

User Manual

iR Series Firmware Update

This manual walks through the steps to update iR Series firmware.

UM019005E_20200401

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1. Updating iR-ETN Firmware

1.1. Software

Update Software: IO Runtime Updater (ETN)

Firmware Settings:

When iR-ETN's IP address cannot be connected using IO Runtime Updater (ETN),

please change your firewall settings as shown below.

[Windows Defender Firewall]->[Advanced settings]->[Inbound Rules]->[IO Runtime Updater(ETN)]

Action View Help											
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Windows Defender Firewall with	Inbound Rules								Actions	 	-
C Inbound Rules	Name	Group	Profile	Enabled	Action	Override	Program	Local Addr ^	Inbound Rules		
No Connection Security Rules	Gateway Gateway Gateway Gateway Gateway		Private Private Private Private	Yes Yes Yes	Allow Allow Allow	No No No	C:\Wind C:\Wind C:\Progr	Any Any Any Any	Filter by Profile		
	Gateway Service Gateway Service Gateway Service Gateway Service Gateway Service		Public Private Private Private	Yes Yes Yes Yes	Allow Allow Allow	No No No	C:\Progr C:\Progr C:\Progr	Any Any Any Any	View C Refresh		
	Gateway Service GatewayDDE GatewayDDE		Public Private Private	Yes Yes Yes	Allow Allow Allow	No No	C:\Progr C:\Wind C:\Wind	Any Any Any	Export List Help		
	IECVarAccessBrowsingProxy IECVarAccessBrowsingProxy IECVarAccessBrowsingProxy IECVarAccessBrowsingProxy IECVarAccessBrowsingProxy		Public Public Private Private	Yes Yes Yes Yes	Allow Allow Allow Allow	No No No	C:\Progr C:\Progr C:\Progr	Any Any Any Any	Disable Rule Z Cut		
	IO Runtime Updater(ETN) IO Runtime Updater(ETN) C Runtime Updater(ETN)		Private Private Private	Yes Yes Yes	Allow Allow Allow	No No No	C:\Progr C:\Progr C\Progr	Any Any Any	Copy Copy Delete Properties		
	IO Runtime Updater(ETN) IPMCLI IPMCLI IPMCLI IPMCLI		Public Private Private Private	Yes Yes Yes Yes	Allow Allow Allow	No No No	C:\Progr C:\Progr C:\Progr C:\Progr	Any Any Any Any	🛿 Help		
	IPMCLI LineApp LineApp LineIpp		Public Private Private	Yes No No	Allow Allow Allow	No No	C:\Progr C:\Users\ C:\Users\	Any Any Any			
	LineUpdater		Private Private	No Yes	Allow	No	C:\Users\ C:\Progr	Any Any Any			



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Genera	a	Program	is and Services		Remot	e Computers
General						
0010101	Mama					
	IO Dont		(TTN)			
	IO Kuna	me opdater	(EIN)			
	Descriptio	on:				
	IO Runti	me Updater	(ETN)			^
						\sim
	E Evah	had				
		160.				
Action						
-	Allow	the connec	tion			
₹ ⊿	O Allow	the connec	tion if it is secu	e		
	0	teres la c				
	Cu	stomize				
	O Block	the connec	tion			

Step 2. Select IO Runtime Updater to allow connection.

Windows Defender Firewall with Advanced Security		
le Action View Help		
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Windows Defender Firewall with Johound Ruler		
Cl Inbound Rules	Â	
Vame Name	Group	Profile ^
Connection Security Rules Gateway Service		Private
Monitoring Gateway Service		Private
🔇 Gateway Service		Private
🔮 Gateway Service		Public
GatewayDDE		Private
🛛 🗐 GatewayDDE		Private
IECVarAccessBrowsingProxy		Public
IECVarAccessBrowsingProxy		Public
S IECVarAccessBrowsingProxy		Private
ECVarAccessBrowsingProxy		Private
S IECVarAccessBrowsingProxy		Private
S IECVarAccessBrowsingProxy		Private
10 Runtime Opdater(ETN)		Private
IO Runtime Updater(ETN)		Public
10 Runtime Updater(ETN)		Private
IO Buntime Updater(ETN)		Private
C IPMCLI		Private
S IPMCLI		Public
LineApp		Private
LineApp		Private
LineUpdater		Private
LineUpdater		Private
MELSOFT Mediative Server		Private
MELSOFT Mediative Server		Private
Microsoft Office Outlook		Public
Microsoft OneNote		Public
Microsoft OneNote		Public
NetmanageServer Port 27126		All
NetmanageServer Port 27127		All
Port 3306		All
Port 33060		All
Port 33060		All



1.2. Updating iR-ETN Firmware

Step 1. Open [Coupler] tab, enter the coupler's IP address, and then click Update button.

IO Runtime Updater(E	TN)				_		×
Coupler Modu	le						
IP : 192 . 10	68 . 0	. 212	L	_isten Po	ort : 2	3456	
					Up	date	
iR-ETN Versio	n: 1.0.1.0						

Step 2. Wait for the burning process to complete.

