Yokogawa DX Ethernet Driver Help

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Help version 1.036

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Overview

The Yokogawa DX Ethernet Driver provides an easy and 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.

Device 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

Maximum Number of Channels and Devices

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

Connection Timeout

This parameter specifies the time that the driver will wait for a connection to be made with a device. Depending on network load, the connect time may vary with each connection attempt. The valid range is 1 to 30 seconds. The default setting is 3 seconds.

Request Timeout

This parameter specifies the amount of time that the driver will wait for a response from the device before giving up and going on to the next request. Long timeouts will only affect performance if a device is not responding. The valid range is 100 to 30000 milliseconds. The default setting is 1000 milliseconds.

Retry Attempts

This parameter specifies the number of times that the driver will retry a message before giving up and going on to the next message. The valid range is 1 to 10. The default setting is 3.

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.

Device Settings

The DX unit should be configured with the **Keep Alive** function enabled. This allows the DX unit to drop the connection if no responses are received to periodic test packets at the TCP level. The Keep Alive setting is configured on the Communication (Control –Login Time out-) screen in Setup Mode.

Note: For more information, refer to the Yokogawa DX instruction manual.

Cable Diagrams

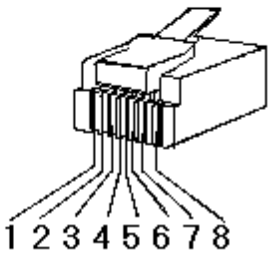
Patch Cable (Straight Through)

TD + 1	OR/WHT	OR/WHT	1	TD +
TD - 2	OR	OR	2	TD -
RD + 3	GRN/WHT	GRN/WHT	3	RD +
4	BLU	BLU	4	
5	BLU/WHT	BLU/WHT	5	
RD - 6	GRN	GRN	6	RD -
7	BRN/WHT	BRN/WHT	7	
8	BRN	BRN	8	
RJ45			RJ45	

Crossover Cable

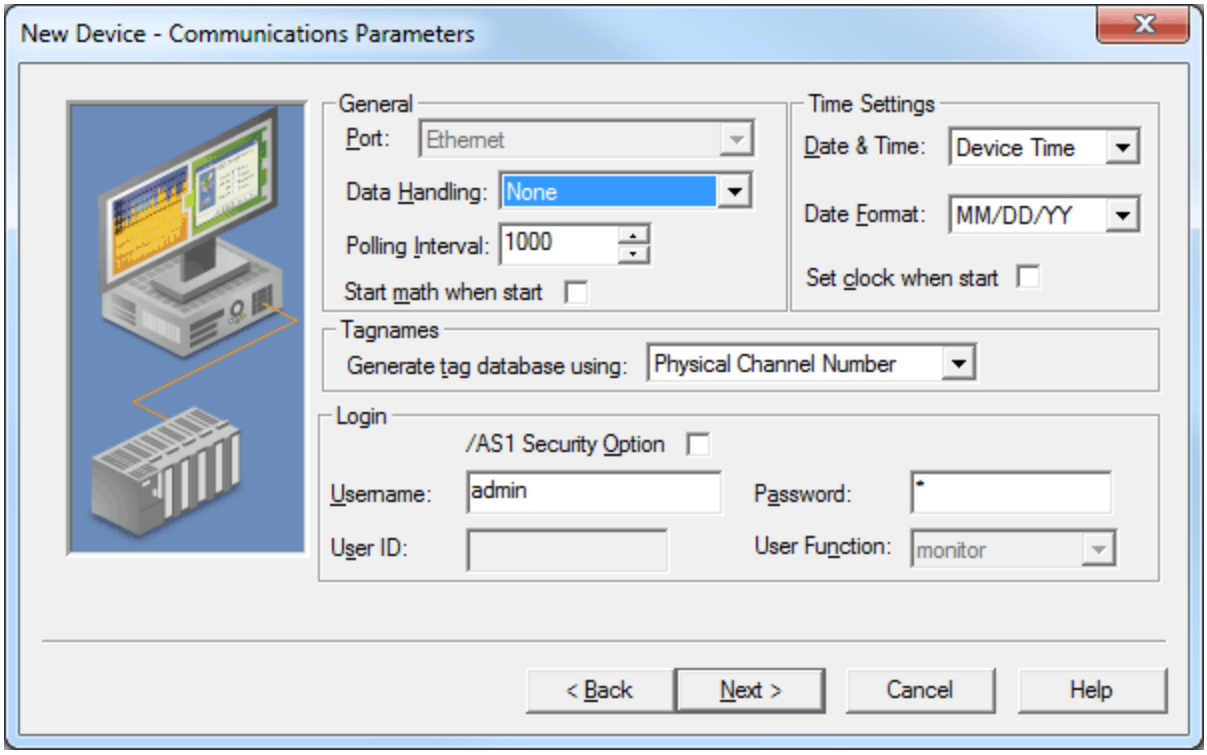
TD + 1	OR/WHT	GRN/WHT	1	TD +
TD - 2	OR	GRN	2	TD -
RD + 3	GRN/WHT	OR/WHT	3	RD +
4	BLU	BLU	4	
5	BLU/WHT	BLU/WHT	5	
RD - 6	GRN	OR	6	RD -
7	BRN/WHT	BRN/WHT	7	
8	BRN	BRN	8	
RJ45			RJ45	

