101-270	**Short**, Word, Byte	Read Only
Alarm type Numeric Level3 for External Input Channel	CHxxx.AlarmTypeNum3	101-270	**Short**, Word, Byte	Read Only
Alarm type Numeric Level4 for External Input Channel	CHxxx.AlarmTypeNum4	101-270	**Short**, Word, Byte	Read Only

Address Type	Format	Range	Data Types	Access
Alarm type String Level1 for External Input Channel	CHxxx.AlarmTypeStr1	101-270	**String**	Read Only
Alarm type String Level2 for External Input Channel	CHxxx.AlarmTypeStr2	101-270	**String**	Read Only
Alarm type String Level3 for External Input Channel	CHxxx.AlarmTypeStr3	101-270	**String**	Read Only
Alarm type String Level4 for External Input Channel	CHxxx.AlarmTypeStr4	101-270	**String**	Read Only
Upper Scale Value of External Input*	CHxxx.scale_Hi	101-270	**Double**, Float	Read Only
Lower Scale Value of External Input*	CHxxx.scale_Lo	101-270	**Double**, Float	Read Only
Unit String of External Input*	CHxxx.unit	101-270	**String**	Read Only
Tagname of External Input*	CHxxx.tag	101-270	**String**	Read Only
Status of External Input*	CHxxx.status	101-270	**String**	Read Only
Precision of External Input*	CHxxx.Precision	101-270	**Short**, Word, Byte	Read Only
Lowest External Input*	CHE.Low		**Short**, Word, Byte	Read Only
Highest External Input*	CHE.High		**Short**, Word, Byte	Read Only

*Data associated with these addresses are only read from the device at the start of a communications session. Once read, the values will not be refreshed until the server has been restarted or the "Reset" tag has been invoked. To invoke a reset, a non zero value must be written to the Reset tag. Once the Reset tag has been invoked the driver will reinitialize all startup data from the device.

Alarm Setpoints

Data values for Alarm Setpoints that are undefined in the device will be returned as +INF. Data values can only be written to Alarm Setpoints that are defined in the device. Write operations to undefined Alarm Setpoints will return an error. Write operations are only available only for users logged in at the Administrator level; otherwise, they will return an error.

Scales

Data values for Scale_Hi and Scale_Lo for channels that are skipped will be returned as +INF.

Tag Names

For devices that do not support tag names and channels that have unspecified tag names, the driver will construct an internal tag name based on the channel number. For example, the tag name of address 'CH01' will be returned as 'CH01'.

General Device Data

Address Description	Address/Format	Range	Data Types	Access
Administrator Level	Admin		**Boolean**	Read Only
Date of Last Data	Date		**String**	Read Only
Time of Last Data	Time		**String**	Read Only
Model Series Reported by Device	Model		**String**	Read Only
Host Name of Device	Hostname		**String**	Read Only
Serial Number of Device	SerialNumber		**String**	Read Only
IP Address of Device	IP		**String**	Read Only
Math Communication Data	CDxx	01-30	**Float**	Read/Write
Control Math Execution	MathControl		**Short**, Word, Byte	Write Only
Reset Alarms	AlarmReset		**Boolean**	Write Only
Control Command and Response	Command		**String**	Read/Write
Previous Screen	PreScreen		**Boolean**	Write Only
Direct Reloading of Configuration	Reset		**Boolean**	Write Only
SetTime*	Tag		**Boolean**	Write Only

*The SetTime Tag updates the device time. Writing 0 or 1 to the tag will update the Device Date and Time (which can be verified from the Date Tag and the Time Tag). The SetTime Tag will always display 0 because it is Write Only. After a successful update, the following message will be posted: "Device Clock set to system time [Device <device_name>]."

Administrator Level

The Admin address type has a value of '1' or 'true' when the user has logged on at the Administrator level and a value of '0' or 'false' when the user has logged on at the User level.

Math Communication Data

The CD address type is only valid for devices equipped with the math option and write operations to CD addresses for non-math equipped devices will return an error. Write operations are available only for users logged in at the Administrator level; otherwise, they will return an error.

Model Series Reported by Device

The Model address type will have a string value of 'DX100' or 'DX200', indicating the model series returned by the device.

Control Math Execution

The MathControl address type is only available for devices equipped with the math option and write operations to the MathControl tag for non-math equipped devices will return an error.

Control Command and Response

The Command address allows the user to send a string command and receive a string response to and from the device. This allows the user to send any command to the device, including commands not directly supported by the driver. This tag is only available to users logged in at the Administrator level; otherwise, write operations will return an error.

🔸 **Caution**: Write operations using the Command address should be performed with caution.

● **Note**: The actual number of addresses available for of each type depends on the configuration of the Yokogawa device. If the driver finds at Runtime that an address is not present in the device, it will post an error message and then remove the tag from its scan list.

Addresses that have Write Only access are assigned a default access of Read/Write; however, data values will be unreadable for these addresses and the associated tags will not be included in the scan list. The current data value for these tags will always be 0 for numeric data types and null string for string data types.

MV100 Addressing

The driver supports the following addresses for this device. The default data type is shown in **bold**.

Measured Channels

Address Type	Format	Range	Data Types	Access
Process Value of Channel	CHxx or CHxx.PV	01-12	**Double**, Float	Read Only
Alarm Summary of Channel	CHxx.Alarm	01-12	**Short**, Word, Byte	Read Only
Alarm Level1 Status of Channel	CHxx.Alarm1	01-12	**Short**, Word, Byte	Read Only
Alarm Level2 Status of Channel	CHxx.Alarm2	01-12	**Short**, Word, Byte	Read Only
Alarm Level3 Status of Channel	CHxx.Alarm3	01-12	**Short**, Word, Byte	Read Only
Alarm Level4 Status of Channel	CHxx.Alarm4	01-12	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Setpoint	CHxx.ASP1	01-12	**Double**, Float	Read/Write
Set and Read Level2 Alarm Setpoint	CHxx.ASP2	01-12	**Double**, Float	Read/Write
Set and Read Level3 Alarm Setpoint	CHxx.ASP3	01-12	**Double**, Float	Read/Write
Set and Read Level4 Alarm Setpoint	CHxx.ASP4	01-12	**Double**, Float	Read/Write
Alarm type Numeric Level 1	CHxx.AlarmType1.Num	01-12	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 2	CHxx.AlarmType2.Num	01-12	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 3	CHxx.AlarmType3.Num	01-12	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 4	CHxx.AlarmType4.Num	01-12	**Short**, Word, Byte	Read Only
Alarm type String Level 1	CHxx.AlarmType1.String	01-12	**String**	Read Only
Alarm type String Level 2	CHxx.AlarmType2.String	01-12	**String**	Read Only
Alarm type String Level 3	CHxx.AlarmType3.String	01-12	**String**	Read Only
Alarm type String Level 4	CHxx.AlarmType4.String	01-12	**String**	Read Only
Upper Scale Value of Channel*	CHxx.scale_Hi	01-12	**Double**, Float	Read Only

Address Type	Format	Range	Data Types	Access
Lower Scale Value of Channel*	CHxx.scale_Lo	01-12	**Double**, Float	Read Only
Unit String of Channel*	CHxx.unit	01-12	**String**	Read Only
Tagname of Channel*	CHxx.tag	01-12	**String**	Read Only
Status of Channel*	CHxx.status	01-12	**String**	Read Only
Precision of Channel*	CHxx.Precision	01-12	**Short**, Word, Byte	Read Only
Lowest Measuring Channel*	CH.Low		**Short**, Word, Byte	Read Only
Highest Measuring Channel*	CH.High		**Short**, Word, Byte	Read Only

Math Channels

Address Type	Format	Range	Data Types	Access
Process Value of Math Channel	CHAxx or CHAxx.PV	31-42	**Double**, Float	Read Only
Alarm Summary of Math Channel	CHAxx.Alarm	31-42	**Short**, Word, Byte	Read Only
Alarm Level1 Status of Math Channel	CHAxx.Alarm1	31-42	**Short**, Word, Byte	Read Only
Alarm Level2 Status of Math Channel	CHAxx.Alarm2	31-42	**Short**, Word, Byte	Read Only
Alarm Level3 Status of Math Channel	CHAxx.Alarm3	31-42	**Short**, Word, Byte	Read Only
Alarm Level4 Status of Math Channel	CHAxx.Alarm4	31-42	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Setpoint	CHAxx.ASP1	31-42	**Double**, Float	Read/Write
Set and Read Level2 Alarm Setpoint	CHAxx.ASP2	31-42	**Double**, Float	Read/Write
Set and Read Level3 Alarm Setpoint	CHAxx.ASP3	31-42	**Double**, Float	Read/Write
Set and Read Level4 Alarm Setpoint	CHAxx.ASP4	31-42	**Double**, Float	Read/Write
Upper Scale Value of Math Channel*	CHAxx.scale_Hi	31-42	**Double**, Float	Read Only
Lower Scale Value of Math Channel*	CHAxx.scale_Lo	31-42	**Double**, Float	Read Only
Unit String of Math Channel*	CHAxx.unit	31-42	**String**	Read Only
Tagname of Math Channel*	CHAxx.tag	31-42	**String**	Read Only
Status of Math Channel*	CHAxx.status	31-42	**String**	Read Only
Precision of Math Channel*	CHAxx.Precision	31-42	**Short**, Word, Byte	Read Only
Lowest Math Channel*	CHA.Low		**Short**, Word, Byte	Read Only
Highest Math Channel*	CHA.High		**Short**, Word, Byte	Read Only

*Data associated with these addresses are only read from the device at the start of a communications session. Once read, the values will not be refreshed until the server has been restarted or the "Reset" tag has been invoked. To invoke a reset, a non-zero value must be written to the Reset tag. Once the Reset tag has been invoked the driver will reinitialize all startup data from the device.

Alarm Setpoints

Data values for Alarm Setpoints that are undefined in the device will be returned as +INF. Data values can only be written to Alarm Setpoints that are defined in the device. Write operations to undefined Alarm Setpoints will return an error. Write operations are only available only for users logged in at the Administrator level; otherwise, they will return an error.

Scales

Data values for Scale_Hi and Scale_Lo for channels that are skipped will be returned as +INF.

Tag Names

For devices that do not support tag names and channels that have unspecified tag names, the driver will construct an internal tag name based on the channel number. For example, the tag name of address 'CH01' will be returned as 'CH01'.

General Device Data

Address Description	Address/Format	Range	Data Types	Access
Administrator Level	Admin		**Boolean**	Read Only
Date of Last Data	Date		**String**	Read Only
Time of Last Data	Time		**String**	Read Only
Model Series Reported by Device	Model		**String**	Read Only
Host Name of Device	Hostname		**String**	Read Only
Serial Number of Device	SerialNumber		**String**	Read Only
IP Address of Device	IP		**String**	Read Only
Math Communication Data	CDxx	01-12	**Float**	Read/Write
Control Math Execution	MathControl		**Short**, Word, Byte	Write Only
Reset Alarms	AlarmReset		**Boolean**	Write Only
Control Command and Response	Command		**String**	Read/Write
Previous Screen	PreScreen		**Boolean**	Write Only
Direct Reloading of Configuration	Reset		**Boolean**	Write Only
SetTime*	Tag		**Boolean**	Write Only

*The SetTime Tag updates the device time. Writing 0 or 1 to the tag will update the Device Date and Time (which can be verified from the Date Tag and the Time Tag). The SetTime Tag will always display 0 because it is Write Only. After a successful update, the following message will be posted: "Device Clock set to system time [Device <device_name>]."

Administrator Level

The Admin address type has a value of '1' or 'true' when the user has logged on at the Administrator level and a value of '0' or 'false' when the user has logged on at the User level.

Math Communication Data

The CD address type is only valid for devices equipped with the math option and write operations to CD addresses for non-math equipped devices will return an error. Write operations are available only for users logged in at the Administrator level; otherwise, they will return an error.

Model Series Reported by Device

The Model address type will have a string value of 'DX100' or 'DX200', indicating the model series returned by the device.

Control Math Execution

The MathControl address type is only available for devices equipped with the math option and write operations to the MathControl tag for non-math equipped devices will return an error.

Control Command and Response

The Command address allows the user to send a string command and receive a string response to and from the device. This allows the user to send any command to the device, including commands not directly supported by the driver. This tag is only available to users logged in at the Administrator level; otherwise, write operations will return an error.

⬤ **Caution**: Write operations using the Command address should be performed with caution.

⬤ **Note**: The actual number of addresses available for of each type depends on the configuration of the Yokogawa device. If the driver finds at Runtime that an address is not present in the device, it will post an error message and then remove the tag from its scan list.

Addresses that have Write Only access are assigned a default access of Read/Write; however, data values will be unreadable for these addresses and the associated tags will not be included in the scan list. The current data value for these tags will always be 0 for numeric data types and null string for string data types.

MV200 Addressing

The driver supports the following addresses for this device. The default data type is shown in **bold**.

Measured Channels

Address Type	Format	Range	Data Types	Access
Process Value of Channel	CHxx or CHxx.PV	01-30	**Double**, Float	Read Only
Alarm Summary of Channel	CHxx.Alarm	01-30	**Short**, Word, Byte	Read Only
Alarm Level1 Status of Channel	CHxx.Alarm1	01-30	**Short**, Word, Byte	Read Only
Alarm Level2 Status of Channel	CHxx.Alarm2	01-30	**Short**, Word, Byte	Read Only
Alarm Level3 Status of Channel	CHxx.Alarm3	01-30	**Short**, Word, Byte	Read Only
Alarm Level4 Status of Channel	CHxx.Alarm4	01-30	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Setpoint	CHxx.ASP1	01-30	**Double**, Float	Read/Write
Set and Read Level2 Alarm Setpoint	CHxx.ASP2	01-30	**Double**, Float	Read/Write
Set and Read Level3 Alarm Setpoint	CHxx.ASP3	01-30	**Double**, Float	Read/Write
Set and Read Level4 Alarm Setpoint	CHxx.ASP4	01-30	**Double**, Float	Read/Write
Alarm type Numeric Level 1	CHxx.AlarmType1.Num	01-30	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 2	CHxx.AlarmType2.Num	01-30	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 3	CHxx.AlarmType3.Num	01-30	**Short**, Word, Byte	Read Only

Alarm type Numeric Level 4	CHxx.AlarmType4.Num	01-30	**Short**, Word, Byte	Read Only
Alarm type String Level 1	CHxx.AlarmType1.String	01-30	**String**	Read Only
Alarm type String Level 2	CHxx.AlarmType2.String	01-30	**String**	Read Only
Alarm type String Level 3	CHxx.AlarmType3.String	01-30	**String**	Read Only
Alarm type String Level 4	CHxx.AlarmType4.String	01-30	**String**	Read Only
Upper Scale Value of Channel*	CHxx.scale_Hi	01-30	**Double**, Float	Read Only
Lower Scale Value of Channel*	CHxx.scale_Lo	01-30	**Double**, Float	Read Only
Unit String of Channel*	CHxx.unit	01-30	**String**	Read Only
Tagname of Channel*	CHxx.tag	01-30	**String**	Read Only
Status of Channel*	CHxx.status	01-30	**String**	Read Only
Precision of Channel*	CHxx.Precision	01-30	**Short**, Word, Byte	Read Only
Lowest Measuring Channel*	CH.Low		**Short**, Word, Byte	Read Only
Highest Measuring Channel*	CH.High		**Short**, Word, Byte	Read Only

Math Channels

Address Type	Format	Range	Data Types	Access
Process Value of Math Channel	CHxx or CHxx.PV	31-60	**Double**, Float	Read Only
Alarm Summary of Math Channel	CHxx.Alarm	31-60	**Short**, Word, Byte	Read Only
Alarm Level1 Status of Math Channel	CHxx.Alarm1	31-60	**Short**, Word, Byte	Read Only
Alarm Level2 Status of Math Channel	CHxx.Alarm2	31-60	**Short**, Word, Byte	Read Only
Alarm Level3 Status of Math Channel	CHxx.Alarm3	31-60	**Short**, Word, Byte	Read Only
Alarm Level4 Status of Math Channel	CHxx.Alarm4	31-60	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Setpoint	CHxx.ASP1	31-60	**Double**, Float	Read/Write
Set and Read Level2 Alarm Setpoint	CHxx.ASP2	31-60	**Double**, Float	Read/Write
Set and Read Level3 Alarm Setpoint	CHxx.ASP3	31-60	**Double**, Float	Read/Write
Set and Read Level4 Alarm Setpoint	CHxx.ASP4	31-60	**Double**, Float	Read/Write
Alarm type Numeric Level 1	CHxx.AlarmType1.Num	31-60	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 2	CHxx.AlarmType2.Num	31-60	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 3	CHxx.AlarmType3.Num	31-60	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 4	CHxx.AlarmType4.Num	31-60	**Short**, Word, Byte	Read Only

Alarm type String Level 1	CHxx.AlarmType1.String	31-60	**String**	Read Only
Alarm type String Level 2	CHxx.AlarmType2.String	31-60	**String**	Read Only
Alarm type String Level 3	CHxx.AlarmType3.String	31-60	**String**	Read Only
Alarm type String Level 4	CHxx.AlarmType4.String	31-60	**String**	Read Only
Upper Scale Value of Math Channel*	CHxx.scale_Hi	31-60	**Double**, Float	Read Only
Lower Scale Value of Math Channel*	CHxx.scale_Lo	31-60	**Double**, Float	Read Only
Unit String of Math Channel*	CHxx.unit	31-60	**String**	Read Only
Tagname of Math Channel*	CHxx.tag	31-60	**String**	Read Only
Status of Math Channel*	CHxx.status	31-60	**String**	Read Only
Precision of Math Channel*	CHxx.Precision	31-60	**Short**, Word, Byte	Read Only
Lowest Math Channel*	CHA.Low		**Short**, Word, Byte	Read Only
Highest Math Channel*	CHA.High		**Short**, Word, Byte	Read Only

*Data associated with these addresses are only read from the device at the start of a communications session. Once read, the values will not be refreshed until the server has been restarted or the "Reset" tag has been invoked. To invoke a reset, a non-zero value must be written to the Reset tag. Once the Reset tag has been invoked the driver will reinitialize all startup data from the device.

Alarm Setpoints

Data values for Alarm Setpoints that are undefined in the device will be returned as +INF. Data values can only be written to Alarm Setpoints that are defined in the device. Write operations to undefined Alarm Setpoints will return an error. Write operations are only available only for users logged in at the Administrator level; otherwise, they will return an error.

Scales

Data values for Scale_Hi and Scale_Lo for channels that are skipped will be returned as +INF.

Tag Names

For devices that do not support tag names and channels that have unspecified tag names, the driver will construct an internal tag name based on the channel number. For example, the tag name of address 'CH01' will be returned as 'CH01'.

