POSITAL

QUICK START MANUAL

EtherNet/IP Encoder

- E.g.: OCD-EEA1B-1213-C100-PRM

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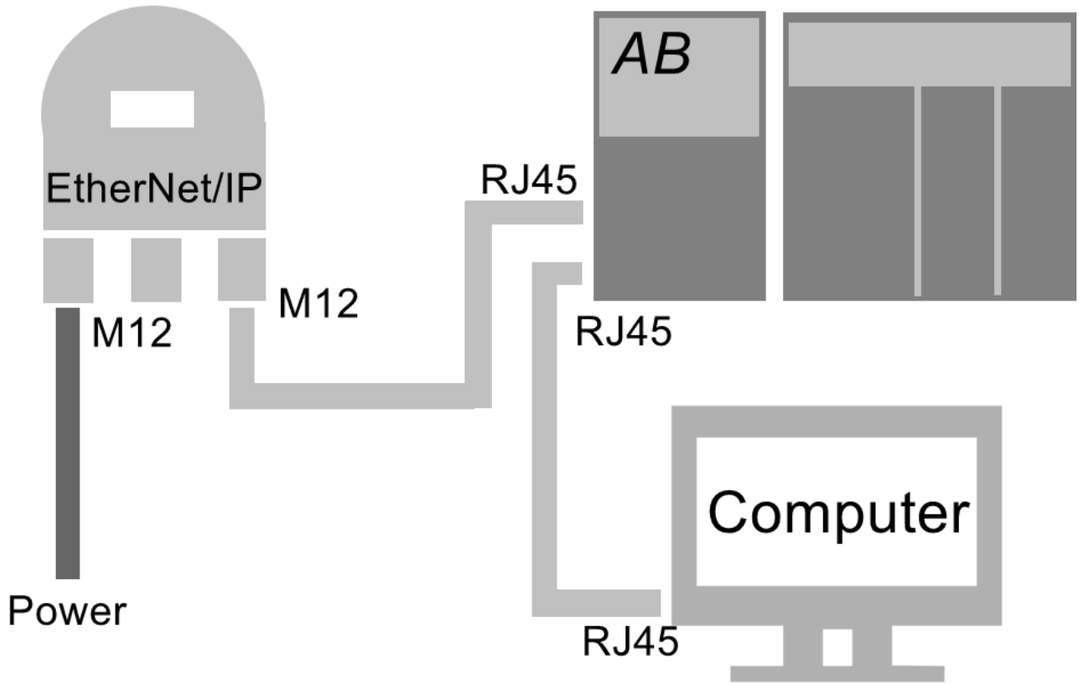
ETHERNET/IP ENCODER QUICK START MANUAL

1. Hardware Connection



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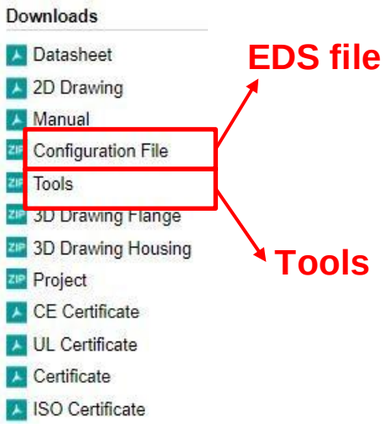

1. Set the power supply (voltage 10~30VDC via the female M12 connector
2. Connect the encoder to the PLC via the male M12 connector
3. Connect the PLC and the computer together via an RJ45 cable
4. Start ControlLogix5563
5. Have EDS Wizard, RSNetWorx, RSLogix 5000 installed on your computer
6. On our website, download the EDS file and the Configuration Tools

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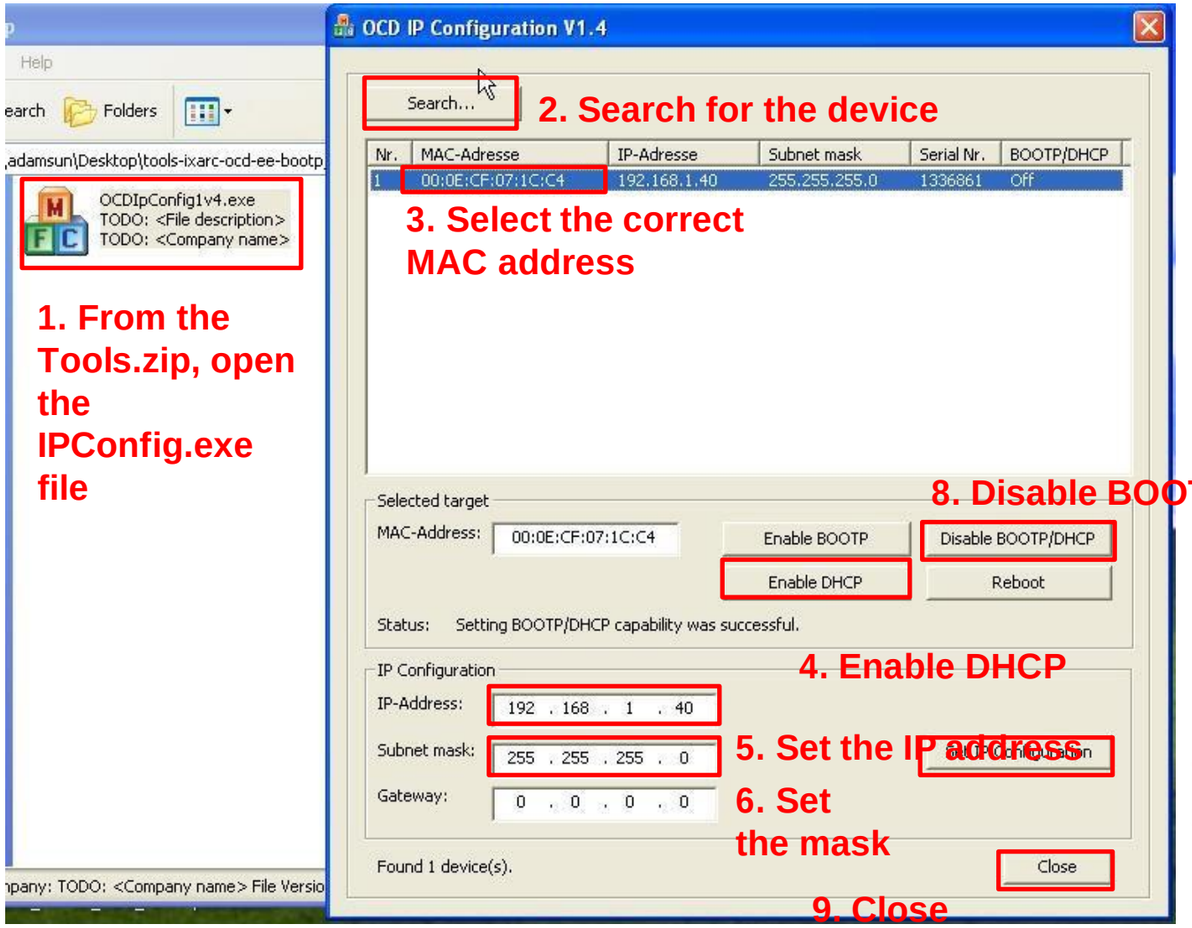
2. Set the IP address



NOTE:

Direct LAN cable connection PC – Encoder requires a set IP address for PC LAN adapter to be able to search for the Encoder.

NOTE:

To deactivate BOOTP:
- Firewall must not block Port 67 and 68.
- Deactivate WLAN and all other network cards.