10 BaseT



8-pin RJ45

Communications Parameters



Descriptions of the parameters are as follows:

- **Port:** This parameter specifies 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.
- **Data Handling:** This parameter specifies 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:** This parameter specifies 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.
- **Start math when start:** When checked, this option will inform the driver to send a command to the device at communication startup to begin the math computation. The default setting is unchecked.
- **Date & Time:** This parameter specifies 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:** This parameter specifies 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 when 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:** This parameter specifies 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:** This parameter specifies 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 in order 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:** This parameter specifies 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:** This parameter specifies the unique User ID for Advanced DX models utilizing the /AS1 Security Option. The default setting is blank.
- **User Function:** This parameter specifies 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 in order 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.

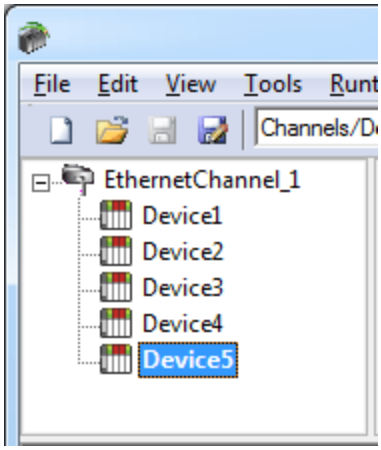
Users can configure the driver to forward clients a special ASCII string whenever special data is received from the device through the Data Handling parameter. Options include None, +INF, and -INF. Descriptions of the options are as follows:

- **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").

Optimizing Your Ethernet Communications

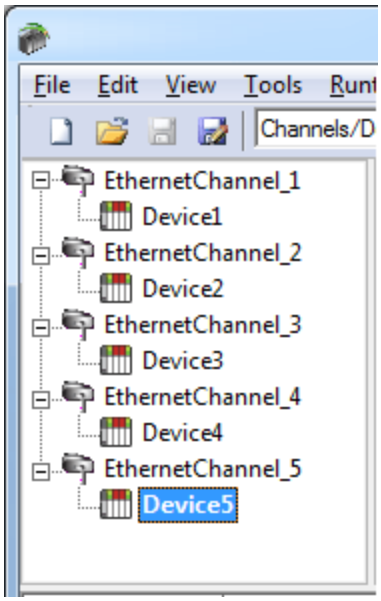
The Yokogawa DX Ethernet Driver has been designed to provide the best performance with the least amount of impact on the system's overall performance. While the Yokogawa DX Ethernet Driver is fast, there are a couple of guidelines that can be used in order to control and optimize the application and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

Our server refers to communications protocols like Yokogawa DX Ethernet Device 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 Yokogawa DX Ethernet Device channel. In this configuration, the driver must move from one device to the next as quickly as possible in order 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 has now been defined under its own channel. In this new 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

