

User Manual

*iR-ETN/iR-ETN40R - EtherNet/IP Connection Guide* 

This guide walks through the steps to connect iR-ETN/iR-ETN40R with PLC.

UM020006E\_20231116

Table of Contents

Overview.		1
Chapter1.	How to Generate EDS File using EasyRemoteIO	1
Chapter2.	CODESYS	3
Chapter3.	Rockwell CompactLogix/ControlLogix	9
3.1.	Adding a Single iR-ETN	9
3.2.	Adding Multiple iR-ETN	15
Chapter4.	Panasonic FP7	18
Chapter5.	KEYENCE KV Series	22



#### **Overview**

iR-ETN/iR-ETN40R firmware supports EtherNet/IP protocol. In EasyRemote IO software, the description file (EDS) for EtherNet/IP devices can be generated. By scanning the iR-ETN/iR-ETN40R devices in EasyRemote IO software, the EDS file can be generated according to the current I/O configuration. The EDS file can then be imported by PLC or EtherNet/IP Scanner devices to complete configuration with minimal effort.

- Applicable firmware version: iR-ETN: V1.0.3.0 iR-ETN40R: V1.0.0.1
- Applicable EasyRemoteIO version: iR-ETN: V1.3.2.0 or later iR-ETN40R: V1.4.3.0 or later
- For more information on updating iR-ETN firmware, please see

UM019005E iR Series Firmware Update UserManual eng.pdf

This user manual explains how to generate iR-ETN's/iR-ETN40R's EtherNet/IP EDS File, and how to connect PLC to iR-ETN/iR-ETN40R via EtherNet/IP.

### Chapter1. How to Generate EDS File using EasyRemoteIO

For more information on EasyRemoteIO, please see UM018004E EasyRemoteIO UserManual eng.pdf

Step 1. Launch EasyRemoteIO, click [Automatic scan] to scan network for iR-ETN/iR-ETN40R. The information of iR-ETN/iR-ETN40R and the connected modules is shown as below.



Step 2. Click [File] » [Export EtherNet/IP EDS] and select the file to export tags.





#### Step 3. Select the iR-ETN and click OK.



#### EDS file is successfully exported.

EasyRer	notelO	$\times$
i	Successfully export 1 file(s) 'iR-ETN (192.168.1.133).eds' in the folder 'C:/ Users/larry'	
	ОК	



#### Chapter2. CODESYS

This chapter explains how to connect two iR-ETN and iR Remote I/O in CODESYS.

Step 1. In EasyRemoteIO scan and export EtherNet/IP EDS.



Step 2. Open a new project in CODESYS and select a Weintek device.

Standard P	Project		×
	You are about objects withir - One program - A program P - A cyclic task - A reference f	t to create a new standard project. This wizard will create the following this project: mable device as specified below LC_PRG in the language specified below which calls PLC_PRG to the newest version of the Standard library currently installed.	
	Device PLC_PRG in	Weintek Built-in CODESYS (Weintek Labs., Inc.) Ladder Logic Diagram (LD) OK Cancel	~

Step 3. Click [Tools] » [Device Repository...].



Step 4. Click [Install...].



😤 Device Repository					×
Location: System Re (C:\Progra	pository amData\CODESYS\D	evices)		~	Edit Locations
Installed de <u>v</u> ice descri	ptions:				
Name	Vendor	Version	Description		<u>I</u> nstall
Miscellaneous					<u>U</u> ninstall
HMI devices					Export
PLCs	ves				
					<u>D</u> etails
					Close

Step 5. Select [EDS and DCF files (\*.eds, \*.dcf)] and then select the first \*.eds file.

Install Device Descrip	otion		×
← → ~ ↑ <mark>·</mark> «	使用者 > larry > 文件 > CODESYS > EIP	✓ <ul><li>✓ <ul><li>✓ <ul><li></li></ul></li><li></li></ul></li><li></li></ul> <li></li> <li></li>	Q
組合管理 ▼ 新増資	图料夾		- 🔳 🕐
3D 物件	<b>^</b> 名稱 <sup>^</sup>	修改日期 類型	大小
Apple iPad	iR-ETN (192.168.1.155).eds	2020/6/11 上午 09:26 EDS 檔案	13 K
👆 下載	iR-ETN (192.168.1.161).eds	2020/6/11 上午 09:26 EDS 檔案	15 K
🔮 文件			
▶ 音樂			
重 桌面			
▶ 圖片			
▋ 影片			
L Windows8_OS			
3TB (D·)	v <		>
檔	案名稱(N): iR-ETN (192.168.1.155).eds	✓ EDS and DCF files	(*.eds, *.dct $\sim$
		開飯( <u>O</u> )	取満

Step 6. After importing the file, the iR-ETN is added under EtherNetIP Remote Adapter.

ocation:	System Repository		$\sim$	Edit Locations
	(C:\ProgramData\CODESYS\Devices)	)		
nstalled d	e <u>v</u> ice descriptions:			
Name		Vendor	^	<u>I</u> nstall
6	🗧 👄 EtherNet/IP Remote Adapter			<u>U</u> ninstall
	\cdots 🔟 EtherNetIP Adapter	3S - Smart Software Solutions GmbH		
	🐨 🔟 Generic EtherNet/IP device	3S - Smart Software Solutions GmbH		Export
	Generic EtherNet/IP device	3S - Smart Software Solutions GmbH		
	ir.etn	Weintek Labs., Inc.		
	En etherNet/TP Scanner		×	
`				
🖃 🕘 C	:\Users\\arry\Documents\CODESYS\EIP\	R-ETN (192.168.1.155).eds		
L. (	Device "iR-ETN" installed to device rep	pository.		
				Details
				_



Step 7. Add an Ethernet device.

