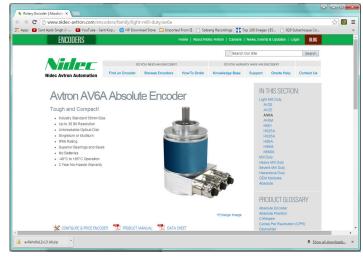
AV6A EtherNet/IP Installation Instructions

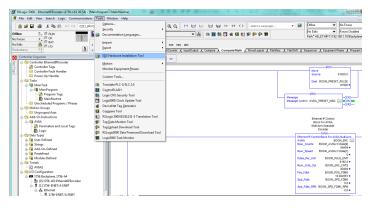


Install AV6A EDS File

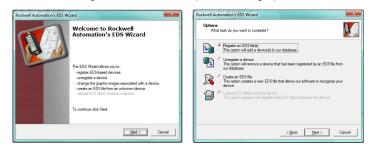
- 1. Make sure you are running Logix version 20 or later.
- 2. Download the EDS file for the AV6A Encoder
- http://www.nidec-avtron.com/encoders/family/light-millduty/av6a
- Click on "Documents" and then click on "AV6A HS6A 12 X 13 EDS file" or "AV6A HS6A 14 X16 EDS file"
- The EDS file is a zip file and will need to be "extracted"
 → see lower left hand corner.



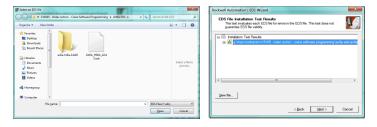
- 6. Make note which directory the zip file is "extracted".
- 7. In RSLogix or RSStudio, Register the EDS file.
- In Logix or Studio On the top menu select -> Tools -> EDS Hardware Installation Tool.



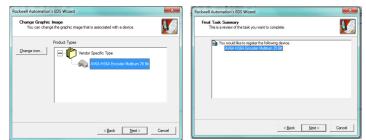
Click "Next" to begin EDS Register wizard. (below on left)
 Click "Register an EDS File" (below on right)



- Click "Browse" and find the EDS file that was extracted Then Click "Next".(below on left)
- 12. Highlight the EDS and click "Next" (below on right)



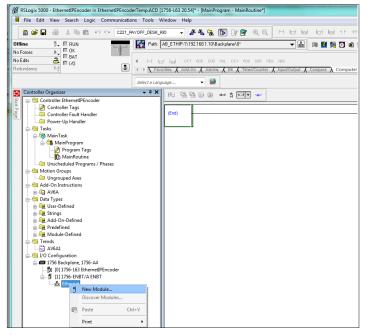
- 13. Highlight the Encoder and click "Next". (below on left)
- 14. Highlight the Encoder again and click "Next". (below on right)



15. Click "Finish". The EDS is now ready to be inserted into the project.

Insert Encoder Into Project

 Go to the I/O Configuration and insert a "New" encoder under the "Ethernet" network.



- Unclick on the "Module Type Vendor Filters" checkbox and Highlight the "FRABA" checkbox.Highlight the encoder and click "Create". (below on left)
- In the "General" tab, give the encoder a name and an IP address and then click "Change". (below on right)

Inter Search Text for Module Type	Hide Filters A	Vender: FRABA Postal Parent: ENBT	Ethernet Address
Module Type Category Riles Anlig OrMain Of Main One OrMain Destain Destain Destain Destain v	FANUC CORFORATION FANUC Robotics America	Name: 2002 Description:	Briefeld Acades Briefeld Acades P Address P Address Host Name:
Catalog Number Description NUMP ICENTROTONNOV AVAILUES Encoder Nations 72 B XCD EED/08-1416-3000X XCD Encoder Matture 30 Bt	Vendor Category FREAR Pastal Broader FREAR Postal Encoder	Module Definition Peristion: 8.8 Bectanic Keying: Campable Module Connections: hput Cety: Encoder	Peakton value = Velicity
e of 355 Module Types Found	Agid to Favorites		Otange

