

Idec Device Driver Help

© 2009 Kepware Technologies

Table of Contents

1	Getting Started.....	3
	Help Contents.....	3
	Overview.....	3
2	Device Setup.....	3
	Device Setup.....	3
	Modem Setup.....	4
	Tag Import Settings.....	4
	Micro3 Contollers - RS232/RS485 Data Terminal Connection.....	4
	FA2(J) - CP11/12 - Cable Link Setup.....	4
3	Data Types Descriptions.....	5
	Data Types Description.....	5
4	Address Descriptions.....	5
	Address Descriptions.....	5
	Micro1 Addressing.....	5
	Micro3 Addressing.....	6
	MicroSmart Addressing.....	8
	OpenNet Controller Addressing.....	10
	FA2 Addressing.....	12
	FA2J Addressing.....	13
	FA3S-CP11 Addressing.....	14
	FA3S-CP12 Addressing.....	15
5	Automatic Tag Database Generation.....	17
	Automatic Tag Database Generation.....	17
6	Error Descriptions.....	18
	Error Descriptions.....	18
	Address Validation.....	19
	Address Validation.....	19
	Missing address.....	19
	Device address '<address>' contains a syntax error.....	19
	Address '<address>' is out of range for the specified device or register.....	20
	Device address '<address>' is not supported by model '<model name>'.....	20
	Data Type '<type>' is not valid for device address '<address>'.....	20
	Device address '<address>' is Read Only.....	20
	Serial Communications.....	20
	Serial Communications.....	20
	COMn does not exist.....	21
	Error opening COMn.....	21
	COMn is in use by another application.....	21
	Unable to set comm parameters on COMn.....	21
	Communications error on COMn [<error mask>].....	21
	Device Status Messages.....	22
	Device Status Messages.....	22
	Device '<device name>' not responding.....	22
	Unable to write to '<address>' on device '<device name>'.....	22
	Device Specific Messages.....	22
	Device Specific Messages.....	22
	Bad address in block [<start address> to <end address>] on device '<device name>'.....	22

Automatic Tag Database Generation Messages.....	23
Automatic Tag Generation Messages.....	23
Tag '<tag name>' not imported because model does not support type.....	23
Error parsing import file record number <record number>.....	23
Import file record <record number> could not be processed due to buffer overflow.....	23
Exception encountered during tag import. Bad tag information file.....	24
Tag import failed due to low memory resources.....	24
Description truncated for import file record number <record number>.....	24
Imported tag name '<old name>' is invalid. Name changed to '<new name>'.....	24

Index**25**

Idec Device Driver Help

Help version 1.011

CONTENTS

[Overview](#)

What is the Idec Device Driver?

[Device Setup](#)

How do I configure a device for use with this driver?

[Data Types Description](#)

What data types does this driver support?

[Address Descriptions](#)

How do I address a data location on an Idec device?

[Automatic Tag Database Generation](#)

How can I easily configure tags for the Idec driver?

[Error Descriptions](#)

What error messages does the Idec driver produce?

Overview

The Idec Device Driver was designed specifically for use with 32 bit OPC server products running on Intel microprocessor based computers. For operating system (OS) requirements, refer to the OPC Server Help documentation.

Note: This driver is intended for use with Idec Programmable Logic Controllers.

Device Setup

Supported Devices

Micro1, Micro3, MicroSmart, OpenNet, FA2J, FA2, FA3S-CP11 and FA3S-CP12 PLCs

Communication Protocol

Idec ASCII Protocol

Supported Communication Parameters

Baud Rate: 300, 600, 1200, 2400, 9600, 19200

Parity: Even, None

Data Bits: 7 (Micro3, OpenNet); 8 (All other models)

Stop Bits: 1

Ethernet Encapsulation

This driver supports Ethernet Encapsulation. Ethernet Encapsulation allows the driver to communicate with serial devices attached to an Ethernet network using a terminal server like the Lantronix DR1. Ethernet Encapsulation mode is invoked by selecting it from the COM ID dialog on the Channel Properties page. For more information on Ethernet Encapsulation, refer to the OPC Server Help documentation.

Device IDs

A Micro3 networks support up to 32 devices. Each device can be assigned a Device ID from 0 to 255. All other models support up to 32 devices and should be assigned a Device ID of 0 for 1:1 communications or a Device ID of 1-255 for 1:N communications.

Note: Do not assign a Device ID of 0 when multidropping.

Flow Control

When using an RS232/RS485 converter, the type of flow control that is required depends on the needs of the

converter. Some converters do not require any flow control and others will require RTS flow. To determine the converter's flow requirements, refer to its documentation. We recommend using an RS485 converted that provides automatic flow control.

Note: When using the manufacturer's supplied communications cable, it is sometimes necessary to choose a flow control setting of **RTS** or **RTS Always** under the Channel Properties.

See Also: [Tag Import Settings](#)

Cable Connections

[Micro3/OpenNet Controllers-RS232/RS485 Data Terminal Connection](#)
[FA2\(J\)-CP11/12-Cable Link Setup](#)

Modem Setup

This driver supports modem functionality. For more information, please refer to the topic "Modem Support" in the OPC Server Help documentation.