Add Device						
lame: Ethernet						
Action:						
Action.	ert device 🔿 Plug d	avica O Undate devia				
			Le .			
Enter a string for a fulltext s	earch in all devices	Vendor: <all th="" vendo<=""><th>rs&gt;</th><th></th><th></th><th></th></all>	rs>			
Name	Vendo	pr	Version	Description		
🖃 🔟 Miscellaneous						
- 👚 Ethernet	3S - Sm	art Software Solutions G	mbH 3.5.15.0	Ethernet Link.		
💮 🏦 iBus	Weinte	k Labs., Inc.	1.0.0.0	cMT-CTRL local fieldbus to iR Modules		
🖻 🔟 Fieldbusses						
E CANbus						
🗄 🗄 🗛 🖬 EtherCAT						
🗉 🕮 Ethernet Adapte	er					
🖹 👄 EtherNet/IP						
Ethernet Ad	apter				-	
Etherne	t 3S - Sm	art Software Solutions G	mbH 3.5.10.0	Ethernet Link.		
📶 Etherne	t 3S-Sm	art Software Solutions G	mbH 3.5.11.0	Ethernet Link.		
🛄 Etherne	t 3S-Sm	art Software Solutions G	mbH 3.5.15.0	Ethernet Link.		
± ⊖ EtherNet/IP	Scanner					
Modbus						
Profibus						
Profinet IO						
sercos						
Group by category 🔽	Display all versions (i	for experts only) 🗌 Di	isplay outdated vers	ions		
Name: Ethernet					^	
Vendor: 3S - Smart	Software Solutions Gr	nbH				
Categories: Ethern	et Adapter, Ethernet	Adapter, Ethernet Adapt	er			
Version: 3.5.10.0						
Description: Ether	net Link					
Description. Earch	in the terms				*	
Append selected device a	as last child of					
(You can select anoth)	er target node in the	navigator while this wir	ndow is open.)			
					Add D	evice Close

Step 8. Assign an interface (Ethernet).

🕤 Ethernet 🗙		
General	Interface: 乙太網路	§
Status	Use Operating System	ystem Settings
Ethernet Device I/O Mapping	O Change Operatin	ng System Settings
Information	IP Address	192 . 168 . 1 . 151
	Subnet Mask	255 . 255 . 252 . 0
	Default Gateway	192 . 168 . 1 . 254



Network Adapt	ters	×
Interfaces:		
Name	Description	IP Address
乙太網路	Intel(R) 82579LM Gigabit Network Connection	192.168.1.151
Wi-Fi 3	Realtek RTL8192CU Wireless LAN 802.11n USB 2.0 Network Adapt	er 192.168.100.10
區域連線*10	Microsoft Wi-Fi Direct Virtual Adapter	0.0.0.0
區域連線*11	Microsoft Wi-Fi Direct Virtual Adapter #2	0.0.0.0
		· · · · · · · · · · · · · · · · · · ·
IP Address	192 . 168 . 1 . 151	
Subnet Mask	255 . 255 . 252 . 0	
Default Gateway	192 . 168 . 1 . 254	
MAC Address	44:37:E6:C5:F5:06	
		OK Cancel

#### Step 9. Add an EtherNet/IP Scanner.

Devices	<b>-</b> ₽ X	Add Device				
CODESYS_IR_ETN	-					
🖹 🕤 Device (CODESYS Control Win V3)		Name: EtherNet_IP_Scanner				
🖻 🛄 PLC Logic		Action:				
Constant Application     Distance Manager		Append device      Insert device      P	lug device O Update device			
PLC_PRG (PRG)		Enter a string for a fulltext search in all device	es Vendor: <all vendors=""></all>			
⊟ ∰ Task Configuration		Name	Vendor	Version	Description	
PLC_PRG		🖃 🔟 Fieldbusses				
Ethernet (Ethernet)		🖹 👄 EtherNet/IP				
		😑 👄 EtherNet/IP Local Adapter				
		EtherNet/IP Adapter	3S - Smart Software Solutions GmbH	3.5.10.20	A device that works as an EtherNet/IP Adapter.	
		EtherNet/IP Adapter	3S - Smart Software Solutions GmbH	3.5.11.0	A device that works as an EtherNet/IP Adapter.	
		EtherNet/IP Adapter	3S - Smart Software Solutions GmbH	3.5.15.20	A device that works as an EtherNet/IP Adapter.	
		🖹 👄 EtherNet/IP Scanner				
		EtherNet/IP Scanner	3S - Smart Software Solutions GmbH	3.5.10.30	EtherNet/IP Scanner	
		EtherNet/IP Scanner	3S - Smart Software Solutions GmbH	3.5.11.0	EtherNet/IP Scanner	
		EtherNet/IP Scanner	3S - Smart Software Solutions GmbH	3.5.15.20	EtherNet/IP Scanner	
		Modbus				
		😟 - 🋲 Profinet IO				

\*Please note that [Auto-reestablish Connections] must be selected.