General Device Data

Address Description	Address/Format	Range	Data Types	Access
Administrator Level	Admin		**Boolean**	Read Only
Date of Last Data	Date		**String**	Read Only
Time of Last Data	Time		**String**	Read Only
Model Series Reported by Device	Model		**String**	Read Only
Math Communication Data	CDxx	01-30	**Float**	Read/Write
Control Math Execution	MathControl		**Short**, Word, Byte	Write Only

Reset Alarms	AlarmReset		**Boolean**	Write Only
Control Command and Response	Command		**String**	Read/Write
Previous Screen	PreScreen		**Boolean**	Write Only
Direct Reloading of Configuration	Reset		**Boolean**	Write Only
SetTime*	Tag		**Boolean**	Write Only

*The SetTime Tag updates the device time. Writing 0 or 1 to the tag will update the Device Date and Time (which can be verified from the Date Tag and the Time Tag). The SetTime Tag will always display 0 because it is Write Only. After a successful update, the following message will be posted: "Device Clock set to system time [Device <device_name>]."

Administrator Level

The Admin address type has a value of '1' or 'true' when the user has logged on at the Administrator level and a value of '0' or 'false' when the user has logged on at the User level.

Math Communication Data

The CD address type is only valid for devices equipped with the math option and write operations to CD addresses for non-math equipped devices will return an error. Write operations are available only for users logged in at the Administrator level; otherwise, they will return an error.

Model Series Reported by Device

The Model address type will have a string value of 'DX100' or 'DX200', indicating the model series returned by the device.

Control Math Execution

The MathControl address type is only available for devices equipped with the math option and write operations to the MathControl tag for non-math equipped devices will return an error.

Control Command and Response

The Command address allows the user to send a string command and receive a string response to and from the device. This allows the user to send any command to the device, including commands not directly supported by the driver. This tag is only available to users logged in at the Administrator level; otherwise, write operations will return an error.

Caution: Write operations using the Command address should be performed with caution.

Note: The actual number of addresses available for of each type depends on the configuration of the Yokogawa device. If the driver finds at Runtime that an address is not present in the device, it will post an error message and then remove the tag from its scan list.

Addresses that have Write Only access are assigned a default access of Read/Write; however, data values will be unreadable for these addresses and the associated tags will not be included in the scan list. The current data value for these tags will always be 0 for numeric data types and null string for string data types.

DX1002 Addressing

The driver supports the following addresses for this device. The default data type is shown in **bold**.

Measured Channels

Address Type	Format	Range	Data Types	Access
Process Value of Channel	CHxx or CHxx.PV	01-02	**Double,** Float	Read Only
Alarm Summary of Channel	CHxx.Alarm	01-02	**Short,** Word, Byte	Read Only
Alarm Level1 Status of Channel	CHxx.Alarm1	01-02	**Short,** Word, Byte	Read Only
Alarm Level2 Status of Channel	CHxx.Alarm2	01-02	**Short,** Word, Byte	Read Only
Alarm Level3 Status of Channel	CHxx.Alarm3	01-02	**Short,** Word, Byte	Read Only
Alarm Level4 Status of Channel	CHxx.Alarm4	01-02	**Short,** Word, Byte	Read Only
Set and Read Level1 Alarm Set-point	CHxx.ASP1	01-02	**Double,** Float	Read/Write
Set and Read Level2 Alarm Set-point	CHxx.ASP2	01-02	**Double,** Float	Read/Write
Set and Read Level3 Alarm Set-point	CHxx.ASP3	01-02	**Double,** Float	Read/Write
Set and Read Level4 Alarm Set-point	CHxx.ASP4	01-02	**Double,** Float	Read/Write
Alarm type Numeric Level 1	CHxx.AlarmType1.Num	01-02	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 2	CHxx.AlarmType2.Num	01-02	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 3	CHxx.AlarmType3.Num	01-02	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 4	CHxx.AlarmType4.Num	01-02	**Short**, Word, Byte	Read Only
Alarm type String Level 1	CHxx.AlarmType1.String	01-02	**String**	Read Only
Alarm type String Level 2	CHxx.AlarmType2.String	01-02	**String**	Read Only
Alarm type String Level 3	CHxx.AlarmType3.String	01-02	**String**	Read Only
Alarm type String Level 4	CHxx.AlarmType4.String	01-02	**String**	Read Only
Upper Scale Value of Channel*	CHxx.scale_Hi	01-02	**Double,** Float	Read Only
Lower Scale Value of Channel*	CHxx.scale_Lo	01-02	**Double,** Float	Read Only
Unit String of Channel*	CHxx.unit	01-02	**String**	Read Only
Tagname of Channel*	CHxx.tag	01-02	**String**	Read Only
Status of Channel*	CHxx.status	01-02	**String**	Read Only
Precision of Channel*	CHxx.Precision	01-02	**Short,** Word, Byte	Read Only
Lowest Measuring Channel*	CH.Low		**Short,** Word,	Read Only

Address Type	Format	Range	Data Types	Access
			Byte	
Highest Measuring Channel*	CH.High		**Short,** Word, Byte	Read Only

Math Channels

Address Type	Format	Range	Data Types	Access
Process Value of Math Channel	CHxxx or CHxxx.PV	101-112	**Double,** Float	Read Only
Alarm Summary of Math Channel	CHxxx.Alarm	101-112	**Short,** Word, Byte	Read Only
Alarm Level1 Status of Math Channel	CHxxx.Alarm1	101-112	**Short,** Word, Byte	Read Only
Alarm Level2 Status of Math Channel	CHxxx.Alarm2	101-112	**Short,** Word, Byte	Read Only
Alarm Level3 Status of Math Channel	CHxxx.Alarm3	101-112	**Short,** Word, Byte	Read Only
Alarm Level4 Status of Math Channel	CHxxx.Alarm4	101-112	**Short,** Word, Byte	Read Only
Set and Read Level1 Alarm Set-point	CHxxx.ASP1	101-112	**Double,** Float	Read/Write
Set and Read Level2 Alarm Set-point	CHxxx.ASP2	101-112	**Double,** Float	Read/Write
Set and Read Level3 Alarm Set-point	CHxxx.ASP3	101-112	**Double,** Float	Read/Write
Set and Read Level4 Alarm Set-point	CHxxx.ASP4	101-112	**Double,** Float	Read/Write
Alarm type Numeric Level 1	CHxxx.AlarmType1.Num	101-112	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 2	CHxxx.AlarmType2.Num	101-112	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 3	CHxxx.AlarmType3.Num	101-112	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 4	CHxxx.AlarmType4.Num	101-112	**Short**, Word, Byte	Read Only
Alarm type String Level 1	CHxxx.AlarmType1.String	101-112	String	Read Only
Alarm type String Level 2	CHxxx.AlarmType2.String	101-112	String	Read Only
Alarm type String Level 3	CHxxx.AlarmType3.String	101-112	String	Read Only
Alarm type String Level 4	CHxxx.AlarmType4.String	101-112	String	Read Only
Upper Scale Value of Math Channel*	CHxxx.scale_Hi	101-112	**Double,** Float	Read Only

Address Type	Format	Range	Data Types	Access
Lower Scale Value of Math Channel*	CHxxx.scale_Lo	101-112	**Double,** Float	Read Only
Unit String of Math Channel*	CHxxx.unit	101-112	String	Read Only
Tagname of Math Channel*	CHxxx.tag	101-112	String	Read Only
Status of Math Channel*	CHxxx.status	101-112	String	Read Only
Precision of Math Channel*	CHxxx.Precision	101-112	**Short,** Word, Byte	Read Only
Lowest Math Channel*	CHA.Low		**Short,** Word, Byte	Read Only
Highest Math Channel*	CHA.High		**Short,** Word, Byte	Read Only

*Data associated with these addresses are only read from the device at the start of a communications session. Once read, the values will not be refreshed until the server has been restarted or the "Reset" tag has been invoked. To invoke a reset, a non zero value must be written to the Reset tag. Once the Reset tag has been invoked the driver will reinitialize all startup data from the device.

Alarm Setpoints

Data values for Alarm Setpoints that are undefined in the device will be returned as +INF. Data values can only be written to Alarm Setpoints that are defined in the device. Write operations to undefined Alarm Setpoints will return an error. Write operations are available only for users logged in at the Administrator level and will return an error otherwise.

Scales

Data values for Scale_Hi and Scale_Lo for channels that are skipped will be returned as +INF.

Tag Names

For devices that do not support tag names and channels that have unspecified tag names, the driver will construct an internal tag name based on the channel number. For example, the tag name of address 'CH01' will be returned as 'CH01'.

General Device Data

Address Description	Address/Format	Range	Data Types	Access
Administrator Level	Admin		Boolean	Read Only
Date of Last Data	Date		String	Read Only
Time of Last Data	Time		String	Read Only
Model Series Reported by Device	Model		String	Read Only
Host Name of Device	Hostname		String	Read Only
Serial Number of Device	SerialNumber		String	Read Only
IP Address of Device	IP		String	Read Only
Math Communication Data	CDxx	01-12	Float	Read/Write
Control Math Execution	MathControl		**Short**, Word,	Write Only

Address Description	Address/Format	Range	Data Types	Access
			Byte	
Reset Alarms	AlarmReset		Boolean	Write Only
Control Command and Response	Command		String	Read/Write
Previous Screen	PreScreen		Boolean	Write Only
Direct Reloading of Configuration	Reset		Boolean	Write Only
Freeze the recorder's trend and time display.	Opmode_freeze		Boolean	Write Only
Resume the recorder's trend and time display.	Opmode_normal		Boolean	Write Only
Clear the recorder's memory and display.	Opmode_clear		Boolean	Write Only
SetTime*	Tag		**Boolean**	Write Only

*The SetTime Tag updates the device time. Writing 0 or 1 to the tag will update the Device Date and Time (which can be verified from the Date Tag and the Time Tag). The SetTime Tag will always display 0 because it is Write Only. After a successful update, the following message will be posted: "Device Clock set to system time [Device <device_name>]."

Administrator Level

The Admin address type has a value of '1' or 'true' when the user has logged on at the Administrator level and a value of '0' or 'false' when the user has logged on at the User level.

Math Communication Data

The CD address type is only valid for devices equipped with the math option and write operations to CD addresses for non-math equipped devices will return an error. Write operations are available only for users logged in at the Administrator level; otherwise, they will return an error.

Model Series Reported by Device

The Model address type will have a string value of 'DX100' or 'DX200', indicating the model series returned by the device.

Control Math Execution

The MathControl address type is only available for devices equipped with the math option and write operations to the MathControl tag for non-math equipped devices will return an error.

Control Command and Response

The Command address allows the user to send a string command and receive a string response to and from the device. This allows the user to send any command to the device, including commands not directly supported by the driver. This tag is only available to users logged in at the Administrator level; otherwise, write operations will return an error.

⬥**Caution**: Write operations using the Command address should be performed with caution.

Messages

Command	Message Type	Syntax	Notes
BJ	Free Message (aka Arbitrary Message)	BJ(group)_(message #)	Message is assigned to a group and displayed for that group only.

Command	Message Type	Syntax	Notes
		E.g., BJ10_2 for group 10, msg 2.	Limit: 10 messages. Message max. length: 32 char.s.
SG	Regular Message	SG(message #) E.g., SG_42	Limit: 100 messages. Message max. length: 32 char.s. Message will be written to the current display when the MS command is invoked.
MS	Writes message to display	MS(message #) E.g., MS_42	Writes the message (indicated by message #) to the current display.

Note: The actual number of addresses available for each type depends on the configuration of the Yokogawa device. If the driver finds at Runtime that an address is not present in the device, it will post an error message and then remove the tag from its scan list.

Addresses that have Write Only access are assigned a default access of Read/Write; however, data values will be unreadable for these addresses and the associated tags will not be included in the scan list. The current data value for these tags will always be 0 for numeric data types and null string for string data types.

DX1004 Addressing

The driver supports the following addresses for this device. The default data type is shown in **bold**.

Measured Channels

Address Type	Format	Range	Data Types	Access
Process Value of Channel	CHxx or CHxx.PV	01-04	**Double**, Float	Read Only
Alarm Summary of Channel	CHxx.Alarm	01-04	**Short**, Word, Byte	Read Only
Alarm Level1 Status of Channel	CHxx.Alarm1	01-04	**Short**, Word, Byte	Read Only
Alarm Level2 Status of Channel	CHxx.Alarm2	01-04	**Short**, Word, Byte	Read Only
Alarm Level3 Status of Channel	CHxx.Alarm3	01-04	**Short**, Word, Byte	Read Only
Alarm Level4 Status of Channel	CHxx.Alarm4	01-04	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Setpoint	CHxx.ASP1	01-04	**Double**, Float	Read/Write
Set and Read Level2 Alarm Setpoint	CHxx.ASP2	01-04	**Double**, Float	Read/Write
Set and Read Level3 Alarm Setpoint	CHxx.ASP3	01-04	**Double**, Float	Read/Write
Set and Read Level4 Alarm Setpoint	CHxx.ASP4	01-04	**Double**, Float	Read/Write

Address Type	Format	Range	Data Types	Access
Alarm type Numeric Level 1	CHxx.AlarmType1.Num	01-04	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 2	CHxx.AlarmType2.Num	01-04	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 3	CHxx.AlarmType3.Num	01-04	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 4	CHxx.AlarmType4.Num	01-04	**Short**, Word, Byte	Read Only
Alarm type String Level 1	CHxx.AlarmType1.String	01-04	String	Read Only
Alarm type String Level 2	CHxx.AlarmType2.String	01-04	String	Read Only
Alarm type String Level 3	CHxx.AlarmType3.String	01-04	String	Read Only
Alarm type String Level 4	CHxx.AlarmType4.String	01-04	String	Read Only
Upper Scale Value of Channel*	CHxx.scale_Hi	01-04	**Double**, Float	Read Only
Lower Scale Value of Channel*	CHxx.scale_Lo	01-04	**Double**, Float	Read Only
Unit String of Channel*	CHxx.unit	01-04	String	Read Only
Tagname of Channel*	CHxx.tag	01-04	String	Read Only
Status of Channel*	CHxx.status	01-04	String	Read Only
Precision of Channel*	CHxx.Precision	01-04	**Short**, Word, Byte	Read Only
Lowest Measuring Channel*	CH.Low		**Short**, Word, Byte	Read Only
Highest Measuring Channel*	CH.High		**Short**, Word, Byte	Read Only

Math Channels

Address Type	Format	Range	Data Types	Access
Process Value of Math Channel	CHxxx or CHxxx.PV	101-112	**Double**, Float	Read Only
Alarm Summary of Math Channel	CHxxx.Alarm	101-112	**Short**, Word, Byte	Read Only
Alarm Level1 Status of Math Channel	CHxxx.Alarm1	101-112	**Short**, Word, Byte	Read Only
Alarm Level2 Status of Math Channel	CHxxx.Alarm2	101-112	**Short**, Word, Byte	Read Only
Alarm Level3 Status of Math Channel	CHxxx.Alarm3	101-112	**Short**, Word, Byte	Read Only
Alarm Level4 Status of Math Channel	CHxxx.Alarm4	101-112	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Setpoint	CHxxx.ASP1	101-112	**Double**, Float	Read/Write
Set and Read Level2 Alarm Setpoint	CHxxx.ASP2	101-112	**Double**, Float	Read/Write
Set and Read Level3 Alarm Set-	CHxxx.ASP3	101-	**Double**, Float	Read/Write

Address Type	Format	Range	Data Types	Access
point		112		
Set and Read Level4 Alarm Set-point	CHxxx.ASP4	101-112	**Double**, Float	Read/Write
Alarm type Numeric Level 1	CHxxx.AlarmType1.Num	101-112	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 2	CHxxx.AlarmType2.Num	101-112	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 3	CHxxx.AlarmType3.Num	101-112	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 4	CHxxx.AlarmType4.Num	101-112	**Short**, Word, Byte	Read Only
Alarm type String Level 1	CHxxx.AlarmType1.String	101-112	String	Read Only
Alarm type String Level 2	CHxxx.AlarmType2.String	101-112	String	Read Only
Alarm type String Level 3	CHxxx.AlarmType3.String	101-112	String	Read Only
Alarm type String Level 4	CHxxx.AlarmType4.String	101-112	String	Read Only
Upper Scale Value of Math Channel*	CHxxx.scale_Hi	101-112	**Double**, Float	Read Only
Lower Scale Value of Math Channel*	CHxxx.scale_Lo	101-112	**Double**, Float	Read Only
Unit String of Math Channel*	CHxxx.unit	101-112	String	Read Only
Tagname of Math Channel*	CHxxx.tag	101-112	String	Read Only
Status of Math Channel*	CHxxx.status	101-112	String	Read Only
Precision of Math Channel*	CHxxx.Precision	101-112	**Short**, Word, Byte	Read Only
Lowest Math Channel*	CHA.Low		**Short**, Word, Byte	Read Only
Highest Math Channel*	CHA.High		**Short**, Word, Byte	Read Only

*Data associated with these addresses are only read from the device at the start of a communications session. Once read, the values will not be refreshed until the server has been restarted or the "Reset" tag has been invoked. To invoke a reset, a non-zero value must be written to the Reset tag. Once the Reset tag has been invoked the driver will reinitialize all startup data from the device.

Alarm Setpoints

Data values for Alarm Setpoints that are undefined in the device will be returned as +INF. Data values can only be written to Alarm Setpoints that are defined in the device. Write operations to undefined Alarm Set-

points will return an error. Write operations are only available only for users logged in at the Administrator level; otherwise, they will return an error.

Scales

Data values for Scale_Hi and Scale_Lo for channels that are skipped will be returned as +INF.

Tag Names

For devices that do not support tag names and channels that have unspecified tag names, the driver will construct an internal tag name based on the channel number. For example, the tag name of address 'CH01' will be returned as 'CH01'.

General Device Data

Address Description	Address/Format	Range	Data Types	Access
Administrator Level	Admin		**Boolean**	Read Only
Date of Last Data	Date		**String**	Read Only
Time of Last Data	Time		**String**	Read Only
Model Series Reported by Device	Model		**String**	Read Only
Host Name of Device	Hostname		**String**	Read Only
Serial Number of Device	SerialNumber		**String**	Read Only
IP Address of Device	IP		**String**	Read Only
Math Communication Data	CDxx	01-12	**Float**	Read/Write
Control Math Execution	MathControl		**Short**, Word, Byte	Write Only
Reset Alarms	AlarmReset		**Boolean**	Write Only
Control Command and Response	Command		**String**	Read/Write
Previous Screen	PreScreen		**Boolean**	Write Only
Direct Reloading of Configuration	Reset		**Boolean**	Write Only
Freeze the recorder's trend and time display.	Opmode_freeze		Boolean	Write Only
Resume the recorder's trend and time display.	Opmode_normal		Boolean	Write Only
Clear the recorder's memory and display.	Opmode_clear		Boolean	Write Only
SetTime*	Tag		**Boolean**	Write Only

*The SetTime Tag updates the device time. Writing 0 or 1 to the tag will update the Device Date and Time (which can be verified from the Date Tag and the Time Tag). The SetTime Tag will always display 0 because it is Write Only. After a successful update, the following message will be posted: "Device Clock set to system time [Device <device_name>]."

Administrator Level

The Admin address type has a value of '1' or 'true' when the user has logged on at the Administrator level and a value of '0' or 'false' when the user has logged on at the User level.