Tag Import Settings

Tag Import File

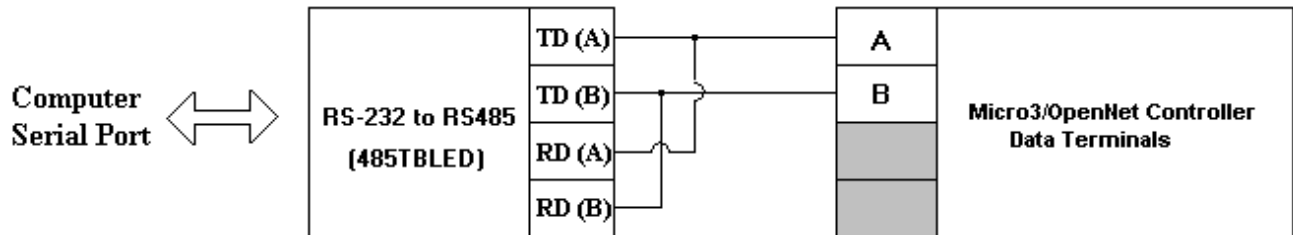
In this parameter, enter the exact location of the WindLDR tag information file the driver should use when autogenerating tags for this device.

Display Descriptions

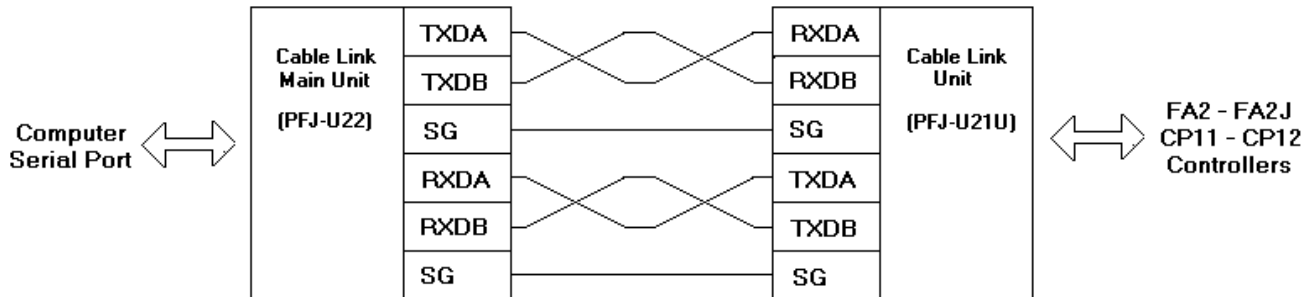
Check this option in order to import tag descriptions.

See Also: [Automatic Tag Database Generation](#)

Micro3/OpenNet Contollers-RS232/RS485 Data Terminal Connection



FA2(J)-CP11/12-Cable Link Setup



Data Types Description

Data Type	Description
Boolean	Single bit
Byte	Unsigned 8 bit value bit 0 is the low bit bit 7 is the high bit
Char	Signed 8 bit value bit 0 is the low bit bit 6 is the high bit bit 7 is the sign bit
Word	Unsigned 16 bit value bit 0 is the low bit bit 15 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
DWord	Unsigned 32 bit value bit 0 is the low bit bit 31 is the high bit
Long	Signed 32 bit value bit 0 is the low bit bit 30 is the high bit bit 31 is the sign bit

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.

[Micro1](#)

[Micro3](#)

[MicroSmart](#)

[OpenNet Controller](#)

[FA2](#)

[FA2J](#)

[FA3S-CP11](#)

[FA3S-CP12](#)

Micro1 Addressing

The default data types are shown in **bold**.

Data Types

Device Type	Reference	Data Type
I/O	I, Q, IF	Boolean
Internal Relays	M	Boolean
Shift Registers	R	Boolean
Timers/Counters	T, C	Boolean

TW, TP, CW, CP **Word, Short****Address Specifications**

Address	Reference	Range	Access
Input Bits	I<xx> xx-Bit Number (low digit octal coded)	I0-I27	Read Only
Force Input Bits	IF<xx> xx-Bit Number (low digit octal coded)	IF0-IF27	Read/Write
Output Bits	Q<xx> xx-Bit Number (low digit octal coded)	Q0-Q27	Read/Write
Internal Relay Bits	M<xxx> xxx-Bit Number (low digit octal coded)	M0-M197, M300-317	Read/Write
Shift Register Bits	R<xxx> xxx-Bit Number	R0-R127	Read/Write
Counter Bits	C<xx> xx-Bit Number	C0-C46	Read Only
Counter Words	CW<xx> xx-Word Number (14 bit number)	CW0-CW46	Read Only
Counter Presets	CP<xx> xx-Word Number (14 bit number)	CP0-CP46	Read/Write
Timer Bits	T<xx> xx-Bit Number	T0-T79	Read Only
Timer Words	TW<xx> xx-Word Number (14 bit number)	TW0-TW79	Read Only
Timer Presets	TP<xx> xx-Word Number (14 bit number)	TP0-TP79	Read/Write

Examples

M180	Internal relay bits 180 (lowest digit octal coded: M108 would not be valid)
TP65	Preset value for timer 65 (14 bit number)
TW65	Accumulator value for timer 65 (14 bit number)

Micro3 Addressing

The default data types are shown in **bold**.

Data Types

Device Type	Reference	Data Type
I/O	I, Q, IF	Boolean
	IW, QW	Word, Short
Internal Relays	M	Boolean
	MW	Word, Short
Shift Registers	R	Boolean

	RW	Word , Short
Timers/Counters	T, C	Boolean
	TW, TP, CW, CP	Word , Short
	HW, HP	DWord , Long
Data Registers	DW	Word , Short, DWord, Long
	DS	String
Calendar/Clock	WW	Word , Short

Address Specifications

The following memory map corresponds to the Micro3 device. The driver expands this memory range from 0 to 9999 for all memory types to support newer devices such as the Micro3C and any other future Micro3 compatible configurations.