EtherNet_IP_Scanner X	
General	Options
EtherNet/IP Scanner I/O Mapping	Auto-reestablish Connections
Status	
Information	

# Step 10. Add the first iR-ETN.

Devices 🗸 🕂 🗙	Add Device		
	9		
Device (CODESYS Control Win V3)	Name: IR_ETN		
PLC Logic	Action		
Contraction			
Library Manager	Append device O Insert device O Mug de	evice O Update device	
PLC_PRG (PRG)	Enter a string for a fulltext search in all devices	Vendor: <all vendore=""></all>	
😑 🧱 Task Configuration		CALIFERIDOIS>	
😑 🍪 ENIPScannerIOTask	Name	Vendor	Ve
EtherNet_IP_Scanner.IOCycle	=- II Fieldbusses		
😑 🥩 ENIPScannerServiceTask	🖹 - 👄 EtherNet/IP		
EtherNet_IP_Scanner.ServiceCyc	😑 👄 EtherNet/IP Remote Adapter		
🖻 🥸 MainTask	EtherNetIP Adapter	3S - Smart Software Solutions GmbH	Ma
PLC_PRG	Generic EtherNet/IP device	3S - Smart Software Solutions GmbH	3.5
Ethernet (Ethernet)	R-ETN	Weintek Labs., Inc.	Ma
EtherNet IP Scanner (EtherNet/IP Scanner)		-	



Start from step 3 again to add the second iR-ETN's \*.eds file. This will overwrite the \*.eds file of the first iR-ETN.

Add the second iR-ETN.

Ethernet (Ethernet) 🖮 🗊 EtherNet\_IP\_Scanner (EtherNet/IP Scanner) R\_ETN\_155 (iR-ETN) R\_ETN\_161 (iR-ETN)

Step 11. The default iR module setting is shown. Add new parameters in User-Defined Parameters tab.

	+ ∓ ×	IR_ETN_155 X							
AppEction     AppEction	Win V3) er ation her/OTable Het_JP_Scamer/ServiceTyd het_JP_Scamer/Serv	ieneral Sometions Ise-Defined Parameters therNet/IP I/O Mapping Return Rformation	Line Na - 1 slot	ame t 1 AID4_TR 4 Celsius ,	V	alue Bitlength A elsus 16	Abort if error Jun	np to line if error Next	line Comm
R_ETN_161 (	R-ETN)		Move Up	Move Dow	n		New	Delete	Edi
	>					Last build: 🔕 0 🕚 0	Precompile: 🗸	Current user	: (nobody)
Name				Class	Instance	Attribute	Туре	Minimum	Ma: ^
slot	1 AI04_TR ch#0 I	nput Scale Range Lowe	er Limit	112	1	8	INT	-32768	
··· slot	1 AI04_TR ch#1 I	nput Scale Range Lowe	er Limit	112	1	9	INT	-32768	
slot	1 AI04_TR ch#2 I	nput Scale Range Lowe	er Limit	112	1	10	INT	-32768	
··· slot	1 AI04_TR ch#3 I	nput Scale Range Lowe	er Limit	112	1	11	INT	-32768	
slot	1 AI04_TR ch#0 ii	nput Filter Frame Size		112	1	12	INT	0	- 1
slot	1 AI04_TR ch#1 ii	nput Filter Frame Size		112	1	13	INT	0	
slot	1 AI04_IR ch#2 ii	nput Filter Frame Size		112	1	14	INI	0	
slot	1 A104_1R Cn#31	nput Filter Frame Size		112	1	15	INT	0	
slot	1 A104_TR 4 Celsi	emperature Officet		112	1	20	INT	-32768	
slot	1 AT04 TR ch#11	emperature Offset		112	1	21	INT	-32768	
slot	1 AI04 TR ch#2 1	emperature Offset		112	1	22	INT	-32768	
slot	1 AI04_TR ch#3 T	emperature Offset		112	1	23	INT	-32768	
. ALALI	T- /0t D								× *
<	meter Groups	Generic	Paramet	er					-
<	meter oroups		- aramee	-					ОК
<								(	Cancel
<ul> <li>Show Para</li> <li>Name:</li> </ul>	slot 1 AI04_TR 4	Celsius / Fahrenheit Se	etting						
<ul> <li>Show Para</li> <li>Name:</li> <li>Class:</li> </ul>	slot 1 AI04_TR 4	Celsius / Fahrenheit Se	etting INT	~					

The initial values can be set after adding new parameters.





IR_ETN_155 X							
General							
	Line	Name	Value	Bitlength	Abort if error	Jump to line if error	Next line
Connections	1	slot 1 AI04_TR 4 Celsius / Fahrenheit Setting	Celsius 🗸 🗸	16			0
Assemblies		7	Fahrenheit Celsius				
User-Defined Parameters							
EtherNet/IP I/O Mapping							
Status							
Information							

## Step 12. In EtherNet/IP I/O Mapping tab find the IO address and start editing the program.

I IK_EIN_155 X							
General	Find		Filter Show all	-			
Connections	Variable	Mapping	Channel	Address	Туре	Unit	Description
	🖳 🖳 🦇		slot 1 AI04-TR ch#0	%IW0	INT		New Help String
Assemblies	😟 🧤		slot 1 AI04-TR ch#1	%IW1	INT		New Help String
	۴- 🍫		slot 1 AI04-TR ch#2	%IW2	INT		New Help String
Jser-Defined Parameters	🗄 - 🍫		slot 1 AI04-TR ch#3	%IW3	INT		New Help String
	🗕 🖶 🍫		slot 2 DQ16-N DO	%QW0	WORD		New Help String
EtherNet/IP I/O Mapping	😟 - 🍫		slot 1 AI04_TR 4 Celsius / Fahrenheit Setting	%QW1	INT		New Help String



### Chapter3. Rockwell CompactLogix/ControlLogix

#### 3.1. Adding a Single iR-ETN

Rockwell CompactLogix and ControlLogix can be edited using RSLogix 5000.

Step 1. Open [Tools] » [EDS Wizard] and import iR-ETN's EDS file.



Import EDS file following the on-screen instructions.