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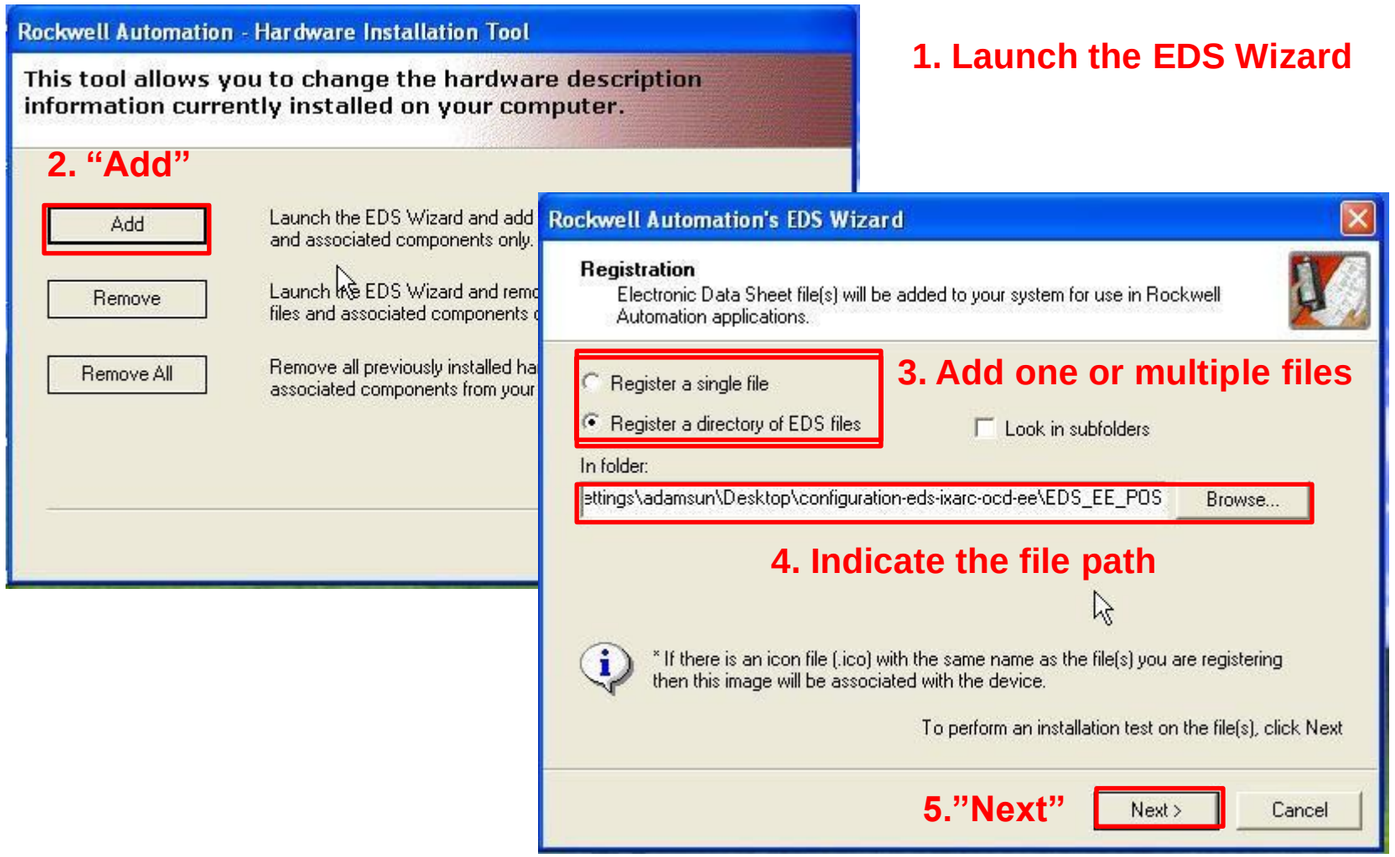
3. Associate an EDS file



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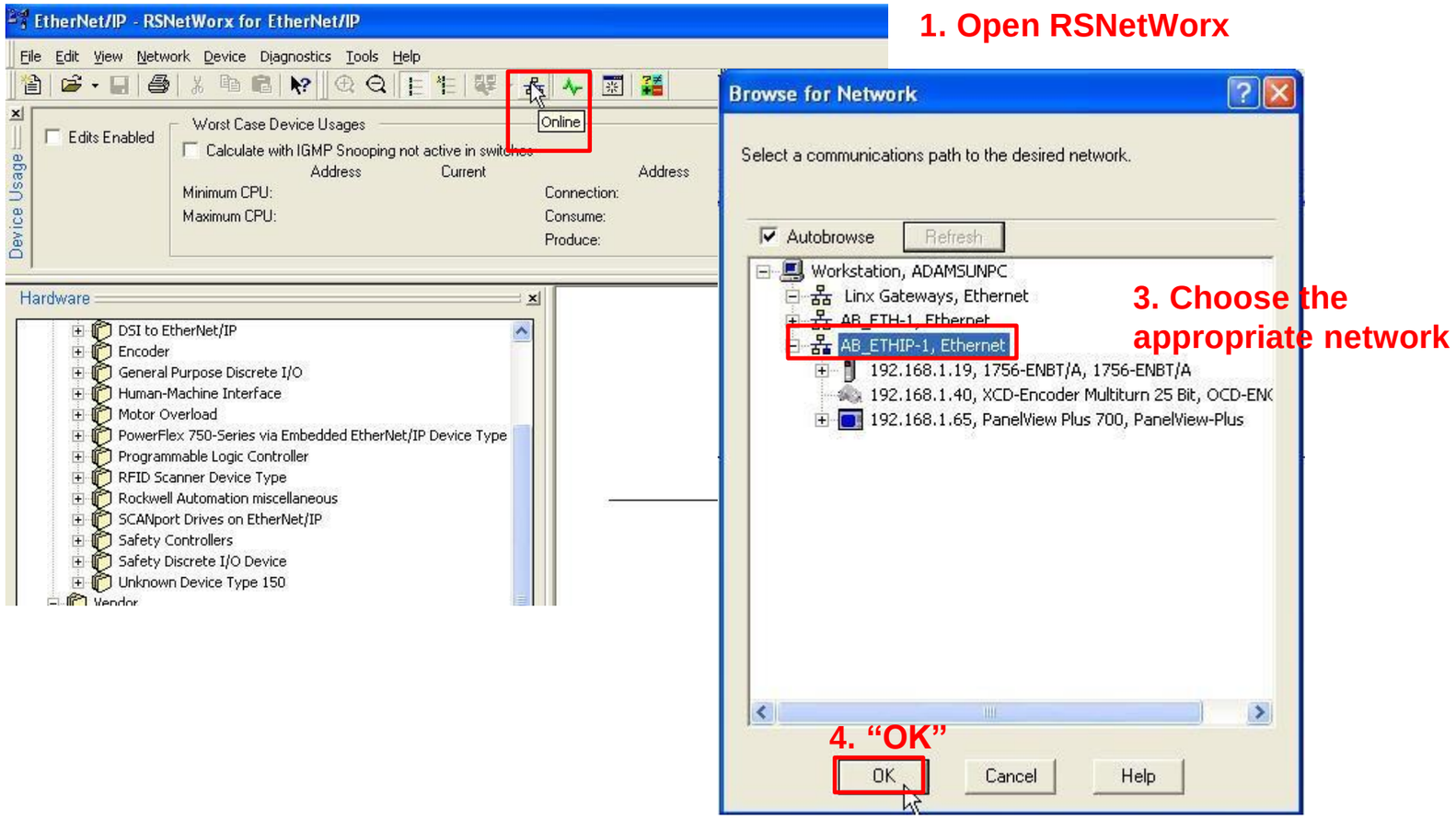
4. Create a Network