Address	Reference	Range	Access
Input Bits/Words	I<xxx>, IW<xxx> xxx-Bit Number (low digit octal coded)	I0-I37, IW0-IW20	Read Only
Force Input Bits	IF<xxx> xxx-Bit Number (low digit octal coded)	IF0-IF37	Read/Write
Output Bits/Words	Q<xxx>, QW<xxx> xx-Bit Number (low digit octal coded)	Q0-Q37, QW0-QW20	Read/Write
Internal Relay Bits/Words	M<xxx>, MW<xxx> xxx-Bit Number (low digit octal coded)	M0-M317, MW0-MW300	Read/Write
Shift Register Bits/Words	R<xxx>, RW<xxx> xxx-Bit Number	R0-R63, RW0-RW48	Read/Write
Counter Bits	C<xx> xx-Bit Number	C0-C31	Read Only
Counter Words	CW<xx> xx-Word Number (14 bit number)	CW0-CW31	Read Only
Counter Presets	CP<xx> xx-Word Number (14 bit number)	CP0-CP31	Read/Write
Timer Bits	T<xx> xx-Bit Number	T0-T31	Read Only
Timer Words	TW<xx> xx-Word Number (14 bit number)	TW0-TW31	Read Only
Timer Presets	TP<xx> xx-Word Number (14 bit number)	TP0-TP31	Read/Write
High Speed Counter Accumulators	HW<xx> xx-HSC Accumulator Number (32 bit)	HW0-HW9999	Read Only
High Speed Counter Presets	HP<xx> xx-HSC Preset Number (32 bit)	HP0-HP9999	Read Only
Data Registers	DW<xxx>	DW0-DW9999	Read/Write

	xxx-Word Number DS<xxx>.<yyy>	DS0.0 ... DS0.128 DS99.0 ... DS99.128	Read/Write
Calendar/Clock	yyy-String Length (characters) WW<xxx> xxx-Word Number	WW0-WW6	Read/Write

Calendar/Clock Word Numbers

0	Year (0=2000, 1=2001, etc)
1	Month
2	Day
3	Day of week (0=Sunday, 1=Monday, etc)
4	Hour (24 hour format)
5	Minute
6	Second

Examples

M180	Internal relay bits 180 (lowest digit octal coded: M108 would not be valid)
TP65	Preset value for timer 65 (14 bit number)
TW65	Accumulator value for timer 65 (14 bit number)
DS10.24	String data stored in DW10-DW21
WW2	Day of the month

MicroSmart Addressing

The default data types are shown in **bold**.

Data Types

Device Type	Reference	Data Type
I/O	I, Q, IF	Boolean
	IW, QW	Word , Short
Internal Relays	M	Boolean
	MW	Word , Short
Shift Registers	R	Boolean
	RW	Word , Short
Timers/Counters	T, C	Boolean
	TW, TP, CW, CP	Word , Short
	HW, HP	DWord , Long
Data Registers	DW	Word , Short, DWord , Long
	DS	String
Calendar/Clock	WW	Word , Short

Address Specifications

The following memory map corresponds to the MicroSmart device. The driver expands this memory range from 0 to 9999 for all memory types to support newer devices such as the Micro3C and any other future Micro3 compatible

configurations.

Address	Reference	Range	Access
Input Bits/Words	I<xxx>, IW<xxx> xxx-Bit Number (low digit octal coded)	I0-I307, IW0-IW290	Read Only
Force Input Bits	IF<xxx> xxx-Bit Number (low digit octal coded)	IF0-IF307	Read/Write
Output Bits/Words	Q<xxx>, QW<xxx> xx-Bit Number (low digit octal coded)	Q0-Q307, QW0-QW290	Read/Write
Internal Relay Bits/Words	M<xxxx>, MW<xxxx> xxxx-Bit Number (low digit octal coded)	M0-M8157, MW0-MW8140	Read/Write
Shift Register Bits/Words	R<xxx>, RW<xxx> xxx-Bit Number	R0-R127, RW0-RW112	Read/Write
Counter Bits	C<xx> xx-Bit Number	C0-C99	Read Only
Counter Words	CW<xx> xx-Word Number (16 bit number)	CW0-CW99	Read Only
Counter Presets	CP<xx> xx-Word Number (16 bit number)	CP0-CP99	Read/Write
Timer Bits	T<xx> xx-Bit Number	T0-T99	Read Only
Timer Words	TW<xx> xx-Word Number (16 bit number)	TW0-TW99	Read Only
Timer Presets	TP<xx> xx-Word Number (16 bit number)	TP0-TP99	Read/Write
High Speed Counter Accumulators	HW<xx> xx-HSC Accumulator Number (32 bit)	HW0-HW9999	Read Only
High Speed Counter Presets	HP<xx> xx-HSC Preset Number (32 bit)	HP0-HP9999	Read Only
Data Registers	DW<xxxx> xxxx-Word Number	DW0-DW49999	Read/Write
	DS<xxxx>.<yyy> xxxx-Word Number yyy-String Length (characters)	DS0.0...DS0.128- DS49999.0...DS49999.128	Read/Write
Calendar/Clock	WW<x> x-Word Number	WW0-WW6	Read/Write

Calendar/Clock Word Numbers

0	Year (0 = 2000, 1 = 2001, etc)
1	Month

2	Day
3	Day of week (0 = Sunday, 1 = Monday, etc)
4	Hour (24 hour format)
5	Minute
6	Second

Examples

M180	Internal relay bits 180 (lowest digit octal coded: M108 would not be valid)
TP65	Preset value for timer 65 (16 bit number)
TW65	Accumulator value for timer 65 (16 bit number)
DS10.24	String data stored in DW10-DW21
WW2	Day of the month

OpenNet Controller Addressing

The default data types are shown in **bold**.