Rockwell Automation's EDS	Wizard	$\mathbf{X}$
	Welcome to Rockwell Automation's EDS Wizard	
	The EDS Wizard allows you to: - register EDS-based devices. - unregister a device. - change the graphic images associated with a device. - create an EDS file from an unknown device. - upload EDS file(s) stored in a device. To continue click Next	
	下一步(11) > 取消	



Rockwell Automation's EDS Wizard	×
Options What task do you want to complete?	
Register an EDS file(s). This option will add a device(s) to our database.	
Unregister a device. This option will remove a device that has been registered by an EDS file from our database.	
Create an EDS file. This option creates a new EDS file that allows our software to recognize your device.	
Upload EDS file(s) from the device. This option uploads and registers the EDS file(s) stored in the device.	
<上一步(B) 下一步(B) 取	消
Rockwell Automation's EDS Wizard	×
<b>Registration</b> Electronic Data Sheet file(s) will be added to your system for use in Rockwell Automation applications.	<b>V</b>
<ul> <li>Register a single file</li> </ul>	
C Register a directory of EDS files	
Named:	
C:\Documents and Settings\rd\My Documents\iR-ETN (192.168.1.133).ec	
* If there is an icon file (.ico) with the same name as the file(s) you are registering then this image will be associated with the device. To perform an installation test on the file(s), click	Next
<上一步(B) 下一步(B) 下 T T T T T T T T T T T T T T T T T T	消



Rockwell Automation's EDS Wizard	
<b>EDS File Installation Test Results</b> This test evaluates each EDS file for errors in the EDS file. This test does not guarantee EDS file validity.	¥.
E- Installation Test Results 	
<u>Y</u> iew file <上一步(B) (下一步(B))	取消
Rockwell Antomation's FDS Wizard	
<b>Change Graphic Image</b> You can change the graphic image that is associated with a device.	
Product Types	
Change icon Communications Adapter iR-ETN	
<上一步(B) (下一步(B))	取消



Rockwell Automation's EDS	Wizard	×
<b>Final Task Summary</b> This is a review of the task	k you want to complete.	
Vou would like to i iR-ETN	register the following device.	
- 1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.		
	<u> </u>	
Rockwell Antomation's FDS	Wizard	
	You have successfully completed the EDS Wizard.	
	[完成]	

Step 2. Right-click on [Ethernet] and select [Add Module...].

👫 RSLogix 5000 - RockWellL23E [1769-L23	E-QB
文件(E) 编辑(E) 查看(V) 搜索(S) 逻辑(L) う	Ă信(C)
	h
	P
	U
Controller 管理器 🚽 🗸 🗸	
□ 🔄 控制器 RockWellL23E	
·····································	
□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□	
📄 🐨 Cycle Task	
🗄 🕞 ACycleProgram	
🖻 🛱 Main Task	
→ ● ● ● MainProgram	
□ ── 木规和的推开和印度	
— 🗀 Add-on 自定义指令	
□	
■	
□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	
😐 🙀 模块定义	
□ 🔄 输入/输出配置 亩 🛲 Compact origi5222E-OP1 系统	
1769-L23E-OB1 RockWellL23E	
🖨 🛷 1769-L23E-QB1 Ethernet Port Local	
品以太网	
■····································	
	+V
·····································	
打印	•



Sel	lect Ma	odule Type				
ſ	目录	Module 发现 收藏夹				
	iR-f	ETN		- 諸除过滤器(C)		显示过调器(生
	E	1录号	描述		供应商	类别
		iR-ETN.x	iR-ETN		Weintek Labs., I	Communications Adap
	<					>
	1 /	/211 Module 类型 已找到				添加到収藏天(
		创建时关闭( <u>L</u> )			创建	关闭 帮助

Enter iR-ETN's IP address and device name. The device name will be used in the tags.

■ 新建 Module		×
常规* 连接 类型: 供应商: 父项: 名称 @):	Module 信息 Internet 协议 端口配置 iR-ETN.x iR-ETN Weintek Labs., Inc. LocalENB	
说明 (2):	● 专用网络 (g): 192.168.1. 133 ↓ ● IP 地址 (g): · · · · · · · · · · · · · · · · · · ·	
Module 定义 版本: 电子密钥: 连接:	1.1 兼容 Module Exhusive Owner 更改 (g)	
状态: 创建(C)	<b>确定</b> 取消 (C) <u>H</u> elp	

Step 3. iR-ETN's Input/Output Data can be found in the tag.