Math Communication Data

The CD address type is only valid for devices equipped with the math option and write operations to CD addresses for non-math equipped devices will return an error. Write operations are available only for users logged in at the Administrator level; otherwise, they will return an error.

Model Series Reported by Device

The Model address type will have a string value of 'DX100' or 'DX200', indicating the model series returned by the device.

Control Math Execution

The MathControl address type is only available for devices equipped with the math option and write operations to the MathControl tag for non-math equipped devices will return an error.

Control Command and Response

The Command address allows the user to send a string command and receive a string response to and from the device. This allows the user to send any command to the device, including commands not directly supported by the driver. This tag is only available to users logged in at the Administrator level; otherwise, write operations will return an error.

⬤ **Caution**: Write operations using the Command address should be performed with caution.

Messages

Command	Message Type	Syntax	Notes
BJ	Free Message (aka Arbitrary Message)	BJ(group)_(message #) E.g., BJ10_2 for group 10, msg 2.	Message is assigned to a group and displayed for that group only. Limit: 10 messages. Message max. length: 32 char.s.
SG	Regular Message	SG(message #) E.g., SG_42	Limit: 100 messages. Message max. length: 32 char.s. Message will be written to the current display when the MS command is invoked.
MS	Writes message to display	MS(message #) E.g., MS_42	Writes the message (indicated by message #) to the current display.

Note: The actual number of addresses available for of each type depends on the configuration of the Yokogawa device. If the driver finds at Runtime that an address is not present in the device, it will post an error message and then remove the tag from its scan list.

Addresses that have Write Only access are assigned a default access of Read/Write; however, data values will be unreadable for these addresses and the associated tags will not be included in the scan list. The current data value for these tags will always be 0 for numeric data types and null string for string data types.

DX1006 Addressing

The driver supports the following addresses for this device. The default data type is shown in **bold**.

Measured Channels

Address Type	Format	Range	Data Types	Access
Process Value of Channel	CHxx or CHxx.PV	01-06	**Double**, Float	Read Only
Alarm Summary of Channel	CHxx.Alarm	01-06	**Short**, Word, Byte	Read Only
Alarm Level1 Status of Channel	CHxx.Alarm1	01-06	**Short**, Word, Byte	Read Only
Alarm Level2 Status of Channel	CHxx.Alarm2	01-06	**Short**, Word, Byte	Read Only
Alarm Level3 Status of Channel	CHxx.Alarm3	01-06	**Short**, Word, Byte	Read Only
Alarm Level4 Status of Channel	CHxx.Alarm4	01-06	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Set-point	CHxx.ASP1	01-06	**Double**, Float	Read/Write
Set and Read Level2 Alarm Set-point	CHxx.ASP2	01-06	**Double**, Float	Read/Write
Set and Read Level3 Alarm Set-point	CHxx.ASP3	01-06	**Double**, Float	Read/Write
Set and Read Level4 Alarm Set-point	CHxx.ASP4	01-06	**Double**, Float	Read/Write
Alarm type Numeric Level 1	CHxx.AlarmType1.Num	01-06	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 2	CHxx.AlarmType2.Num	01-06	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 3	CHxx.AlarmType3.Num	01-06	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 4	CHxx.AlarmType4.Num	01-06	**Short**, Word, Byte	Read Only
Alarm type String Level 1	CHxx.AlarmType1.String	01-06	String	Read Only
Alarm type String Level 2	CHxx.AlarmType2.String	01-06	String	Read Only
Alarm type String Level 3	CHxx.AlarmType3.String	01-06	String	Read Only
Alarm type String Level 4	CHxx.AlarmType4.String	01-06	String	Read Only
Upper Scale Value of Channel*	CHxx.scale_Hi	01-06	**Double**, Float	Read Only
Lower Scale Value of Channel*	CHxx.scale_Lo	01-06	**Double**, Float	Read Only
Unit String of Channel*	CHxx.unit	01-06	String	Read Only
Tagname of Channel*	CHxx.tag	01-06	String	Read Only
Status of Channel*	CHxx.status	01-06	String	Read Only
Precision of Channel*	CHxx.Precision	01-06	**Short, Word, Byte**	Read Only
Lowest Measuring Channel*	CH.Low		**Short**, Word, Byte	Read Only
Highest Measuring Channel*	CH.High		**Short**, Word, Byte	Read Only

Math Channels

Address Type	Format	Range	Data Types	Access
Process Value of Math Channel	CHxxx or CHxxx.PV	101-124	**Double**, Float	Read Only
Alarm Summary of Math Channel	CHxxx.Alarm	101-	**Short**, Word,	Read Only

Address Type	Format	Range	Data Types	Access
		124	Byte	
Alarm Level1 Status of Math Channel	CHxxx.Alarm1	101-124	**Short**, Word, Byte	Read Only
Alarm Level2 Status of Math Channel	CHxxx.Alarm2	101-124	**Short**, Word, Byte	Read Only
Alarm Level3 Status of Math Channel	CHxxx.Alarm3	101-124	**Short**, Word, Byte	Read Only
Alarm Level4 Status of Math Channel	CHxxx.Alarm4	101-124	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Setpoint	CHxxx.ASP1	101-124	**Double**, Float	Read/Write
Set and Read Level2 Alarm Setpoint	CHxxx.ASP2	101-124	**Double**, Float	Read/Write
Set and Read Level3 Alarm Setpoint	CHxxx.ASP3	101-124	**Double**, Float	Read/Write
Set and Read Level4 Alarm Setpoint	CHxxx.ASP4	101-124	**Double**, Float	Read/Write
Alarm type Numeric Level 1	CHxxx.AlarmType1.Num	101-124	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 2	CHxxx.AlarmType2.Num	101-124	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 3	CHxxx.AlarmType3.Num	101-124	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 4	CHxxx.AlarmType4.Num	101-124	**Short**, Word, Byte	Read Only
Alarm type String Level 1	CHxxx.AlarmType1.String	101-124	String	Read Only
Alarm type String Level 2	CHxxx.AlarmType2.String	101-124	String	Read Only
Alarm type String Level 3	CHxxx.AlarmType3.String	101-124	String	Read Only
Alarm type String Level 4	CHxxx.AlarmType4.String	101-124	String	Read Only
Upper Scale Value of Math Channel*	CHxxx.scale_Hi	101-124	**Double**, Float	Read Only
Lower Scale Value of Math Channel*	CHxxx.scale_Lo	101-124	**Double**, Float	Read Only
Unit String of Math Channel*	CHxxx.unit	101-124	String	Read Only
Tagname of Math Channel*	CHxxx.tag	101-124	String	Read Only
Status of Math Channel*	CHxxx.status	101-124	String	Read Only
Precision of Math Channel*	CHxxx.Precision	101-	**Short, Word,**	Read Only

Address Type	Format	Range	Data Types	Access
		124	**Byte**	
Lowest Math Channel*	CHA.Low		**Short, Word, Byte**	Read Only
Highest Math Channel*	CHA.High		**Short**, Word, Byte	Read Only

*Data associated with these addresses are only read from the device at the start of a communications session. Once read, the values will not be refreshed until the server has been restarted or the "Reset" tag has been invoked. To invoke a reset, a non-zero value must be written to the Reset tag. Once the Reset tag has been invoked the driver will reinitialize all startup data from the device.

Alarm Setpoints

Data values for Alarm Setpoints that are undefined in the device will be returned as +INF. Data values can only be written to Alarm Setpoints that are defined in the device. Write operations to undefined Alarm Setpoints will return an error. Write operations are only available only for users logged in at the Administrator level; otherwise, they will return an error.

Scales

Data values for Scale_Hi and Scale_Lo for channels that are skipped will be returned as +INF.

Tag Names

For devices that do not support tag names and channels that have unspecified tag names, the driver will construct an internal tag name based on the channel number. For example, the tag name of address 'CH01' will be returned as 'CH01'.

General Device Data

Address Description	Address/Format	Range	Data Types	Access
Administrator Level	Admin		**Boolean**	Read Only
Date of Last Data	Date		**String**	Read Only
Time of Last Data	Time		**String**	Read Only
Model Series Reported by Device	Model		**String**	Read Only
Host Name of Device	Hostname		**String**	Read Only
Serial Number of Device	SerialNumber		**String**	Read Only
IP Address of Device	IP		**String**	Read Only
Math Communication Data	CDxx	01-24	**Float**	Read/Write
Control Math Execution	MathControl		**Short**, Word, Byte	Write Only
Reset Alarms	AlarmReset		**Boolean**	Write Only
Control Command and Response	Command		**String**	Read/Write
Previous Screen	PreScreen		**Boolean**	Write Only
Direct Reloading of Configuration	Reset		**Boolean**	Write Only
Freeze the recorder's trend and time display.	Opmode_freeze		**Boolean**	Write Only
Resume the recorder's trend and time dis-	Opmode_normal		**Boolean**	Write Only

Address Description	Address/Format	Range	Data Types	Access
play.				
Clear the recorder's memory and display.	Opmode_clear		**Boolean**	Write Only
SetTime*	Tag		**Boolean**	Write Only

*The SetTime Tag updates the device time. Writing 0 or 1 to the tag will update the Device Date and Time (which can be verified from the Date Tag and the Time Tag). The SetTime Tag will always display 0 because it is Write Only. After a successful update, the following message will be posted: "Device Clock set to system time [Device <device_name>]."

Administrator Level

The Admin address type has a value of '1' or 'true' when the user has logged on at the Administrator level and a value of '0' or 'false' when the user has logged on at the User level.

Math Communication Data

The CD address type is only valid for devices equipped with the math option and write operations to CD addresses for non-math equipped devices will return an error. Write operations are available only for users logged in at the Administrator level; otherwise, they will return an error.

Model Series Reported by Device

The Model address type will have a string value of 'DX100' or 'DX200', indicating the model series returned by the device.

Control Math Execution

The MathControl address type is only available for devices equipped with the math option and write operations to the MathControl tag for non-math equipped devices will return an error.

Control Command and Response

The Command address allows the user to send a string command and receive a string response to and from the device. This allows the user to send any command to the device, including commands not directly supported by the driver. This tag is only available to users logged in at the Administrator level; otherwise, write operations will return an error.

🔶 **Caution**: Write operations using the Command address should be performed with caution.

Messages

Command	Message Type	Syntax	Notes
BJ	Free Message (aka Arbitrary Message)	BJ(group)_(message #) E.g., BJ10_2 for group 10, msg 2.	Message is assigned to a group and displayed for that group only. Limit: 10 messages. Message max. length: 32 char.s.
SG	Regular Message	SG(message #) E.g., SG_42	Limit: 100 messages. Message max. length: 32 char.s. Message will be written to the current display

			when the MS command is invoked.
MS	Writes message to display	MS(message #) E.g., MS_42	Writes the message (indicated by message #) to the current display.

🔹 **Note**: The actual number of addresses available for of each type depends on the configuration of the Yokogawa device. If the driver finds at Runtime that an address is not present in the device, it will post an error message and then remove the tag from its scan list.

Addresses that have Write Only access are assigned a default access of Read/Write; however, data values will be unreadable for these addresses and the associated tags will not be included in the scan list. The current data value for these tags will always be 0 for numeric data types and null string for string data types.

DX1012 Addressing

The driver supports the following addresses for this device. The default data type is shown in **bold**.

Measured Channels

Address Type	Format	Range	Data Types	Access
Process Value of Channel	CHxx or CHxx.PV	01-12	**Double**, Float	Read Only
Alarm Summary of Channel	CHxx.Alarm	01-12	**Short**, Word, Byte	Read Only
Alarm Level1 Status of Channel	CHxx.Alarm1	01-12	**Short**, Word, Byte	Read Only
Alarm Level2 Status of Channel	CHxx.Alarm2	01-12	**Short**, Word, Byte	Read Only
Alarm Level3 Status of Channel	CHxx.Alarm3	01-12	**Short**, Word, Byte	Read Only
Alarm Level4 Status of Channel	CHxx.Alarm4	01-12	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Setpoint	CHxx.ASP1	01-12	**Double**, Float	Read/Write
Set and Read Level2 Alarm Setpoint	CHxx.ASP2	01-12	**Double**, Float	Read/Write
Set and Read Level3 Alarm Setpoint	CHxx.ASP3	01-12	**Double**, Float	Read/Write
Set and Read Level4 Alarm Setpoint	CHxx.ASP4	01-12	**Double**, Float	Read/Write
Alarm type Numeric Level 1	CHxx.AlarmType1.Num	01-12	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 2	CHxx.AlarmType2.Num	01-12	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 3	CHxx.AlarmType3.Num	01-12	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 4	CHxx.AlarmType4.Num	01-12	**Short**, Word, Byte	Read Only
Alarm type String Level 1	CHxx.AlarmType1.String	01-12	String	Read Only

Address Type	Format	Range	Data Types	Access
Alarm type String Level 2	CHxx.AlarmType2.String	01-12	String	Read Only
Alarm type String Level 3	CHxx.AlarmType3.String	01-12	String	Read Only
Alarm type String Level 4	CHxx.AlarmType4.String	01-12	String	Read Only
Upper Scale Value of Channel*	CHxx.scale_Hi	01-12	**Double**, Float	Read Only
Lower Scale Value of Channel*	CHxx.scale_Lo	01-12	**Double**, Float	Read Only
Unit String of Channel*	CHxx.unit	01-12	String	Read Only
Tagname of Channel*	CHxx.tag	01-12	String	Read Only
Status of Channel*	CHxx.status	01-12	String	Read Only
Precision of Channel*	CHxx.Precision	01-12	**Short**, Word, Byte	Read Only
Lowest Measuring Channel*	CH.Low		**Short**, Word, Byte	Read Only
Highest Measuring Channel*	CH.High		**Short**, Word, Byte	Read Only

Math Channels

Address Type	Format	Range	Data Types	Access
Process Value of Math Channel	CHxxx or CHxxx.PV	101-124	**Double**, Float	Read Only
Alarm Summary of Math Channel	CHxxx.Alarm	101-124	**Short**, Word, Byte	Read Only
Alarm Level1 Status of Math Channel	CHxxx.Alarm1	101-124	**Short**, Word, Byte	Read Only
Alarm Level2 Status of Math Channel	CHxxx.Alarm2	101-124	**Short**, Word, Byte	Read Only
Alarm Level3 Status of Math Channel	CHxxx.Alarm3	101-124	**Short**, Word, Byte	Read Only
Alarm Level4 Status of Math Channel	CHxxx.Alarm4	101-124	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Setpoint	CHxxx.ASP1	101-124	**Double**, Float	Read/Write
Set and Read Level2 Alarm Setpoint	CHxxx.ASP2	101-124	**Double**, Float	Read/Write
Set and Read Level3 Alarm Setpoint	CHxxx.ASP3	101-124	**Double**, Float	Read/Write
Set and Read Level4 Alarm Setpoint	CHxxx.ASP4	101-124	**Double**, Float	Read/Write
Alarm type Numeric Level 1	CHxxx.AlarmType1.Num	101-124	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 2	CHxxx.AlarmType2.Num	101-124	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 3	CHxxx.AlarmType3.Num	101-124	**Short**, Word, Byte	Read Only

Address Type	Format	Range	Data Types	Access
Alarm type Numeric Level 4	CHxxx.AlarmType4.Num	101-124	**Short**, Word, Byte	Read Only
Alarm type String Level 1	CHxxx.AlarmType1.String	101-124	String	Read Only
Alarm type String Level 2	CHxxx.AlarmType2.String	101-124	String	Read Only
Alarm type String Level 3	CHxxx.AlarmType3.String	101-124	String	Read Only
Alarm type String Level 4	CHxxx.AlarmType4.String	101-124	String	Read Only
Upper Scale Value of Math Channel*	CHxxx.scale_Hi	101-124	**Double**, Float	Read Only
Lower Scale Value of Math Channel*	CHxxx.scale_Lo	101-124	**Double**, Float	Read Only
Unit String of Math Channel*	CHxxx.unit	101-124	String	Read Only
Tagname of Math Channel*	CHxxx.tag	101-124	String	Read Only
Status of Math Channel*	CHxxx.status	101-124	String	Read Only
Precision of Math Channel*	CHxxx.Precision	101-124	**Short**, Word, Byte	Read Only
Lowest Math Channel*	CHA.Low		**Short**, Word, Byte	Read Only
Highest Math Channel*	CHA.High		**Short**, Word, Byte	Read Only

*Data associated with these addresses are only read from the device at the start of a communications session. Once read, the values will not be refreshed until the server has been restarted or the "Reset" tag has been invoked. To invoke a reset, a non-zero value must be written to the Reset tag. Once the Reset tag has been invoked the driver will reinitialize all startup data from the device.

Alarm Setpoints

Data values for Alarm Setpoints that are undefined in the device will be returned as +INF. Data values can only be written to Alarm Setpoints that are defined in the device. Write operations to undefined Alarm Setpoints will return an error. Write operations are only available only for users logged in at the Administrator level; otherwise, they will return an error.

Scales

Data values for Scale_Hi and Scale_Lo for channels that are skipped will be returned as +INF.

Tag Names

For devices that do not support tag names and channels that have unspecified tag names, the driver will construct an internal tag name based on the channel number. For example, the tag name of address 'CH01' will be returned as 'CH01'.

General Device Data

Address Description	Address/Format	Range	Data Types	Access
Administrator Level	Admin		**Boolean**	Read Only
Date of Last Data	Date		**String**	Read Only
Time of Last Data	Time		**String**	Read Only
Model Series Reported by Device	Model		**String**	Read Only
Host Name of Device	Hostname		**String**	Read Only
Serial Number of Device	SerialNumber		**String**	Read Only
IP Address of Device	IP		**String**	Read Only
Math Communication Data	CDxx	01-24	**Float**	Read/Write
Control Math Execution	MathControl		**Short**, Word, Byte	Write Only
Reset Alarms	AlarmReset		**Boolean**	Write Only
Control Command and Response	Command		**String**	Read/Write
Previous Screen	PreScreen		**Boolean**	Write Only
Direct Reloading of Configuration	Reset		**Boolean**	Write Only
Freeze the recorder's trend and time display.	Opmode_freeze		Boolean	Write Only
Resume the recorder's trend and time display.	Opmode_normal		Boolean	Write Only
Clear the recorder's memory and display.	Opmode_clear		Boolean	Write Only
SetTime*	Tag		**Boolean**	Write Only

*The SetTime Tag updates the device time. Writing 0 or 1 to the tag will update the Device Date and Time (which can be verified from the Date Tag and the Time Tag). The SetTime Tag will always display 0 because it is Write Only. After a successful update, the following message will be posted: "Device Clock set to system time [Device <device_name>]."

Administrator Level

The Admin address type has a value of '1' or 'true' when the user has logged on at the Administrator level and a value of '0' or 'false' when the user has logged on at the User level.

Math Communication Data

The CD address type is only valid for devices equipped with the math option and write operations to CD addresses for non-math equipped devices will return an error. Write operations are available only for users logged in at the Administrator level; otherwise, they will return an error.

Model Series Reported by Device

The Model address type will have a string value of 'DX100' or 'DX200', indicating the model series returned by the device.