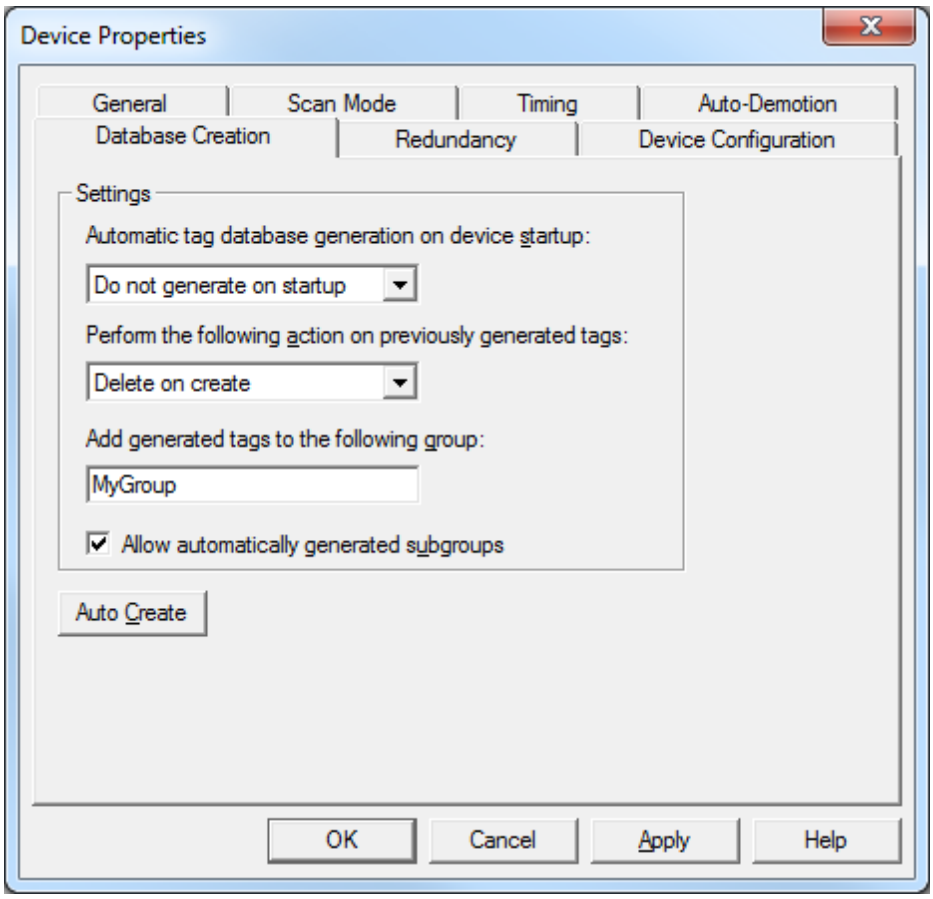
Automatic Tag Database Generation

This driver's Automatic Tag Database Generation features have been designed to make configuring the OPC application a plug-and-play operation. It can be configured to automatically build a list of OPC tags within the OPC Server that correspond to device-specific data. The automatically-generated OPC tags can then be browsed from the OPC client.

The tags that are generated depend on the nature of the driver. If the target device supports its own local tag database, the driver will read the device's tag information and then use that data to generate OPC tags within the OPC Server. If the device does not natively support its own named tags, the driver will create a list of tags based on driver-specific information. An example of these two conditions is as follows:

1. A data acquisition system that supports its own local tag database. The driver will use the tag names found in the device to build the OPC Server's OPC tags.
2. An Ethernet I/O system that supports I/O module type detection. The driver will automatically generate OPC tags in the OPC Server based on the types of I/O modules that are plugged into the Ethernet I/O rack.

Automatic Tag Database Generation is completely configurable. The following dialog is used to define how the OPC Server and the associated communications driver will handle Automatic OPC Tag Database Generation:



The **Automatic Tag Database Generation on device startup** selection is used to configure when OPC tags will be 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 OPC Server's tag space. It is the default setting.
- **Always generate on startup:** This option causes the driver to evaluate the device for tag information. OPC tags will be added to the tag space of the server each 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 OPC Server project runs. OPC tags will be added to the server tag space as needed.

