Fisher ROC Serial Driver Help

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Fisher ROC Serial Driver Help

Help version 1.042

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Overview

The Fisher ROC Serial Driver provides an easy and reliable way to connect Fisher ROC Serial controllers to OPC Client applications, including HMI, SCADA, Historian, MES, ERP and countless custom applications.

Note: For more information on available Opcodes, Point Types, Parameters, and Opcode 255 Error Codes, refer to the ROC Protocol User Manual.

Channel Setup

Communication Serialization

The Fisher ROC Serial Driver supports Communication Serialization, which specifies whether data transmissions should be limited to one channel at a time. For more information, refer to "Channel Properties - Advanced" in the server help file.

Device Setup

Supported Devices

FloBoss 100 Series
FloBoss 407
FloBoss 500 Series
ROC 300 Series-ROCPAC
ROC 300 Series-FlashPAC
RegFlo

Supported Protocol

Remote Operation Controllers (ROC)

Ethernet Encapsulation

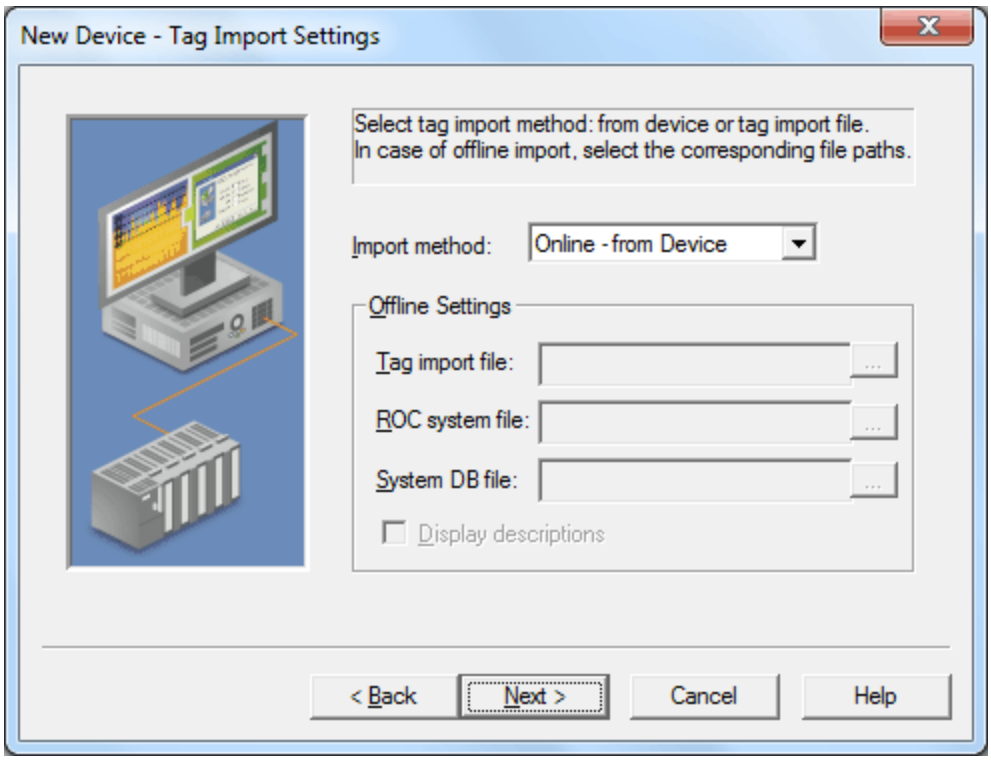
This driver supports Ethernet Encapsulation, which allows communications with serial devices attached to an Ethernet network using a Serial-to-Ethernet server. It may be enabled through the Communications tab in Channel Properties. For more information, refer to "Channel Properties - Ethernet Encapsulation" in the server's help documentation.

Maximum Number of Channels and Devices

The maximum number of supported channels is 256. The maximum number of devices supported per channel is 255.

Tag Import Settings

Users can create a tag database based on either the device's configuration file or a ROCLINK 800 project file. To view or change the Tag Import settings after the device has been added, right-click on the device and then select **Properties** | **Tag Import Settings**.



Descriptions of the parameters are as follows:

- **Import method:** This parameter specifies the import method. Options include Online - from Device and Offline - from Import File. The default setting is Online - from Device. Descriptions of the options are as follows:
    - **Online - From Device:** This method automatically creates tags by polling the device for its configuration and I/O data.

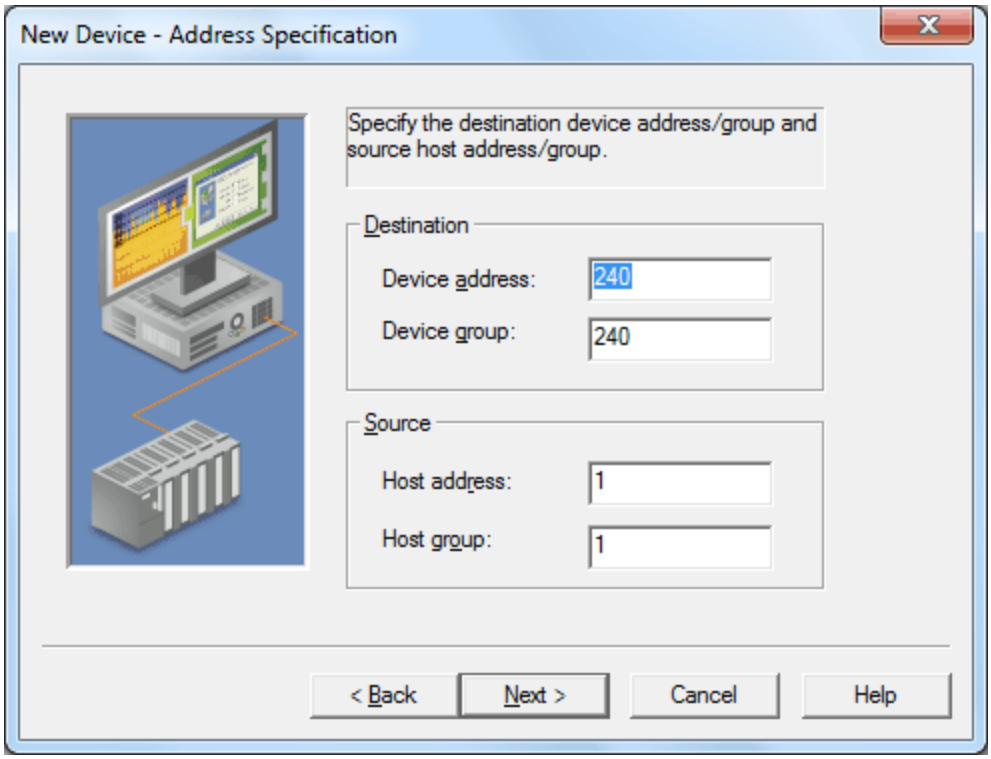
- **Offline - From Import File:** This method automatically creates tags from a project file created in ROCLINK 800.