2. Click on “Online”

1. Open RSNetWorx



3. Choose the appropriate network

4. “OK”

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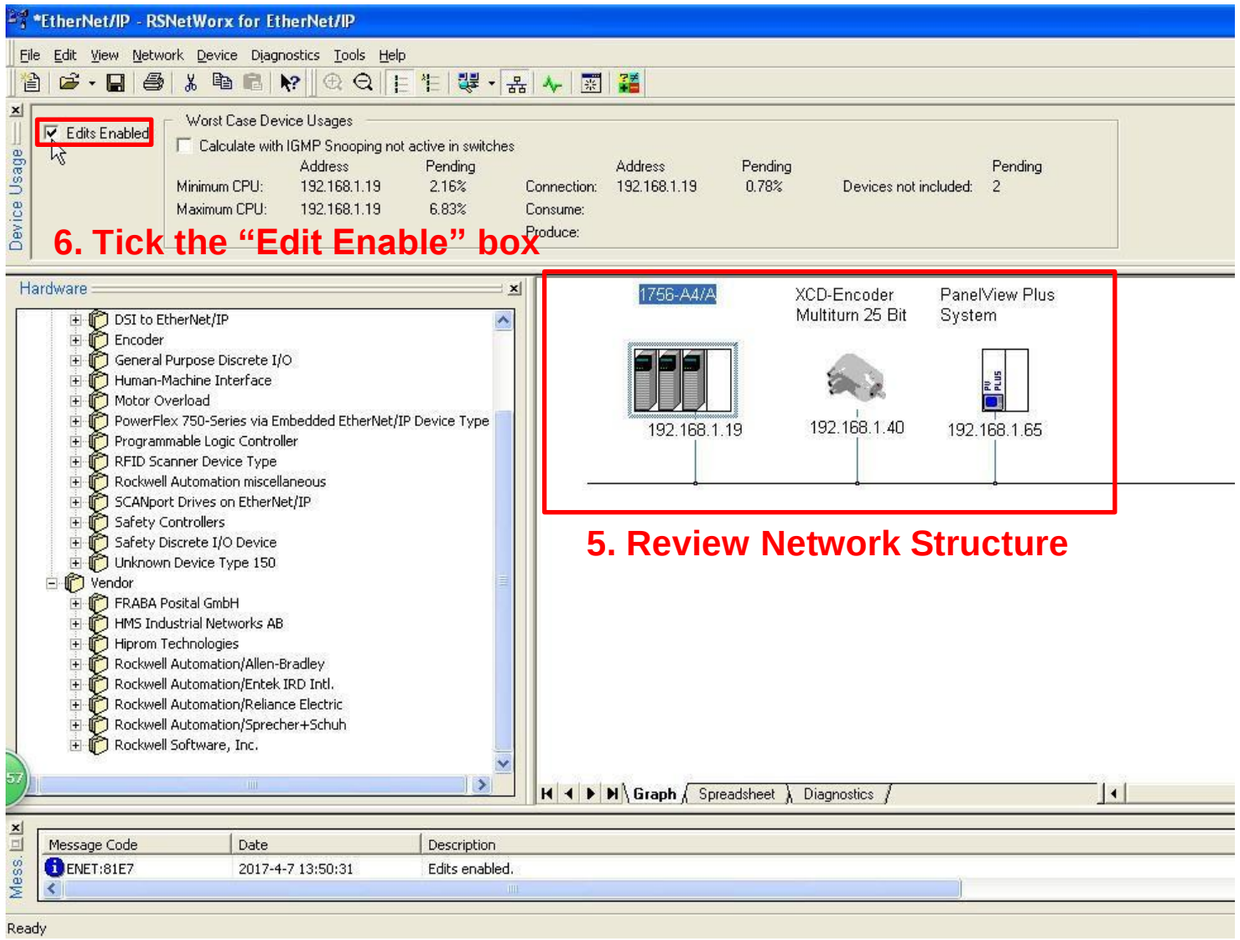