👪 RSLogix 5000 - RockWellL23E [1769-L23]	E-QB1 20.12]* - [Controller	Tag - RockWellL2	BE (controller)]					
交件(F) 编辑(E) 查看(Y) 搜索(S) 逻辑(L)	通信(C) 工具(I) 窗口(W)	帮助(出)						
🗎 🖆 🖶 🎒 🗳 💺 🛍 🛍 🗠 🗠 🗌	<b>~</b>	🚜 🕰 🖪	🛛 🗣 🔍 🤇	3、 法择语言…	<ul> <li>Ø</li> </ul>			
脱礼 元强制 无强制 无領報 日 正 の 版 正 の 下 し の 下 し の 下 し の に い 下 し の に し の に し の に し の に し の に し の に し の に し の に し の に し の に し の に し の に の に の の に の の に の の に の の に の に の の に の の に の の に の の に の の に の の に の の に の の の の の の の の の の の の の		路径: AB_ET?     日 日 日     日 日 日     日 日 日     日 日 日     日 日     日 日 日     日 日     日 日 日     日 日     日 日 日     日 日	田P-1\192.168.1. ⊣ト -//( ) 年 人 报警 人 位	159\Backplane\0*				
Controller 管理器 🚽 🗸 🗸	范围(2): 🛐 Rock#ell123	e 🔽 显示(Q): ß	所有 Tag		•	<ul> <li>7. 輸入名利</li> </ul>	村建總證.	
□ · · · · · · · · · · · · · · · · · · ·	名称	===== 원名	基本 Tag	Data Type	说明	外部访问	常数	样式
☑ 注意 2000 小型 ☑ 控制器故障处理器	± ETN:C			_063C:iR_ETNx_1ADF0524:C:0		Read/Write		
	E'ETN:I			_063C:iR_ETNx_98D65D0C:l:0		Read/Write		
□	ETN:I.ConnectionFau	lted		BOOL		Read/Write		Decimal
Cycle Task     ACycle Program	ETN:I.Data			SINT[3]		Read/Write		Decimal
🖃 🔫 MainTask	± ETN:I.Data[0]			SINT		Read/Write		Decimal
🖃 🕞 MainProgram	+ ETN:I.Data[1]			SINT		Read/Write		Decimal
≥ 程序标金 ■Ph main	± ETN:I.Data[2]			SINT		Read/Write		Decimal
□ 未规划的程序相位	ETN:0			_063C:iR_ETNx_FA74D033:0:0		Read/Write		
	ETN:0.Data			SINT[1]		Read/Write		Decimal
→ 未归奕細 → Add-on 白定义指会	ETN:0.Data[0]			SINT		Read/Write		Decimal
		1		···			m	i

Select the corresponding bit when programming.

2	7, I	ETN	*	显示:	所有	🖣 Tag	1	~
	Ĥ	名称	II De	ta Type		说明	2	^
	) B	ETN:C	_06	3C:iR_ET	N			
l f	) B	+_ETN:I	_06	3C:iR_ET	N			
lf	) E	EIN:O	_06	3C:iR_ET	N			
lf	j.	ETN:O.Data	SB	VT[1]			1	
Ê	J	ETN:O.Data[	o 🔽 SB	IΤ				
		0 1 2 3	4 5	67				
								_
L								~
C		Controller (C	)					
		Program (P)						

陶鹽	世 歸 歸 即 B ad a a Y adv					
0	ETNI.Deta(0).0	ETN:O.Data[0].0				
1	ArrayBool[0]	ETN:O.Data[0].1				
(结束)						

#### 3.2. Adding Multiple iR-ETN

In Allen Bradley software, each device requires a unique EDS file. To add multiple iR-ETN (each with different number of I/O), please follow instructions below.

Step 1. Go to [Ethernet] » [Add Module] and add Generic Ethernet Module.



I/O	Offline	- No Forces	▶↓ No Edits	2.	← → Favorites Add-On	PlantPAx Safety Alarms Bit Timer/	Counter Input/	Output Compare Com
Controller Organizer		* 7 >	<					
			Select	Module Type				
Controller TWC     Controller TWC     Controller T     Controller F     Power-Up H     Tasks     MainTask     MainTask     MainTask     MainTask	D_ETN_IO ags ault Handler landler gram d		Cata	Module Discovery Favorites ENERIC Module Type Category Filters 20-Comm-ER analog analog	Clear Filters	A Module Type Vendor Filters		Hide Filters A
Motion Groups				CIP Motion Safety Track Section	n	FANUC CORPORATION		~
<ul> <li>Assets</li> <li>Logical Model</li> <li>I/O Configurati</li> <li>5069 Backpl</li> <li>[0] 5069-</li> <li>A. Ethernet</li> <li>5069-L30</li> <li>F.FTN.x</li> </ul>	ion lane L306ERM TWO_ETI t GERM TWO_ETN_I0 FTN_1	0_10		Catalog Number ETHERNET-BRIDGE ETHERNET-MODULE ETHERNET-SAFETY-STAN	Description Generic EtherNet/IP CIP Bridge Generic Ethernet Module Generic EtherNet/IP Safety and	Vendor Rockwell Automation/ Rockwell Automation/ Standard Mo Rockwell Automation/	Category Communicatio Communicatio Safety,Other	n p
・ 読 A2, Ethernet	e BERM TWO_ETN_IC	D						
Errors	and cogical orga	Autoon -	3	of 812 Module Types Found				Add to Favorites
8 0 Errors	4 0 Warnin	igs 0 Mes	sages	Close on Create			Create	Close Help

Step 2. Configure connection parameters for iR-ETN's EDS file.

Logix Designer - TWO, ETN, IO in TWO, ETN, IO - 2, ACD (506	0-L306ERM 33.11(*	R-ETN (192.168.1.212) - Notepad - X
File Edit View Search Logic Communications Tor	a Window Help <mark> → ♪ ♪ ♪ <mark>Da</mark> Na Ca Na <b>d</b> Ca Na Ca Ca Ca </mark>	File Edit Format View Help [Assembly]
Box     B	bo Cates     a     bo Cates     a     bo Cates     a     bo Cates     control on a control	Revision = 1; Object_laws rode = 0x04; Assemi00= "input Assembly ", 0, 0, 0, 0, 0, 0, 0, 0, 0, 0
Dr. Controller Organizer Fr. Logical Organizer Troos O Errors 1 0 0Wamings 0 0Messa	3 af 312 Maske Type Paune Add Different Mes 0 Close on Charles Costs Costs Help	a,renama, 8,Param5, 8,Param5, 8,Param5; [Connection Manager] Object_Name = "Connection Manage
		Object_Class_Code = 0x06; Connection1 = 0x84010002,

\*When Assembly Instance only has Input, "Comm Format" must be set to "Input Data – SINT".