Control Math Execution

The MathControl address type is only available for devices equipped with the math option and write operations to the MathControl tag for non-math equipped devices will return an error.

Control Command and Response

The Command address allows the user to send a string command and receive a string response to and from the device. This allows the user to send any command to the device, including commands not directly supported by the driver. This tag is only available to users logged in at the Administrator level; otherwise, write operations will return an error.

⬥ **Caution**: Write operations using the Command address should be performed with caution.

Messages

Command	Message Type	Syntax	Notes
BJ	Free Message (aka Arbitrary Message)	BJ(group)_(message #) E.g., BJ10_2 for group 10, msg 2.	Message is assigned to a group and displayed for that group only. Limit: 10 messages. Message max. length: 32 char.s.
SG	Regular Message	SG(message #) E.g., SG_42	Limit: 100 messages. Message max. length: 32 char.s. Message will be written to the current display when the MS command is invoked.
MS	Writes message to display	MS(message #) E.g., MS_42	Writes the message (indicated by message #) to the current display.

▨ **Note**: The actual number of addresses available for of each type depends on the configuration of the Yokogawa device. If the driver finds at Runtime that an address is not present in the device, it will post an error message and then remove the tag from its scan list.

Addresses that have Write Only access are assigned a default access of Read/Write; however, data values will be unreadable for these addresses and the associated tags will not be included in the scan list. The current data value for these tags will always be 0 for numeric data types and null string for string data types.

DX2004 Addressing

The driver supports the following addresses for this device. The default data type is shown in **bold**.

Measured Channels

Address Type	Format	Range	Data Types	Access
Process Value of Channel	CHxx or CHxx.PV	01-04	**Double**, Float	Read Only
Alarm Summary of Channel	CHxx.Alarm	01-04	**Short**, Word, Byte	Read Only
Alarm Level1 Status of Channel	CHxx.Alarm1	01-04	**Short**, Word, Byte	Read Only
Alarm Level2 Status of Channel	CHxx.Alarm2	01-04	**Short**, Word, Byte	Read Only
Alarm Level3 Status of Channel	CHxx.Alarm3	01-04	**Short**, Word, Byte	Read Only
Alarm Level4 Status of Channel	CHxx.Alarm4	01-04	**Short**, Word,	Read Only

Address Type	Format	Range	Data Types	Access
			Byte	
Set and Read Level1 Alarm Set-point	CHxx.ASP1	01-04	**Double**, Float	Read/Write
Set and Read Level2 Alarm Set-point	CHxx.ASP2	01-04	**Double**, Float	Read/Write
Set and Read Level3 Alarm Set-point	CHxx.ASP3	01-04	**Double**, Float	Read/Write
Set and Read Level4 Alarm Set-point	CHxx.ASP4	01-04	**Double**, Float	Read/Write
Alarm type Numeric Level 1	CHxx.AlarmType1.Num	01-04	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 2	CHxx.AlarmType2.Num	01-04	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 3	CHxx.AlarmType3.Num	01-04	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 4	CHxx.AlarmType4.Num	01-04	**Short**, Word, Byte	Read Only
Alarm type String Level 1	CHxx.AlarmType1.String	01-04	String	Read Only
Alarm type String Level 2	CHxx.AlarmType2.String	01-04	String	Read Only
Alarm type String Level 3	CHxx.AlarmType3.String	01-04	String	Read Only
Alarm type String Level 4	CHxx.AlarmType4.String	01-04	String	Read Only
Upper Scale Value of Channel*	CHxx.scale_Hi	01-04	**Double**, Float	Read Only
Lower Scale Value of Channel*	CHxx.scale_Lo	01-04	**Double**, Float	Read Only
Unit String of Channel*	CHxx.unit	01-04	String	Read Only
Tagname of Channel*	CHxx.tag	01-04	String	Read Only
Status of Channel*	CHxx.status	01-04	String	Read Only
Precision of Channel*	CHxx.Precision	01-04	**Short**, Word, Byte	Read Only
Lowest Measuring Channel*	CH.Low		**Short**, Word, Byte	Read Only
Highest Measuring Channel*	CH.High		**Short**, Word, Byte	Read Only

Math Channels

Address Type	Format	Range	Data Types	Access
Process Value of Math Channel	CHxxx or CHxxx.PV	101-112	**Double**, Float	Read Only
Alarm Summary of Math Channel	CHxxx.Alarm	101-112	**Short**, Word, Byte	Read Only
Alarm Level1 Status of Math Channel	CHxxx.Alarm1	101-112	**Short**, Word, Byte	Read Only
Alarm Level2 Status of Math Channel	CHxxx.Alarm2	101-112	**Short**, Word, Byte	Read Only

Address Type	Format	Range	Data Types	Access
Alarm Level3 Status of Math Channel	CHxxx.Alarm3	101-112	**Short**, Word, Byte	Read Only
Alarm Level4 Status of Math Channel	CHxxx.Alarm4	101-112	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Setpoint	CHxxx.ASP1	101-112	**Double**, Float	Read/Write
Set and Read Level2 Alarm Setpoint	CHxxx.ASP2	101-112	**Double**, Float	Read/Write
Set and Read Level3 Alarm Setpoint	CHxxx.ASP3	101-112	**Double**, Float	Read/Write
Set and Read Level4 Alarm Setpoint	CHxxx.ASP4	101-112	**Double**, Float	Read/Write
Alarm type Numeric Level 1	CHxxx.AlarmType1.Num	101-112	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 2	CHxxx.AlarmType2.Num	101-112	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 3	CHxxx.AlarmType3.Num	101-112	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 4	CHxxx.AlarmType4.Num	101-112	**Short**, Word, Byte	Read Only
Alarm type String Level 1	CHxxx.AlarmType1.String	101-112	String	Read Only
Alarm type String Level 2	CHxxx.AlarmType2.String	101-112	String	Read Only
Alarm type String Level 3	CHxxx.AlarmType3.String	101-112	String	Read Only
Alarm type String Level 4	CHxxx.AlarmType4.String	101-112	String	Read Only
Upper Scale Value of Math Channel*	CHxxx.scale_Hi	101-112	**Double**, Float	Read Only
Lower Scale Value of Math Channel*	CHxxx.scale_Lo	101-112	**Double**, Float	Read Only
Unit String of Math Channel*	CHxxx.unit	101-112	String	Read Only
Tagname of Math Channel*	CHxxx.tag	101-112	String	Read Only
Status of Math Channel*	CHxxx.status	101-112	String	Read Only
Precision of Math Channel*	CHxxx.Precision	101-112	**Short**, Word, Byte	Read Only
Lowest Math Channel*	CHA.Low		**Short**, Word, Byte	Read Only
Highest Math Channel*	CHA.High		**Short**, Word, Byte	Read Only

External Input Channels

Address Type	Format	Range	Data Types	Access
External Input Channel	CHxxx or CHxxx.PV	201-440	**Double**, Float	Read/Write
Alarm Summary for External Input Channel	CHxxx.Alarm	201-440	**Short**, Word, Byte	Read Only
Alarm Level1 Status of External Input	CHxxx.Alarm1	201-440	**Short**, Word, Byte	Read Only
Alarm Level2 Status of External Input	CHxxx.Alarm2	201-440	**Short**, Word, Byte	Read Only
Alarm Level3 Status of External Input	CHxxx.Alarm3	201-440	**Short**, Word, Byte	Read Only
Alarm Level4 Status of External Input	CHxxx.Alarm4	201-440	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Setpoint	CHxxx.ASP1	201-440	**Double**, Float	Read/Write
Set and Read Level2 Alarm Setpoint	CHxxx.ASP2	201-440	**Double**, Float	Read/Write
Set and Read Level3 Alarm Setpoint	CHxxx.ASP3	201-440	**Double**, Float	Read/Write
Set and Read Level4 Alarm Setpoint	CHxxx.ASP4	201-440	**Double**, Float	Read/Write
Alarm type Numeric Level1 for External Input Channel	CHxxx.AlarmTypeNum1	201-440	**Short**, Word, Byte	Read Only
Alarm type Numeric Level2 for External Input Channel	CHxxx.AlarmTypeNum2	201-440	**Short**, Word, Byte	Read Only
Alarm type Numeric Level3 for External Input Channel	CHxxx.AlarmTypeNum3	201-440	**Short**, Word, Byte	Read Only
Alarm type Numeric Level4 for External Input Channel	CHxxx.AlarmTypeNum4	201-440	**Short**, Word, Byte	Read Only
Alarm type String Level1 for External Input Channel	CHxxx.AlarmTypeStr1	201-440	**String**	Read Only
Alarm type String Level2 for External Input Channel	CHxxx.AlarmTypeStr2	201-440	**String**	Read Only
Alarm type String Level3 for External Input Channel	CHxxx.AlarmTypeStr3	201-440	**String**	Read Only
Alarm type String Level4 for External Input Channel	CHxxx.AlarmTypeStr4	201-440	**String**	Read Only
Upper Scale Value of External Input*	CHxxx.scale_Hi	201-440	**Double**, Float	Read Only
Lower Scale Value of External Input*	CHxxx.scale_Lo	201-440	**Double**, Float	Read Only
Unit String of External Input*	CHxxx.unit	201-	**String**	Read Only

Address Type	Format	Range	Data Types	Access
		440		
Tagname of External Input*	CHxxx.tag	201-440	**String**	Read Only
Status of External Input*	CHxxx.status	201-440	**String**	Read Only
Precision of External Input*	CHxxx.Precision	201-440	**Short**, Word, Byte	Read Only
Lowest External Input*	CHE.Low		**Short**, Word, Byte	Read Only
Highest External Input*	CHE.High		**Short**, Word, Byte	Read Only

*Data associated with these addresses are only read from the device at the start of a communications session. Once read, the values will not be refreshed until the server has been restarted or the "Reset" tag has been invoked. To invoke a reset, a non zero value must be written to the Reset tag. Once the Reset tag has been invoked the driver will reinitialize all startup data from the device.

Alarm Setpoints

Data values for Alarm Setpoints that are undefined in the device will be returned as +INF. Data values can only be written to Alarm Setpoints that are defined in the device. Write operations to undefined Alarm Setpoints will return an error. Write operations are only available only for users logged in at the Administrator level; otherwise, they will return an error.

Scales

Data values for Scale_Hi and Scale_Lo for channels that are skipped will be returned as +INF.

Tag Names

For devices that do not support tag names and channels that have unspecified tag names, the driver will construct an internal tag name based on the channel number. For example, the tag name of address 'CH01' will be returned as 'CH01'.

General Device Data

Address Description	Address/Format	Range	Data Types	Access
Administrator Level	Admin		**Boolean**	Read Only
Date of Last Data	Date		**String**	Read Only
Time of Last Data	Time		**String**	Read Only
Model Series Reported by Device	Model		**String**	Read Only
Host Name of Device	Hostname		**String**	Read Only
Serial Number of Device	SerialNumber		**String**	Read Only
IP Address of Device	IP		**String**	Read Only
Math Communication Data	CDxx	01-12	**Float**	Read/Write
Control Math Execution	MathControl		**Short**, Word, Byte	Write Only

Address Description	Address/Format	Range	Data Types	Access
Reset Alarms	AlarmReset		**Boolean**	Write Only
Control Command and Response	Command		**String**	Read/Write
Previous Screen	PreScreen		**Boolean**	Write Only
Direct Reloading of Configuration	Reset		**Boolean**	Write Only
Freeze the recorder's trend and time display.	Opmode_freeze		Boolean	Write Only
Resume the recorder's trend and time display.	Opmode_normal		Boolean	Write Only
Clear the recorder's memory and display.	Opmode_clear		Boolean	Write Only
SetTime*	Tag		**Boolean**	Write Only

*The SetTime Tag updates the device time. Writing 0 or 1 to the tag will update the Device Date and Time (which can be verified from the Date Tag and the Time Tag). The SetTime Tag will always display 0 because it is Write Only. After a successful update, the following message will be posted: "Device Clock set to system time [Device <device_name>]."

Administrator Level

The Admin address type has a value of '1' or 'true' when the user has logged on at the Administrator level and a value of '0' or 'false' when the user has logged on at the User level.

Math Communication Data

The CD address type is only valid for devices equipped with the math option and write operations to CD addresses for non-math equipped devices will return an error. Write operations are available only for users logged in at the Administrator level; otherwise, they will return an error.

Model Series Reported by Device

The Model address type will have a string value of 'DX100' or 'DX200', indicating the model series returned by the device.

Control Math Execution

The MathControl address type is only available for devices equipped with the math option and write operations to the MathControl tag for non-math equipped devices will return an error.

Control Command and Response

The Command address allows the user to send a string command and receive a string response to and from the device. This allows the user to send any command to the device, including commands not directly supported by the driver. This tag is only available to users logged in at the Administrator level; otherwise, write operations will return an error.

● **Caution**: Write operations using the Command address should be performed with caution.

Messages

Command	Message Type	Syntax	Notes
BJ	Free Message (aka Arbitrary Message)	BJ(group)_(message #) E.g., BJ10_2 for	Message is assigned to a group and displayed for that group only.

Command	Message Type	Syntax	Notes
		group 10, msg 2.	Limit: 10 messages. Message max. length: 32 char.s.
SG	Regular Message	SG(message #) E.g., SG_42	Limit: 100 messages. Message max. length: 32 char.s. Message will be written to the current display when the MS command is invoked.
MS	Writes message to display	MS(message #) E.g., MS_42	Writes the message (indicated by message #) to the current display.

☀ **Note**: The actual number of addresses available for of each type depends on the configuration of the Yokogawa device. If the driver finds at Runtime that an address is not present in the device, it will post an error message and then remove the tag from its scan list.

Addresses that have Write Only access are assigned a default access of Read/Write; however, data values will be unreadable for these addresses and the associated tags will not be included in the scan list. The current data value for these tags will always be 0 for numeric data types and null string for string data types.

DX2008 Addressing

The driver supports the following addresses for this device. The default data type is shown in **bold**.

Measured Channels

Address Type	Format	Range	Data Types	Access
Process Value of Channel	CHxx or CHxx.PV	01-08	**Double**, Float	Read Only
Alarm Summary of Channel	CHxx.Alarm	01-08	**Short**, Word, Byte	Read Only
Alarm Level1 Status of Channel	CHxx.Alarm1	01-08	**Short**, Word, Byte	Read Only
Alarm Level2 Status of Channel	CHxx.Alarm2	01-08	**Short**, Word, Byte	Read Only
Alarm Level3 Status of Channel	CHxx.Alarm3	01-08	**Short**, Word, Byte	Read Only
Alarm Level4 Status of Channel	CHxx.Alarm4	01-08	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Setpoint	CHxx.ASP1	01-08	**Double**, Float	Read/Write
Set and Read Level2 Alarm Setpoint	CHxx.ASP2	01-08	**Double**, Float	Read/Write
Set and Read Level3 Alarm Setpoint	CHxx.ASP3	01-08	**Double**, Float	Read/Write
Set and Read Level4 Alarm Setpoint	CHxx.ASP4	01-08	**Double**, Float	Read/Write
Alarm type Numeric Level 1	CHxx.AlarmType1.Num	01-08	**Short**, Word,	Read Only

Address Type	Format	Range	Data Types	Access
			Byte	
Alarm type Numeric Level 2	CHxx.AlarmType2.Num	01-08	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 3	CHxx.AlarmType3.Num	01-08	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 4	CHxx.AlarmType4.Num	01-08	**Short**, Word, Byte	Read Only
Alarm type String Level 1	CHxx.AlarmType1.String	01-08	String	Read Only
Alarm type String Level 2	CHxx.AlarmType2.String	01-08	String	Read Only
Alarm type String Level 3	CHxx.AlarmType3.String	01-08	String	Read Only
Alarm type String Level 4	CHxx.AlarmType4.String	01-08	String	Read Only
Upper Scale Value of Channel*	CHxx.scale_Hi	01-08	**Double**, Float	Read Only
Lower Scale Value of Channel*	CHxx.scale_Lo	01-08	**Double**, Float	Read Only
Unit String of Channel*	CHxx.unit	01-08	String	Read Only
Tagname of Channel*	CHxx.tag	01-08	String	Read Only
Status of Channel*	CHxx.status	01-08	String	Read Only
Precision of Channel*	CHxx.Precision	01-08	**Short**, Word, Byte	Read Only
Lowest Measuring Channel*	CH.Low		**Short**, Word, Byte	Read Only
Highest Measuring Channel*	CH.High		**Short**, Word, Byte	Read Only

Math Channels

Address Type	Format	Range	Data Types	Access
Process Value of Math Channel	CHxxx or CHxxx.PV	101-112	**Double**, Float	Read Only
Alarm Summary of Math Channel	CHxxx.Alarm	101-112	**Short**, Word, Byte	Read Only
Alarm Level1 Status of Math Channel	CHxxx.Alarm1	101-112	**Short**, Word, Byte	Read Only
Alarm Level2 Status of Math Channel	CHxxx.Alarm2	101-112	**Short**, Word, Byte	Read Only
Alarm Level3 Status of Math Channel	CHxxx.Alarm3	101-112	**Short**, Word, Byte	Read Only
Alarm Level4 Status of Math Channel	CHxxx.Alarm4	101-112	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Setpoint	CHxxx.ASP1	101-112	**Double**, Float	Read/Write
Set and Read Level2 Alarm Setpoint	CHxxx.ASP2	101-112	**Double**, Float	Read/Write
Set and Read Level3 Alarm Setpoint	CHxxx.ASP3	101-112	**Double**, Float	Read/Write

Address Type	Format	Range	Data Types	Access
Set and Read Level4 Alarm Set-point	CHxxx.ASP4	101-112	**Double**, Float	Read/Write
Alarm type Numeric Level 1	CHxxx.AlarmType1.Num	101-112	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 2	CHxxx.AlarmType2.Num	101-112	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 3	CHxxx.AlarmType3.Num	101-112	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 4	CHxxx.AlarmType4.Num	101-112	**Short**, Word, Byte	Read Only
Alarm type String Level 1	CHxxx.AlarmType1.String	101-112	String	Read Only
Alarm type String Level 2	CHxxx.AlarmType2.String	101-112	String	Read Only
Alarm type String Level 3	CHxxx.AlarmType3.String	101-112	String	Read Only
Alarm type String Level 4	CHxxx.AlarmType4.String	101-112	String	Read Only
Upper Scale Value of Math Channel*	CHxxx.scale_Hi	101-112	**Double**, Float	Read Only
Lower Scale Value of Math Channel*	CHxxx.scale_Lo	101-112	**Double**, Float	Read Only
Unit String of Math Channel*	CHxxx.unit	101-112	String	Read Only
Tagname of Math Channel*	CHxxx.tag	101-112	String	Read Only
Status of Math Channel*	CHxxx.status	101-112	String	Read Only
Precision of Math Channel*	CHxxx.Precision	101-112	**Short**, Word, Byte	Read Only
Lowest Math Channel*	CHA.Low		**Short**, Word, Byte	Read Only
Highest Math Channel*	CHA.High		**Short**, Word, Byte	Read Only