Data Types

Device Type	Reference	Data Type
I/O	I, Q, IF	Boolean
	IW, QW	Word , Short
Internal Relays	M	Boolean
	MW	Word , Short
Shift Registers	R	Boolean
	RW	Word , Short
Link Registers	Lxxxx	Word , Short
	Lxxxx.yy	Boolean
Timers/Counters	T, C	Boolean
	TW, TP, CW, CP	Word , Short
	HW, HP	DWord , Long
Data Registers	DW	Word , Short, DWord, Long

Address Specifications

The following memory map is open from 0 to 9999 for all memory types to support newer devices. Consult the manufacturer's documentation for device specific address ranges.

Address	Reference	Range	Access
Input Bits/Words	I<xxxx>, IW<xxxx> xxxx-Bit Number (low digit octal coded)	I0-I9997, IW0-IW9997	Read Only
Force Input Bits	IF<xxxx> xxxx-Bit Number (low digit octal coded)	IF0-IF9997	Read/Write
Output Bits/Words	Q<xxxx>, QW<xxxx> xxxx-Bit Number (low digit octal coded)	Q0-Q9997, QW0-QW9997	Read/Write
Internal Relay Bits/Words	M<xxxx>, MW<xxxx>	M0-M9997, MW0-MW9997	Read/Write

	xxxx-Bit Number (low digit octal coded)		
Shift Register Bits/Words	R<xxxx>, RW<xxxx> xxxx-Bit Number	R0-R9999, RW0-RW9999	Read/Write
Link Register	L<xxxx> (low digit octal coded)	L0-L9997	Read/Write
Link Register Bit Access	L<xxxx>.<yy> <xxxx>-register number (low digit octal coded) <yy>-bit number	<xxxx>: 100-127, 200-227, 300-327, 400-427, 500-527, 600-627, 700-727, 1000-1317 <yy>: 0-15	Read/Write
Counter Bits	C<xxxx> xxxx-Bit Number	C0-C9999	Read Only
Counter Words	CW<xxxx> xxxx-Word Number (16 bit number)	CW0-CW9999	Read Only
Counter Presets	CP<xxxx> xxxx-Word Number (16 bit number)	CP0-CP9999	Read/Write
Timer Bits	T<xx> xxxx-Bit Number	T0-T9999	Read Only
Timer Words	TW<xxxx> xxxx-Word Number (16 bit number)	TW0-TW9999	Read Only
Timer Presets	TP<xxxx> xxxx-Word Number (16 bit number)	TP0-TP9999	Read/Write
High Speed Counter	HW<xxxx> xxxx-HSC Accumulator Number (32 bit)	HW0-HW9999	Read Only
High Speed Counter	HP<xxxx> xxxx-HSC Preset Number (32 bit)	HP0-HP9999	Read Only
Data Registers	DW<xxxx> xxxx-Word Number	DW0-DW9999	Read/Write
	DS<xxxx>.<yyy> xxxx – Word Number yyy – String Length (characters)	DS0.0 ... DS0.128 DS9999.0 ... DS9999.128	Read/Write
Calendar/Clock	WW<x> x – Word Number	WW0 – WW6	Read/Write

Calendar/Clock Word Numbers

0	Year (0=2000, 1=2001, etc)
1	Month
2	Day
3	Day of week (0=Sunday, 1=Monday, etc)
4	Hour (24 hour format)

5	Minute
6	Second

Examples

M180	Internal relay bits 180 (lowest digit octal coded: M108 would not be valid)
TP65	Preset value for timer 65 (16 bit number)
TW65	Accumulator value for timer 65 (16 bit number)
DS10.24	String data stored in DW10 – DW21
WW2	Day of the month

FA2 Addressing

The default data types are shown in **bold**.

Data Types

Device Type	Reference	Data Type
I/O	I, Q, IF	Boolean
	IB, QB	Byte , Char
Internal Relays	M	Boolean
	MB	Byte , Char
Shift Registers	R	Boolean
	RB	Byte , Char
Timers/Counters	T, C	Boolean
	TW, TP, CW, CP	Word , Short
Data Registers	DW	Word , Short

