# SMARTLINC ETHERNET/IP QUICK START

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#### **Description:**

This guide assumes the user has already installed SmartLincExec for Windows and has become sufficiently acquainted with the application to create and configure a SmartLinc Program.

The Ethernet/IP tag configuration interface of SmartLinc allows the SmartLinc device to both read and write tag values from/to an Ethernet/IP enabled PLC. Currently, only Output tags (those written to the PLC) have been implemented. Input tags (those read from the PLC and and acted upon by the SmartLinc device) will be implemented very shortly. This document will therefore be updated when the Output tags are released.

#### **Enabling Ethernet/IP Tag Communication:**

To enable the SmartLinc device to read/write tags on an Ethernet/IP capable PLC, select the desired program in the left panel and right click on the "Type" property field of the INDUSTRIAL COMMUNICATION INTERFACE category and select "Ethernet IP simple Tag Read Write" from the drop down menu.



(continued...)

# Enabling Ethernet/IP Tag Interface (continued...)

This will cause the Ethernet/IP properties to be displayed for configuration. We will return to finish configuring these properties after configuring the tags.

	Experies Enables	
INDUSTRIAL COMMUNICATION INTERFACE:		
	Туре	Ethernet IP Simple Tag Read Write
	Data Tag Set	<unassigned></unassigned>
ETHERNET IP COMM PROPERTIES:		
	IP Address	127.0.0.1
	Slot Number	0
	Tag Read MilSecs Interval	250
	Tag Write MilSecs Interval	250
	Send Timeout MilSecs	1000
	Description	<black></black>

#### Creating A Data Tag Set:

Now that the program has Ethernet/IP communication enabled, create a Data Tag Set by right clicking on the "Data Tag Set" folder icon and selecting "New Data Tag Set" from the drop down menu.

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⊳… 🌗 Scanners	Name	Id	Description	
Specifications				1
Calibration Kits				
Encoders				
Averaging Methods				
Character Delimited Export Templates				
Fixed Column Export Templates				
All Measurements				
All Flaw Detection Schemes				
UDP DataLogs				
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New Data Tag Set				
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### Creating Output Tags:

Right click on the "Output Tags" file icon and select "New Output Tag" from the drop down menu.



The "Name" property of the Output tag must match the tag name configured in the PLC program. Therefore, rename the tag by right clicking the Name property and selecting "Rename" and rename the tag so that it matches the tag name in the PLC program.



(continued...)

## Creating Output Tags (continued...)

To select the source of the tag's value, right click the "Value Source Type" property and choose one of the drop down menu entries.

Avg_Dia_XY_Scanner1				Show Help	
CATEGORY	NAME		VALUE		
GENERAL:					
	Name	Avg_Dia	_XY_Scanner1		
	Id	470000			
	Description	<blank></blank>			
	Enabled	Yes			
	Value Source Type	Measure	ment Value		
	Measurement Value Source	<un< th=""><th>Msrmt Value</th><th>2</th><th></th></un<>	Msrmt Value	2	
	DataType	REA	Msrmt Status	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
			Msrmt Nomin	alValue	
			Msrmt UprSpe	cValue	
			Msrmt LwrSpe	cValue	
			Msrmt UprRsn	blLimitValue	
			Msrmt LwrRsn	blLimitValue	
			Encoder Value		
			Scanner Status	5	

Depending on the Type of value source selected, a specific object of that type must be selected in the Value Source field directly beneath the "Type" field. For instance, if "Msrmt Value" is the Type, then a previously defined measurement object must be selected for the "Source" property. In the illustration below, all defined measurements are listed (only one in this case). Listed entries use a dot notation that identifies both the scanner name and the measurement name since measurement names are only unique to the scanner to which they belong.

Avg_Dia_XY_Scanner1				
CATEGORY	NAME	VALUE		
GENERAL:				
	Name	Avg_Dia_XY_Scanner1		
	Id	470000		
	Description	<black></black>		
	Enabled	Yes		
	Value Source Type	Measurement Value		
	Measurement Value Source	<unassigned></unassigned>		
	DataType	REAL <unassigned></unassigned>		
		Scanner_1.Avg_Dia_XY		

The "Data Type field is fixed according to the Value Type selected. It is presented for informational purposes only.

## **Finishing the Ethernet/IP Communication Interface:**

Now that a Data Tag Set has been created, the Ethernet/IP communication interface configuration can be completed. Expose the Ethernet/IP interface properties by clicking on the program name in the explorer tree. Scroll down until the INDUSTRIAL COMMUNICATION INTERFACE and ETHERNET IP COMM PROPERTIES categories are visible.

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SmartLinc Programs	TestProgram		Show Hel	р
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l Encoders		Data Tag Set	<unassigned></unassigned>	
Averaging Methods Character Delimited Fi	ETHERNET IP COMM PROPERTIES:			
Eixed Column Export 1		IP Address	127.0.0.1	
All Measurements		Slot Number	0	
All Flaw Detection Sch		Tag Read MilSecs Interval	250	
UDP DataLogs		Tag Write MilSecs Interval	250	
🖌 🐌 Data Tag Sets		Send Timeout MilSecs	1000	
🖌 🛷 DataTagSet_1 🚽		Description	<black></black>	
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C:\Program Files\SmartLincPro				.d

Assign the Data Tag Set property by right clicking the field and selecting the newly created data tag set.

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File About					
Programming Devices					
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⊳] Scanners	CATEGORY	NAME		VALUE	•
Specifications	INDUSTRIAL COMMUNICATION INTERFACE:				
Dim Calibration Kits		Туре		Ethernet IP Simple Ta	g Read Write
Encoders		Data Tag Set		<unassigned></unassigned>	
Averaging Methods Character Delimited Fi	ETHERNET IP COMM PROPERTIES:		<una< th=""><th>ssigned&gt;</th><th></th></una<>	ssigned>	
Eived Column Evnort 1		IP Address	Data	TagSet_1	
All Measurements		Slot Number		0 3	
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UDP DataLogs		Tag Write MilSecs	Interval	250	
🖌 🐌 Data Tag Sets		Send Timeout Mils	Secs	1000	
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(continued...)

## **Finishing the Ethernet/IP Communication Interface (continued...)**

Lastly, configure the IP address and slot number properties to match that of the PLC and the Tag Write MilSecs Interval and Send Timeout MilSecs properties which control the transmission of tag data to the PLC.

SmartLincPro (1.13.12.23)				- • X		
File About						
Programming Devices						
SmartLinc Programs	TestProgram			Show Help		
Scanners	CATEGORY	NAME	VALUE	*		
	RS232 DATA EXPORTER COM3:					
Calibration Kits		Exporter Enabled	No			
Averaging Methods	RS232 DATA EXPORTER COM4:					
Character Delimited Expo		Exporter Enabled	No			
	INDUSTRIAL COMMUNICATION INTERFACE:					
All Measurements		Туре	Ethernet IP Simple Tag Read Write			
		Data Tag Set	<unassigned></unassigned>			
UDP DataLogs	ETHERNET IP COMM PROPERTIES:					
⊳…J Data Tag Sets		IP Address	127.0.0.1			
		Slot Number	0			
		Tag Read MilSecs Interval	250			
		Tag Write MilSecs Interval	250			
		Send Timeout MilSecs	1000			
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C:\Projects\Workspace - Lazarus\SvnImage	C:\Projects\Workspace - Lazarus\SvnImage\Applications\SmartLinc1.0\TestFolder					