- **Tag import file:** When pressed, this button invokes a dialog for locating the *.800 file that was created using the ROCLINK800 software.
- **ROC system file:** When pressed, this button invokes a dialog for locating the *.mdb file. This file is usually named "ROC.mdb," and resides in the same folder where the ROCLINK 800 software is installed.
- **System DB file:** When pressed, this button invokes a dialog for locating the *.mdw file. This file is usually named "ROCLINK.mdw," and resides in the same folder where the ROCLINK 800 software is installed.
- **Display descriptions:** When checked, this option will include the tag descriptions from the ROCLINK 800 master database.

See Also: **Automatic Tag Database Generation**

Address Specification

To view or change these settings after the device has been added, right-click on the device and then select **Properties** | **Address Specification**.

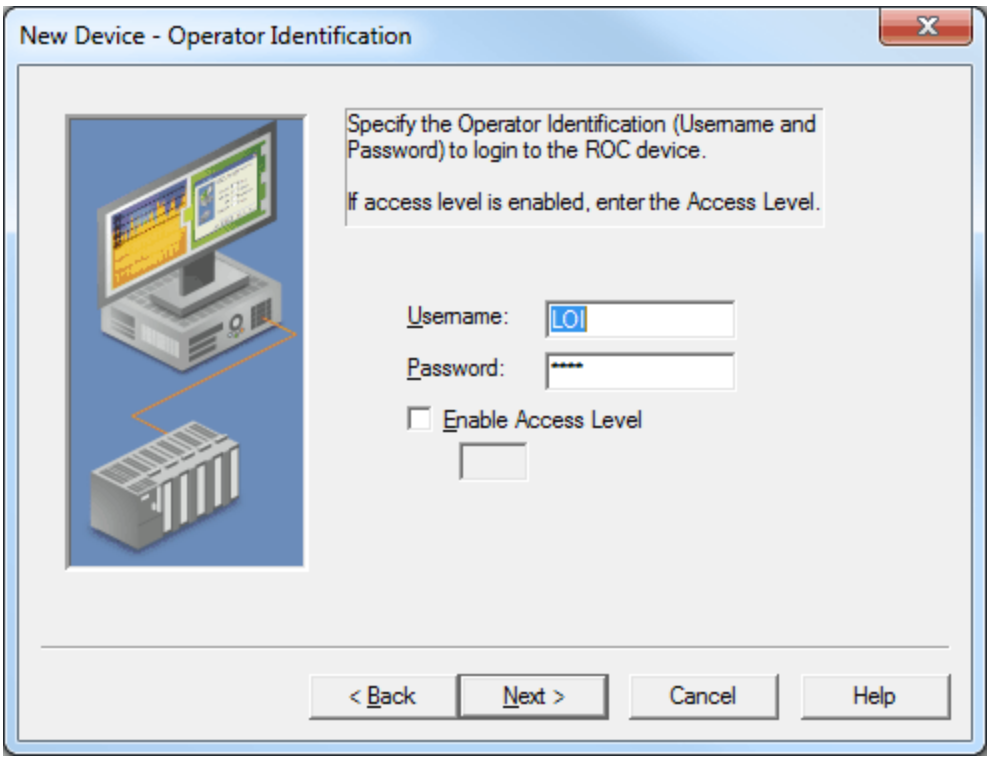


Descriptions of the parameters are as follows:

- **Device address:** This parameter specifies the device number of the remote ROC device. The valid range is 1 to 255. The default setting is 240.
- **Device group:** This parameter specifies the group number of the remote ROC device. The valid range is 1 to 255. The default setting is 240.
- **Host address:** This parameter specifies the ROC unit number of the server. The valid range is 1 to 255. The default setting is 1.
- **Host group:** This parameter specifies the ROC group number of the server. The valid range is 1 to 255. The default setting is 1.

Operator Identification

This dialog is used to specify the operator identification values that will be used when logging into the ROC device during initialization. To view or change these settings after the device has been added, right-click on the device and then select **Properties** | **Operator Identification**.



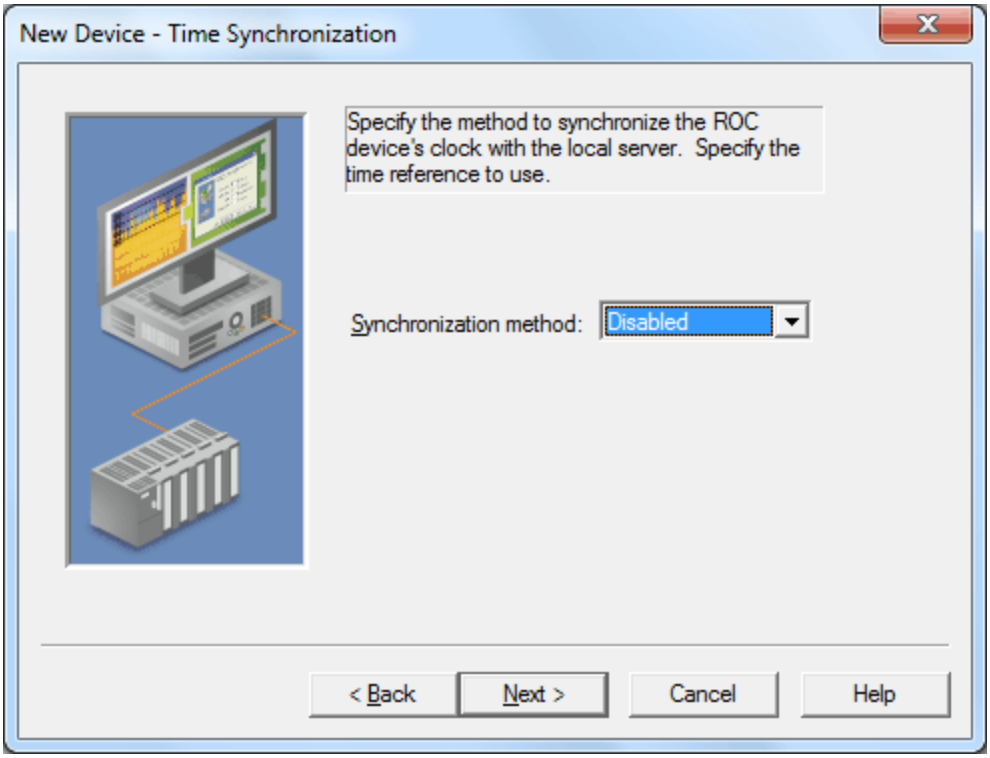
Descriptions of the parameters are as follows:

- **Username:** This parameter specifies the username. Three characters (as set in the device) are required.
- **Password:** This parameter specifies the operator's password. Four numeric characters can be entered. The valid range is 0000 to 9999.
- **Enable Access Level:** When checked, this parameter specifies that the ROC device has defined access levels. The valid range is 0 to 5. The default setting is unchecked.

Time Synchronization

To view or change these settings after the device has been added, right-click on the device and select **Properties | Time Synchronization**.

Note: The parameters displayed in the dialog depend on the selected synchronization method.



Descriptions of the parameters are as follows:

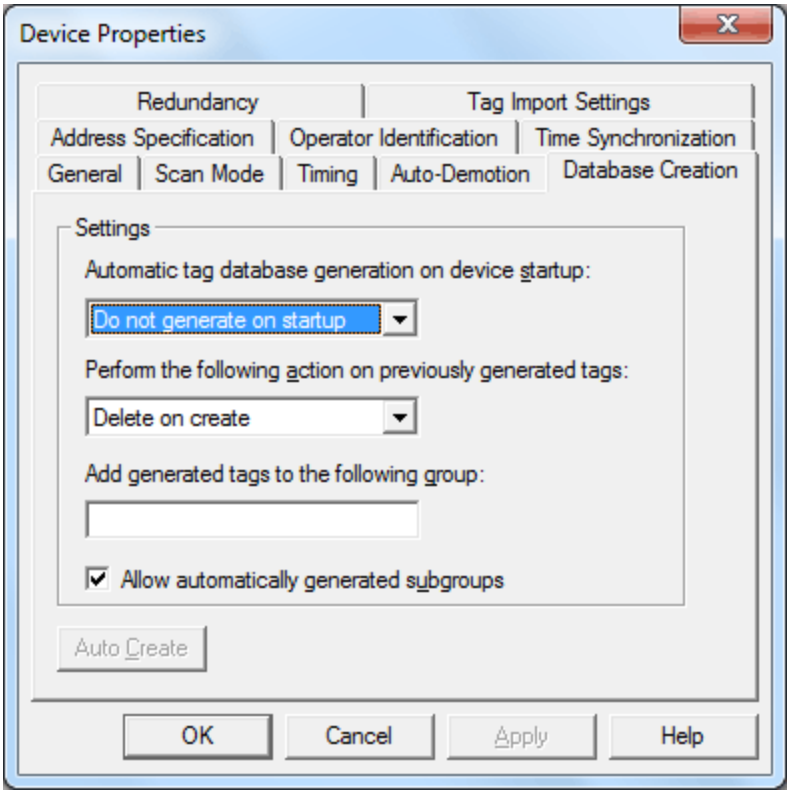
- **Synchronization method:** This parameter specifies the method of synchronization, which adjusts the ROC device clock. Options include Disabled, Absolute, and Interval. The default setting is Disabled. Descriptions of the options are as follows:
    - **Disabled:** When selected, the driver will not perform time synchronization.
    - **Absolute:** When selected, the driver will perform time synchronization once a day at the time specified in Synchronization Time.
    - **Interval:** When selected, the driver will perform time synchronization at the interval specified in Synchronization Interval.
- **Synchronization time:** This parameter specifies the time of day that the driver will perform time synchronization. This parameter is only available when the synchronization method is Absolute.
- **Synchronization Interval:** This parameter specifies the synchronization interval. The valid range is 5 to 1440 minutes. The default setting is 5 minutes. This parameter is only available when the synchronization method is Interval.
- **Local Time or UTC:** This parameter specifies whether to use Local Time or Universal Time (UTC). Local time is local to the PC on which the server is installed. Universal time is Coordinated Universal Time. The default setting is Local Time.

Data Types Description

Data Type	Description
Boolean	Single bit
Char	Signed 8 bit value bit 0 is the low bit bit 6 is the high bit bit 7 is the sign bit
Byte	Unsigned 8 bit value bit 0 is the low bit bit 7 is the high bit
Short	Signed 16 bit value bit 0 is the low bit bit 14 is the high bit bit 15 is the sign bit
Word	Unsigned 16 bit value bit 0 is the low bit bit 15 is the high bit
DWord	Unsigned 32 bit value bit 0 is the low bit bit 31 is the high bit
Float	32 bit floating point value bit 0 is the low bit bit 31 is the high bit
TLP	32 bit value Point Type: Logical or Point Number and Parameter Number use three bytes. The top byte is not used.
String	String padded with spaces
Date	64 bit floating point value
Date Example	Date format:YYYY-MM-DDTHH:MM:SS.000 2000-01-01T12:30:45.000

Automatic Tag Database Generation

This driver makes use of the server's Automatic Tag Database Generation feature. When enabled, this feature will build a list of tags within the server that correspond to the device's data points. Extra tags may be generated that affect the quality of other generated tags. Automatic Tag Database Generation may be configured through the Database Creation tab in Device Properties.



Note: For information on importing tags from a ROCLINK project, refer to **Tag Import Settings**.