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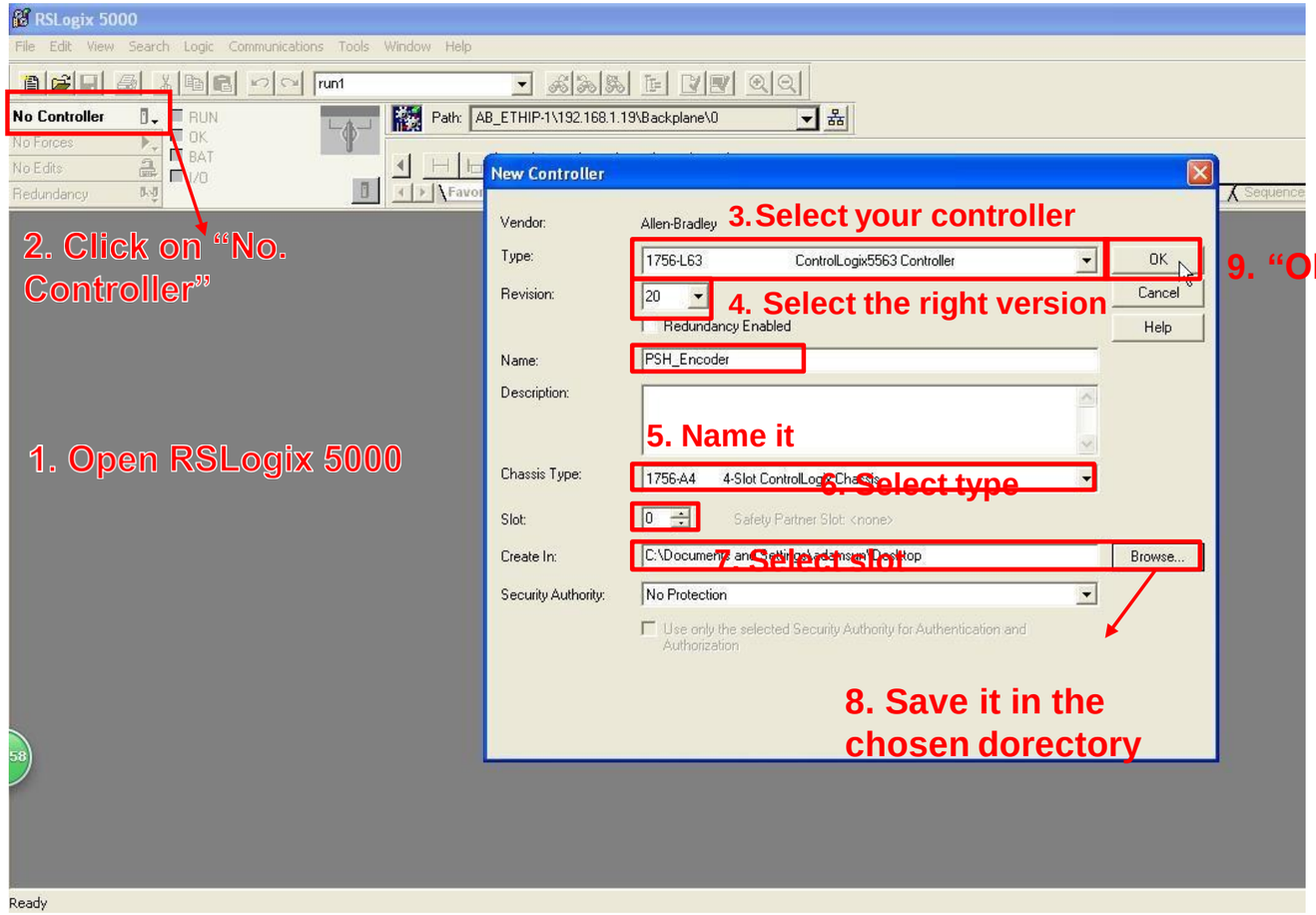
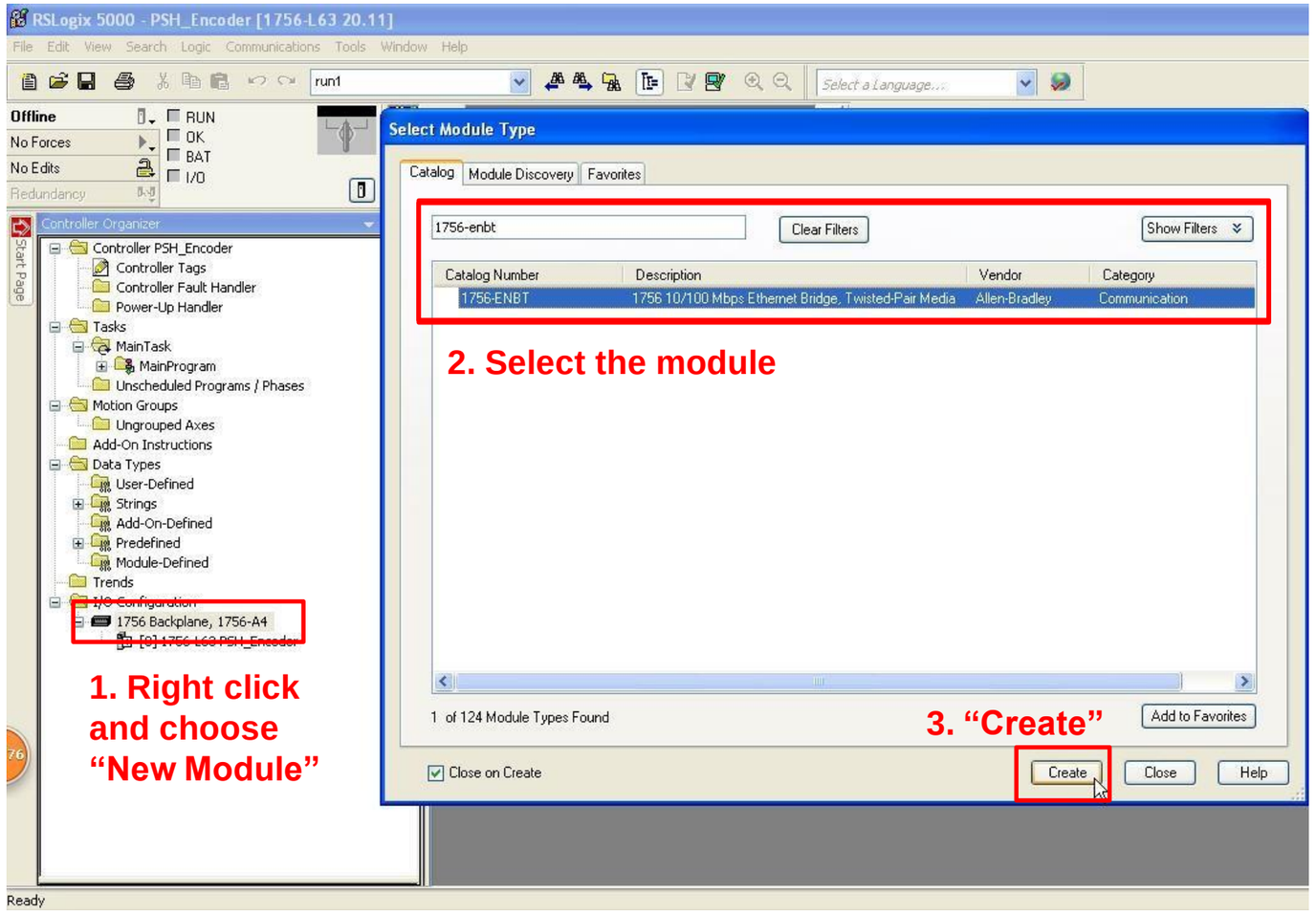
5. Create a New Controller