External Input Channels

Address Type	Format	Range	Data Types	Access
External Input Channel	CHxxx or CHxxx.PV	201-440	**Double**, Float	Read/Write
Alarm Summary for External Input Channel	CHxxx.Alarm	201-440	**Short**, Word, Byte	Read Only
Alarm Level1 Status of External Input	CHxxx.Alarm1	201-440	**Short**, Word, Byte	Read Only

Address Type	Format	Range	Data Types	Access
Alarm Level2 Status of External Input	CHxxx.Alarm2	201-440	**Short**, Word, Byte	Read Only
Alarm Level3 Status of External Input	CHxxx.Alarm3	201-440	**Short**, Word, Byte	Read Only
Alarm Level4 Status of External Input	CHxxx.Alarm4	201-440	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Setpoint	CHxxx.ASP1	201-440	**Double**, Float	Read/Write
Set and Read Level2 Alarm Setpoint	CHxxx.ASP2	201-440	**Double**, Float	Read/Write
Set and Read Level3 Alarm Setpoint	CHxxx.ASP3	201-440	**Double**, Float	Read/Write
Set and Read Level4 Alarm Setpoint	CHxxx.ASP4	201-440	**Double**, Float	Read/Write
Alarm type Numeric Level1 for External Input Channel	CHxxx.AlarmTypeNum1	201-440	**Short**, Word, Byte	Read Only
Alarm type Numeric Level2 for External Input Channel	CHxxx.AlarmTypeNum2	201-440	**Short**, Word, Byte	Read Only
Alarm type Numeric Level3 for External Input Channel	CHxxx.AlarmTypeNum3	201-440	**Short**, Word, Byte	Read Only
Alarm type Numeric Level4 for External Input Channel	CHxxx.AlarmTypeNum4	201-440	**Short**, Word, Byte	Read Only
Alarm type String Level1 for External Input Channel	CHxxx.AlarmTypeStr1	201-440	**String**	Read Only
Alarm type String Level2 for External Input Channel	CHxxx.AlarmTypeStr2	201-440	**String**	Read Only
Alarm type String Level3 for External Input Channel	CHxxx.AlarmTypeStr3	201-440	**String**	Read Only
Alarm type String Level4 for External Input Channel	CHxxx.AlarmTypeStr4	201-440	**String**	Read Only
Upper Scale Value of External Input*	CHxxx.scale_Hi	201-440	**Double**, Float	Read Only
Lower Scale Value of External Input*	CHxxx.scale_Lo	201-440	**Double**, Float	Read Only
Unit String of External Input*	CHxxx.unit	201-440	**String**	Read Only
Tagname of External Input*	CHxxx.tag	201-440	**String**	Read Only
Status of External Input*	CHxxx.status	201-440	**String**	Read Only
Precision of External Input*	CHxxx.Precision	201-440	**Short**, Word, Byte	Read Only
Lowest External Input*	CHE.Low		**Short**, Word,	Read Only

Address Type	Format	Range	Data Types	Access
			Byte	
Highest External Input*	CHE.High		**Short**, Word, Byte	Read Only

*Data associated with these addresses are only read from the device at the start of a communications session. Once read, the values will not be refreshed until the server has been restarted or the "Reset" tag has been invoked. To invoke a reset, a non-zero value must be written to the Reset tag. Once the Reset tag has been invoked the driver will reinitialize all startup data from the device.

Alarm Setpoints

Data values for Alarm Setpoints that are undefined in the device will be returned as +INF. Data values can only be written to Alarm Setpoints that are defined in the device. Write operations to undefined Alarm Setpoints will return an error. Write operations are only available only for users logged in at the Administrator level; otherwise, they will return an error.

Scales

Data values for Scale_Hi and Scale_Lo for channels that are skipped will be returned as +INF.

Tag Names

For devices that do not support tag names and channels that have unspecified tag names, the driver will construct an internal tag name based on the channel number. For example, the tag name of address 'CH01' will be returned as 'CH01'.

General Device Data

Address Description	Address/Format	Range	Data Types	Access
Administrator Level	Admin		**Boolean**	Read Only
Date of Last Data	Date		**String**	Read Only
Time of Last Data	Time		**String**	Read Only
Model Series Reported by Device	Model		**String**	Read Only
Host Name of Device	Hostname		**String**	Read Only
Serial Number of Device	SerialNumber		**String**	Read Only
IP Address of Device	IP		**String**	Read Only
Math Communication Data	CDxx	01-12	**Float**	Read/Write
Control Math Execution	MathControl		**Short**, Word, Byte	Write Only
Reset Alarms	AlarmReset		**Boolean**	Write Only
Control Command and Response	Command		**String**	Read/Write
Previous Screen	PreScreen		**Boolean**	Write Only
Direct Reloading of Configuration	Reset		**Boolean**	Write Only
Freeze the recorder's trend and time display.	Opmode_freeze		Boolean	Write Only
Resume the recorder's trend and time display.	Opmode_normal		Boolean	Write Only

Address Description	Address/Format	Range	Data Types	Access
Clear the recorder's memory and display.	Opmode_clear		Boolean	Write Only
SetTime*	Tag		**Boolean**	Write Only

*The SetTime Tag updates the device time. Writing 0 or 1 to the tag will update the Device Date and Time (which can be verified from the Date Tag and the Time Tag). The SetTime Tag will always display 0 because it is Write Only. After a successful update, the following message will be posted: "Device Clock set to system time [Device <device_name>]."

Administrator Level

The Admin address type has a value of '1' or 'true' when the user has logged on at the Administrator level and a value of '0' or 'false' when the user has logged on at the User level.

Math Communication Data

The CD address type is only valid for devices equipped with the math option and write operations to CD addresses for non-math equipped devices will return an error. Write operations are available only for users logged in at the Administrator level; otherwise, they will return an error.

Model Series Reported by Device

The Model address type will have a string value of 'DX100' or 'DX200', indicating the model series returned by the device.

Control Math Execution

The MathControl address type is only available for devices equipped with the math option and write operations to the MathControl tag for non-math equipped devices will return an error.

Control Command and Response

The Command address allows the user to send a string command and receive a string response to and from the device. This allows the user to send any command to the device, including commands not directly supported by the driver. This tag is only available to users logged in at the Administrator level; otherwise, write operations will return an error.

⬤ **Caution**: Write operations using the Command address should be performed with caution.

Messages

Command	Message Type	Syntax	Notes
BJ	Free Message (aka Arbitrary Message)	BJ(group)_(message #) E.g., BJ10_2 for group 10, msg 2.	Message is assigned to a group and displayed for that group only. Limit: 10 messages. Message max. length: 32 char.s.
SG	Regular Message	SG(message #) E.g., SG_42	Limit: 100 messages. Message max. length: 32 char.s. Message will be written to the current display when the MS command is invoked.

Command	Message Type	Syntax	Notes
MS	Writes message to display	MS(message #) E.g., MS_42	Writes the message (indicated by message #) to the current display.

Note: The actual number of addresses available for of each type depends on the configuration of the Yokogawa device. If the driver finds at Runtime that an address is not present in the device, it will post an error message and then remove the tag from its scan list.

Addresses that have Write Only access are assigned a default access of Read/Write; however, data values will be unreadable for these addresses and the associated tags will not be included in the scan list. The current data value for these tags will always be 0 for numeric data types and null string for string data types.

DX2010 Addressing

The driver supports the following addresses for this device. The default data type is shown in **bold**.

Measured Channels

Address Type	Format	Range	Data Types	Access
Process Value of Channel	CHxx or CHxx.PV	01-10	**Double**, Float	Read Only
Alarm Summary of Channel	CHxx.Alarm	01-10	**Short**, Word, Byte	Read Only
Alarm Level1 Status of Channel	CHxx.Alarm1	01-10	**Short**, Word, Byte	Read Only
Alarm Level2 Status of Channel	CHxx.Alarm2	01-10	**Short**, Word, Byte	Read Only
Alarm Level3 Status of Channel	CHxx.Alarm3	01-10	**Short**, Word, Byte	Read Only
Alarm Level4 Status of Channel	CHxx.Alarm4	01-10	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Setpoint	CHxx.ASP1	01-10	**Double**, Float	Read/Write
Set and Read Level2 Alarm Setpoint	CHxx.ASP2	01-10	**Double**, Float	Read/Write
Set and Read Level3 Alarm Setpoint	CHxx.ASP3	01-10	**Double**, Float	Read/Write
Set and Read Level4 Alarm Setpoint	CHxx.ASP4	01-10	**Double**, Float	Read/Write
Alarm type Numeric Level 1	CHxxx.AlarmType1.Num	01-10	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 2	CHxxx.AlarmType2.Num	01-10	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 3	CHxxx.AlarmType3.Num	01-10	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 4	CHxxx.AlarmType4.Num	01-10	**Short**, Word, Byte	Read Only
Alarm type String Level 1	CHxx.AlarmType1.String	01-10	String	Read Only

Address Type	Format	Range	Data Types	Access
Alarm type String Level 2	CHxx.AlarmType2.String	01-10	String	Read Only
Alarm type String Level 3	CHxx.AlarmType3.String	01-10	String	Read Only
Alarm type String Level 4	CHxx.AlarmType4.String	01-10	String	Read Only
Upper Scale Value of Channel*	CHxx.scale_Hi	01-10	**Double**, Float	Read Only
Lower Scale Value of Channel*	CHxx.scale_Lo	01-10	**Double**, Float	Read Only
Unit String of Channel*	CHxx.unit	01-10	String	Read Only
Tagname of Channel*	CHxx.tag	01-10	String	Read Only
Status of Channel*	CHxx.status	01-10	String	Read Only
Precision of Channel*	CHxx.Precision	01-10	**Short**, Word, Byte	Read Only
Lowest Measuring Channel*	CH.Low		**Short**, Word, Byte	Read Only
Highest Measuring Channel*	CH.High		**Short**, Word, Byte	Read Only

Math Channels

Address Type	Format	Range	Data Types	Access
Process Value of Math Channel	CHxxx or CHxxx.PV	101-160	**Double**, Float	Read Only
Alarm Summary of Math Channel	CHxxx.Alarm	101-160	**Short**, Word, Byte	Read Only
Alarm Level1 Status of Math Channel	CHxxx.Alarm1	101-160	**Short**, Word, Byte	Read Only
Alarm Level2 Status of Math Channel	CHxxx.Alarm2	101-160	**Short**, Word, Byte	Read Only
Alarm Level3 Status of Math Channel	CHxxx.Alarm3	101-160	**Short**, Word, Byte	Read Only
Alarm Level4 Status of Math Channel	CHxxx.Alarm4	101-160	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Setpoint	CHxxx.ASP1	101-160	**Double**, Float	Read/Write
Set and Read Level2 Alarm Setpoint	CHxxx.ASP2	101-160	**Double**, Float	Read/Write
Set and Read Level3 Alarm Setpoint	CHxxx.ASP3	101-160	**Double**, Float	Read/Write
Set and Read Level4 Alarm Setpoint	CHxxx.ASP4	101-160	**Double**, Float	Read/Write
Alarm type Numeric Level 1	CHxxx.AlarmType1.Num	101-160	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 2	CHxxx.AlarmType2.Num	101-160	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 3	CHxxx.AlarmType3.Num	101-160	**Short**, Word, Byte	Read Only

Address Type	Format	Range	Data Types	Access
Alarm type Numeric Level 4	CHxxx.AlarmType4.Num	101-160	**Short**, Word, Byte	Read Only
Alarm type String Level 1	CHxxx.AlarmType1.String	101-160	String	Read Only
Alarm type String Level 2	CHxxx.AlarmType2.String	101-160	String	Read Only
Alarm type String Level 3	CHxxx.AlarmType3.String	101-160	String	Read Only
Alarm type String Level 4	CHxxx.AlarmType4.String	101-160	String	Read Only
Upper Scale Value of Math Channel*	CHxxx.scale_Hi	101-160	**Double**, Float	Read Only
Lower Scale Value of Math Channel*	CHxxx.scale_Lo	101-160	**Double**, Float	Read Only
Unit String of Math Channel*	CHxxx.unit	101-160	String	Read Only
Tagname of Math Channel*	CHxxx.tag	101-160	String	Read Only
Status of Math Channel*	CHxxx.status	101-160	String	Read Only
Precision of Math Channel*	CHxxx.Precision	101-160	**Short**, Word, Byte	Read Only
Lowest Math Channel*	CHA.Low		**Short**, Word, Byte	Read Only
Highest Math Channel*	CHA.High		**Short**, Word, Byte	Read Only

External Input Channels

Address Type	Format	Range	Data Types	Access
External Input Channel	CHxxx or CHxxx.PV	201-440	**Double**, Float	Read/Write
Alarm Summary for External Input Channel	CHxxx.Alarm	201-440	**Short**, Word, Byte	Read Only
Alarm Level1 Status of External Input	CHxxx.Alarm1	201-440	**Short**, Word, Byte	Read Only
Alarm Level2 Status of External Input	CHxxx.Alarm2	201-440	**Short**, Word, Byte	Read Only
Alarm Level3 Status of External Input	CHxxx.Alarm3	201-440	**Short**, Word, Byte	Read Only
Alarm Level4 Status of External Input	CHxxx.Alarm4	201-440	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Setpoint	CHxxx.ASP1	201-440	**Double**, Float	Read/Write

Address Type	Format	Range	Data Types	Access
Set and Read Level2 Alarm Setpoint	CHxxx.ASP2	201-440	**Double**, Float	Read/Write
Set and Read Level3 Alarm Setpoint	CHxxx.ASP3	201-440	**Double**, Float	Read/Write
Set and Read Level4 Alarm Setpoint	CHxxx.ASP4	201-440	**Double**, Float	Read/Write
Alarm type Numeric Level1 for External Input Channel	CHxxx.AlarmTypeNum1	201-440	**Short**, Word, Byte	Read Only
Alarm type Numeric Level2 for External Input Channel	CHxxx.AlarmTypeNum2	201-440	**Short**, Word, Byte	Read Only
Alarm type Numeric Level3 for External Input Channel	CHxxx.AlarmTypeNum3	201-440	**Short**, Word, Byte	Read Only
Alarm type Numeric Level4 for External Input Channel	CHxxx.AlarmTypeNum4	201-440	**Short**, Word, Byte	Read Only
Alarm type String Level1 for External Input Channel	CHxxx.AlarmTypeStr1	201-440	**String**	Read Only
Alarm type String Level2 for External Input Channel	CHxxx.AlarmTypeStr2	201-440	**String**	Read Only
Alarm type String Level3 for External Input Channel	CHxxx.AlarmTypeStr3	201-440	**String**	Read Only
Alarm type String Level4 for External Input Channel	CHxxx.AlarmTypeStr4	201-440	**String**	Read Only
Upper Scale Value of External Input*	CHxxx.scale_Hi	201-440	**Double**, Float	Read Only
Lower Scale Value of External Input*	CHxxx.scale_Lo	201-440	**Double**, Float	Read Only
Unit String of External Input*	CHxxx.unit	201-440	**String**	Read Only
Tagname of External Input*	CHxxx.tag	201-440	**String**	Read Only
Status of External Input*	CHxxx.status	201-440	**String**	Read Only
Precision of External Input*	CHxxx.Precision	201-440	**Short**, Word, Byte	Read Only
Lowest External Input*	CHE.Low		**Short**, Word, Byte	Read Only
Highest External Input*	CHE.High		**Short**, Word, Byte	Read Only

*Data associated with these addresses are only read from the device at the start of a communications session. Once read, the values will not be refreshed until the server has been restarted or the "Reset" tag has been invoked. To invoke a reset, a non zero value must be written to the Reset tag. Once the Reset tag has been invoked the driver will reinitialize all startup data from the device.

Alarm Setpoints

Data values for Alarm Setpoints that are undefined in the device will be returned as +INF. Data values can only be written to Alarm Setpoints that are defined in the device. Write operations to undefined Alarm Setpoints will return an error. Write operations are only available only for users logged in at the Administrator level; otherwise, they will return an error.

Scales

Data values for Scale_Hi and Scale_Lo for channels that are skipped will be returned as +INF.

Tag Names

For devices that do not support tag names and channels that have unspecified tag names, the driver will construct an internal tag name based on the channel number. For example, the tag name of address 'CH01' will be returned as 'CH01'.

General Device Data

Address Description	Address/Format	Range	Data Types	Access
Administrator Level	Admin		**Boolean**	Read Only
Date of Last Data	Date		**String**	Read Only
Time of Last Data	Time		**String**	Read Only
Model Series Reported by Device	Model		**String**	Read Only
Host Name of Device	Hostname		**String**	Read Only
Serial Number of Device	SerialNumber		**String**	Read Only
IP Address of Device	IP		**String**	Read Only
Math Communication Data	CDxx	01-60	**Float**	Read/Write
Control Math Execution	MathControl		**Short**, Word, Byte	Write Only
Reset Alarms	AlarmReset		**Boolean**	Write Only
Control Command and Response	Command		**String**	Read/Write
Previous Screen	PreScreen		**Boolean**	Write Only
Direct Reloading of Configuration	Reset		**Boolean**	Write Only
Freeze the recorder's trend and time display.	Opmode_freeze		Boolean	Write Only
Resume the recorder's trend and time display.	Opmode_normal		Boolean	Write Only
Clear the recorder's memory and display.	Opmode_clear		Boolean	Write Only
SetTime*	Tag		**Boolean**	Write Only

*The SetTime Tag updates the device time. Writing 0 or 1 to the tag will update the Device Date and Time (which can be verified from the Date Tag and the Time Tag). The SetTime Tag will always display 0 because it is Write Only. After a successful update, the following message will be posted: "Device Clock set to system time [Device <device_name>]."

Administrator Level

The Admin address type has a value of '1' or 'true' when the user has logged on at the Administrator level and a value of '0' or 'false' when the user has logged on at the User level.

Math Communication Data

The CD address type is only valid for devices equipped with the math option and write operations to CD addresses for non-math equipped devices will return an error. Write operations are available only for users logged in at the Administrator level; otherwise, they will return an error.

Model Series Reported by Device

The Model address type will have a string value of 'DX100' or 'DX200', indicating the model series returned by the device.

Control Math Execution

The MathControl address type is only available for devices equipped with the math option and write operations to the MathControl tag for non-math equipped devices will return an error.

Control Command and Response

The Command address allows the user to send a string command and receive a string response to and from the device. This allows the user to send any command to the device, including commands not directly supported by the driver. This tag is only available to users logged in at the Administrator level; otherwise, write operations will return an error.

Caution: Write operations using the Command address should be performed with caution.

Messages

Command	Message Type	Syntax	Notes
BJ	Free Message (aka Arbitrary Message)	BJ(group)_(message #) E.g., BJ10_2 for group 10, msg 2.	Message is assigned to a group and displayed for that group only. Limit: 10 messages. Message max. length: 32 char.s.
SG	Regular Message	SG(message #) E.g., SG_42	Limit: 100 messages. Message max. length: 32 char.s. Message will be written to the current display when the MS command is invoked.
MS	Writes message to display	MS(message #) E.g., MS_42	Writes the message (indicated by message #) to the current display.

Note: The actual number of addresses available for of each type depends on the configuration of the Yokogawa device. If the driver finds at Runtime that an address is not present in the device, it will post an error message and then remove the tag from its scan list.