Address Descriptions

ROC addresses are divided first by Point Type, Logical Address, and then by Parameter Index within the Point Type. The general format is *T-L.P*, where:

- **T:** The Point Type.
- **L:** The Logical Address.
- **P:** The Parameter Index.

Parameters are blocked together on Point Type and Logical Address to a size up to 236 bytes. Some parameters are broken down into individual bits. Those parameters are addressed as *T-L.P:B*, where:

- **B:** The Bit Offset.

For example, the address 1-50.3:2 indicates the following:

- **Point Type:** 1
- **Logical Address:** 50
- **Parameter:** 3
- **Bit Offset:** 2

For a detailed listing of all point type parameters, access, data type, length, and description, refer to the ROC device's ROC Protocol User Manual. For more information on ROC addressing, select a link from the list below.

ROC Point Types
Logical / Point Number Details
User Defined Point Types
Bit Assignments

ROC Point Types

The availability of point types varies by model and by how the particular unit is equipped. Points may be Physical I/O or Internal I/O.

Physical I/O Points

Physical I/O points are one of Discrete Inputs (type 1), Discrete Outputs (type 2), Analog Inputs (type 3), Analog Outputs (type 4) and Pulse Inputs (type 5). The logical address for physical I/O points is based on their position in the unit, known as **Rack** and **Slot**. There are 4 racks (A-D) of 16 slots each. A fifth Rack E provides 6 slots dedicated to System and Diagnostic points. The I/O field is not typically fully populated.

Logical addresses are calculated from Rack A, Slot 0 (0). For example, Rack B, Slot 0 = 16, C0 = 32 and D0 = 48. In this fashion, a Discrete Input in Rack B, Slot 3 would be logical address 19.

Note: Rack and Slot are ROC nomenclature; however, many ROC devices have no physical racks or slots.

Internal I/O Points

Internal I/O points consist of PID settings, system flags, communications parameters and other internal information. The internal I/O logical address begins at 0 for each point type. A ROC unit may have one or several of a given internal point type. Each point type has a specific set of parameters. ROC drivers have no array types.

Point Type Tables

ROC Point Types for ROC300-Series
ROC Point Types for FloBoss 100-Series, FloBoss 407, and FloBoss 500-Series
ROC Point Types for RegFlo

ROC Point Types for ROC300-Series

For a detailed listing of all point type parameters' access, data type, length and description, refer to the device's ROC Protocol User Manual.

Point Types	Description	ROC300-Series FlashPAC	ROC300-Series ROCPAC
0	Configurable Opcode	Yes	Yes
1	Discrete Inputs (DI)	Yes	Yes
2	Discrete Outputs (DO)	Yes	Yes

3	Analog Inputs (AI)	Yes	Yes
4	Analog Outputs (AO)	Yes	Yes
5	Pulse Inputs (PI)	Yes	Yes
6	Proportional, Integral and Derivative (PID) Control	Yes	Yes
7	American Gas Association (AGA) Flow Parameters	Yes	Yes
9	Local Display Panel	Yes	Yes
10	AGA Flow Values	Yes	Yes
11	Tank Parameters	No	Yes
12	ROC Clock	Yes	Yes
13	System Flags	Yes	Yes
14	Communication Ports	Yes	Yes
15	System Variables (ROC Information)	Yes	Yes
16	Function Sequence Table (FST) Parameters	Yes	Yes
17	Soft Points	Yes	Yes
18	AI Calibration	No	Yes
19	Database Setup	Yes	Yes
20	ROC Tasks	Yes	Yes
21	Information for User Defined Points	Yes	Yes
22-31	User Defined Points	No	No
32	User Defined Typically Modem Config for COM1	Yes	Yes
33	User Defined Typically Modem Config for LOI and COM2	Yes	Yes
34	User Defined Typically Modbus Config for COM1	Yes	Yes

ROC Point Types for ROC300-Series (cont.)

Point Types	Description	ROC300-Series FlashPAC	ROC300-Series ROCPAC
35	User Defined Typically Function Config for COM1	Yes	Yes
36	User Defined Typically Host Config for COM1	Yes	Yes
37	User Defined Typically Modbus Config for LOI and COM2	Yes	Yes
38	User Defined Typically Function Config for LOI and COM2	Yes	Yes
39	User Defined Typically Host Config for COM1	Yes	Yes
40	Multi-Variable Sensor (MVS) Parameters	Yes*	No
41	AGA Run Parameters	Yes	No
42	Extra Run Parameters	Yes	No
44	Power Control	Yes	No
49	Upload to Disk	No	No
50	Download to ROC	No	No
56	AI Calibration	Yes	No
57	Keypad / Logon Security Parameters	Yes	No
59	Program Flash Control Parameters	Yes	No

*Added via a user program.

ROC Point Types for FloBoss 100-Series, FloBoss 407, and FloBoss 500-Series

Point Types	Description	FloBoss 100-Series	FloBoss 407-Series	FloBoss 500-Series
0	Configurable Opcode	Yes	Yes	Yes
1	Discrete Inputs	Yes	Yes	Yes
2	Discrete Outputs	Yes	Yes	Yes
3	Analog Inputs	Yes	Yes	Yes
4	Analog Outputs	Yes	Yes	Yes
5	Pulse Inputs	Yes	Yes	Yes
6	PID Control*	Yes	Yes	Yes
7	AGA Flow Parameters*	Yes	Yes	Yes
8	History Parameters	Yes	No	Yes
10	AGA Flow Values*	Yes	Yes	Yes

12	ROC Clock	Yes	Yes	Yes
13	System Flags	Yes	Yes	Yes
14	Communication Ports	Yes	Yes	Yes
15	System Variables (ROC Information)	Yes	Yes	Yes
16	FST Parameters	Yes	Yes	Yes
17	Soft Points	Yes	Yes	Yes
19	Database Setup	Yes	Yes	Yes
20	ROC Tasks Diagnostics	No Yes	Yes No	No No
21	Information for User Defined Points	Yes	Yes	No
22-23	User Defined Points	No	No	No
24	Reserved	N/A.	N/A.	N/A.
25–31	User Defined Points	No	No	No
32	User Defined – Typically Modem Config for COM1	Yes	Yes	No
33	User Defined – Typically Modem Config for LOI and COM2	Yes	Yes	No

*FloBoss 100-Series and FloBoss 500-Series Backward Compatibility.