- Select revision 8.8 "Disable Keying" "Encoder Position Value + Velocity" – DINT – Tag Suffix of 1. Then click "OK". (below on left)
- Go To The "Connection" tab and setup the encoder for the RPI update rate and the "Input Type" should be "Unicast". Then click "OK". (below on right)

	Module Definition*					×		General Connection Module Into Internet Photocol	Part Configuration				
	svision: 8 ectronic Keying: Disabi	• Keying	8		•		Name Requested Packet Internal (SPI) Input Type Input Type						
0	innections:				_			input Only. Encoder Position value - Velocity	20.0 1.0 - 3200.0	Unicest 🕳	Cyclic 🔔		
Г	Name		Size		Tag S	uffix							
	Input Only: Encoder	Input:	2 DINT			BOOM_ENC:11							
	Position value + Velocity	Output: 0			Ľ.	<none></none>							
	Select a connection			SINT INT DINT REAL	-			Inhibit Module Major Fault On Controller If Connection Fails While	in Run Mode				
								Module Fault					
				ок									
L				OK		Cancel Help	5	Status Offine	OK.	Cancel	Apply		

6. You should now see an Avtron encoder in the I/O tree.

Controller Organizer 🚽 🗸 🗸
────────────────────────────────────
📝 Controller Tags
Controller Fault Handler
Power-Up Handler
🗄 – 🧰 Tasks
- 🗀 Motion Groups
- 🗀 Add-On Instructions
🖶 – 🔄 Data Types
🗊 🔙 User-Defined
🕀 💭 🕀 Strings
🖶 🔙 Add-On-Defined
🕣 🔙 Predefined
🕣 🔙 Module-Defined
🚋 – 🧰 Trends
🖮 🔄 I/O Configuration
🖃 🛲 1756 Backplane, 1756-A4
[0] 1756-L63 EthernetIPEncoder
🖮 🗐 [1] 1756-ENBT/A ENBT
Ethernet
🗍 1756-ENBT/A ENBT
AV6AR HS6ARxx23xxxxx AV6A

7. In the controller tags, you should also see your data inputs:

Scope: 🛐 EthernetiPEncoc 👻 Show: All Tags					•	Enter Name Filter	
Name	Value 🔶	For 🗲	Alias 🔚 🛆	Style	Data Type	Description	Constant
-AV6A:C	{}	{			_0162:AV6ARHS6ARxx23xxxxxxx_09139FE1:C:0		
AV6A:C.Direction_Counting_Toggle	1			Decimal	BOOL		
-AV6A:C.Scaling_Function_Control	0			Decimal	BOOL		
AV6A:C.Measuring_Unit_Per_Span	8192			Decimal	DINT		
AV6A:C.Total_Measuring_Range_in_Measuring	33554432			Decimal	DINT		
AV6A:C.Velocity_Format	7940			Decimal	INT		
⊟-AV6A:I1	{}	{			_0162:AV6ARHS6ARxx23xxxxxxx_96F81438:1:0		
AV6A:I1.ConnectionFaulted	0			Decimal	BOOL		
- AV6A:I1.Data	{}	{		Decimal	DINT[2]		
	242694			Decimal	DINT		
	0			Decimal	DINT		

Insert AOI Into Project

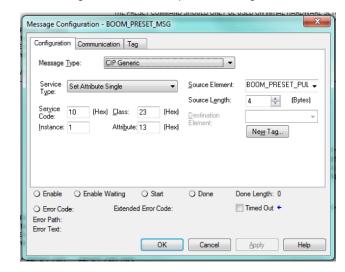
1. In the Controller Organizer, right click on Add-on Instruction Folder, click on "Import Add-onInstruction"..