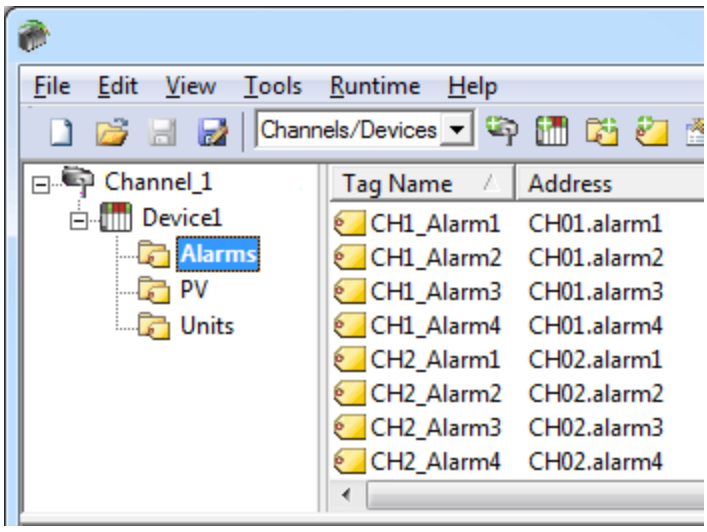
Note: Any tags that are added to the server's tag space must be saved with the project. The OPC Server project can be configured to automatically save from the **Tools** | **Options** menu.

When automatic tag generation is enabled, the server needs to know what to do with the OPC tags that were added from previous runs (or with the OPC tags that have been added or modified after being added by the communications driver originally). The selection **Perform the following action** controls how the server will handle OPC tags that were automatically generated and currently exist in the OPC Server project. This feature prevents automatically-generated tags from piling up in the server. In the Ethernet I/O example above, this would occur if users continued to change the I/O modules in the rack while the OPC Server was configured to always generate new OPC tags on startup. Under this condition, tags would be added to the server every time the communications driver detected a new I/O module. If the old tags are not removed, they will accumulate in the server's tag space. Descriptions of the selections are as follows:

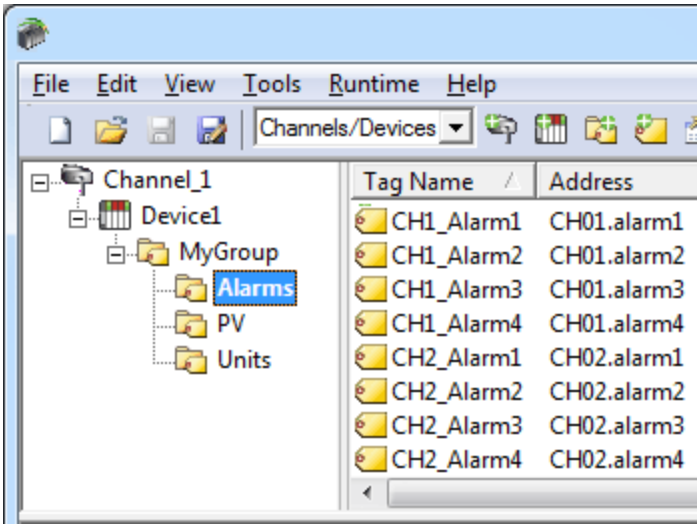
1. **Delete on create:** This option allows the server to remove any tags that have previously been added to the tag space before any new tags can be added by the communications driver.
2. **Overwrite as necessary:** This option allows the server to only remove tags that the communications driver will replace with new tags. Any tags that are not being overwritten will remain in the server's tag space.
3. **Do not overwrite:** This option prevents the server from removing any tags that had previously been generated or that already exist in the server. With this selection, the communications driver can only add tags that are completely new.
4. **Do not overwrite, log error:** This option has the same effect as the third option, but also posts an error message to the OPC Server's Event Log when a tag overwrite would have occurred.

Note: The removal of OPC tags not only affects tags that have been automatically generated by the communications driver, but also any tags that have been added using names that match generated tags. It is recommended that users avoid adding tags to the server using names that match tags that may be automatically generated by the driver.

Add generated tags to the following group can be used to keep automatically-generated tags from mixing with tags that have been entered manually. This parameter specifies a sub group that will be used when adding all automatically generated tags for this device. The name of the sub group can be up to 31 characters in length. The following image displays demonstrate how this parameter affects where automatically generated tags are placed in the server's tag space. It provides a root branch to which all automatically-generated tags will be added.



No sub group specified.



Sub group named MyGroup specified.

Auto Create manually initiates the creation of automatically-generated OPC tags, and also forces the communications driver to reevaluate the device for possible tag changes. It can be accessed from the System Tags, thus allowing the OPC client application to initiate tag database creation.

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.