6. Create a New Ethernet Module



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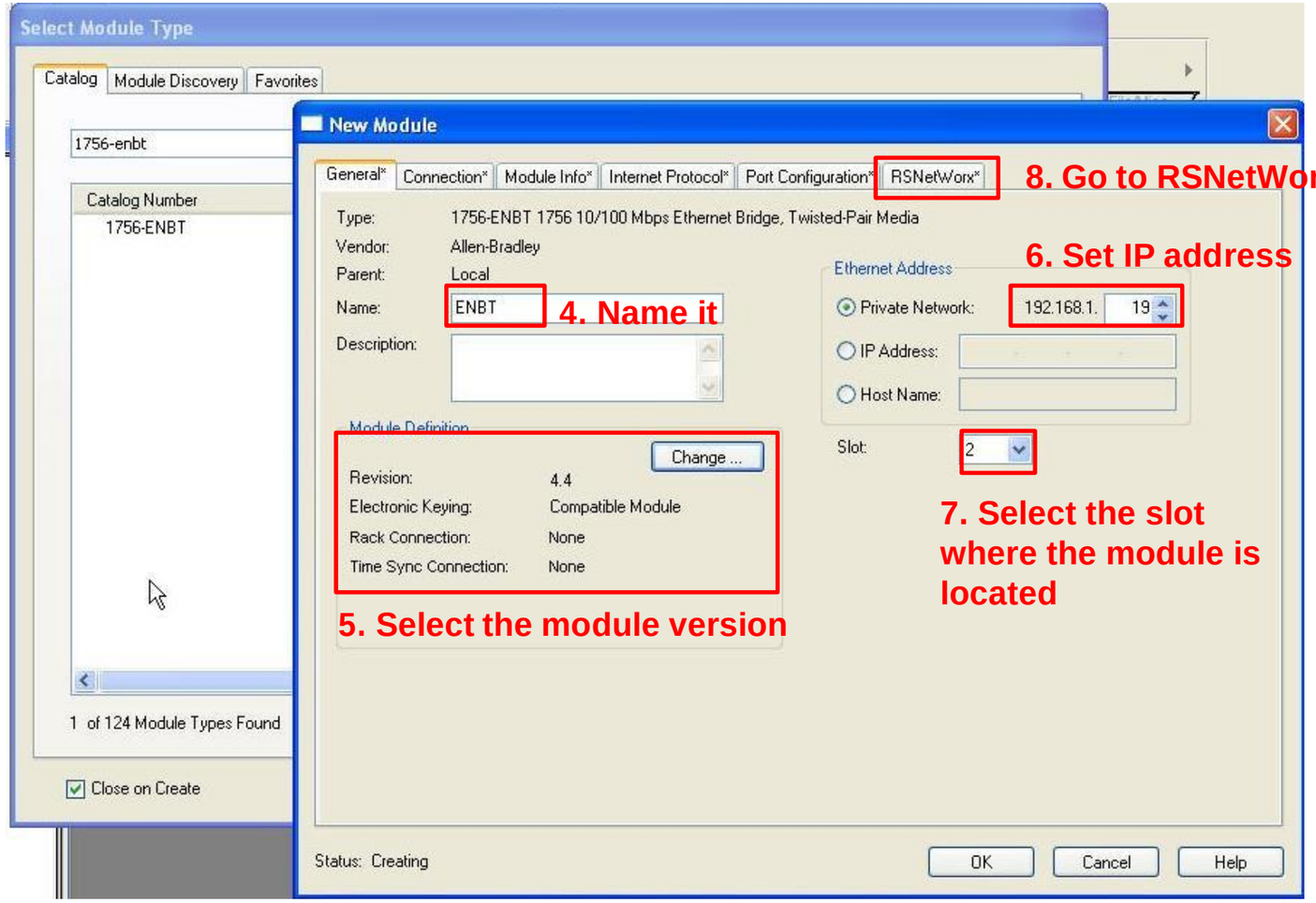
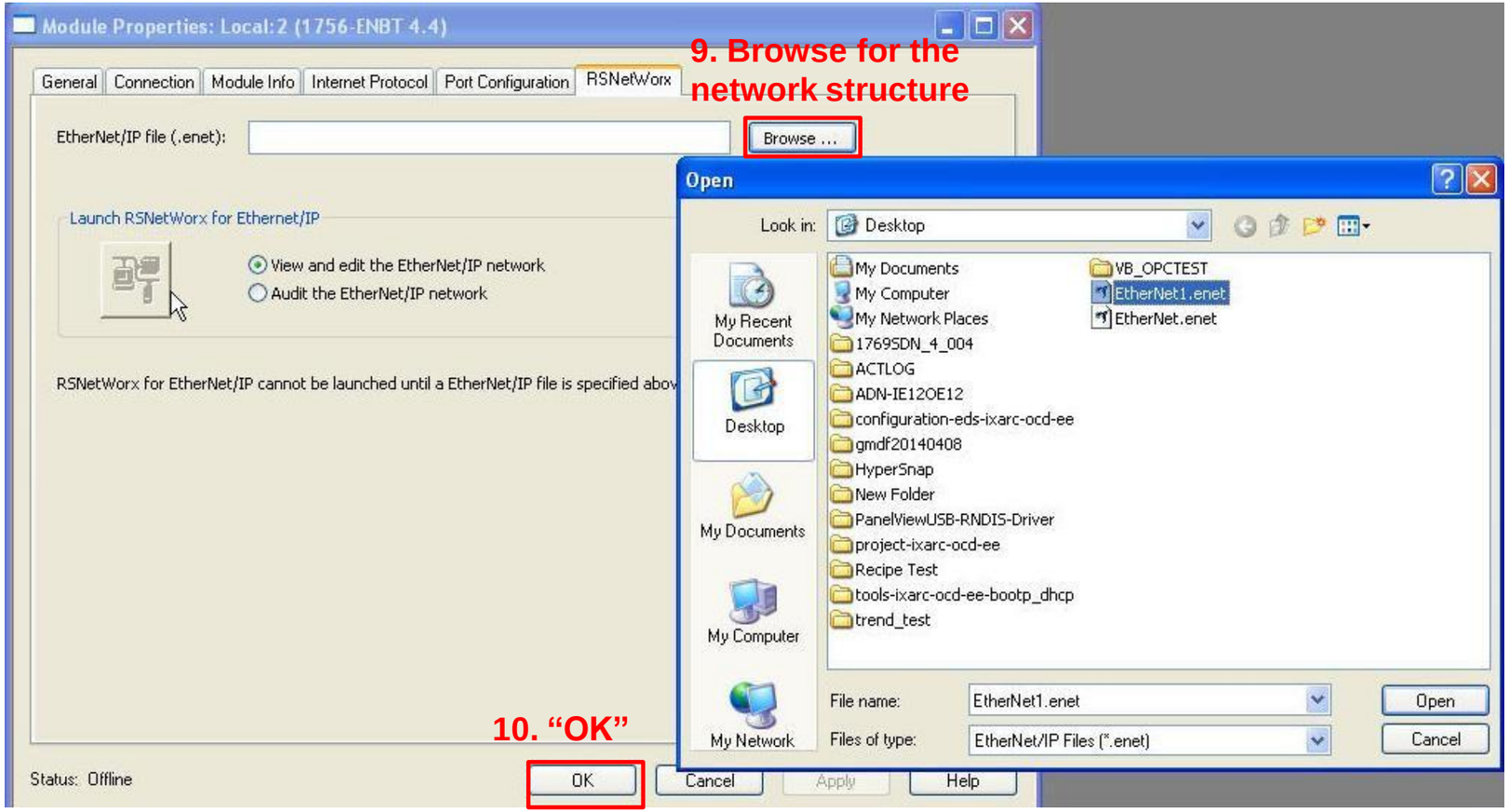
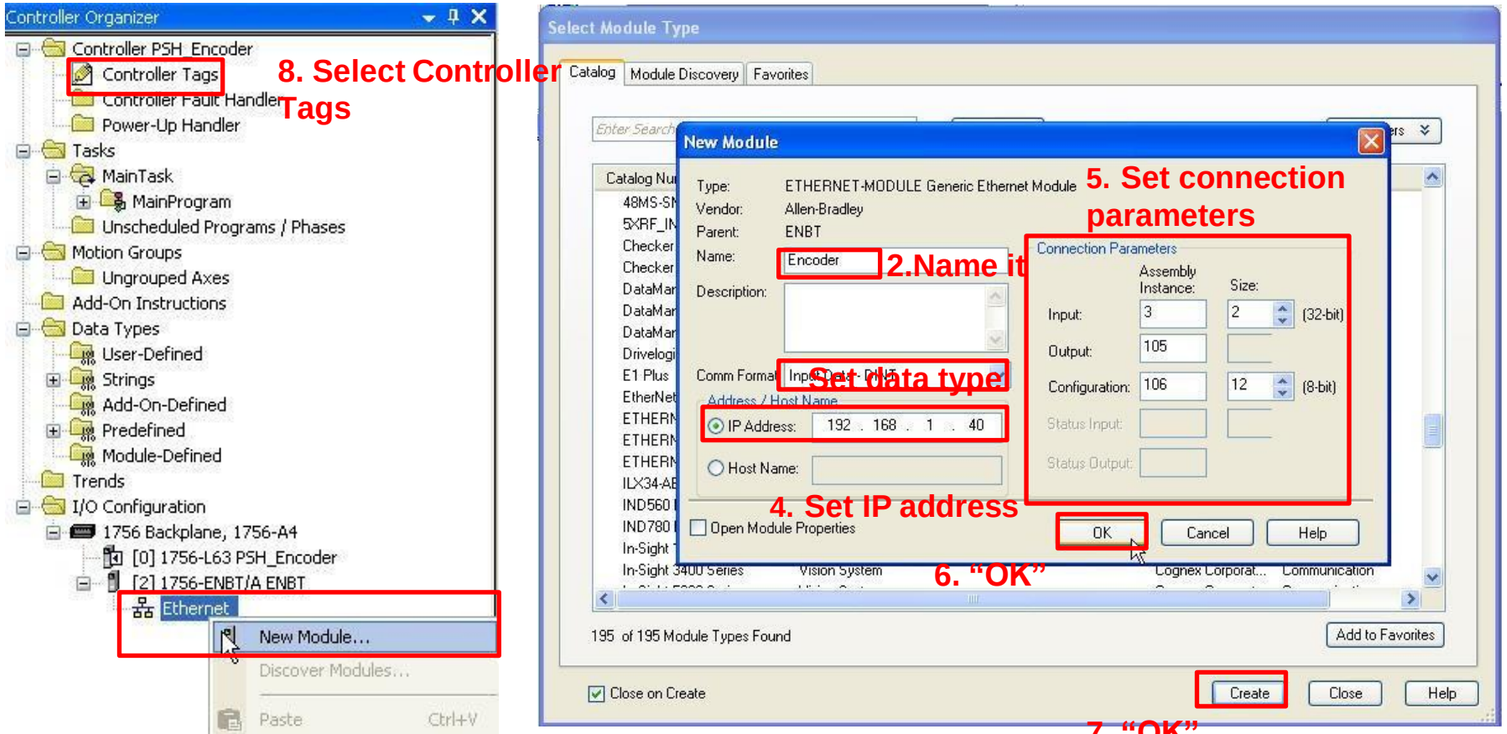


ETHERNET/IP ENCODER QUICK START MANUAL



7. Create a New Ethernet Encoder Module



1. Right click on "Ethernet", Select "New Module"

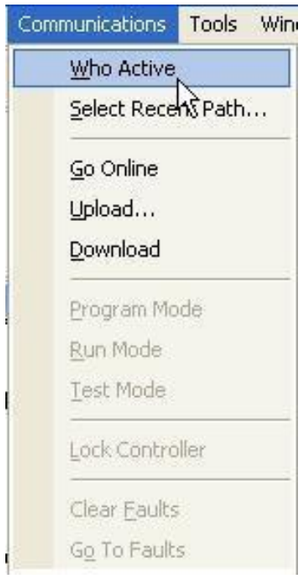
Scope: PSH_Encoder Show: All Tags Enter Name Filter...