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-					ernetIPEn											[Mair	Prog	ram -	Main	Routin	e*]						
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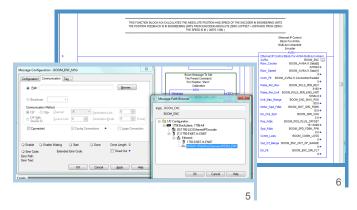
- Find the AV6A.L5X add-on instruction highlight it and click "Import".
- To calibrate or "Preset" the encoder requires a CIP "Message". Configure the "MSG" like the following example Initialize a DINT variable to the "Preset" counts. Then click on the MSG configuration button "..."

	Import Add	On Instruction				
	Look ji	n: 🚹 C15105 - Nid	ec Avtron - Crane Software Prog 👻	G 🔊 🖻 🗔 -		
		Name	A	Date modified	Туре	Size
	9	AV6A EDS		6/22/2015 4:43 PM		5126
	Recent Places	EDS_EE_POS	5	6/18/2015 3:17 PN		
	_	AV6A.L5X		6/22/2015 4:03 PM		5 KE
	Desktop					
2>						
	67					
	Libraries					
	Computer					
	Network					
		•		ш		- F
		File name:	AV6A.L5X		-	Import
		Files of type:	RSLogix 5000 XML Files (*.L5X)		Ψ.	Cancel
		Files containing:	Add-On Instruction		-	Help
0		Intg:	Add-On Instructions		-	
3						
+	L					
						*
		THE BOO	M ENCODER PRESETS THE ENCODER HARDWARE A S ABSOLUTE POSITION INCLUDES THE OFFSET + HI	BSOLUTE POSITION IN PULSES		
	FOR EXAMPLE - F	THI SOOM IS 8192 COUNTS PER F	S ABSOLUTE POSITION INCLUDES THE OFFSET + HI REVOLUTION - THE PITCH IS 2 REVOLUTIONS / DEGR PRESET WILL BE 8192 * 2 * (5+10) = 2	EE - OFFSET IS AT 5 DEGREES	HOME IS AT 10 DEGREES FROM	2ERO
		THE PRESET COMMAN	D SHOULD ONLY BE USED ON INITIAL HARDWARE	SETUP OR WHEN REPLACING T	HE ENCODER	
	Boom Preset Command - This Initializes				Total Publics	4 Home
	The Encoder To The Home Position In				Position - Total Include	s Home
	Pulses BOOM_PRESET_CHD				+ Offs 100	et
1					Move Source	245760
					Dest BOOM_P	ESET_PULSE 245760 +
		THIS PRESET MES THIS PRESET S	SAGE SETS THE PRESET HARDWARE ABSOLUTE P HOULD ONLY BE USED WHEN CALIBRATING OR RE	PLACING THE ENCODER HARD	CODER:	
			Service Code = 10 Hex (Set Athbute Class = 23 Hex	Single)		
			Instance = 1 Attribute = 13 Hex			
	Boom Preset Command	**********************				
	- This initializes The Encoder To The			_		
	Home Position In Pulses BOOM_PRESET_CMD PRES	ET_CMD_ONS			CP Message Sent For An Encoder Preset	
2	BOOM_PRESET_CARD PRES	(ons)			MSG essage essage Control BOOM_PRESET_I	
				Ľ		

4. In the "Configuration" tab, set up the following:



- Click on the "Communication" tab and click "Browse" to find the encoder in the I/O tree. (example in light blue outline)
 The following is an example of the encoder
- instruction AV6A: (example in medium blue outline)



The Add On Instruction will need the encoder input data words [0] and [1] and Connection Fault bits from the Encoder I/O inputs. It will also need the pulses per engineering unit, Maximum position for range checking, motor speed feedback and speed check threshold for direction checking. The instruction will feed back the encoder position with offset in engineering units, speed in units / min, communication status, out of range status, and direction fault status.

> Nidec Industrial Solutions 243 Tuxedo Avenue | Cleveland, Ohio 44131 encoderhelpdesk@nidec-industrial.com | www.avtronencoders.com +1 216-642-1230