DXAdvanced Models

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) 01-06 (DX106) 01-12 (DX112)	**Double**, Float	Read Only
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)	**Short**, Word, Byte	Read Only

		01-04 (DX104) 01-06 (DX106) 01-12 (DX112)		
Alarm Level3 Status of Channel	CHxx.Alarm3	01-02 (DX102) 01-04 (DX104) 01-06 (DX106) 01-12 (DX112)	**Short**, Word, Byte	Read Only
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 Setpoint	CHxx.ASP1	01-02 (DX102) 01-04 (DX104) 01-06 (DX106) 01-12 (DX112)	**Double**, Float	Read/Write
Set and Read Level2 Alarm Setpoint	CHxx.ASP2	01-02 (DX102) 01-04 (DX104) 01-06 (DX106) 01-12 (DX112)	**Double**, Float	Read/Write
Set and Read Level3 Alarm Setpoint	CHxx.ASP3	01-02 (DX102) 01-04 (DX104) 01-06 (DX106) 01-12 (DX112)	**Double**, Float	Read/Write
Set and Read Level4 Alarm Setpoint	CHxx.ASP4	01-02 (DX102) 01-04 (DX104) 01-06 (DX106) 01-12 (DX112)	**Double**, Float	Read/Write
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)	**Short**, Word, Byte	Read Only

		01-04 (DX104) 01-06 (DX106) 01-12 (DX112)		
Alarm type Numeric Level 4	CHxx.AlarmType4.Num	01-02 (DX102) 01-04 (DX104) 01-06 (DX106) 01-12 (DX112)	**Short**, Word, Byte	Read Only
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) 01-12 (DX112)	**String**	Read Only
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)	**String**	Read Only

		01-04 (DX104) 01-06 (DX106) 01-12 (DX112)		
Status of Channel*	CHxx.status	01-02 (DX102) 01-04 (DX104) 01-06 (DX106) 01-12 (DX112)	**String**	Read Only
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) 31-42 (DX112)	**Short**, Word, Byte	Read Only
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)	**Short**, Word, Byte	Read Only

		31-42 (DX106) 31-42 (DX112)		
Set and Read Level1 Alarm Setpoint	CHxx.ASP1	31-34 (DX102) 31-34 (DX104) 31-42 (DX106) 31-42 (DX112)	**Double**, Float	Read/Write
Set and Read Level2 Alarm Setpoint	CHxx.ASP2	31-34 (DX102) 31-34 (DX104) 31-42 (DX106) 31-42 (DX112)	**Double**, Float	Read/Write
Set and Read Level3 Alarm Setpoint	CHxx.ASP3	31-34 (DX102) 31-34 (DX104) 31-42 (DX106) 31-42 (DX112)	**Double**, Float	Read/Write
Set and Read Level4 Alarm Setpoint	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 (DX104) 31-42 (DX106) 31-42 (DX112)	**Short**, Word, Byte	Read Only
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)	**String**	Read Only

		31-42 (DX106) 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
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 (DX104) 31-42 (DX106)	**Short**, Word, Byte	Read Only

		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) 1-12 (DX112)	**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.

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 Setpoint	CHxx.ASP1	01-02	**Double**, Float	Read/Write
Set and Read Level2 Alarm Setpoint	CHxx.ASP2	01-02	**Double**, Float	Read/Write
Set and Read Level3 Alarm Setpoint	CHxx.ASP3	01-02	**Double**, Float	Read/Write
Set and Read Level4 Alarm Setpoint	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, 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, 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.

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
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
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
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
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, 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
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
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
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.

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)	**Short**, Word, Byte	Read Only

		01-08 (DX208) 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 Setpoint	CHxx.ASP1	01-04 (DX204) 01-08 (DX208) 01-10 (DX210) 01-20 (DX220) 01-30 (DX230)	**Double**, Float	Read/Write
Set and Read Level2 Alarm Setpoint	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 Setpoint	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 Setpoint	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

		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) 01-20 (DX220) 01-30 (DX230)	**Short**, Word, Byte	Read Only
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
Alarm type String Level 4	CHxx.AlarmType4.String	01-04 (DX204) 01-08 (DX208)	**String**	Read Only