Address Specifications

Address	Reference	Range	Access
Input Bits/Bytes	I<xxx>, IB<xxx> xxx-Bit Number (low digit octal coded)	I0-I317, IB0-IB310	Read Only
Force Input Bits	IF<xxx> xxx-Bit Number (low digit octal coded)	IF0-IF317	Read/Write
Output Bits/Bytes	xx-Bit Number (low digit octal coded)	Q0-Q317, QB0-QB310	Read/Write (bits) Read Only (bytes)
Internal Relay Bits/Bytes	M<xxx>, MB<xxx> xxx-Bit Number (low digit octal coded)	M0-M637, MB0-MB630	Read/Write (bits) Read Only (bytes)
Shift Register Bits/Bytes	R<xxx>, RB<xxx> xxx-Bit Number	R0-R127, RB0-RB120	Read/Write (bits) Read Only (bytes)
Counter Bits	C<xx>	C0-C46	Read Only

	xx-Bit Number		
Counter Words	CW<xx>	CW0-CW46	Read Only
	xx-Word Number (14 bit number)		
Counter Presets	CP<xx>	CP0-CP46	Read/Write
	xx-Word Number (14 bit number)		
Timer Bits	T<xx>	T0-T79	Read Only
	xx-Bit Number		
Timer Words	TW<xx>	TW0-TW79	Read Only
	xx-Word Number (14 bit number)		
Timer Presets	TP<xx>	TP0-TP79	Read/Write
	xx-Word Number (14 bit number)		
Data Registers	DW<xxx>	DW0-DW399	Read/Write
	xxx-Word Number		

Examples

M180	Internal relay bits 180 (lowest digit octal coded: M108 would not be valid)
TP65	Preset value for timer 65 (14 bit number)
TW65	Accumulator value for timer 65 (14 bit number)

FA2J Addressing

The default data types are shown in **bold**.

Data Types

Device Type	Reference	Data Type
I/O	I, Q, IF	Boolean
	IB, QB	Byte , Char
Internal Relays	M	Boolean
	MB	Byte , Char
Shift Registers	R	Boolean
	RB	Byte , Char
Timers/Counters	T, C	Boolean
	TW, TP, CW, CP	Word , Short
Data Registers	DW	Word , Short

Address Specifications

Address	Reference	Range	Access
Input Bits/Bytes	I<xxx>, IB<xxx>	I0-I157, IB0-IB150	Read Only
	xxx-Bit Number (low digit octal coded)		
Force Input Bits	IF<xxx>	IF0-IF157	Read/Write
	xxx-Bit Number (low digit octal coded)		
Output Bits/Bytes	Q<xxx>, QB<xxx>	Q0-Q157, QB0-QB150	Read/Write (bits)
	xx-Bit Number (low digit octal coded)		

			Read Only (bytes)
Internal Relay Bits/Bytes	M<xxx>, MB<xxx> xxx-Bit Number (low digit octal coded)	M0-M637, MB0-MB630	Read/Write (bits) Read Only (bytes)
Shift Register Bits/Bytes	R<xxx>, RB<xxx> xxx-Bit Number	R0-R127, RB0-RB120	Read/Write (bits) Read Only (bytes)
Counter Bits	C<xx> xx-Bit Number	C0-C46	Read Only
Counter Words	CW<xx> xx-Word Number (14 bit number)	CW0-CW46	Read Only
Counter Presets	CP<xx> xx-Word Number (14 bit number)	CP0-CP46	Read/Write
Timer Bits	T<xx> xx-Bit Number	T0-T79	Read Only
Timer Words	TW<xx> xx-Word Number (14 bit number)	TW0-TW79	Read Only
Timer Presets	TP<xx> xx-Word Number (14 bit number)	TP0-TP79	Read/Write
Data Registers	DW<xxx> xxx-Word Number	DW0-DW399	Read/Write

Examples

M180	Internal relay bits 180 (lowest digit octal coded: M108 would not be valid)
TP65	Preset value for timer 65 (14 bit number)
TW65	Accumulator value for timer 65 (14 bit number)

FA3S-CP11 Addressing

The default data types are shown in **bold**.

Data Types

Device Type	Reference	Data Type
I/O	I, Q, IF	Boolean
	IB, QB	Byte , Char
Internal Relays	M	Boolean
	MB	Byte , Char
Shift Registers	R	Boolean
	RB	Byte , Char
Timers/Counters	T, C	Boolean
	TW, TP, CW, CP	Word , Short

Data Registers	DW	Word , Short
----------------	----	---------------------

Address Specifications

Address	Reference	Range	Access
Input Bits/Bytes	I<xxx>, IB<xxx> xxx-Bit Number (low digit octal coded)	I0-I157, IB0-IB150	Read Only
Force Input Bits	IF<xxx> xxx-Bit Number (low digit octal coded)	IF0-IF157	Read/Write
Output Bits/Bytes	Q<xxx>, QB<xxx> xx-Bit Number (low digit octal coded)	Q0-Q157, QB0-QB150	Read/Write (bits) Read Only (bytes)
Internal Relay Bits/Bytes	M<xxx>, MB<xxx> xxx-Bit Number (low digit octal coded)	M0-M637, MB0-MB630	Read/Write (bits) Read Only (bytes)
Shift Register Bits/Bytes	R<xxx>, RB<xxx> xxx-Bit Number	R0-R127, RB0-RB120	Read/Write (bits) Read Only (bytes)
Counter Bits	C<xx> xx-Bit Number	C0-C46	Read Only
Counter Words	CW<xx> xx-Word Number (14 bit number)	CW0-CW46	Read Only
Counter Presets	CP<xx> xx-Word Number (14 bit number)	CP0-CP46	Read/Write
Timer Bits	T<xx> xx-Bit Number	T0-T79	Read Only
Timer Words	TW<xx> xx-Word Number (14 bit number)	TW0-TW79	Read Only
Timer Presets	TP<xx> xx-Word Number (14 bit number)	TP0-TP79	Read/Write
Data Registers	DW<xxx> xxx-Word Number	DW0-DW399	Read/Write

Examples

M180	Internal relay bits 180 (lowest digit octal coded: M108 would not be valid)
TP65	Preset value for timer 65 (14 bit number)
TW65	Accumulator value for timer 65 (14 bit number)

FA3S-CP12 Addressing

The default data types are shown in **bold**.