New MODUle					^
Туре:	ETHERNET-MODULE Generic Ethernet	Module			
Vendor:	Rockwell Automation/Allen-Bradley				
Parent	Local				
Name:	ETN	Connection Para	meters		
Description:			Assembly Instance:	Size:	
		Input	100	10	🗘 (8-bit)
	~	Output	150		
Comm Forma	Input Data - SINT V	Configuration:	151	10	(8-bit)
Address / Ho	ostName				
IP Addres	ss: 192 . 168 . 1 . 66	Status Input:			
OHostNan	ne:	Status Output:			
Open Modul	e Properties	OK	Ca	acol	Hala

Step 3. Enter iR-ETN's IP address, name, and description.



Controller Organizer 🗸 🗸	X I Module Properties Report: Local (ETHERNET-MODULE 1.001) X				
e •	General Connection Module Info				
Controller TWO_ETN_IO     Controller Tags     Controller Fault Handler	Type: ETHERNET-MODULE Generic Ethernet Module Vendor: Rockwell Automation/Allen-Bradley Parent: Local				
Power-Up Handler  Saks  MainTask  MainProgram	Name: ETN_2 Connection Parameters Asse Description: 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	nbly ce: Size: 9 (8-bit)			
Unscheduled     Motion Groups     Alarm Manager     Assets     Acoical Model	Comm Format         Data - SINT         Output         150           Address         Host Name         Configuration:         151           Image:	1 (8-bit) 10 🗘 (8-bit)			
I/O Configuration     S069 Backplane     III (0) S069-L3066RM TWO_ETN_IO     3 & A1, Ethernet     III 5069-L306ERM TWO_ETN_IO     III ETN 2     IIII ETN 2     IIII ETN 2     III ETN 2     I	O Host Name: Status Output Status: Offline OK Cancel	Apply Help			
S EINEANE INGUE E IR-ETN ETN_I ▲ & A2. Ethernet ∰ 5069-L306ERM TWO_ETN_IO					
De Controller Organizer					

- Step 4. Enter RPI. Use the default setting, which is 10 ms (min. RPI support for iR-ETN is 5 ms).
  - RM 33.11 ons Tools Window Search Logic Comm -\* || \* Path: <no N # 8 1 E. No P No Edits → → × II Module erties Report: Local (ETHERNET-MODULE 1.001) 🗙 nection Module Info 10.0 - ms (1.0 - 3200.0 ms) et Interval (RPI): Requested Pack inhibit Module Major Fault On Controller If Connection Fails While in Run Mod Use Unicast Connection over EtherNet/P dule Faul OK Cancel Apply Help TN.x ETN\_1 RM TWO ETN IO Pa.
- Step 5. When you have finished setting the parameters, you can see iR-ETN's I/O status in Controller Tags page. In this example, the first slot of iR-ETN = DM16-P and the second slot = AI04-TR.

Unergy storage Offline I. No Force	s 🕨 No Edits e-	Favorites	Add-On PlantPAx Safety /	Narms Bit Time	er/Counter Input/Output Compare Compute/IV			
ntroller Organizer •	🔍 🎗 🛄 Module Properties Report: Local (ET	HERNET-MODULE 1.001)	Controller Tags - TWO_ETN	IO(controller)	X Module Properties: Local (R-ETN.x 1.001)			
	Scope: TWO_ETN_IO V S	all Tags			Cretor Narray Filling.			
Controller TWO_ETN_IO	Name	Value	Force Mask	Style	EI - Data Type	Description	Properties	-
Controller Fault Handler	<ul> <li>ETN_2:0</li> </ul>		()	6	AB:ETHERNET_MODULE_SINT_1Bytes:0:0		語外がも	Extended Propert
Power-Up Handler	► FTN 20.Data		(_)	() Decimal	SINTITI		4 General	
Tasks	CETN 21		13	(3)	AR-ETHERNET MODULE SINT OR-Hard		Name	ETN_1:C
A C MainTask	* EIN_2I		1-1	-	Abernet_MODULE_SINT_Soytesto		Description	
b MainProgram Unscharbeited	▶ ETN_2LData		()	() Decimal	SINT[9]		Usage	<controller></controller>
Motion Groups	▶ ETN_2:C		{}	(_)	AB:ETHERNET_MODULE:C:0		Type	Base
Alarm Manager	ETN_1:0		()	()	_063C;R_ETNx_61E59225:0:0		Alias For	
Assets	> ETN_1:1		()	(_)	_063C;iR_ETNx_394D7E6A:t0		Base Tag	OCCUP FTML
Logical Model	a ETN 1C		11	()	063CHR ETNY CDCE3970C0		Data type	_063C3K_EINX.
<ul> <li>I/O Configuration</li> <li>Configuration</li> </ul>	- sincins		1 mil	()	Jonan Crimiter Crimiter		External Acce	Read/Mrite
IN SOBY BACKPIANE							Stide	as Meau/Write
4 & A1. Ethernet							Constant	No
\$ 5069-L306ERM TWO FTN IO							Demoired	NO
ETHERNET-MODULE ETN 2							Vicible	
卧 iR-ETN x ETN 1							VISIDIE	0
- 器 A2, Ethernet							Alarms	0
5069-L306ERM TWO_ETN_IO							Value	
							Force Mask	1
							Produced Co	apertion
	A A Manifes Tags / Edit Tags	,						
	C P (monitor rags / Edit rags /			× .		,		
							Recent	
	U Merssiscers						Search	



### Chapter4. Panasonic FP7

Panasonic FP7 CPS41E CPU supports EtherNet/IP, please use Control FPWIN Pro 7 software to edit the program.

Step 1. Use static IP for PLC.