ROC Point Types for FloBoss 100-Series, FloBoss 407, and FloBoss 500-Series (cont.)

Point Types	Description	FloBoss 100-Series	FloBoss 407	FloBoss 500-Series
34	User Defined – Typically Modbus Config for COM1	Yes	Yes	No
35	User Defined – Typically Function Config for COM1	Yes	Yes	No
36	User Defined – Typically Host Config for COM1	Yes	Yes	No
37	User Defined – Typically Modbus Config for LOI and COM2	Yes	Yes	No
38	User Defined: Typically Function Config for LOI and COM2	Yes	Yes	No
39	User Defined – Typically Host Config for COM1	Yes	Yes	No
40	Multi-Variable Sensor (MVS) Parameters	Yes	Yes	No
41	AGA Run Parameters*	Yes	Yes	Yes
42	Extra Run Parameters*	Yes	Yes	Yes
43	User Lists	Yes	Yes	Yes
44	Power Control	Yes	Yes	Yes
45	Meter Calibration and Sampler	Yes	No	Yes
46	Meter Configuration Parameters	Yes	No	Yes
47	Meter Flow Values	Yes	No	Yes
48	PID Control Parameters	Yes	No	Yes
49	Upload to Disk	No	No	No
50	Download to ROC	No	No	No
52	Battery Parameters	No	No	Yes
53	Modbus Configuration Parameters	Yes	No	Yes
54	Modbus Function Tables	Yes	No	Yes
55	Modbus Special Function Table	Yes	No	Yes
56	AI Calibration	Yes	Yes	Yes
57	Keypad / Logon Security Parameters	Yes	Yes	Yes
58	Revision Information	Yes	No	Yes
59	Program Flash Control Parameters	Yes	Yes	Yes
60-77	SAM User Defined Parameters	No	No	No
80	Enhanced Communication (ECM) Parameters	Yes	No	No
85	HART Parameters	Yes	No	No
86	Extended History Parameters	Yes	No	No
88	BLM User Lists	Yes	No	No
89	Chart User List Parameters	Yes	No	No

93	License Key Information Parameters	Yes	No	No
94	User C Program Parameters	Yes	No	No
117	Modbus Configuration Parameters	Yes	No	No
118	Modbus Register Mapping Parameters	Yes	No	No
120	Modbus Master Modem Configuration	Yes	No	No
121	Modbus Master Polling Table Configuration Parameters	Yes	No	No
122	DS800 Configuration Parameters	Yes	No	No

*FloBoss 100-Series and FloBoss 500-Series Backward Compatibility.

ROC Point Types for RegFlo

Point Types	Description	Point Types	Description
0	Configurable Opcode	17	Soft Points.
1	Discrete Inputs	19	Database Setup.
2	Discrete Outputs	56	AI Calibration.
3	Analog Inputs	57	Keypad / Logon Parameters.
4	Analog Outputs	80	Regulator Parameters.
8	History Parameters	81	Logic Alarm Parameters.
13	System Flags	84	User Discrete Values.
14	Communication Ports	86	Extended History Parameters.
15	System Variables	NA.	NA.

Logical / Point Number Details

Within each point type, individual points are referenced by a Logical Number or a Point Number. The point numbers used by ROC protocol for point types 1 to 5 are based on a physical input or output (I/O) with a rack and module location. All other point types use a Logical Number, and are numbered in sequence.

Physical Point Numbers 0 to 69

For point types 1 through 5, there are point numbers for the field I/O and for the diagnostic inputs. They are as follows:

- Point Numbers 0 to 63 are assigned to field I/O (built-in or modular, 64 maximum). For example, if there were ten I/O modules in a ROC364, they would be points 0 through 9. The ROC I/O point database would reference these points by rack and module location, such as A1 through A10.
- Point Numbers 64 to 69 are assigned to the diagnostic (system) I/O. For example, the five diagnostic points in a ROC364 would be 64 through 68. The ROC I/O point database would reference these points by rack and module (namely, E1 to E5).

Logical Point Numbers 0 to 127

For all other point types (0 and 6–59), the point number is 0 to *x*, where *x* is one less than the total number of points that exist for that point type. For example, the four MVS points in a FloBoss 407 would be logical numbers 0 through 3.

Note: All parameters are 0-based for each point type.

User Defined Point Types

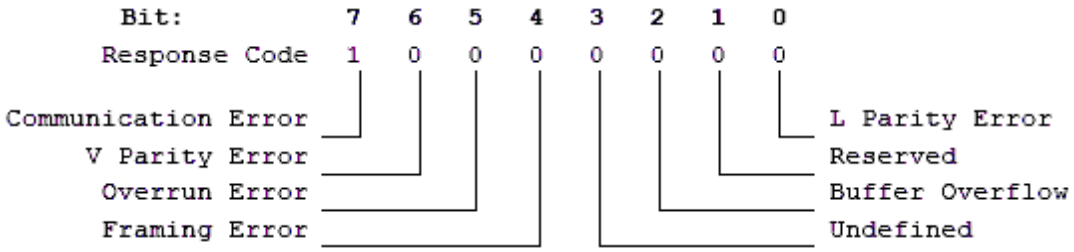
User Defined Point (UDP) Types are available in the ROC and FloBoss units. UDPs are used to make user program data available to ROCLINK, typically for configuration purposes.

- The Modbus program for the COM1 port reserves UDP 32, UDP 34, UDP 35 and UDP 36 for configuration data.
- The Modbus COM1 program for the FloBoss 100-series, FloBoss 500-series and RegFlo reserves UDP 53, UDP 54 and UDP 55 for configuration data.
- The Modbus program for COM2 and the Local Operator Interface (LOI) port reserves UDP 33, UDP 37, UDP 38 and UDP 39 for configuration data.

Note: The Modbus COM1 program is built into Firmware.

Bit Assignments

The graphic below shows a sample bit assignment. The bits in each byte are numbered 0 to 7, right to left, with Bit 7 shown the furthest to the left. A 1 in any bit indicates that it is active or enabled.