Data Types

Device Type	Reference	Data Type
I/O	I, Q, IF	Boolean
	IB, QB	Byte, Char
Internal Relays	M	Boolean
	MB	Byte, Char
Shift Registers	R	Boolean
	RB	Byte, Char
Timers/Counters	T, C	Boolean
	TW, TP, CW, CP	Word, Short
Data Registers	DW	Word, Short

Address Specifications

Address	Reference	Range	Access
Input Bits/Bytes	I<xxx>, IB<xxx> xxx-Bit Number (low digit octal coded)	I0-I317, IB0-IB310	Read Only
Force Input Bits	IF<xxx> xxx-Bit Number (low digit octal coded)	IF0-IF317	Read/Write
Output Bits/Bytes	Q<xxx>, QB<xxx> xx-Bit Number (low digit octal coded)	Q0-Q317, QB0-QB310	Read/Write (bits) Read Only (bytes)
Internal Relay Bits/Bytes	M<xxx>, MB<xxx> xxx-Bit Number (low digit octal coded)	M0-M1317, MB0-MB1310	Read/Write (bits) Read Only (bytes)
Shift Register Bits/Bytes	R<xxx>, RB<xxx> xxx-Bit Number	R0-R223, RB0-RB216	Read/Write (bits) Read Only (bytes)
Counter Bits	C<xx> xx-Bit Number	C0-C46 C48-C102	Read Only
Counter Words	CW<xx> xx-Word Number (14 bit number)	CW0-CW46 CW48-CW102	Read Only
Counter Presets	CP<xx> xx-Word Number (14 bit number)	CP0-CP46 CP48-CP102	Read/Write
Timer Bits	T<xx> xx-Bit Number	T0-T255	Read Only
Timer Words	TW<xx> xx-Word Number (14 bit number)	TW0-TW255	Read Only
Timer Presets	TP<xx> xx-Word Number (14 bit number)	TP0-TP255	Read/Write
Data Registers	DW<xxx>	DW0-DW999	Read/Write

xxx-Word Number

DW3000-DW3071

Examples

M180	Internal relay bits 180 (lowest digit octal coded: M108 would not be valid)
TP65	Preset value for timer 65 (14 bit number)
TW65	Accumulator value for timer 65 (14 bit number)

Automatic Tag Database Generation

The IDEC Device Driver utilizes the OPC Server's Automatic Tag Database Generation feature, thus containing ability to automatically create tags corresponding to data points used by the device's ladder program. A **Tag Information File** is required to generate tags. The tag information file is created with the **Idec WindLDR** programming application, version 4.14 or higher.

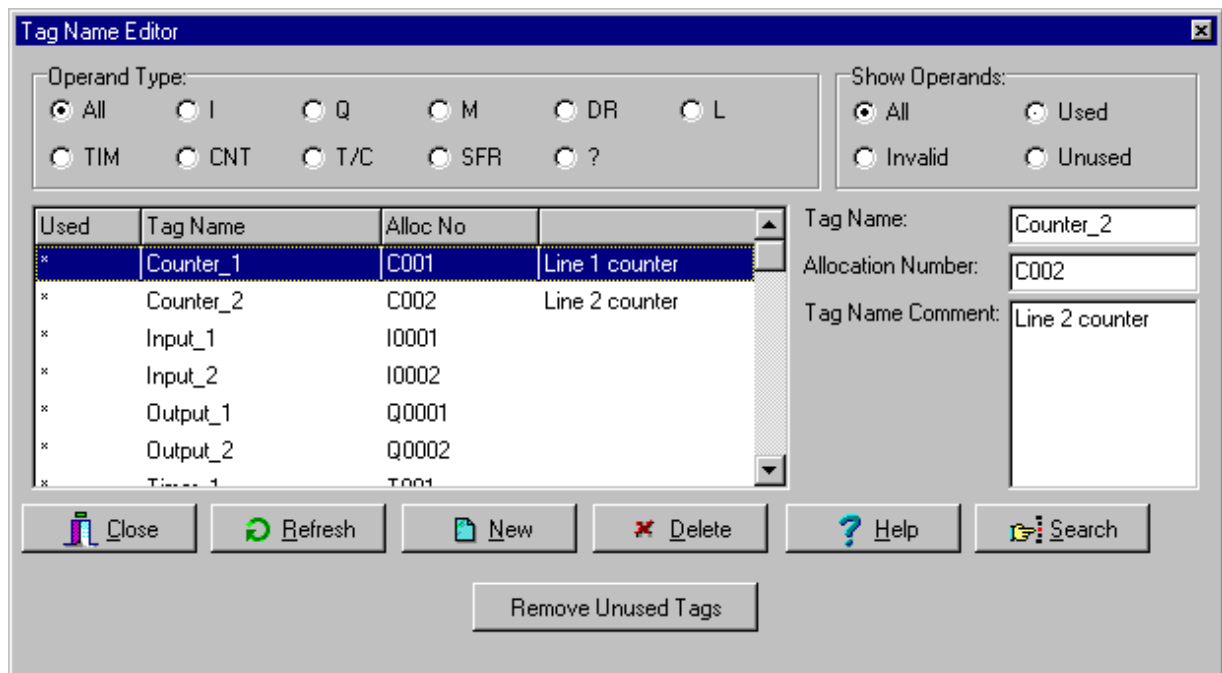
The automatic tag database generation feature is customizable. The tag generation settings can be accessed by clicking **Device Properties | Database Creation**. For more information, refer to OPC Server's Help documentation.