Addresses that have Write Only access are assigned a default access of Read/Write; however, data values will be unreadable for these addresses and the associated tags will not be included in the scan list. The current data value for these tags will always be 0 for numeric data types and null string for string data types.

DX2020 Addressing

The driver supports the following addresses for this device. The default data type is shown in **bold**.

Measured Channels

Address Type	Format	Range	Data Types	Access
Process Value of Channel	CHxx or CHxx.PV	01-20	**Double**, Float	Read Only
Alarm Summary of Channel	CHxx.Alarm	01-20	**Short**, Word, Byte	Read Only
Alarm Level1 Status of Channel	CHxx.Alarm1	01-20	**Short**, Word, Byte	Read Only
Alarm Level2 Status of Channel	CHxx.Alarm2	01-20	**Short**, Word, Byte	Read Only
Alarm Level3 Status of Channel	CHxx.Alarm3	01-20	**Short**, Word, Byte	Read Only
Alarm Level4 Status of Channel	CHxx.Alarm4	01-20	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Set-point	CHxx.ASP1	01-20	**Double**, Float	Read/Write
Set and Read Level2 Alarm Set-point	CHxx.ASP2	01-20	**Double**, Float	Read/Write
Set and Read Level3 Alarm Set-point	CHxx.ASP3	01-20	**Double**, Float	Read/Write
Set and Read Level4 Alarm Set-point	CHxx.ASP4	01-20	**Double**, Float	Read/Write
Alarm type Numeric Level 1	CHxxx.AlarmType1.Num	01-20	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 2	CHxxx.AlarmType2.Num	01-20	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 3	CHxxx.AlarmType3.Num	01-20	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 4	CHxxx.AlarmType4.Num	01-20	**Short**, Word, Byte	Read Only
Alarm type String Level 1	CHxx.AlarmType1.String	01-20	String	Read Only
Alarm type String Level 2	CHxx.AlarmType2.String	01-20	String	Read Only
Alarm type String Level 3	CHxx.AlarmType3.String	01-20	String	Read Only
Alarm type String Level 4	CHxx.AlarmType4.String	01-20	String	Read Only
Upper Scale Value of Channel*	CHxx.scale_Hi	01-20	**Double**, Float	Read Only
Lower Scale Value of Channel*	CHxx.scale_Lo	01-20	**Double**, Float	Read Only
Unit String of Channel*	CHxx.unit	01-20	String	Read Only
Tagname of Channel*	CHxx.tag	01-20	String	Read Only
Status of Channel*	CHxx.status	01-20	String	Read Only
Precision of Channel*	CHxx.Precision	01-20	**Short**, Word, Byte	Read Only
Lowest Measuring Channel*	CH.Low		**Short**, Word,	Read Only

Address Type	Format	Range	Data Types	Access
			Byte	
Highest Measuring Channel*	CH.High		**Short**, Word, Byte	Read Only

Math Channels

Address Type	Format	Range	Data Types	Access
Process Value of Math Channel	CHxxx or CHxxx.PV	101-160	**Double**, Float	Read Only
Alarm Summary of Math Channel	CHxxx.Alarm	101-160	**Short**, Word, Byte	Read Only
Alarm Level1 Status of Math Channel	CHxxx.Alarm1	101-160	**Short**, Word, Byte	Read Only
Alarm Level2 Status of Math Channel	CHxxx.Alarm2	101-160	**Short**, Word, Byte	Read Only
Alarm Level3 Status of Math Channel	CHxxx.Alarm3	101-160	**Short**, Word, Byte	Read Only
Alarm Level4 Status of Math Channel	CHxxx.Alarm4	101-160	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Setpoint	CHxxx.ASP1	101-160	**Double**, Float	Read/Write
Set and Read Level2 Alarm Setpoint	CHxxx.ASP2	101-160	**Double**, Float	Read/Write
Set and Read Level3 Alarm Setpoint	CHxxx.ASP3	101-160	**Double**, Float	Read/Write
Set and Read Level4 Alarm Setpoint	CHxxx.ASP4	101-160	**Double**, Float	Read/Write
Alarm type Numeric Level 1	CHxxx.AlarmType1.Num	101-160	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 2	CHxxx.AlarmType2.Num	101-160	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 3	CHxxx.AlarmType3.Num	101-160	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 4	CHxxx.AlarmType4.Num	101-160	**Short**, Word, Byte	Read Only
Alarm type String Level 1	CHxxx.AlarmType1.String	101-160	String	Read Only
Alarm type String Level 2	CHxxx.AlarmType2.String	101-160	String	Read Only
Alarm type String Level 3	CHxxx.AlarmType3.String	101-160	String	Read Only
Alarm type String Level 4	CHxxx.AlarmType4.String	101-160	String	Read Only
Upper Scale Value of Math Channel*	CHxxx.scale_Hi	101-160	**Double**, Float	Read Only

Address Type	Format	Range	Data Types	Access
Lower Scale Value of Math Channel*	CHxxx.scale_Lo	101-160	**Double**, Float	Read Only
Unit String of Math Channel*	CHxxx.unit	101-160	String	Read Only
Tagname of Math Channel*	CHxxx.tag	101-160	String	Read Only
Status of Math Channel*	CHxxx.status	101-160	String	Read Only
Precision of Math Channel*	CHxxx.Precision	101-160	**Short**, Word, Byte	Read Only
Lowest Math Channel*	CHA.Low		**Short**, Word, Byte	Read Only
Highest Math Channel*	CHA.High		**Short**, Word, Byte	Read Only

External Input Channels

Address Type	Format	Range	Data Types	Access
External Input Channel	CHxxx or CHxxx.PV	201-440	**Double**, Float	Read/Write
Alarm Summary for External Input Channel	CHxxx.Alarm	201-440	**Short**, Word, Byte	Read Only
Alarm Level1 Status of External Input	CHxxx.Alarm1	201-440	**Short**, Word, Byte	Read Only
Alarm Level2 Status of External Input	CHxxx.Alarm2	201-440	**Short**, Word, Byte	Read Only
Alarm Level3 Status of External Input	CHxxx.Alarm3	201-440	**Short**, Word, Byte	Read Only
Alarm Level4 Status of External Input	CHxxx.Alarm4	201-440	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Setpoint	CHxxx.ASP1	201-440	**Double**, Float	Read/Write
Set and Read Level2 Alarm Setpoint	CHxxx.ASP2	201-440	**Double**, Float	Read/Write
Set and Read Level3 Alarm Setpoint	CHxxx.ASP3	201-440	**Double**, Float	Read/Write
Set and Read Level4 Alarm Setpoint	CHxxx.ASP4	201-440	**Double**, Float	Read/Write
Alarm type Numeric Level1 for External Input Channel	CHxxx.AlarmTypeNum1	201-440	**Short**, Word, Byte	Read Only
Alarm type Numeric Level2 for External Input Channel	CHxxx.AlarmTypeNum2	201-440	**Short**, Word, Byte	Read Only
Alarm type Numeric Level3 for External Input Channel	CHxxx.AlarmTypeNum3	201-440	**Short**, Word, Byte	Read Only

Address Type	Format	Range	Data Types	Access
Alarm type Numeric Level4 for External Input Channel	CHxxx.AlarmTypeNum4	201-440	**Short**, Word, Byte	Read Only
Alarm type String Level1 for External Input Channel	CHxxx.AlarmTypeStr1	201-440	**String**	Read Only
Alarm type String Level2 for External Input Channel	CHxxx.AlarmTypeStr2	201-440	**String**	Read Only
Alarm type String Level3 for External Input Channel	CHxxx.AlarmTypeStr3	201-440	**String**	Read Only
Alarm type String Level4 for External Input Channel	CHxxx.AlarmTypeStr4	201-440	**String**	Read Only
Upper Scale Value of External Input*	CHxxx.scale_Hi	201-440	**Double**, Float	Read Only
Lower Scale Value of External Input*	CHxxx.scale_Lo	201-440	**Double**, Float	Read Only
Unit String of External Input*	CHxxx.unit	201-440	**String**	Read Only
Tagname of External Input*	CHxxx.tag	201-440	**String**	Read Only
Status of External Input*	CHxxx.status	201-440	**String**	Read Only
Precision of External Input*	CHxxx.Precision	201-440	**Short**, Word, Byte	Read Only
Lowest External Input*	CHE.Low		**Short**, Word, Byte	Read Only
Highest External Input*	CHE.High		**Short**, Word, Byte	Read Only

*Data associated with these addresses are only read from the device at the start of a communications session. Once read, the values will not be refreshed until the server has been restarted or the "Reset" tag has been invoked. To invoke a reset, a non zero value must be written to the Reset tag. Once the Reset tag has been invoked the driver will reinitialize all startup data from the device.

Alarm Setpoints

Data values for Alarm Setpoints that are undefined in the device will be returned as +INF. Data values can only be written to Alarm Setpoints that are defined in the device. Write operations to undefined Alarm Setpoints will return an error. Write operations are only available only for users logged in at the Administrator level; otherwise, they will return an error.

Scales

Data values for Scale_Hi and Scale_Lo for channels that are skipped will be returned as +INF.

Tag Names

For devices that do not support tag names and channels that have unspecified tag names, the driver will construct an internal tag name based on the channel number. For example, the tag name of address 'CH01' will be returned as 'CH01'.

General Device Data

Address Description	Address/Format	Range	Data Types	Access
Administrator Level	Admin		**Boolean**	Read Only
Date of Last Data	Date		**String**	Read Only
Time of Last Data	Time		**String**	Read Only
Model Series Reported by Device	Model		**String**	Read Only
Host Name of Device	Hostname		**String**	Read Only
Serial Number of Device	SerialNumber		**String**	Read Only
IP Address of Device	IP		**String**	Read Only
Math Communication Data	CDxx	01-60	**Float**	Read/Write
Control Math Execution	MathControl		**Short**, Word, Byte	Write Only
Reset Alarms	AlarmReset		**Boolean**	Write Only
Control Command and Response	Command		**String**	Read/Write
Previous Screen	PreScreen		**Boolean**	Write Only
Direct Reloading of Configuration	Reset		**Boolean**	Write Only
Freeze the recorder's trend and time display.	Opmode_freeze		Boolean	Write Only
Resume the recorder's trend and time display.	Opmode_normal		Boolean	Write Only
Clear the recorder's memory and display.	Opmode_clear		Boolean	Write Only
SetTime*	Tag		**Boolean**	Write Only

*The SetTime Tag updates the device time. Writing 0 or 1 to the tag will update the Device Date and Time (which can be verified from the Date Tag and the Time Tag). The SetTime Tag will always display 0 because it is Write Only. After a successful update, the following message will be posted: "Device Clock set to system time [Device <device_name>]."

Administrator Level

The Admin address type has a value of '1' or 'true' when the user has logged on at the Administrator level and a value of '0' or 'false' when the user has logged on at the User level.

Math Communication Data

The CD address type is only valid for devices equipped with the math option and write operations to CD addresses for non-math equipped devices will return an error. Write operations are available only for users logged in at the Administrator level; otherwise, they will return an error.

Model Series Reported by Device

The Model address type will have a string value of 'DX100' or 'DX200', indicating the model series returned by the device.

Control Math Execution

The MathControl address type is only available for devices equipped with the math option and write operations to the MathControl tag for non-math equipped devices will return an error.

Control Command and Response

The Command address allows the user to send a string command and receive a string response to and from the device. This allows the user to send any command to the device, including commands not directly supported by the driver. This tag is only available to users logged in at the Administrator level; otherwise, write operations will return an error.

⬢ **Caution**: Write operations using the Command address should be performed with caution.

Messages

Command	Message Type	Syntax	Notes
BJ	Free Message (aka Arbitrary Message)	BJ(group)_(message #) E.g., BJ10_2 for group 10, msg 2.	Message is assigned to a group and displayed for that group only. Limit: 10 messages. Message max. length: 32 char.s.
SG	Regular Message	SG(message #) E.g., SG_42	Limit: 100 messages. Message max. length: 32 char.s. Message will be written to the current display when the MS command is invoked.
MS	Writes message to display	MS(message #) E.g., MS_42	Writes the message (indicated by message #) to the current display.

⬤ **Note**: The actual number of addresses available for of each type depends on the configuration of the Yokogawa device. If the driver finds at Runtime that an address is not present in the device, it will post an error message and then remove the tag from its scan list.

Addresses that have Write Only access are assigned a default access of Read/Write; however, data values will be unreadable for these addresses and the associated tags will not be included in the scan list. The current data value for these tags will always be 0 for numeric data types and null string for string data types.

DX2030 Addressing

The driver supports the following addresses for this device. The default data type is shown in **bold**.

Measured Channels

Address Type	Format	Range	Data Types	Access
Process Value of Channel	CHxx or CHxx.PV	01-30	**Double**, Float	Read Only
Alarm Summary of Channel	CHxx.Alarm	01-30	**Short**, Word, Byte	Read Only
Alarm Level1 Status of Channel	CHxx.Alarm1	01-30	**Short**, Word, Byte	Read Only
Alarm Level2 Status of Channel	CHxx.Alarm2	01-30	**Short**, Word, Byte	Read Only
Alarm Level3 Status of Channel	CHxx.Alarm3	01-30	**Short**, Word, Byte	Read Only

Address Type	Format	Range	Data Types	Access
Alarm Level4 Status of Channel	CHxx.Alarm4	01-30	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Set-point	CHxx.ASP1	01-30	**Double**, Float	Read/Write
Set and Read Level2 Alarm Set-point	CHxx.ASP2	01-30	**Double**, Float	Read/Write
Set and Read Level3 Alarm Set-point	CHxx.ASP3	01-30	**Double**, Float	Read/Write
Set and Read Level4 Alarm Set-point	CHxx.ASP4	01-30	**Double**, Float	Read/Write
Alarm type Numeric Level 1	CHxxx.AlarmType1.Num	01-30	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 2	CHxxx.AlarmType2.Num	01-30	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 3	CHxxx.AlarmType3.Num	01-30	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 4	CHxxx.AlarmType4.Num	01-30	**Short**, Word, Byte	Read Only
Alarm type String Level 1	CHxx.AlarmType1.String	01-30	String	Read Only
Alarm type String Level 2	CHxx.AlarmType2.String	01-30	String	Read Only
Alarm type String Level 3	CHxx.AlarmType3.String	01-30	String	Read Only
Alarm type String Level 4	CHxx.AlarmType4.String	01-30	String	Read Only
Upper Scale Value of Channel*	CHxx.scale_Hi	01-30	**Double**, Float	Read Only
Lower Scale Value of Channel*	CHxx.scale_Lo	01-30	**Double**, Float	Read Only
Unit String of Channel*	CHxx.unit	01-30	String	Read Only
Tagname of Channel*	CHxx.tag	01-30	String	Read Only
Status of Channel*	CHxx.status	01-30	String	Read Only
Precision of Channel*	CHxx.Precision	01-30	**Short**, Word, Byte	Read Only
Lowest Measuring Channel*	CH.Low		**Short**, Word, Byte	Read Only
Highest Measuring Channel*	CH.High		**Short**, Word, Byte	Read Only

Math Channels

Address Type	Format	Range	Data Types	Access
Process Value of Math Channel	CHxxx or CHxxx.PV	101-160	**Double**, Float	Read Only
Alarm Summary of Math Channel	CHxxx.Alarm	101-160	**Short**, Word, Byte	Read Only
Alarm Level1 Status of Math Channel	CHxxx.Alarm1	101-160	**Short**, Word, Byte	Read Only
Alarm Level2 Status of Math Chan-	CHxxx.Alarm2	101-	**Short**, Word,	Read Only

Address Type	Format	Range	Data Types	Access
nel		160	Byte	
Alarm Level3 Status of Math Channel	CHxxx.Alarm3	101-160	**Short**, Word, Byte	Read Only
Alarm Level4 Status of Math Channel	CHxxx.Alarm4	101-160	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Setpoint	CHxxx.ASP1	101-160	**Double**, Float	Read/Write
Set and Read Level2 Alarm Setpoint	CHxxx.ASP2	101-160	**Double**, Float	Read/Write
Set and Read Level3 Alarm Setpoint	CHxxx.ASP3	101-160	**Double**, Float	Read/Write
Set and Read Level4 Alarm Setpoint	CHxxx.ASP4	101-160	**Double**, Float	Read/Write
Alarm type Numeric Level 1	CHxxx.AlarmType1.Num	101-160	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 2	CHxxx.AlarmType2.Num	101-160	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 3	CHxxx.AlarmType3.Num	101-160	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 4	CHxxx.AlarmType4.Num	101-160	**Short**, Word, Byte	Read Only
Alarm type String Level 1	CHxxx.AlarmType1.String	101-160	String	Read Only
Alarm type String Level 2	CHxxx.AlarmType2.String	101-160	String	Read Only
Alarm type String Level 3	CHxxx.AlarmType3.String	101-160	String	Read Only
Alarm type String Level 4	CHxxx.AlarmType4.String	101-160	String	Read Only
Upper Scale Value of Math Channel*	CHxxx.scale_Hi	101-160	**Double**, Float	Read Only
Lower Scale Value of Math Channel*	CHxxx.scale_Lo	101-160	**Double**, Float	Read Only
Unit String of Math Channel*	CHxxx.unit	101-160	String	Read Only
Tagname of Math Channel*	CHxxx.tag	101-160	String	Read Only
Status of Math Channel*	CHxxx.status	101-160	String	Read Only
Precision of Math Channel*	CHxxx.Precision	101-160	**Short**, Word, Byte	Read Only
Lowest Math Channel*	CHA.Low		**Short**, Word, Byte	Read Only
Highest Math Channel*	CHA.High		**Short**, Word,	Read Only

Address Type	Format	Range	Data Types	Access
			Byte	

External Input Channels

Address Type	Format	Range	Data Types	Access
External Input Channel	CHxxx or CHxxx.PV	201-440	**Double**, Float	Read/Write
Alarm Summary for External Input Channel	CHxxx.Alarm	201-440	**Short**, Word, Byte	Read Only
Alarm Level1 Status of External Input	CHxxx.Alarm1	201-440	**Short**, Word, Byte	Read Only
Alarm Level2 Status of External Input	CHxxx.Alarm2	201-440	**Short**, Word, Byte	Read Only
Alarm Level3 Status of External Input	CHxxx.Alarm3	201-440	**Short**, Word, Byte	Read Only
Alarm Level4 Status of External Input	CHxxx.Alarm4	201-440	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Setpoint	CHxxx.ASP1	201-440	**Double**, Float	Read/Write
Set and Read Level2 Alarm Setpoint	CHxxx.ASP2	201-440	**Double**, Float	Read/Write
Set and Read Level3 Alarm Setpoint	CHxxx.ASP3	201-440	**Double**, Float	Read/Write
Set and Read Level4 Alarm Setpoint	CHxxx.ASP4	201-440	**Double**, Float	Read/Write
Alarm type Numeric Level1 for External Input Channel	CHxxx.AlarmTypeNum1	201-440	**Short**, Word, Byte	Read Only
Alarm type Numeric Level2 for External Input Channel	CHxxx.AlarmTypeNum2	201-440	**Short**, Word, Byte	Read Only
Alarm type Numeric Level3 for External Input Channel	CHxxx.AlarmTypeNum3	201-440	**Short**, Word, Byte	Read Only
Alarm type Numeric Level4 for External Input Channel	CHxxx.AlarmTypeNum4	201-440	**Short**, Word, Byte	Read Only
Alarm type String Level1 for External Input Channel	CHxxx.AlarmTypeStr1	201-440	**String**	Read Only
Alarm type String Level2 for External Input Channel	CHxxx.AlarmTypeStr2	201-440	**String**	Read Only
Alarm type String Level3 for External Input Channel	CHxxx.AlarmTypeStr3	201-440	**String**	Read Only
Alarm type String Level4 for External Input Channel	CHxxx.AlarmTypeStr4	201-440	**String**	Read Only
Upper Scale Value of External Input*	CHxxx.scale_Hi	201-440	**Double**, Float	Read Only
Lower Scale Value of External Input*	CHxxx.scale_Lo	201-	**Double**,	Read Only

Address Type	Format	Range	Data Types	Access
		440	Float	
Unit String of External Input*	CHxxx.unit	201-440	**String**	Read Only
Tagname of External Input*	CHxxx.tag	201-440	**String**	Read Only
Status of External Input*	CHxxx.status	201-440	**String**	Read Only
Precision of External Input*	CHxxx.Precision	201-440	**Short**, Word, Byte	Read Only
Lowest External Input*	CHE.Low		**Short**, Word, Byte	Read Only
Highest External Input*	CHE.High		**Short**, Word, Byte	Read Only

*Data associated with these addresses are only read from the device at the start of a communications session. Once read, the values will not be refreshed until the server has been restarted or the "Reset" tag has been invoked. To invoke a reset, a non zero value must be written to the Reset tag. Once the Reset tag has been invoked the driver will reinitialize all startup data from the device.