Error Descriptions

The following error/warning messages may be generated. The messages are listed here in alphabetical order.

Address Validation

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>' contains a syntax error
Device address '<address>' is not supported by model '<model name>'
Device address '<address>' is Read Only
Missing address

Automatic Tag Database Generation Error Messages

Error importing CSV tag record <record number>: Address '<Address>' is out of range for the specified device or register
Unable to generate a tag database for device '<device>'. Reason: <Error-Reason>
Unable to generate a tag database for device '<device>'. Reason: Auto tag generation failed: device is not responding
Unable to generate a tag database for device '<device>'. Reason: Error while reading from import file
Unable to generate a tag database for device '<device>'. Reason: Error while reading from ROC system file
Unable to generate a tag database for device '<device>'. Reason: Failed to open recordset
Unable to generate a tag database for device '<device>'. Reason: Import file <file-name> not found
Unable to generate a tag database for device '<device>'. Reason: Input file is corrupt
Unable to generate a tag database for device '<device>'. Reason: Input file not found
Unable to generate a tag database for device '<device>'. Reason: Low memory resources
Unable to generate a tag database for device '<device>'. Reason: ROC system file <file-name> not found
Unable to generate a tag database for device '<device>'. Reason: System DB file <file-name> not found

Device Specific Messages

Block read for point type <point-type>, logical address <logical-address>, parameter range <start parameter - end parameter> of device <device-name> failed. <Error Reason>
Device '<device>' responded with error. (Tag '<tag address>')-Details: '<error code>'
Failed to obtain data block for PointType = <point type>, Logical Address = <address>, Starting Parameter = <starting parameter>, Ending Parameter <ending parameter> for device '<device>'. Error = <ROC error code>
Failed to write data for PointType = '<point type>', Logical Address = '<address>', Parameter = '<parameter>' for device '<device>'. Error = '<error code>'
Operator identification failed for device '<device-name>'. <Error Reason>
Read for point type <point-type>, logical address <logical-address>, parameter number <parameter-number> of device <device-name> failed. <Error Reason>
ROC initialization error: Unable to read general configuration
ROC initialization error: Unable to retrieve I/O map
The username or password supplied was not accepted. Error = 6
The username or password supplied was not accepted. Error = 63
Time synchronization with device '<device-name>' failed. <Error Reason>
Write for the following tags of device <device-name> failed: <tag-list>. <Error-Reason>
Write request rejected on Read Only item reference '<channel name>' '<device name>' '<address>'

Device Status Messages

Device '<device name>' is not responding

Serial Communications

Communications error on '<channel name>' [<error mask>]
COMn does not exist
COMn is in use by another application
Error opening COMn
Unable to set comm parameters on COMn

See Also: ROC Error Codes

Error Reasons

For more information on error reasons, refer to the table below.

Error Reason	Possible Cause	Solution
Device not responding	*	*
Device responded with error code	The ROC device responded with an error code.	**
Framing error	The response packet from the ROC device has data fields that are not as per the protocol.	This error is very rare. If encountered, users should check with the manufacturer to ensure that the ROC device is consistent with the protocol.
Operator identification error	The operator identification login (with User ID and Password) failed.	Refer to the Event Log message that corresponds to the operator identification failure.

*For more information, refer to **Device '<device name>' is not responding**.
For more information, refer to **ROC Error Codes.

Address Validation

The following error/warning messages may be generated. The messages are listed here in alphabetical order.

Address Validation
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>' contains a syntax error
Device address '<address>' is not supported by model '<model name>'
Device address '<address>' is Read Only
Missing address

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 that 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>' 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.

Device address '<address>' is not supported by model '<model name>'

Error Type:
Warning

Possible Cause:
A tag address that has been specified statically references a location that is valid for the communications protocol but not supported by the target device.

Solution
1. Verify that the address is correct; if it is not, re-enter it in the client application.
2. Verify that the selected model name for the device is correct.

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 server application.

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 server application.

Automatic Tag Database Generation Error Messages

The following error/warning messages may be generated. The messages are listed here in alphabetical order.

Automatic Tag Database Generation Error Messages

Error importing CSV tag record <record number>: Address '<Address>' is out of range for the specified device or register
Unable to generate a tag database for device '<device>'. Reason: <Error-Reason>
Unable to generate a tag database for device '<device>'. Reason: Auto tag generation failed: device is not responding
Unable to generate a tag database for device '<device>'. Reason: Error while reading from import file
Unable to generate a tag database for device '<device>'. Reason: Error while reading from ROC system file
Unable to generate a tag database for device '<device>'. Reason: Failed to open recordset
Unable to generate a tag database for device '<device>'. Reason: Import file <file-name> not found
Unable to generate a tag database for device '<device>'. Reason: Input file is corrupt
Unable to generate a tag database for device '<device>'. Reason: Input file not found
Unable to generate a tag database for device '<device>'. Reason: Low memory resources
Unable to generate a tag database for device '<device>'. Reason: ROC system file <file-name> not found
Unable to generate a tag database for device '<device>'. Reason: System DB file <file-name> not found

Error importing CSV tag record <record number>: Address '<Address>' is out of range for the specified device or register

Error Type:
Warning

Possible Cause:
An imported tag address specifies a location that is beyond the range of supported locations for the device.

Solution:
Verify that the address is correct; if it is not, re-enter it in the file being imported.

Unable to generate a tag database for device '<device>'. Reason: <Error-Reason>

Error Type:
Warning

Possible Cause:
The error occurred due to the specified Error Reason.

Solution:
The solution depends on the specified Error Reason.

See Also:
Error Reasons

Unable to generate a tag database for device '<device>'. Reason: Auto tag generation failed. Device is not responding

Error Type:
Serious

Possible Cause:
1. The connection between the device and the Host PC is intermittent.
2. The communication parameters for the serial connection are incorrect.

Solution:
1. Verify the cabling between the PC and the device.
2. Verify that the specified communication parameters match those of the device.

Unable to generate a tag database for device '<device>'. Reason: Error while reading from import file

Error Type:
Warning

Possible Cause:
1. The tag import file (*.800) is corrupt.
2. The specified file was not created using the ROCLINK 800 software.