Automatic Tag Database Generation Preparation

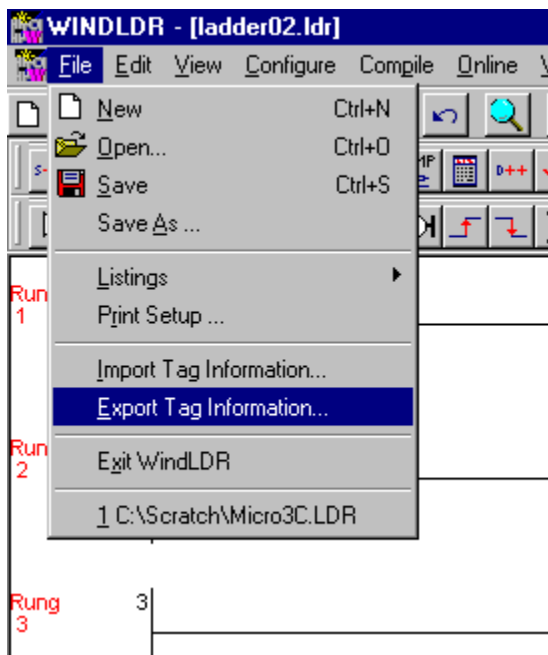
A tag information file must be prepared for the target device before tags can be automatically generated. To create a file, follow the instructions below.

1. Start the **WindLDR device programming application**. Load the **ladder project** that the target device will be running.
2. In the main menu, select **Edit|Tag Name Editor** to view the current list of tags.

Note: This list is automatically updated as the ladder program is created. Tags not used by the current ladder may be added or removed, and existing tags may be edited using the editor. The driver will create tags with names as they appear in the editor. **Allocation numbers** will be converted to the appropriate address strings. Tag name comments will appear as tag descriptions in the server but can be ignored if desired. Make sure to review all operands because they will all be used by the automatic tag generator.



3. When satisfied with the tag name list, click **Close**.
4. To save the tag name data to a tag information file, select **File|Export Tag Information**.



Once the tag information file has been created for a particular device, the driver must be configured to use this file.

1. View the **Device Properties** for the device of interest.
2. Select the **Tag Import Settings** tab.
3. Enter or browse for the location of the tag information file for this device.
4. Select the **Database Creation** tab and configure as desired.

Note: For more information, refer to the OPC Server's Help documentation.

The OPC Server's event log will show when the automatic tag generation feature is enabled, if any errors occur while processing the tag information file and when the generation process has completed.

Note 1: As of this writing, WndLDR does not explicitly export data type information. Because of this, the driver must assign its default data type to all generated tags. Address mnemonics and data types of generated tags may need to be adjusted to match the ladder program.

Note 2: Records for numerical timer and counter presets will be ignored.

Note 3: Three tags will be created for each reference to a timer and counter: current value, output bit, and preset.

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](#)

[Device address '<address>' is not supported by model '<model name>'](#)

[Data Type '<type>' is not valid for device address '<address>'](#)

[Device address '<address>' is Read Only](#)

Serial Communications

[COMn does not exist](#)

Error opening COMn[COMn is in use by another application](#)[Unable to set comm parameters on COMn](#)[Communications error on COMn \[<error mask>\]](#)**Device Status Messages**[Device '<device name>' is not responding](#)[Unable to write to '<address>' on device '<device name>'](#)**Device Specific Messages**[Bad address in block \[<start address> to <end address>\] on device '<device name>'](#)**Automatic Tag Database Generation Messages**[Tag "<tag name>" not imported because model does not support type](#)[Error parsing import file record number <record number>](#)[Import file record <record number> could not be processed due to buffer overflow](#)[Exception encountered during tag import. Bad tag information file](#)[Tag import failed due to low memory resources](#)[Description truncated for import file record number <record number>](#)[Imported tag name '<old name>' is invalid. Name changed to '<new name>'](#)**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](#)[Device address '<address>' is not supported by model '<model name>'](#)[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.

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:

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

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.

Serial Communications

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

Serial Communications

[COMn does not exist](#)

[Error opening COMn](#)

[COMn is in use by another application](#)

[Unable to set comm parameters on COMn](#)

[Communications error on COMn \[<error mask>\]](#)

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.

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.

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.

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.

Communications error on COMn [<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 PLC device.
2. Verify that the specified communication parameters match those of the device.

Device Status Messages

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

Device Status Messages

[Device '<device name>' is not responding](#)
[Unable to write to '<address>' on device '<device name>'](#)

Device '<device name>' not responding**Error Type:**

Serious

Possible Cause:

1. The serial connection between the device and the host PC is broken.
2. The communication parameters for the serial connection are incorrect.
3. The named device may have been assigned an incorrect Network ID.

Solution:

1. Verify the cabling between the PC and the PLC device.
2. Verify that the specified communication parameters match those of the device.
3. Verify that the Network ID given to the named device matches that of the actual device.