Name	Value	Force Mask	Style	Data Type	Description
Encoder:C	{...}	{...}		AB:ETHERNET_MODULE:C:0	
Encoder:C.Data	{...}	{...}	Hex	SINT[400]	
Encoder:C.Data[0]	16#00		Hex	SINT	Direction Counting Toogle
Encoder:C.Data[1]	16#00		Hex	SINT	Scaling Function Control
Encoder:C.Data[2]	16#00		Hex	SINT	Measuring Units per Span byte 0 (LSB)
Encoder:C.Data[3]	16#00		Hex	SINT	Measuring Units per Span byte 1
Encoder:C.Data[4]	16#00		Hex	SINT	Measuring Units per Span byte 2
Encoder:C.Data[5]	16#00		Hex	SINT	Measuring Units per Span byte 3 (MSB)
Encoder:C.Data[6]	16#00		Hex	SINT	Total Measuring byte 0 (LSB)
Encoder:C.Data[7]	16#00		Hex	SINT	Total Measuring byte 1
Encoder:C.Data[8]	16#00		Hex	SINT	Total Measuring byte 2
Encoder:C.Data[9]	16#00		Hex	SINT	Total Measuring byte 3
Encoder:C.Data[10]	16#00		Hex	SINT	Velocity 0 (LSB)
Encoder:C.Data[11]	16#00		Hex	SINT	Velocity 1 (MSB)
Encoder:C.Data[12]	16#00		Hex	SINT	
Encoder:C.Data[13]	16#00		Hex	SINT	
Encoder:C.Data[14]	16#00		Hex	SINT	
Encoder:C.Data[15]	16#00		Hex	SINT	
Encoder:C.Data[16]	16#00		Hex	SINT	
Encoder:C.Data[17]	16#00		Hex	SINT	
Encoder:C.Data[18]	16#00		Hex	SINT	
Encoder:C.Data[19]	16#00		Hex	SINT	
Encoder:C.Data[20]	16#00		Hex	SINT	
Encoder:C.Data[21]	16#00		Hex	SINT	
Encoder:C.Data[22]	16#00		Hex	SINT	

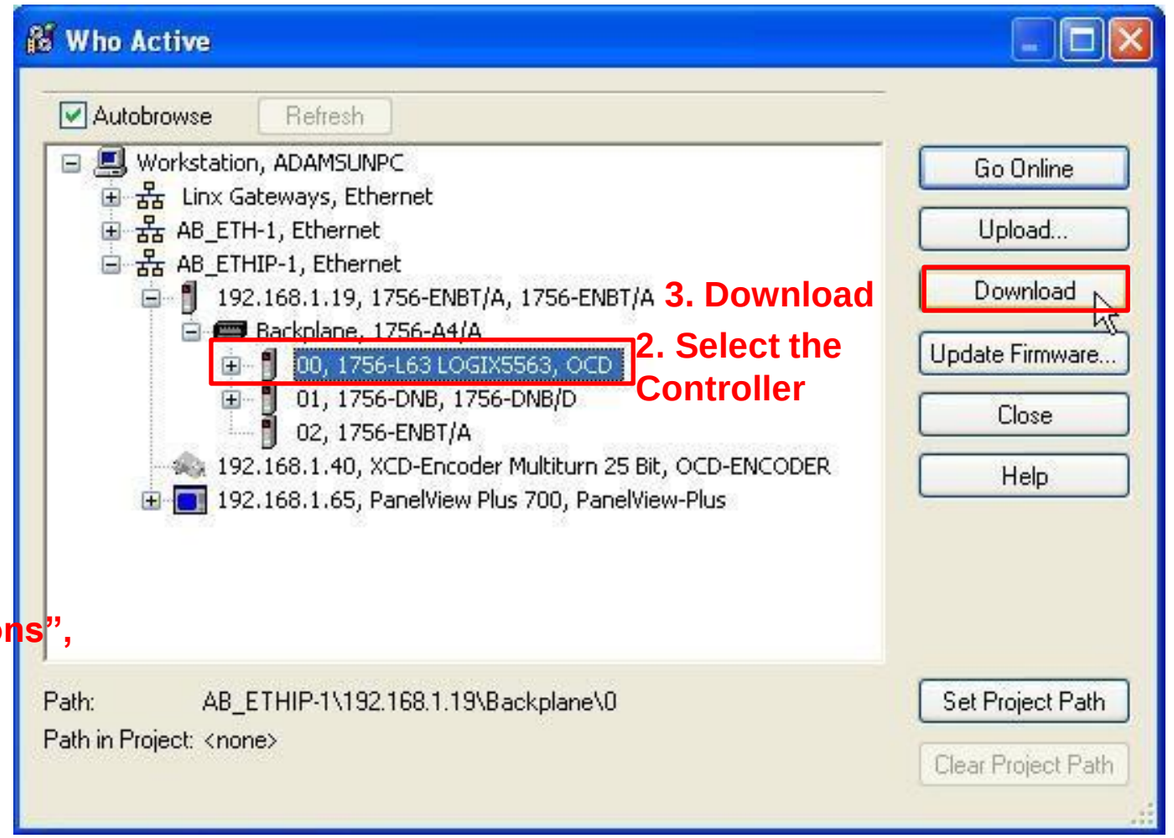
Monitor Tags Edit Tags

9. Control Tags and their definitions

8. Download Configuration



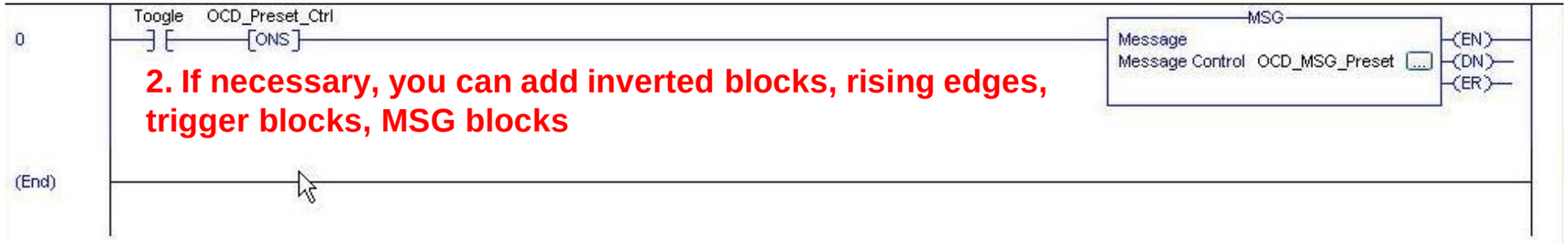
1. Under "Communications", Select""Who Active""