Solution:
1. Ensure that the project is pointing to the correct import file.
2. Re-create the import file using the ROCLINK 800 software and then re-try the import.

Unable to generate a tag database for device '<device>'. Reason: Error while reading from ROC system file

Error Type:
Warning

Possible Cause:
1. The ROC system file (*.mdb) is corrupt.
2. The specified file was not created using the ROCLINK 800 software.

Solution:
1. Ensure that the project is pointing to the correct ROC system file.
2. Re-install the ROCLINK 800 software in order to re-install the system file. Then, re-try the import.

Unable to generate a tag database for device '<device>'. Reason: Failed to open recordset

Error Type:
Warning

Possible Cause:
1. The project file is corrupt or does not exist.
2. The location of the ROC.MDB and/or ROCLINK.MDW files have been specified incorrectly.

Solution:
In the server project, right-click on the device and then select **Properties**. Then, open the **Tag Import Settings** tab to check the name of the project file that will be imported.

See Also:
Tag Import Settings
Automatic Tag Database Generation

Unable to generate a tag database for device '<device>'. Reason: Import file <file-name> not found

Error Type:
Warning

Possible Cause:
The import file cannot be found.

Solution:
Ensure that the tag import file (*.800) is present in the location specified in the Tag Import Settings tab of Device Properties. This file must be accessible to the server's Runtime.

Unable to generate a tag database for device '<device>'. Reason: Input file is corrupt

Error Type:
Warning

Possible Cause:
The import file is corrupt.

Solution:
In the server project, right-click on the device and then select **Properties**. Then, open the **Tag Import Settings** tab to review the settings and check the import file. If necessary, re-export the project file from within ROCLINK800.

See Also:
Tag Import Settings
Automatic Tag Database Generation

Unable to generate a tag database for device '<device>'. Reason: Input file not found

Error Type:
Warning

Possible Cause:
The import file cannot be found.

Solution:

In the server project, right-click on the device and then select **Properties**. Then, open the **Tag Import Settings** tab to check the name of the project file that will be imported. This file must be accessible to the server's Runtime.

See Also:
Tag Import Settings
Automatic Tag Database Generation

Unable to generate a tag database for device '<device>'. Reason: Low memory resources.

Error Type:
Warning

Possible Cause:
The memory required for Automatic Tag Generation could not be allocated. The process is aborted.

Solution:
Close unused applications and/or increase the amount of virtual memory and try again.

Unable to generate a tag database for device '<device>'. Reason: ROC system file <file-name> not found

Error Type:
Warning

Possible Cause:
The ROC system file cannot be found.

Solution:
Ensure that the ROC system file (*.mdb) is present in the location specified in the Tag Import Settings tab of Device Properties. This file must be accessible to the server's Runtime.

Unable to generate a tag database for device '<device>'. Reason: System DB file <file-name> not found

Error Type:
Warning

Possible Cause:
The System DB file cannot be found.

Solution:
Ensure that the System DB file (*.mdw) is present in the location specified in the Tag Import Settings tab of Device Properties. This file must be accessible to the server's Runtime.

Device Specific Messages

The following error/warning messages may be generated. The messages are listed here in alphabetical order.

Device Specific Messages
Block read for point type <point-type>, logical address <logical-address>, parameter range <start parameter - end parameter> of device <device-name> failed. <Error Reason>
Device '<device>' responded with error. (Tag '<tag address>')-Details: '<error code>'
Failed to obtain data block for PointType = <point type>, Logical Address = <address>, Starting Parameter = <starting parameter>, Ending Parameter <ending parameter> for device '<device>'. Error = <ROC error code>
Failed to write data for PointType = '<point type>', Logical Address = '<address>', Parameter = '<parameter>' for device '<device>'. Error = '<error code>'
Operator identification failed for device '<device-name>'. <Error Reason>
Read for point type <point-type>, logical address <logical-address>, parameter number <parameter-number> of device <device-name> failed. <Error Reason>
ROC initialization error: Unable to read general configuration
ROC initialization error: Unable to retrieve I/O map

The username or password supplied was not accepted. Error = 6
The username or password supplied was not accepted. Error = 63
Time synchronization with device '<device-name>' failed. <Error Reason>
Write for the following tags of device <device-name> failed: <tag-list>. <Error-Reason>
Write request rejected on Read Only item reference '<channel name>' '<device name>' '<address>'

Block read for point type <point-type>, logical address <logical-address>, parameter range <start parameter - end parameter> of device <device-name> failed. <Error Reason>

Error Type:
Serious

Possible Cause:
The error occurred due to the specified Error Reason.

Solution:
The solution depends on the specified Error Reason.

See Also:
Error Reasons

Device '<device>' responded with error. (Tag '<tag address>')-Details: '<error code>'

Error Type:
Serious

Possible Cause:
1. The connection between the device and the Host PC is intermittent.
2. The communication parameters for the serial connection are incorrect.
3. Value written is out of range or write was performed while in an incorrect setup area.

Solution:
1. Check the cabling between the PC and the device.
2. Verify that the specified communication parameters match those of the device.

See Also:
Device Setup

Failed to obtain data block for PointType = <point type>, Logical Address = <address>, Starting Parameter = <starting parameter>, Ending Parameter <ending parameter> for device '<device>'. Error = <ROC error code>

Error Type:
Serious

Possible Cause:
1. Invalid tag address for point in block.
2. Device not responding.

Solution:
1. Verify the cabling between the PC and the device.
2. Confirm that all tags within this block exist on the device.

See Also:
ROC Error Codes

Failed to write data for PointType = '<point type>', Logical Address = '<address>', Parameter = '<parameter>' for device '<device>'. Error = '<error code>'

Error Type:
Serious

Possible Cause
1. The address is incorrect.
2. The unit does not support the particular address point.
3. The privileges for the logged-in user do not permit this operation.

Solution:
1. Consult the ROC error code reference for further information regarding the error code.
2. Correct the address.
3. Confirm that the address is supported by the controller in use.
4. Supply an operator identification with sufficient privileges.

See Also:
ROC Error Codes

Operator identification failed for device '<device-name>'. <Error Reason>

Error Type:
Serious

Possible Cause:
The error occurred due to the specified Error Reason.