Alarm Setpoints

Data values for Alarm Setpoints that are undefined in the device will be returned as +INF. Data values can only be written to Alarm Setpoints that are defined in the device. Write operations to undefined Alarm Setpoints will return an error. Write operations are only available only for users logged in at the Administrator level; otherwise, they will return an error.

Scales

Data values for Scale_Hi and Scale_Lo for channels that are skipped will be returned as +INF.

Tag Names

For devices that do not support tag names and channels that have unspecified tag names, the driver will construct an internal tag name based on the channel number. For example, the tag name of address 'CH01' will be returned as 'CH01'.

General Device Data

Address Description	Address/Format	Range	Data Types	Access
Administrator Level	Admin		**Boolean**	Read Only
Date of Last Data	Date		**String**	Read Only
Time of Last Data	Time		**String**	Read Only
Model Series Reported by Device	Model		**String**	Read Only
Host Name of Device	Hostname		**String**	Read Only
Serial Number of Device	SerialNumber		**String**	Read Only
IP Address of Device	IP		**String**	Read Only
Math Communication Data	CDxx	01-60	**Float**	Read/Write

Address Description	Address/Format	Range	Data Types	Access
Control Math Execution	MathControl		**Short**, Word, Byte	Write Only
Reset Alarms	AlarmReset		**Boolean**	Write Only
Control Command and Response	Command		**String**	Read/Write
Previous Screen	PreScreen		**Boolean**	Write Only
Direct Reloading of Configuration	Reset		**Boolean**	Write Only
Freeze the recorder's trend and time display.	Opmode_freeze		Boolean	Write Only
Resume the recorder's trend and time display.	Opmode_normal		Boolean	Write Only
Clear the recorder's memory and display.	Opmode_clear		Boolean	Write Only
SetTime*	Tag		**Boolean**	Write Only

*The SetTime Tag updates the device time. Writing 0 or 1 to the tag will update the Device Date and Time (which can be verified from the Date Tag and the Time Tag). The SetTime Tag will always display 0 because it is Write Only. After a successful update, the following message will be posted: "Device Clock set to system time [Device <device_name>]."

Administrator Level

The Admin address type has a value of '1' or 'true' when the user has logged on at the Administrator level and a value of '0' or 'false' when the user has logged on at the User level.

Math Communication Data

The CD address type is only valid for devices equipped with the math option and write operations to CD addresses for non-math equipped devices will return an error. Write operations are available only for users logged in at the Administrator level; otherwise, they will return an error.

Model Series Reported by Device

The Model address type will have a string value of 'DX100' or 'DX200', indicating the model series returned by the device.

Control Math Execution

The MathControl address type is only available for devices equipped with the math option and write operations to the MathControl tag for non-math equipped devices will return an error.

Control Command and Response

The Command address allows the user to send a string command and receive a string response to and from the device. This allows the user to send any command to the device, including commands not directly supported by the driver. This tag is only available to users logged in at the Administrator level; otherwise, write operations will return an error.

⬡ **Caution**: Write operations using the Command address should be performed with caution.

Messages

Command	Message Type	Syntax	Notes
BJ	Free Message (aka	BJ(group)_(mes-	Message is assigned to a group and displayed

Command	Message Type	Syntax	Notes
	Arbitrary Message)	sage #) E.g., BJ10_2 for group 10, msg 2.	for that group only. Limit: 10 messages. Message max. length: 32 char.s.
SG	Regular Message	SG(message #) E.g., SG_42	Limit: 100 messages. Message max. length: 32 char.s. Message will be written to the current display when the MS command is invoked.
MS	Writes message to display	MS(message #) E.g., MS_42	Writes the message (indicated by message #) to the current display.

⬤ **Note**: The actual number of addresses available for of each type depends on the configuration of the Yokogawa device. If the driver finds at Runtime that an address is not present in the device, it will post an error message and then remove the tag from its scan list.

Addresses that have Write Only access are assigned a default access of Read/Write; however, data values will be unreadable for these addresses and the associated tags will not be included in the scan list. The current data value for these tags will always be 0 for numeric data types and null string for string data types.

DX2040 Addressing

The driver supports the following addresses for this device. The default data type is shown in **bold**.

Measured Channels

Address Type	Format	Range	Data Types	Access
Process Value of Channel	CHxx or CHxx.PV	01-40	**Double**, Float	Read Only
Alarm Summary of Channel	CHxx.Alarm	01-40	**Short**, Word, Byte	Read Only
Alarm Level1 Status of Channel	CHxx.Alarm1	01-40	**Short**, Word, Byte	Read Only
Alarm Level2 Status of Channel	CHxx.Alarm2	01-40	**Short**, Word, Byte	Read Only
Alarm Level3 Status of Channel	CHxx.Alarm3	01-40	**Short**, Word, Byte	Read Only
Alarm Level4 Status of Channel	CHxx.Alarm4	01-40	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Set-point	CHxx.ASP1	01-40	**Double**, Float	Read/Write
Set and Read Level2 Alarm Set-point	CHxx.ASP2	01-40	**Double**, Float	Read/Write
Set and Read Level3 Alarm Set-point	CHxx.ASP3	01-40	**Double**, Float	Read/Write
Set and Read Level4 Alarm Set-	CHxx.ASP4	01-40	**Double**, Float	Read/Write

Address Type	Format	Range	Data Types	Access
point				
Alarm type Numeric Level 1	CHxxx.AlarmType1.Num	01-40	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 2	CHxxx.AlarmType2.Num	01-40	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 3	CHxxx.AlarmType3.Num	01-40	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 4	CHxxx.AlarmType4.Num	01-40	**Short**, Word, Byte	Read Only
Alarm type String Level 1	CHxx.AlarmType1.String	01-40	String	Read Only
Alarm type String Level 2	CHxx.AlarmType2.String	01-40	String	Read Only
Alarm type String Level 3	CHxx.AlarmType3.String	01-40	String	Read Only
Alarm type String Level 4	CHxx.AlarmType4.String	01-40	String	Read Only
Upper Scale Value of Channel*	CHxx.scale_Hi	01-40	**Double**, Float	Read Only
Lower Scale Value of Channel*	CHxx.scale_Lo	01-40	**Double**, Float	Read Only
Unit String of Channel*	CHxx.unit	01-40	String	Read Only
Tagname of Channel*	CHxx.tag	01-40	String	Read Only
Status of Channel*	CHxx.status	01-40	String	Read Only
Precision of Channel*	CHxx.Precision	01-40	**Short**, Word, Byte	Read Only
Lowest Measuring Channel*	CH.Low		**Short**, Word, Byte	Read Only
Highest Measuring Channel*	CH.High		**Short**, Word, Byte	Read Only

Math Channels

Address Type	Format	Range	Data Types	Access
Process Value of Math Channel	CHxxx or CHxxx.PV	101-160	**Double**, Float	Read Only
Alarm Summary of Math Channel	CHxxx.Alarm	101-160	**Short**, Word, Byte	Read Only
Alarm Level1 Status of Math Channel	CHxxx.Alarm1	101-160	**Short**, Word, Byte	Read Only
Alarm Level2 Status of Math Channel	CHxxx.Alarm2	101-160	**Short**, Word, Byte	Read Only
Alarm Level3 Status of Math Channel	CHxxx.Alarm3	101-160	**Short**, Word, Byte	Read Only
Alarm Level4 Status of Math Channel	CHxxx.Alarm4	101-160	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Setpoint	CHxxx.ASP1	101-160	**Double**, Float	Read/Write
Set and Read Level2 Alarm Setpoint	CHxxx.ASP2	101-160	**Double**, Float	Read/Write

Address Type	Format	Range	Data Types	Access
Set and Read Level3 Alarm Set-point	CHxxx.ASP3	101-160	**Double**, Float	Read/Write
Set and Read Level4 Alarm Set-point	CHxxx.ASP4	101-160	**Double**, Float	Read/Write
Alarm type Numeric Level 1	CHxxx.AlarmType1.Num	101-160	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 2	CHxxx.AlarmType2.Num	101-160	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 3	CHxxx.AlarmType3.Num	101-160	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 4	CHxxx.AlarmType4.Num	101-160	**Short**, Word, Byte	Read Only
Alarm type String Level 1	CHxxx.AlarmType1.String	101-160	String	Read Only
Alarm type String Level 2	CHxxx.AlarmType2.String	101-160	String	Read Only
Alarm type String Level 3	CHxxx.AlarmType3.String	101-160	String	Read Only
Alarm type String Level 4	CHxxx.AlarmType4.String	101-160	String	Read Only
Upper Scale Value of Math Channel*	CHxxx.scale_Hi	101-160	**Double**, Float	Read Only
Lower Scale Value of Math Channel*	CHxxx.scale_Lo	101-160	**Double**, Float	Read Only
Unit String of Math Channel*	CHxxx.unit	101-160	String	Read Only
Tagname of Math Channel*	CHxxx.tag	101-160	String	Read Only
Status of Math Channel*	CHxxx.status	101-160	String	Read Only
Precision of Math Channel*	CHxxx.Precision	101-160	**Short**, Word, Byte	Read Only
Lowest Math Channel*	CHA.Low		**Short**, Word, Byte	Read Only
Highest Math Channel*	CHA.High		**Short**, Word, Byte	Read Only

External Input Channels

Address Type	Format	Range	Data Types	Access
External Input Channel	CHxxx or CHxxx.PV	201-440	**Double**, Float	Read/Write
Alarm Summary for External Input Channel	CHxxx.Alarm	201-440	**Short**, Word, Byte	Read Only

Address Type	Format	Range	Data Types	Access
Alarm Level1 Status of External Input	CHxxx.Alarm1	201-440	**Short**, Word, Byte	Read Only
Alarm Level2 Status of External Input	CHxxx.Alarm2	201-440	**Short**, Word, Byte	Read Only
Alarm Level3 Status of External Input	CHxxx.Alarm3	201-440	**Short**, Word, Byte	Read Only
Alarm Level4 Status of External Input	CHxxx.Alarm4	201-440	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Setpoint	CHxxx.ASP1	201-440	**Double**, Float	Read/Write
Set and Read Level2 Alarm Setpoint	CHxxx.ASP2	201-440	**Double**, Float	Read/Write
Set and Read Level3 Alarm Setpoint	CHxxx.ASP3	201-440	**Double**, Float	Read/Write
Set and Read Level4 Alarm Setpoint	CHxxx.ASP4	201-440	**Double**, Float	Read/Write
Alarm type Numeric Level1 for External Input Channel	CHxxx.AlarmTypeNum1	201-440	**Short**, Word, Byte	Read Only
Alarm type Numeric Level2 for External Input Channel	CHxxx.AlarmTypeNum2	201-440	**Short**, Word, Byte	Read Only
Alarm type Numeric Level3 for External Input Channel	CHxxx.AlarmTypeNum3	201-440	**Short**, Word, Byte	Read Only
Alarm type Numeric Level4 for External Input Channel	CHxxx.AlarmTypeNum4	201-440	**Short**, Word, Byte	Read Only
Alarm type String Level1 for External Input Channel	CHxxx.AlarmTypeStr1	201-440	**String**	Read Only
Alarm type String Level2 for External Input Channel	CHxxx.AlarmTypeStr2	201-440	**String**	Read Only
Alarm type String Level3 for External Input Channel	CHxxx.AlarmTypeStr3	201-440	**String**	Read Only
Alarm type String Level4 for External Input Channel	CHxxx.AlarmTypeStr4	201-440	**String**	Read Only
Upper Scale Value of External Input*	CHxxx.scale_Hi	201-440	**Double**, Float	Read Only
Lower Scale Value of External Input*	CHxxx.scale_Lo	201-440	**Double**, Float	Read Only
Unit String of External Input*	CHxxx.unit	201-440	**String**	Read Only
Tagname of External Input*	CHxxx.tag	201-440	**String**	Read Only
Status of External Input*	CHxxx.status	201-440	**String**	Read Only
Precision of External Input*	CHxxx.Precision	201-	**Short**, Word,	Read Only

Address Type	Format	Range	Data Types	Access
		440	Byte	
Lowest External Input*	CHE.Low		**Short**, Word, Byte	Read Only
Highest External Input*	CHE.High		**Short**, Word, Byte	Read Only

*Data associated with these addresses are only read from the device at the start of a communications session. Once read, the values will not be refreshed until the server has been restarted or the "Reset" tag has been invoked. To invoke a reset, a non zero value must be written to the Reset tag. Once the Reset tag has been invoked the driver will reinitialize all startup data from the device.

Alarm Setpoints

Data values for Alarm Setpoints that are undefined in the device will be returned as +INF. Data values can only be written to Alarm Setpoints that are defined in the device. Write operations to undefined Alarm Setpoints will return an error. Write operations are only available only for users logged in at the Administrator level; otherwise, they will return an error.

Scales

Data values for Scale_Hi and Scale_Lo for channels that are skipped will be returned as +INF.

Tag Names

For devices that do not support tag names and channels that have unspecified tag names, the driver will construct an internal tag name based on the channel number. For example, the tag name of address 'CH01' will be returned as 'CH01'.

General Device Data

Address Description	Address/Format	Range	Data Types	Access
Administrator Level	Admin		**Boolean**	Read Only
Date of Last Data	Date		**String**	Read Only
Time of Last Data	Time		**String**	Read Only
Model Series Reported by Device	Model		**String**	Read Only
Host Name of Device	Hostname		**String**	Read Only
Serial Number of Device	SerialNumber		**String**	Read Only
IP Address of Device	IP		**String**	Read Only
Math Communication Data	CDxx	01-60	**Float**	Read/Write
Control Math Execution	MathControl		**Short**, Word, Byte	Write Only
Reset Alarms	AlarmReset		**Boolean**	Write Only
Control Command and Response	Command		**String**	Read/Write
Previous Screen	PreScreen		**Boolean**	Write Only
Direct Reloading of Configuration	Reset		**Boolean**	Write Only
Freeze the recorder's trend and time display.	Opmode_freeze		Boolean	Write Only

Address Description	Address/Format	Range	Data Types	Access
Resume the recorder's trend and time display.	Opmode_normal		Boolean	Write Only
Clear the recorder's memory and display.	Opmode_clear		Boolean	Write Only
SetTime*	Tag		**Boolean**	Write Only

*The SetTime Tag updates the device time. Writing 0 or 1 to the tag will update the Device Date and Time (which can be verified from the Date Tag and the Time Tag). The SetTime Tag will always display 0 because it is Write Only. After a successful update, the following message will be posted: "Device Clock set to system time [Device <device_name>]."

Administrator Level

The Admin address type has a value of '1' or 'true' when the user has logged on at the Administrator level and a value of '0' or 'false' when the user has logged on at the User level.

Math Communication Data

The CD address type is only valid for devices equipped with the math option and write operations to CD addresses for non-math equipped devices will return an error. Write operations are available only for users logged in at the Administrator level; otherwise, they will return an error.

Model Series Reported by Device

The Model address type will have a string value of 'DX100' or 'DX200', indicating the model series returned by the device.

Control Math Execution

The MathControl address type is only available for devices equipped with the math option and write operations to the MathControl tag for non-math equipped devices will return an error.

Control Command and Response

The Command address allows the user to send a string command and receive a string response to and from the device. This allows the user to send any command to the device, including commands not directly supported by the driver. This tag is only available to users logged in at the Administrator level; otherwise, write operations will return an error.

⬟**Caution**: Write operations using the Command address should be performed with caution.

Messages

Command	Message Type	Syntax	Notes
BJ	Free Message (aka Arbitrary Message)	BJ(group)_(message #) E.g., BJ10_2 for group 10, msg 2.	Message is assigned to a group and displayed for that group only. Limit: 10 messages. Message max. length: 32 char.s.
SG	Regular Message	SG(message #) E.g., SG_42	Limit: 100 messages. Message max. length: 32 char.s.

Command	Message Type	Syntax	Notes
			Message will be written to the current display when the MS command is invoked.
MS	Writes message to display	MS(message #) E.g., MS_42	Writes the message (indicated by message #) to the current display.

Note: The actual number of addresses available for of each type depends on the configuration of the Yokogawa device. If the driver finds at Runtime that an address is not present in the device, it will post an error message and then remove the tag from its scan list.

Addresses that have Write Only access are assigned a default access of Read/Write; however, data values will be unreadable for these addresses and the associated tags will not be included in the scan list. The current data value for these tags will always be 0 for numeric data types and null string for string data types.

DX2048 Addressing

The driver supports the following addresses for this device. The default data type is shown in **bold**.