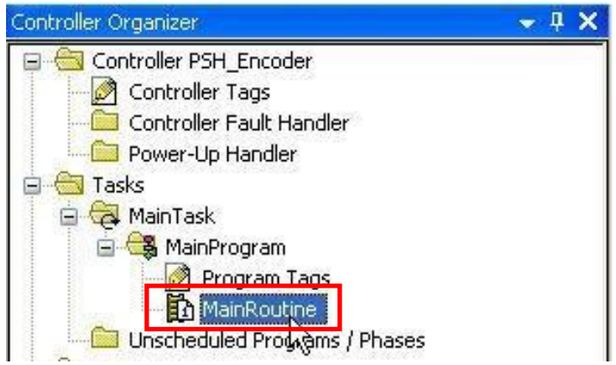
3. Download

2. Select the Controller

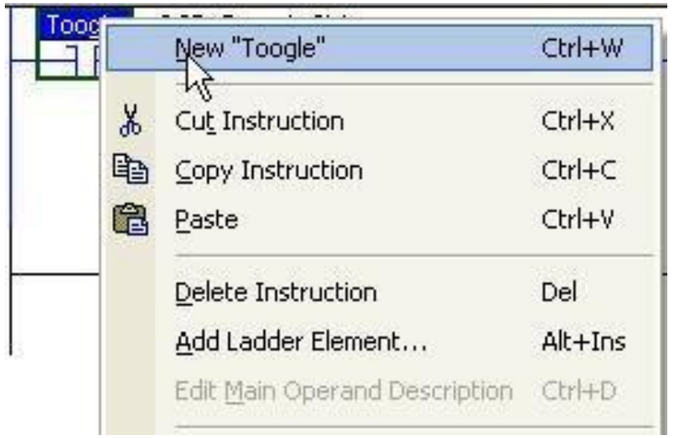
9. Read Out Position and Preset Function



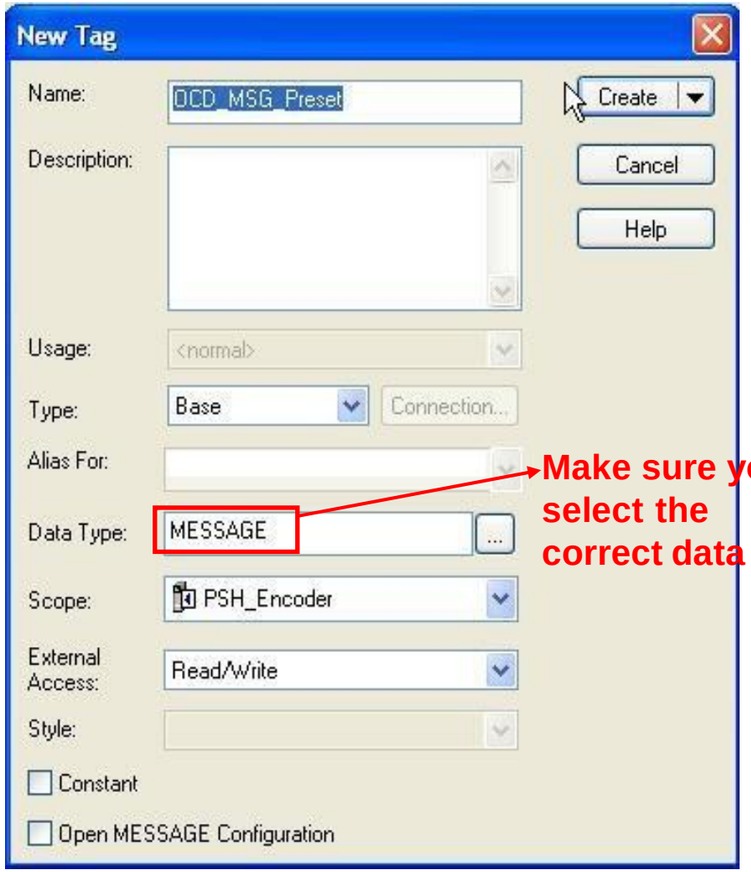
2. If necessary, you can add inverted blocks, rising edges, trigger blocks, MSG blocks