Step 2. Open EtherNet/IP Setting » [EDS File] » [Register...] and import iR-ETN's EDS file.

	FP7_CPS41E.pro - Control FPWIN Pro 7 - The IEC 61131-	3 programming system - Program_1	
	<u>P</u> roject <u>O</u> bject <u>E</u> dit <u>T</u> ools On <u>l</u> ine <u>M</u> onitor <u>D</u>	ebug E <u>x</u> tras <u>W</u> indow <u>H</u> elp	
	🛯 😂 🔜 🛒 👺 🔍 🖃 🗛	- X 🗈 📇 🤊 CH 👎 👯 😸 👙	
I	Project 🗸 🕂 🗙	EtherNet/ID Setting	
	🐅 🐜 📩 👀 UI UI 🧼	Ethenvelyie Setting	
	Project ID:\ProjectPLC\Panasonic\FPWIN Pro\FP7 C	<u>File Edit View EDS File Setting Help</u>	_
	PLC (FP7 CPS41E)	🚰 🛃 🐰 🗈 <u>R</u> egister	
	🗸 🦫 System registers	Scan List Delete	4 >
	🌽 Memory size	FP7 CPS41E(192 Edit Comment	
	🥭 Hold on/off	I/O Map - Se Add to Scan List	Whole
	sct on error	Scan List - U	Jnit I
	/ Timeout	Device Property	
	Serial ports	Import Device Data Base	
		Export Device Data Base	
	COM2		
	✓ 👝 Ethernet		
	IP addresses		
	🕞 Time synchronization		
	🚛 Web server		
	HTTP client		
	FTP server		
	CMTD -light		
	SWIP client		
	<ul> <li>User connections (4 system connections)</li> </ul>		
	EtherNet/IP (1 connection)		
	a Routing		
	(g) TCP time settings		
	(iii) 1/O many and unit and formation		

Step 3. Right-click on iR-ETN and select [Add to Scan List].



Device List 4					
By Vendor	By De	evice			
Device Name			D	evice Type	
FP7CPU UNIT	AFP7CP	S41E	С	ommunications A	- 11
FP7CPU UNIT	AFP7CP	S31	С	ommunications A	
FP7CPU UNIT AFP7CPS41 Communications Ac					
FP0H CONTROL UNIT AF Communications Ac					
iR-ETN			С	ommunications A	
	_	<u>R</u> e	g	ister EDS File	
<		<u>D</u> e	ele	te EDS File	
Save Setting Read Se <u>E</u> dit EDS File Comment					
		<u>A</u> d	bb	to Scan List	
<u>D</u> evice Property					
		Im	p	ort Device Data Base	·
		Ex	р	ort Device Data Base	·
l					
Scan List					Д
FP7 CPS4	41E(192	.168.1.	4	3) Usable Conne	ctions:
I/O N	/lap - So	hedule	ec	Connections: 0	
⊡… <u>Scan</u>	List - Us	se Con	ne	ections: 1	
ė 🛃 [	1) iR-ET	'N (19	92	.168.1.44)	
I	Exlus	ive Ow	/n	er	

Step 4. [Setting] » [EtherNet/IP Basic Configuration...]



Set [Auto Allocation] to "No".



EtherNet/IP Basic Configuration		×
Auto Allocation	No	
LD Device Starting No. (Setting Range: 0 to 16383)	0	
Refresh Unit (Setting Range: 0 to 65535)	252	Word
RUN/IDLE bit operation of cyclic communication	Normal ~	
Cyclic Communication Start Timing	Auto $\checkmark$	
Cyclic Communication Node Connection Wait Time (Setting Range: 1 to 300 s)	60	s
Cyclic Communication Connection Automatic Reconnection Wait Time (Setting Range: 1 to 120 s)	5	s
Message Communication Timeout (Setting Range: 10 to 65530 ms)	10000	ms
Connection Timeout (Setting range: 1 to 10 s)	1	s
TTL for Multicast (Setting Range: 1 to 255)	1	]
Multicast Address Setting Method	Auto 🗸	
No. of Multicast Addresses (Setting Range: 1 to 256)	256	
Multicast Starting IP Address	239.255.0.0	]
IGMP Query Send Enable	Invalid $\checkmark$	
IGMP Query Transmission Interval (Setting Range: 1 to 18000 s)	60	s
	OK Cancel	

### Step 5. Device Allocation is currently empty.

EtherNet/IP Setting			
File Edit View EDS File Setting Help			
Scan List #	It t > H / Connection Se	tting V Device Property V Device Setting	
FP7 CPS41E(192.168.1.43) Usable Connections:	Common Information	and Construction County	
I/O Map - Scheduled Connections: 0			
Scan List - Use Connections: 1	Node Name	IR-ETN	Device Name iR-ETN
E-11 IR-EIN (192.168.1.44)	Connection Name	Exlusive Owner	Application Type     Exclusive Owner
Exitisive Owner	Compatibility Check	Follow Adapter Rule	✓ COS Transmission Disable ms
	Communication Method	Instance	✓ Timeout Period RPI × 4 ✓
	Input Send Trigger	Cyclic	V Parameter Setting (Input:200ms / Output:200ms)
	Input Information (1>0)		
	RPI (10.0to 1000ms)	50.0 ms	Device Allocation
	Connection Type	Point to Point $\sim$	Starting Devi Size Offset ^ Add
	Instance ID	100	
	Data Size	1 Word	3
	Refresh Method	Batch 🗸	4 Delete
			Total Data Size: 0 Word Remaining Data Size: 1 Word
		_	
S 2	Output Information (0>1	7	
Pu Vendor Pu Davice	RPI (10.0to 1000ms)	50.0 ms	Device Allocation
Device Name Device Type	Instance ID	150	Starting Devi Size Offset ^ Add
EP7CPU UNIT AEP7CPS41E Communications Ac	Data Size	1 Word	
FP7CPU UNIT AFP7CPS31 Communications Ac	Refresh Method	Batch $\checkmark$	3
FP7CPU UNIT AFP7CPS41 Communications Ac			4 Delete
FP0H CONTROL UNIT AF Communications Ac			Total Data Size: 0 Word Remaining Data Size: 1 Word
IN-E IN Communications Ac			
< >			
Save Setting Read Setting			OK Cancel
_			

Right-click on iR-ETN and select [Reallocate Device].