Measured Channels

Address Type	Format	Range	Data Types	Access
Process Value of Channel	CHxx or CHxx.PV	01-48	**Double**, Float	Read Only
Alarm Summary of Channel	CHxx.Alarm	01-48	**Short**, Word, Byte	Read Only
Alarm Level1 Status of Channel	CHxx.Alarm1	01-48	**Short**, Word, Byte	Read Only
Alarm Level2 Status of Channel	CHxx.Alarm2	01-48	**Short**, Word, Byte	Read Only
Alarm Level3 Status of Channel	CHxx.Alarm3	01-48	**Short**, Word, Byte	Read Only
Alarm Level4 Status of Channel	CHxx.Alarm4	01-48	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Setpoint	CHxx.ASP1	01-48	**Double**, Float	Read/Write
Set and Read Level2 Alarm Setpoint	CHxx.ASP2	01-48	**Double**, Float	Read/Write
Set and Read Level3 Alarm Setpoint	CHxx.ASP3	01-48	**Double**, Float	Read/Write
Set and Read Level4 Alarm Setpoint	CHxx.ASP4	01-48	**Double**, Float	Read/Write
Alarm type Numeric Level 1	CHxxx.AlarmType1.Num	01-48	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 2	CHxxx.AlarmType2.Num	01-48	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 3	CHxxx.AlarmType3.Num	01-48	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 4	CHxxx.AlarmType4.Num	01-48	**Short**, Word,	Read Only

Address Type	Format	Range	Data Types	Access
			Byte	
Alarm type String Level 1	CHxx.AlarmType1.String	01-48	String	Read Only
Alarm type String Level 2	CHxx.AlarmType2.String	01-48	String	Read Only
Alarm type String Level 3	CHxx.AlarmType3.String	01-48	String	Read Only
Alarm type String Level 4	CHxx.AlarmType4.String	01-48	String	Read Only
Upper Scale Value of Channel*	CHxx.scale_Hi	01-48	**Double**, Float	Read Only
Lower Scale Value of Channel*	CHxx.scale_Lo	01-48	**Double**, Float	Read Only
Unit String of Channel*	CHxx.unit	01-48	String	Read Only
Tagname of Channel*	CHxx.tag	01-48	String	Read Only
Status of Channel*	CHxx.status	01-48	String	Read Only
Precision of Channel*	CHxx.Precision	01-48	**Short**, Word, Byte	Read Only
Lowest Measuring Channel*	CH.Low		**Short**, Word, Byte	Read Only
Highest Measuring Channel*	CH.High		**Short**, Word, Byte	Read Only

Math Channels

Address Type	Format	Range	Data Types	Access
Process Value of Math Channel	CHxxx or CHxxx.PV	101-160	**Double**, Float	Read Only
Alarm Summary of Math Channel	CHxxx.Alarm	101-160	**Short**, Word, Byte	Read Only
Alarm Level1 Status of Math Channel	CHxxx.Alarm1	101-160	**Short**, Word, Byte	Read Only
Alarm Level2 Status of Math Channel	CHxxx.Alarm2	101-160	**Short**, Word, Byte	Read Only
Alarm Level3 Status of Math Channel	CHxxx.Alarm3	101-160	**Short**, Word, Byte	Read Only
Alarm Level4 Status of Math Channel	CHxxx.Alarm4	101-160	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Setpoint	CHxxx.ASP1	101-160	**Double**, Float	Read/Write
Set and Read Level2 Alarm Setpoint	CHxxx.ASP2	101-160	**Double**, Float	Read/Write
Set and Read Level3 Alarm Setpoint	CHxxx.ASP3	101-160	**Double**, Float	Read/Write
Set and Read Level4 Alarm Setpoint	CHxxx.ASP4	101-160	**Double**, Float	Read/Write
Alarm type Numeric Level 1	CHxxx.AlarmType1.Num	101-160	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 2	CHxxx.AlarmType2.Num	101-160	**Short**, Word, Byte	Read Only

Address Type	Format	Range	Data Types	Access
Alarm type Numeric Level 3	CHxxx.AlarmType3.Num	101-160	**Short**, Word, Byte	Read Only
Alarm type Numeric Level 4	CHxxx.AlarmType4.Num	101-160	**Short**, Word, Byte	Read Only
Alarm type String Level 1	CHxxx.AlarmType1.String	101-160	String	Read Only
Alarm type String Level 2	CHxxx.AlarmType2.String	101-160	String	Read Only
Alarm type String Level 3	CHxxx.AlarmType3.String	101-160	String	Read Only
Alarm type String Level 4	CHxxx.AlarmType4.String	101-160	String	Read Only
Upper Scale Value of Math Channel*	CHxxx.scale_Hi	101-160	**Double**, Float	Read Only
Lower Scale Value of Math Channel*	CHxxx.scale_Lo	101-160	**Double**, Float	Read Only
Unit String of Math Channel*	CHxxx.unit	101-160	String	Read Only
Tagname of Math Channel*	CHxxx.tag	101-160	String	Read Only
Status of Math Channel*	CHxxx.status	101-160	String	Read Only
Precision of Math Channel*	CHxxx.Precision	101-160	**Short**, Word, Byte	Read Only
Lowest Math Channel*	CHA.Low		**Short**, Word, Byte	Read Only
Highest Math Channel*	CHA.High		**Short**, Word, Byte	Read Only

External Input Channels

Address Type	Format	Range	Data Types	Access
External Input Channel	CHxxx or CHxxx.PV	201-440	**Double**, Float	Read/Write
Alarm Summary for External Input Channel	CHxxx.Alarm	201-440	**Short**, Word, Byte	Read Only
Alarm Level1 Status of External Input	CHxxx.Alarm1	201-440	**Short**, Word, Byte	Read Only
Alarm Level2 Status of External Input	CHxxx.Alarm2	201-440	**Short**, Word, Byte	Read Only
Alarm Level3 Status of External Input	CHxxx.Alarm3	201-440	**Short**, Word, Byte	Read Only
Alarm Level4 Status of External Input	CHxxx.Alarm4	201-440	**Short**, Word, Byte	Read Only

Address Type	Format	Range	Data Types	Access
Set and Read Level1 Alarm Setpoint	CHxxx.ASP1	201-440	**Double**, Float	Read/Write
Set and Read Level2 Alarm Setpoint	CHxxx.ASP2	201-440	**Double**, Float	Read/Write
Set and Read Level3 Alarm Setpoint	CHxxx.ASP3	201-440	**Double**, Float	Read/Write
Set and Read Level4 Alarm Setpoint	CHxxx.ASP4	201-440	**Double**, Float	Read/Write
Alarm type Numeric Level1 for External Input Channel	CHxxx.AlarmTypeNum1	201-440	**Short**, Word, Byte	Read Only
Alarm type Numeric Level2 for External Input Channel	CHxxx.AlarmTypeNum2	201-440	**Short**, Word, Byte	Read Only
Alarm type Numeric Level3 for External Input Channel	CHxxx.AlarmTypeNum3	201-440	**Short**, Word, Byte	Read Only
Alarm type Numeric Level4 for External Input Channel	CHxxx.AlarmTypeNum4	201-440	**Short**, Word, Byte	Read Only
Alarm type String Level1 for External Input Channel	CHxxx.AlarmTypeStr1	201-440	**String**	Read Only
Alarm type String Level2 for External Input Channel	CHxxx.AlarmTypeStr2	201-440	**String**	Read Only
Alarm type String Level3 for External Input Channel	CHxxx.AlarmTypeStr3	201-440	**String**	Read Only
Alarm type String Level4 for External Input Channel	CHxxx.AlarmTypeStr4	201-440	**String**	Read Only
Upper Scale Value of External Input*	CHxxx.scale_Hi	201-440	**Double**, Float	Read Only
Lower Scale Value of External Input*	CHxxx.scale_Lo	201-440	**Double**, Float	Read Only
Unit String of External Input*	CHxxx.unit	201-440	**String**	Read Only
Tagname of External Input*	CHxxx.tag	201-440	**String**	Read Only
Status of External Input*	CHxxx.status	201-440	**String**	Read Only
Precision of External Input*	CHxxx.Precision	201-440	**Short**, Word, Byte	Read Only
Lowest External Input*	CHE.Low		**Short**, Word, Byte	Read Only
Highest External Input*	CHE.High		**Short**, Word, Byte	Read Only

*Data associated with these addresses are only read from the device at the start of a communications session. Once read, the values will not be refreshed until the server has been restarted or the "Reset" tag has

been invoked. To invoke a reset, a non zero value must be written to the Reset tag. Once the Reset tag has been invoked the driver will reinitialize all startup data from the device.

Alarm Setpoints

Data values for Alarm Setpoints that are undefined in the device will be returned as +INF. Data values can only be written to Alarm Setpoints that are defined in the device. Write operations to undefined Alarm Setpoints will return an error. Write operations are only available only for users logged in at the Administrator level; otherwise, they will return an error.

Scales

Data values for Scale_Hi and Scale_Lo for channels that are skipped will be returned as +INF.

Tag Names

For devices that do not support tag names and channels that have unspecified tag names, the driver will construct an internal tag name based on the channel number. For example, the tag name of address 'CH01' will be returned as 'CH01'.

General Device Data

Address Description	Address/Format	Range	Data Types	Access
Administrator Level	Admin		**Boolean**	Read Only
Date of Last Data	Date		**String**	Read Only
Time of Last Data	Time		**String**	Read Only
Model Series Reported by Device	Model		**String**	Read Only
Host Name of Device	Hostname		**String**	Read Only
Serial Number of Device	SerialNumber		**String**	Read Only
IP Address of Device	IP		**String**	Read Only
Math Communication Data	CDxx	01-60	**Float**	Read/Write
Control Math Execution	MathControl		**Short**, Word, Byte	Write Only
Reset Alarms	AlarmReset		**Boolean**	Write Only
Control Command and Response	Command		**String**	Read/Write
Previous Screen	PreScreen		**Boolean**	Write Only
Direct Reloading of Configuration	Reset		**Boolean**	Write Only
Freeze the recorder's trend and time display.	Opmode_freeze		Boolean	Write Only
Resume the recorder's trend and time display.	Opmode_normal		Boolean	Write Only
Clear the recorder's memory and display.	Opmode_clear		Boolean	Write Only
SetTime*	Tag		**Boolean**	Write Only

*The SetTime Tag updates the device time. Writing 0 or 1 to the tag will update the Device Date and Time (which can be verified from the Date Tag and the Time Tag). The SetTime Tag will always display 0 because it is Write Only. After a successful update, the following message will be posted: "Device Clock set to system time [Device <device_name>]."

Administrator Level

The Admin address type has a value of '1' or 'true' when the user has logged on at the Administrator level and a value of '0' or 'false' when the user has logged on at the User level.

Math Communication Data

The CD address type is only valid for devices equipped with the math option and write operations to CD addresses for non-math equipped devices will return an error. Write operations are available only for users logged in at the Administrator level; otherwise, they will return an error.

Model Series Reported by Device

The Model address type will have a string value of 'DX100' or 'DX200', indicating the model series returned by the device.

Control Math Execution

The MathControl address type is only available for devices equipped with the math option and write operations to the MathControl tag for non-math equipped devices will return an error.

Control Command and Response

The Command address allows the user to send a string command and receive a string response to and from the device. This allows the user to send any command to the device, including commands not directly supported by the driver. This tag is only available to users logged in at the Administrator level; otherwise, write operations will return an error.

Caution: Write operations using the Command address should be performed with caution.

Messages

Command	Message Type	Syntax	Notes
BJ	Free Message (aka Arbitrary Message)	BJ(group)_(message #) E.g., BJ10_2 for group 10, msg 2.	Message is assigned to a group and displayed for that group only. Limit: 10 messages. Message max. length: 32 char.s.
SG	Regular Message	SG(message #) E.g., SG_42	Limit: 100 messages. Message max. length: 32 char.s. Message will be written to the current display when the MS command is invoked.
MS	Writes message to display	MS(message #) E.g., MS_42	Writes the message (indicated by message #) to the current display.

Note: The actual number of addresses available for of each type depends on the configuration of the Yokogawa device. If the driver finds at Runtime that an address is not present in the device, it will post an error message and then remove the tag from its scan list.

Addresses that have Write Only access are assigned a default access of Read/Write; however, data values will be unreadable for these addresses and the associated tags will not be included in the scan list. The current data value for these tags will always be 0 for numeric data types and null string for string data types.

Event Log Messages

The following information concerns messages posted to the Event Log pane in the main user interface. Consult the OPC server help on filtering and sorting the Event Log detail view. Server help contains many common messages, so should also be searched. Generally, the type of message (informational, warning) and troubleshooting information is provided whenever possible.

Error Descriptions

The following error / warning messages may be generated. Click on the link for a description of the message.

Address Validation

Missing address

Device address '<address>' contains a syntax error

Address '<address>' is out of range for the specified device or register

Data Type '<type>' is not valid for device address '<address>'

Device address '<address>' is read only

Device Status Messages

Detected unsupported model series '<model series>' on device '<device name>'. Using configured model series '<model series>' for communications

Device '<device name>' is not responding

Model series '<model series>' read from device '<device name>' does not match the series of the configured model '<configured model>'. Auto generated tags may not validate

Unable to write to '<address>' on device '<device name>

Write allowed for admin level only (device '<device-name>', tag '<address>'

Write allowed for devices with math option only (device '<device-name>', tag '<address>'

Driver Error Messages

Winsock initialization failed (OS Error = n)

Winsock V1.1 or higher must be installed to use the driver

Automatic Tag Database Generation Messages

Unable to generate a tag database for device '<device name>'. Reason: Device '<devicename>' login failed. Check username and password

Unable to generate a tag database for device '<device name>'. Reason: Device '<devicename>' not accepted. Choose username of 'admin' or 'user'

Unable to generate a tag database for device '<device name>'. Reason: Device '<devicename>' login failed. No more logins at this user level

Unable to generate a tag database for device '<device name>'. Reason: Device '<device name>' responded with error '<error code>'

Missing address

Error Type:

Warning

Possible Cause:

A tag address that has been specified statically has no length.

Solution:

Re-enter the address in the client application.

Device address '<address>' contains a syntax error

Error Type:

Warning

Possible Cause:

A tag address that has been specified statically contains one or more invalid characters.

Solution:

Re-enter the address in the client application.

Address '<address>' is out of range for the specified device or register

Error Type:

Warning

Possible Cause:

A tag address that has been specified statically references a location that is beyond the range of supported locations for the device.

Solution:

Verify the address is correct; if it is not, re-enter it in the client application.

Data Type '<type>' is not valid for device address '<address>'

Error Type:

Warning

Possible Cause:

A tag address that has been specified statically has been assigned an invalid data type.

Solution:

Modify the requested data type in the client application.

Device address '<address>' is Read Only

Error Type:

Warning

Possible Cause:

A tag address that has been specified statically has a requested access mode that is not compatible with what the device supports for that address.

Solution:
Change the access mode in the client application.

Detected unsupported model series '<model series>' on device '<device name>'. Using configured model series '<model series>' for communications

Error Type:
Informational

Possible Cause:
The Yokogawa device at the specified address responded with a model series that is not supported by this driver.

Solution:
When the detected model series is not supported, the model series that was selected for the configured device model will be used for both communications and tag validation. Confirm that the configured model is adequate for the Yokogawa device at the specified address. If it is not, locate another driver that meets the device's needs. If there are no Yokogawa drivers that meet the device's needs, contact Technical Support.

Device '<device name>' is not responding

Error Type:
Serious

Possible Cause:

1. The connection between the device and the host PC is broken.

2. The IP address assigned to the device is incorrect.

3. The connection cannot be established in the specified timeout period.

4. The response from the device took longer to receive than the amount of time specified in the "Request Timeout" device property.

Solution:

1. Verify the cabling between the PC and the PLC device.

2. Verify the IP address given to the named device matches that of the actual device.

3. Increase the Connect Timeout value in the Timeout page of Device Properties.

4. Increase the Request Timeout property so that the entire response can be handled.

Model series '<model series>' read from device '<device name>' does not match the series of the configured model '<configured model>'. Auto generated tags may not validate

Error Type:

Informational

Possible Cause:

The Yokogawa device at the specified address responded with a model series that does not match the model series of the configured device in the project. This may be due to the following:

1. The detected model series is supported by this driver, but is different than the model series specified in the configured device.

2. The detected model series is not supported by this driver.

Solution:

Identify the device model series at the specified address. Then, do one of the following:

1. If the model configured in the project is incorrect, change it to reflect the correct model. The detected model series that is supported will be used for communications. The configured model series will be used for tag validation.

2. If the detected model series is not supported, the model series that was selected for the configured device model will be used for both communications and tag validation. Confirm that the configured model is adequate for the Yokogawa device at the specified address. If it is not, locate another Yokogawa driver that meets the device's needs. If there are no Yokogawa drivers that meet the device's needs, contact Technical Support.

Unable to write to '<address>' on device '<device name>'

Error Type:

Serious

Possible Cause:

1. The connection between the device and the host PC is broken.

2. The named device may have been assigned an incorrect IP address.

3. The address specified may be Read Only or may not exist in the current device.

Solution:

1. Verify the cabling between the PC and the PLC device.

2. Verify that the IP address given to the named device matches that of the actual device.

3. Check address availability for the device.

Write allowed for admin level only

Error Type:
Warning

Possible Cause:
The user is logged on to the named device at the user level and is attempting to write to a tag that is write-able at the administrator level only.

Solution:
Verify the user/admin level used for login.

Write allowed for devices with math option only

Error Type:
Warning

Possible Cause:
The named device is not equipped with the math option and a write was attempted to a tag that is available for math operations only.

Solution:
Verify that the tag address exists for the device.

Winsock initialization failed (OS Error = n)

Error Type:
Fatal

OS Error	Indication	Possible Solution
10091	Indicates that the underlying network subsystem is not ready for network communication.	Wait a few seconds and restart the driver.
10067	Limit on the number of tasks supported by the Windows Sockets implementation has been reached.	Close one or more applications that may be using Winsock and restart the driver.

Winsock V1.1 or higher must be installed to use the Yokogawa DX Ethernet Driver

Error Type:
Fatal

Possible Cause:
The version number of the Winsock DLL found on the system is less than 1.1.

Solution:
Upgrade Winsock to version 1.1 or higher.

Unable to generate a tag database for device '<device name>'. Reason: Device '<device name>' login failed. Check username and password

Error Type:

Serious

Possible Cause:

1. The username and password required for login to the device have not been specified in Device Configuration.

2. The username and password were entered incorrectly or entered in non-matching case.

3. The username and/or password specified in Device Configuration is not registered in the device.

Solution:

Re-enter the correct username and password in Device Configuration.

Unable to generate a tag database for device '<device name>'. Reason: Device '<device name>' login not accepted

Error Type:

Serious

Possible Cause:

1. The password-protected login feature of the device is disabled and the username specified in Device Configuration does not contain the expected user level required for login to the device.

2. The user level was entered incorrectly or entered in non-matching case.

Solution:

Re-enter the correct user level 'user' in the username field in Device Configuration.

Unable to generate a tag database for device '<device name>'. Reason: Device '<device name>' login failed. No more logins at this user level

Error Type:

Serious

Possible Cause:

There are no more users permitted to login at this user level. Other users may be connected to the device, or a connection may have been made and broken without logging off or disconnecting.

Solution:

1. Check for other user connections that are blocking connection.

2. Make sure that the Keep Alive feature for Ethernet communications is enabled in the device. This will cause the device to disconnect if there is a break in communications.

Unable to generate a tag database for device '<device name>'. Reason: Device '<device name>' responded with error '<error code>'

Error Type:

Serious

Possible Cause:

For an explanation of the error code, refer to the device model's instruction manual.

Solution:

The solution will depend on the error code. For an explanation of the error code, refer to the device model's instruction manual.

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