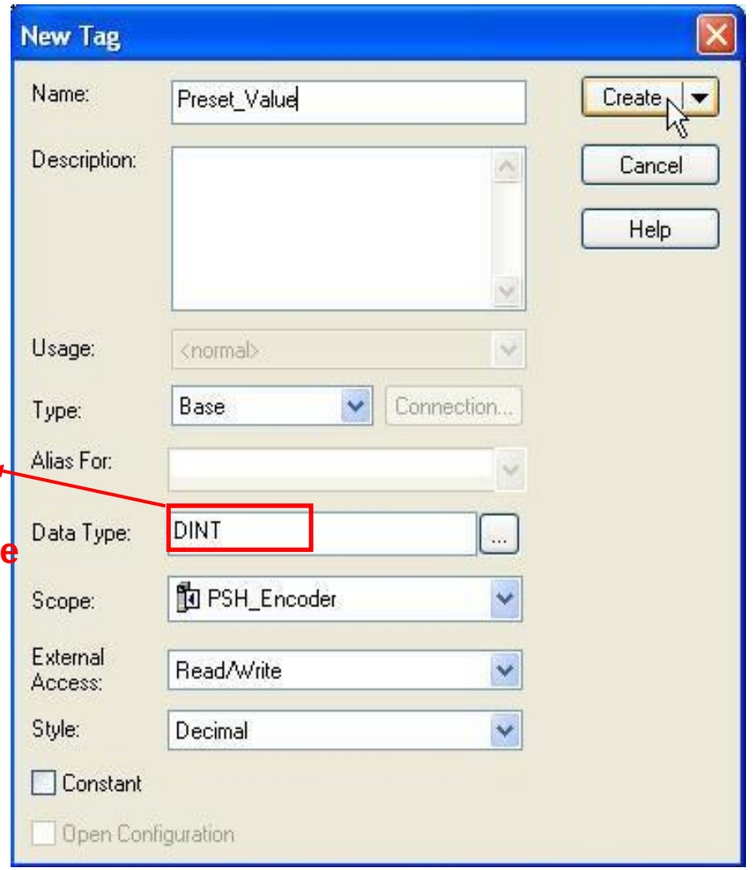


1. Click on“Main Routine”



3. In “Toogle”, add a “New Toogle”



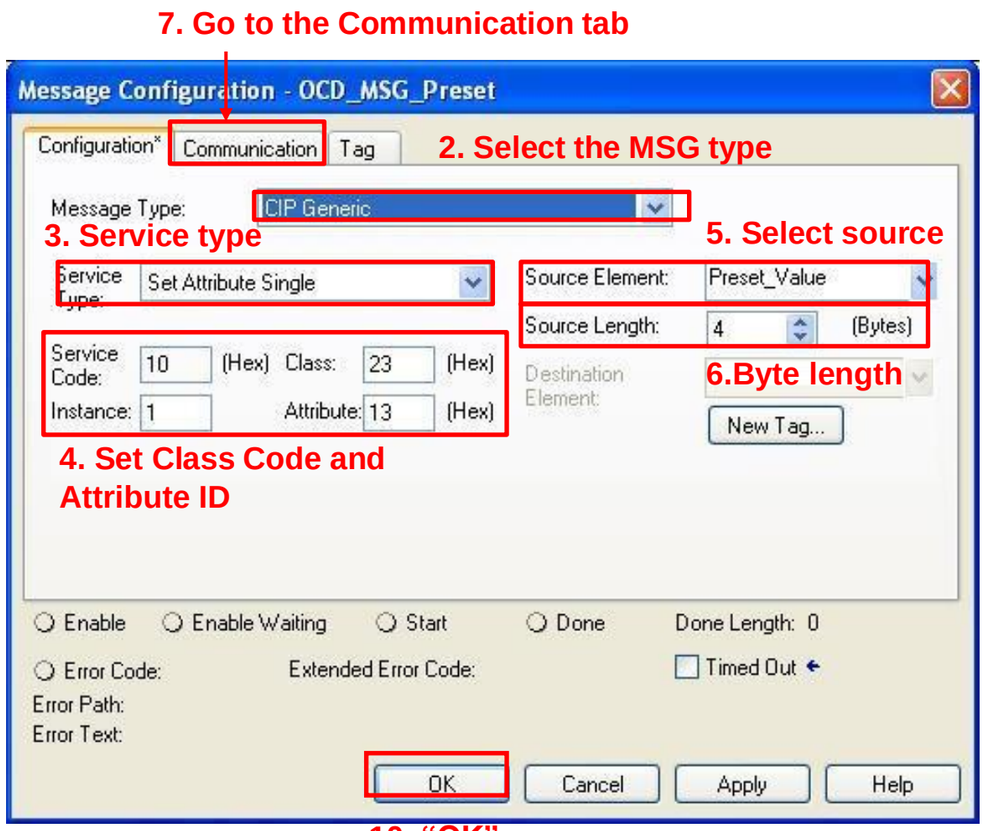


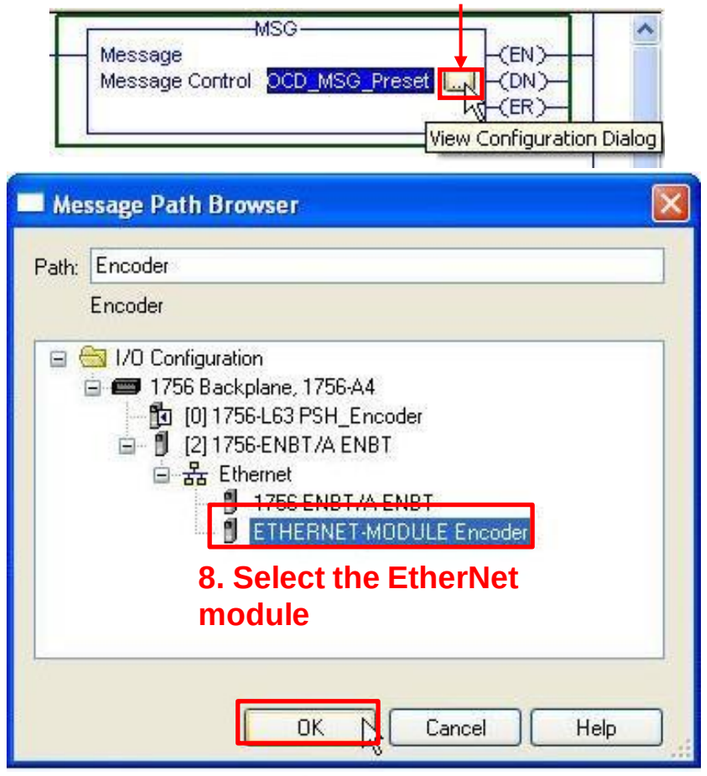
Make sure you select the correct data type

4. Create the OCD_MSG_Preset

5. Create a Preset_Value Tag

10. Configure the OCD_MSG_Preset Tag





11. Read the Position Value

Name	Value	Force Mask	Style	Data Type
Encoder:C	{...}	{...}		AB:ETHERNET_MODULE:C:0
Encoder:C.Data	{...}	{...}	Hex	SINT[400]
Encoder:I	{...}	{...}		AB:ETHERNET_MODULE_DIN...
Encoder:I.Data	{...}	{...}	Decimal	DINT[2]
Encoder:I.Data[0]	43302		Decimal	DINT
Encoder:I.Data[1]	0		Decimal	DINT
Toogle	0		Decimal	BOOL
OCD_Preset_Ctrl	0		Decimal	BOOL
OCD_MSG_Preset	{...}	{...}		MESSAGE
Preset_Value	0		Decimal	DINT

1. Position Value
2. Velocity Value

12. Preset function

3. The position value changes to the preset value

2. Set trigger as high

Name	Value	Force Mask	Style	Data Type
− Encoder:C	{...}	{...}		AB:ETHERNET_MODULE:C:0
+ Encoder:C.Data	{...}	{...}	Hex	SINT[400]
− Encoder:I	{...}	{...}		AB:ETHERNET_MODULE_DIN...
− Encoder:I.Data	{...}	{...}	Decimal	DINT[2]
+ Encoder:I.Data[0]	1000		Decimal	DINT
+ Encoder:I.Data[1]	0		Decimal	DINT
Toogle	1		Decimal	BOOL
OCD_Preset_Ctrl	1		Decimal	BOOL
+ OCD_MSG_Preset	{...}	{...}		MESSAGE
+ Preset_Value	1000		Decimal	DINT

1. Set the desired Preset position value

Appendix

2.2.2 Position Sensor Objects

Instance Attributes (Get: read, Set: write + read)

Class Code: 23_{hex}

Attrib. ID	Access	Name	Data Type	Description
01_{hex}	Get	Number of Attributes	USINT	Number of supported Attributes
02_{hex}	Get	Attribute List	Array of USINT	List of supported Attribute
$0A_{hex}$	Get	Position Value Signed	DINT	Current position signed
$0B_{hex}$	Get	Position Sensor Type	UINT	Specifies the device type
$0C_{hex}$	Set	Direction Counting Toggle	Boolean	Controls the code sequence clockwise or counterclockwise
$0E_{hex}$	Set	Scaling Function Control	Boolean	Scaling function on/off
10_{hex}	Set	Measuring units per Span	UDINT	Resolution for one revolution
11_{hex}	Set	Total Measuring Range in Measuring Units	UDINT	Total resolution
13_{hex}	Set	Preset Value	DINT	Setting a defined position value
18_{hex}	Get	Velocity Value	DINT	Current speed in format of attribute 19_{hex} and $2A_{hex}$
19_{hex}	Set	Velocity Format	ENGUINT	Format of the velocity attributes
29_{hex}	Get	Operating Status	BYTE	Encoder diagnostic operating status
$2A_{hex}$	Get	Physical Resolution Span	UDINT	Resolution for one revolution
$2B_{hex}$	Get	Number of Spans	UINT	Number of revolutions
33_{hex}	Get	Offset Value	DINT	Shift position value with the calculated value
64_{hex}	Set	Device Type	DINT	Encoder device = 22_{hex} Generic device = 0 (default)
65_{hex}	Set	Endless Shaft	DINT	Off = 0, On = 1, Auto = 2
66_{hex}	Set	Velocity Filter	DINT	Fine = 0, Middle = 1, Raw = 2

1. Target Location Addresses

2. Data Definition

2.1.3.1 Data Offset

Byte Offset	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
0	Direction Counting Toggle							
1	Scaling Function Control							
2	Measuring units per Revolution (low byte)							
3								
4								
5	Measuring units per Revolution (high byte)							
6	Total Measuring Range in measuring units (low byte)							
7								
8								
9	Total Measuring Range in measuring units (high byte)							
10	Velocity Format (low byte)							
11	Velocity (high byte)							

3. Velocity Units

4.1.6 Velocity Format

Default value for Velocity Format is steps per second. This parameter can be set with Configuration Assembly and Explicit Messaging.

Attribute ID	Default value	Value range	Data length
19_{hex}	$1F04_{hex}$	$1F04_{hex}$	Steps per second
		$1F05_{hex}$	Steps per millisecond
		$1F06_{hex}$	Steps per microsecond
		$1F07_{hex}$	Steps per minute
		$1F0F_{hex}$	RPM

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