Settings can be saved for other projects to read by clicking [Save Setting]. Click [OK] to finish settings.

Step 6. Configure I/O mapping in [Global variables] tab for use in the program

🧬 Glo	obal variables 🗙	📲 Program_1				
	Class	Identifier	FP address	IEC address	Туре	Initial
0	VAR_GLOBAL	bT1	LD0.0	%MX8.0.0	BOOL	FALSE
1	VAR_GLOBAL	bOut1	LD1.0	%MX8.1.0	BOOL	FALSE
2	VAR_GLOBAL	bOut2	LD1.8	%MX8.1.8	BOOL	FALSE
3	VAR_GLOBAL	bT2	LD0.8	%MX8.0.8	BOOL	FALSE
			1			



#### Chapter5. KEYENCE KV Series

KEYENCE KV-NC32 can connect to iR-ETN using KV-NC1EP. Use KV STUDIO software to edit the program.

#### Step 1. Open a new project, double-click on KV-NC32, and then add KV-NC1EP in Unit Editor.



Step 2. Set the IP address of KV-NC1EP.

Base					
Leading DM No.	DM10000				
Number of DMs	230				
Leading relay	R1000				
Number of rel	640				
Baud rate	100/10Mbps aut				
Setting metho	Fixed IP addre				
IP address	192.168.0.10				
Subnet mask	255.255.255.0				
Default gateway	0.0.0.0				
DNS server	0.0.0.0				
Receive timeo	10				
Keep Alive[s]	600				

#### Step 3. EtherNet/IP setting of KV-NC1EP:

EtherNet/IP settings			
Automatic distribution setup	Enable(*)		
Start No. of the distribution bit device	B0000		
Start No. of the distribution word device	W0000		
Update upper limit [word/scan]	252		
cyclic(I/O) messages starts automatically	Enable(*)		
$\operatorname{cyclic}(I/0)$ messages error detection mask time (when connect	60		
$\operatorname{cyclic}(I/0)$ messages error detection mask time (when disconn	5		
Explicit messages timeout [ms]	10000		
Retry time (system expansion) [s]	60		
Multicast TTL	1		
Multicast address designation method	Automatic distribution(*)		
Number of multicast address	256		
Multicast initial address	239.255.0.0		
Enable IGMP query sending	Disable(*)		
IGMP query sending interval [s]	60		
EtherNet/IP settings	<setting></setting>		



📕 Ethe	erNet/IP s	ettings				
File(F)	Edit( <u>E</u> )	Settings( <u>S</u>	View(V)	Convert(C)	EDS file(D	) Communication(N
📲 🕦	💼 🗳	X 🖻 💼	🛼 🔊 d	9 🗟 🙉 🤅	Reg(	)
					Delet	e( <u>D</u> )
I K	V-NClE	P[1] : 192	2.168.0.1	.0	Searc	h( <u>S</u> )
Ĩ					Edito	omments( <u>E</u> )
鳥 開啟				×		
搜尋位置①:	➡ 下載		G 👂 😕	····		
快速存取	今天 (1)					
<b>运</b> 器櫃	iR-ETN (192.168.0.11) s	ed				
▲ 本機	昨天(1)			•		
網路	OS_cMT-FHD					
	上個月 (7) —			<b>^</b>		
	檔案名稱(M): 檔案類型(I):	iR-ETN (192.168.0.11).ed EDS file(*.eds; *.ez1)	s ~	開啟( <u>O</u> ) 取消		

Step 4. Import iR-ETN's EDS file generated by EasyRemoteIO.



🛼 EtherNet/IP settings		- 🗆 X						
File(F) Edit(E) Settings(S) View(V) Convert(C) EDS file(D) Communication(N) Tool(T) Help(H)								
🐗 🛈 📅 🎭 🕺 🖧 🖿 👘 👫 📾 🖑 🚳 🚳 🚳 📷 🚼 📀								
	EtherNet/IP unit	Д						
KV-NCIEP[1] : 192.100.0.10	Unit list(1) Unit setting(2)   Search unit(3)							
E E								
	Unit name	Rev. EDS fil ^						
1: iR-ETN : 192.168.0.1	sz-v	1.1 SZ-V Se						
	📷 WI-5000 Series	1.1 WI-5000						
	i xG−8000/7000	1.2 XG-8000						
Initial adapter settings	XG-X1000 Series	1.1 XG-X100						
	📷 XG-X2000 Series	1.1 XG-X200						
	Generic Device	1.1 Generic						
IP address(I) 192 . 168 . 0 . 11	B Weintek Labs., Inc.							
	iR-ETN	1.1 iR-ETN 🗸						
Connection name I/O	<	>						
Exlusive Owner								
	iR-ETN							
OK Cancel								

iR-ETN configuration is completed, the input address is W00 and output address is W02.





#### Step 6. Click [Apply] to finish.



Input module corresponds to W00 and Output module corresponds to W02. Edit the PLC program, download the program to PLC and then run the program.

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