Solution:
The solution depends on the specified Error Reason.

See Also:
Error Reasons

Read for point type <point-type>, logical address <logical-address>, parameter number <parameter-number> of device <device-name> failed. <Error Reason>

Error Type:
Serious

Possible Cause:
The error occurred due to the specified Error Reason.

Solution:
The solution depends on the specified Error Reason.

See Also:
Error Reasons

ROC initialization error: Unable to read general configuration

Error Type:
Fatal

Possible Cause:
The driver may not be receiving a response from the device.

Solution:
1. Make sure the device is physically connected and powered on.
2. Check that the COM port is working and configured properly at the channel level (in the server).
3. Check the device-level Operator Identification and Address Specification settings and verify that they are correct.

See Also:
Operator Identification
Address Specification

ROC initialization error: Unable to retrieve I/O map

Error Type:
Fatal

Possible Cause:
Access to the I/O Map has been restricted for the current user.

Solution:
Check the Operator Identification settings (such as, username, password, and access level) and verify that they are correct.

See Also:
Operator Identification

The username or password supplied was not accepted. Error = 6

Error Type:
Fatal

Possible Cause:
An access level has been enabled on the device but not in the driver.

Solution:
Check the Operator Identification settings and make sure the Enable Access Level checkbox is checked.

See Also:
Operator Identification

The username or password supplied was not accepted. Error = 63

Error Type:
Fatal

Possible Cause:
The access level that has been enabled on the device is lower than the operator's access level.

Solution:
Check the Operator Identification settings and make sure the operator's access level is less than or equal to the access level enabled in the device.

See Also:
Operator Identification

Time synchronization with device '<device-name>' failed. <Error Reason>

Error Type:
Serious

Possible Cause:
The error occurred due to the specified Error Reason.

Solution:
The solution depends on the specified Error Reason.

See Also:
Error Reasons

Write for the following tags of device <device-name> failed: <tag-list>. <Error-Reason>

Error Type:
Serious

Possible Cause:
The error occurred due to the specified Error Reason.

Solution:
The solution depends on the specified Error Reason.

See Also:
Error Reasons

Write request rejected on Read Only item reference '<channel name>' '<device name>' '<address>'

Error Type:
Warning

Possible Cause:
The driver was attempting to write to a Read Only datum in the ROC controller.

Solution:
Do not attempt to write to Read Only points.

Note:
In some situations, the Automatic Tag Generation process will identify Read Only datum as Read/Write, based on the configuration that the driver retrieved from the ROC controller and the ROC specification. Nonetheless, the ROC controller itself is the final authority on whether a datum is writable. For more information, refer to the controller's documentation.

Device Status Messages

The following error/warning messages may be generated. The messages are listed here in alphabetical order.

Device Status Messages
Device '<device name>' is not responding

Device '<device name>' is not responding

Error Type:
Serious

Possible Cause:
1. The connection between the device and the Host PC is intermittent.
2. The communication parameters for the serial connection are incorrect.
3. 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 device.
2. Verify that the specified communication parameters match those of the device.
3. Increase the Request Timeout setting so that the entire response can be handled.

Serial Communications

The following error/warning messages may be generated. The messages are listed here in alphabetical order.

Serial Communications
Communications error on '<channel name>' [<error mask>]
COMn does not exist
COMn is in use by another application
Error opening COMn

Unable to set comm parameters on COMn

Communications error on '<channel name>' [<error mask>]

Error Type:
Serious

Error Mask Definitions:
B = Hardware break detected.
F = Framing error.
E = I/O error.
O = Character buffer overrun.
R = RX buffer overrun.
P = Received byte parity error.
T = TX buffer full.

Possible Cause:
1. The serial connection between the device and the Host PC is bad.
2. The communication parameters for the serial connection are incorrect.

Solution:
1. Verify the cabling between the PC and the device.
2. Verify that the specified communication parameters match those of the device.

COMn does not exist

Error Type:
Fatal

Possible Cause:
The specified COM port is not present on the target computer.

Solution:
Verify that the proper COM port has been selected in the Channel Properties.

COMn is in use by another application

Error Type:
Fatal

Possible Cause:
The serial port assigned to a device is being used by another application.

Solution:
Verify that the correct port has been assigned to the channel.

Error opening COMn

Error Type:
Fatal

Possible Cause:
The specified COM port could not be opened due to an internal hardware or software problem on the target computer.

Solution:
Verify that the COM port is functional and may be accessed by other Windows applications.

Unable to set comm parameters on COMn

Error Type:
Fatal

Possible Cause:
The serial parameters for the specified COM port are not valid.

Solution:
Verify the serial parameters and make any necessary changes.

ROC Error Codes

Error Codes Returned by Opcode 255

Opcode 255 is an error message indicator that returns an error code.

FlashPACs, FloBoss 500-Series, FloBoss 100-Series and RegFlo Models

Error Code	Description
1	Invalid Opcode request.
2	Invalid Parameter Number.
3	Invalid Logical Number / Point Number.
4	Invalid Point Type.
5	Received too many data bytes.
6	Received too few data bytes.
7	Did not receive 1 data byte.
8	Did not receive 2 data byte.
9	Did not receive 3 data byte.
10	Did not receive 4 data byte.
11	Did not receive 5 data byte.
12	Did not receive 16 data byte.
13	Outside valid address range.
14	Invalid history request.
15	Invalid FST request.
16	Invalid event entry.
17	Requested too many alarms.
18	Requested too many events.
19	Write to read only parameter.
20	Security error.
21	Invalid security logon.
22	Invalid store and forward path.
23	Flash programming error.
24	History configuration in progress.
63	Requested security level too high.

ROCPACs and FloBoss 407 Models

Read Errors

Error Code	Description
8	More than 250 data bytes in response.
9	Invalid parameter.
90	One of the following conditions occurred: 1. Did not receive 4 data bytes. 2. Invalid Point Type.
91	Point does not exist.
92	Point does not exist.
93	Invalid range of parameters asked for.
94	Too many data bytes to send (more than 240).

Write Errors

Error Code	Description
103	Received less than 4 data bytes.
104	Point type out of range (1-24 are valid).
105	Point does not exist, or invalid parameter.
106	Not enough data bytes received.

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