Unable to write to '<address>' on device '<device name>'**Error Type:**

Serious

Possible Cause:

1. The serial connection between the device and the host PC is broken.
2. The communication parameters for the serial connection are incorrect.
3. The named device may have been assigned an incorrect Network ID.

Solution:

1. Verify the cabling between the PC and the PLC device.
2. Verify that the specified communication parameters match those of the device.
3. Verify that the Network ID given to the named device matches that of the actual device.

Device Specific Messages

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

Device Specific Messages

[Bad address in block \[<start address> to <end address>\] on device '<device name>'](#)

Bad address in block [<start address> to <end address>] on device '<device name>'**Error Type:**

Serious

Possible Cause:

An attempt has been made to reference a nonexistent location in the specified device.

Solution:

Verify the tags assigned to addresses in the specified range on the device and eliminate ones that reference invalid locations.

Automatic Tag Generation Messages

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

Automatic Tag Generation Messages

[Tag '<tag name>' not imported because model does not support type](#)

[Error parsing import file record number <record number>](#)

[Import file record <record number> could not be processed due to buffer overflow](#)

[Exception encountered during tag import. Bad tag information file](#)

[Tag import failed due to low memory resources](#)

[Description truncated for import file record number <record number>](#)

[Imported tag name '<old name>' is invalid. Name changed to '<new name>'](#)

Tag '<tag name>' not imported because model does not support type

Error Type:

Warning

Possible Cause:

The tag information file contains references to operand/memory types not supported by the currently selected model.

Solution:

Verify that the model selected for the device in the driver and the WindLDR project from which the tag information file was created agree. Make appropriate model changes.

See Also:

[Address Descriptions](#)

Error parsing import file record number <record number>

Error Type:

Warning

Possible Cause:

A record in the tag information file has an incorrect format or a field was longer than expected.

Solution:

Verify the format of the tag information file using a text editor. Fields should be delineated by tabs and end with a new line character. Tag name and allocation numbers are assumed to be 31 characters or less and tag descriptions are assumed to be 64 characters or less. Make necessary changes to file.

Import file record <record number> could not be processed due to buffer overflow

Error Type:

Warning

Possible Cause:

A tag information file record is too long to fit into the memory buffer used for record processing.

Solution:

Records are assumed to be 128 characters long or less. Make necessary changes to the file.

Exception encountered during tag import. Bad tag information file

Error Type:

Warning

Possible Cause:

The tag information file is unreadable.

Solution:

Recreate the tag information file.

Tag import failed due to low memory resources

Error Type:

Warning

Possible Cause:

Memory needed to process the tag information file could not be allocated.

Solution:

Free up system resources and try again.

Description truncated for import file record number <record number>

Error Type:

Warning

Possible Cause:

The specified tag description is longer than the 64 character limit imposed by the OPC Server.

Solution:

The driver will automatically truncate the description. Shortening tag descriptions by using WindLDR's tag name editor will ensure that all important information is maintained.

Imported tag name '<old name>' is invalid. Name changed to '<new name>'

Error Type:

Warning

Possible Cause:

The tag name given in the tag information file is not a valid OPC Server name. Valid names must be composed entirely of letters, number, and underscores, and not start with an underscore.

Solution:

The driver will automatically rename the tag by replacing invalid characters. If the first character is invalid, it will be substituted with a zero. All other invalid characters will be substituted with underscores. If desired, change the tag names in the ladder project using WindLDR's tag name editor for consistency.

Index

- A -

Address '<address>' is out of range for the specified device or register 20
Address Descriptions 5
Address Validation 19
Automatic Tag Database Generation 17
Automatic Tag Generation Messages 23

- B -

Bad address 22
Boolean 5
Byte 5

- C -

Char 5
Communications error on COMn [<error mask>] 21
COMn does not exist 21
COMn is in use by another application 21

- D -

Data Type '<type>' is not valid for device address '<address>' 20
Data Types Description 5
Description truncated for import file record number <record number> 24
Device '<device name>' not responding 22
Device address '<address>' contains a syntax error 19
Device address '<address>' is not supported by model '<model name>' 20
Device address '<address>' is Read Only 20
Device ID 3
Device Specific Messages 22
Device Status Messages 22

- E -

Error Descriptions 18

Error opening COMn 21
Error parsing import file record number <record number> 23
Exception encountered during tag import. Bad tag information file 24

- F -

FA2 Addressing 12
FA2(J) - CP11/12 - Cable Link Setup 4
FA2J Addressing 13
FA3S-CP11Addressing 14
FA3S-CP12 Addressing 15
framing 21

- I -

Import file record <record number> could not be processed due to buffer overflow 23
Imported tag name <old name> is invalid. Name changed to <new name> 24

- M -

mask 21
Micro1 Addressing 5
Micro3 Addressing 6
Micro3 Contollers - RS232/RS485 Data Terminal Connection 4
MicroSmart Addressing 8
Missing address 19
Modem Setup 4

- N -

Network 3

- O -

OpenNet Controller Addressing 10
overrun 21
Overview 3

- P -

parity 21

- S -

Serial Communications 20

Short 5

- T -

Tag <tag name> not imported because model
does not support type 23

Tag import failed due to low memory resources
24

Tag Import Settings 4

- U -

Unable to set comm parameters on COMn 21

Unable to write tag '<address>' on device '<device
name>' 22

- W -

Word 5