		01-10 (DX210) 01-20 (DX220) 01-30 (DX230)		
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) 01-10 (DX210) 01-20 (DX220) 01-30 (DX230)	**String**	Read Only
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) 01-30 (DX230)	**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 (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 (DX220) 31-60 (DX230)	**Short**, Word, Byte	Read Only
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 Setpoint	CHxx.ASP1	31-38 (DX204) 31-38 (DX208) 31-60 (DX210) 31-60 (DX220) 31-60 (DX230)	**Double**, Float	Read/Write
Set and Read Level2 Alarm Setpoint	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 Setpoint	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 Setpoint	CHxx.ASP4	31-38 (DX204) 31-38 (DX208) 31-60 (DX210) 31-60 (DX220) 31-60 (DX230)	**Double**, Float	Read/Write
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 (DX230)	**Short**, Word, Byte	Read Only

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

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) 31-38 (DX208) 31-60 (DX210) 31-60 (DX220) 31-60 (DX230)	**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	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
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
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
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 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, 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, 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
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

*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
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	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
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
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, 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.

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 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
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.

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 (DX230)	**Short**, Word, Byte	Read Only
Set and Read Level1 Alarm Setpoint	CHxx.ASP1	01-10 (DX210) 01-20 (DX220)	**Double**, Float	Read/Write

		01-30 (DX230)		
Set and Read Level2 Alarm Setpoint	CHxx.ASP2	01-10 (DX210) 01-20 (DX220) 01-30 (DX230)	**Double**, Float	Read/Write
Set and Read Level3 Alarm Setpoint	CHxx.ASP3	01-10 (DX210) 01-20 (DX220) 01-30 (DX230)	**Double**, Float	Read/Write
Set and Read Level4 Alarm Setpoint	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 (DX230)	**Short**, Word, Byte	Read Only
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 (DX230)	**String**	Read Only
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)	**Double**, Float	Read Only

		01-20 (DX220) 01-30 (DX230)		
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 (DX230)	**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	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 Setpoint	CHxxx.ASP1	31-60	**Double**, Float	Read/Write
Set and Read Level2 Alarm Setpoint	CHxxx.ASP2	31-60	**Double**, Float	Read/Write
Set and Read Level3 Alarm Setpoint	CHxxx.ASP3	31-60	**Double**, Float	Read/Write
Set and Read Level4 Alarm Setpoint	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
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
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
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 Setpoint	CHxx.ASP1	01-02	**Double,** Float	Read/Write
Set and Read Level2 Alarm Setpoint	CHxx.ASP2	01-02	**Double,** Float	Read/Write
Set and Read Level3 Alarm Setpoint	CHxx.ASP3	01-02	**Double,** Float	Read/Write
Set and Read Level4 Alarm Setpoint	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, 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
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

*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, 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 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
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 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

*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
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 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
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	101-124	**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
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 Arbi-	BJ(group)_(message	Message is assigned to a group and displayed for that

	trary Message)	#) E.g., BJ10_2 for group 10, msg 2.	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
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
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, 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
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 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	201-440	**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	01-12	**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.

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, 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, 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
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	201-440	**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	01-12	**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.

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
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
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
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 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	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, 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
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
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-	**Double**, Float	Read/Write

		440		
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.

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
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	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 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
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
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.

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 Setpoint	CHxx.ASP1	01-40	**Double**, Float	Read/Write
Set and Read Level2 Alarm Setpoint	CHxx.ASP2	01-40	**Double**, Float	Read/Write
Set and Read Level3 Alarm Setpoint	CHxx.ASP3	01-40	**Double**, Float	Read/Write
Set and Read Level4 Alarm Setpoint	CHxx.ASP4	01-40	**Double**, Float	Read/Write
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
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, 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	201-440	**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.

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, Byte	Read Only
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
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
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.

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 Yokogawa DX Ethernet device 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>'

Address Validation

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

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.

Device Status Messages

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

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>'

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 Yokogawa 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 setting.

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 setting 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 writeable 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.

Driver Error Messages

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

Driver Error Messages
Winsock initialization failed (OS Error = n)
Winsock V1.1 or higher must be installed to use the Yokogawa DX Ethernet device driver

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 device 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.

Automatic Tag Database Generation Error Messages

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

Automatic Tag Database Generation Error Messages
Unable to generate a tag database for device '<device name>'. Reason: Device '<device-name>' login failed. Check username and password
Unable to generate a tag database for device '<device name>'. Reason: Device'<device name>' login not accepted. Choose username of 'admin' or 'user'
Unable to generate a tag database for device '<device name>'. Reason: Device '<device name>' login failed. No more logins at this user level

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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