IO Runtime Updater(ETN)			_		\times
Coupler Module					
IP : 192 . 16 IO Runtime Updater(ETN)	?	×	Port :	23456	
Burning Firmware to Device			U	pdate	
iR-ETN Versio		2%			
	Abort	t			

1.3. Notes on Updating iR-ETN Firmware

1. Please make sure that no device is communicating with iR-ETN when updating iR-ETN's firmware.



2. Updating iR-COP Firmware

2.1. Software

Update Software: IO Runtime Updater (COP)

2.2. Connection

Connect the micro USB port of COP USB Tool with your PC and CANopen port with iR-COP.



2.3. COP USB Tool



Please use a PC that supports USB2.0 full speed driver.

Installing COP USB Tool driver: Install lpc-linkII-vcom driver and then power on COP USB Tool, the Virtual Com Port generated by the device can be found as shown below.



2.4. DIP Switch Settings



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SW1~6: Please use the same baud rate for both iR-COP and COP USB Tool. SW7 & 8: Please set to ON for COP USB Tool.

2.5. Updating iR-COP Firmware

- **Step 1.** Launch iR-COP firmware update software, select .hex file and then select a Serial COM Port and Node ID. (Please use the same setting as iR-COP).
- *Step 2.* Find USB Tool's COM Port number by opening Device Manager in Windows and find COP USB Tool's COM Port number.

IO Runtime Updater(CANBus)	
iR-COP Firmware : iR_COP Serial COM Port : COM 5 ▼ Node ID : 1 V1.00.2 support analc COM 3 COM 5	_app_v1003_20190618 - Update
	Software Version: 1.1

Step 3. Download, update, and then restart your iR-COP.

2.6. Notes on Updating iR-COP Firmware

- 1 Please use the same baud rate for both iR-COP and COP USB Tool.
- 2 When iR-COP's firmware cannot be updated, please set iR-COP's SW8 (terminator) to OFF, and then try updating the firmware again.

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3. Updating iR-ECAT Firmware

3.1. Software

Update Software: IO Runtime Updater (ECAT)

3.2. Connection

Connect PC's Ethernet port with iR-ECAT's EtherCAT-IN.



3.3. Updating iR-ECAT Firmware

Step 1. Select the iR-ECAT Firmware file.



Step 2. Select PC's Netware Interface Card.



IORuntimeUpdaterECAT		_		×
iR-ECAT Firmware : iR-ECAT_	v2 •			
Network Interface Card :				
Intel(R) Ethernet Connection	2) I219-LM			-
TAP-Windows Adapter V9				
TAP-Windows Adapter V9				- 1
TAP-Windows Adapter V9				- 1
TAP-Windows Adapter V9				- 1
TAP-Windows Adapter V9				
Intel(R) Ethernet Connection (2) 1219-LM			
TAP-Windows Adapter V9				
TAP-Windows Adapter V9				
So	ftware Version:	1.0.3 T	est B	тоо

Step 3. Click [Update] and then wait for the process to complete.



3.4. Updating ESI File using CODESYS

Step 1. Install the ESI description file: [Tools] -> [Device Repository] -> [Install]



Step 2. Select CODESYS® V3 and then add the iR-ECAT.





Step 3. Check iR-ECAT's Revision Number.



Step 4. Open [CODESYS] -> [Project] -> [Online Config Mode] and select [Enable expert settings].



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Step 5. Open [iR-ECAT] -> [Online] -> [Write EEPROM XML] to write the ESI file into EEPROM.

Devices	~ = ×	💼 Library Manager 👔] PLC_PRG 🥻 GVL 🗑 Device 🗑 EtherCAT_Master 🖉 iR_ECAT 🗙
Construction C		General Bopert Process Data Startup Parameters Online CoE Online EtherCAT IEC Objects Status Information	State Machine Beostarias Current State: Requested State: File access over EtherCAT EVEROM Access Write EVEROM. Read EVEROM. Write EVEROM 304.
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ne Ear Tean Toler. Enn Funn Funn Fann fan fan fan fan fan fan fan fan fan	- + x	S S → N (3 S	역 1 전 (이), 이 가지 (이 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이

3.5. Notes on Updating iR-ECAT Firmware

- 1. Please select PC's Ethernet communication port for network.
- 2. Please update both iR-ECAT's firmware and ESI file. Apart from installing ESI file, please also write the ESI file into iR-ECAT's EEPROM.



4. Updating iR Module Firmware

4.1. Software

Update Software: IO Runtime Updater (ETN)

Updating a single module:

Select the same module number for both Start and End to update a single module.

e.g. Select 1 for both Start and End to update the 1st module.

e.g. Select 2 for both Start and End to update the 2nd module.

IO Runtime Updater(ETN)	
Coupler Module	
Module Firmware: iR-DM16-N_v1000_20180102 •	
IP: 192 . 168 . 0 . 212	Port : 502
Module number Start : 2 🔹 🛛 🗹 End: 💈 🍹	Update
Version: 1.00.0	
	Software Version: 1.1

Updating multiple modules:

By selecting End checkbox and enter a number greater than the Start number, multiple consecutive modules with the same model name can be updated at a time. e.g. Select 1 for Start and 3 for End to update the $1^{st} \sim 3^{rd}$ iR-DN16-N modules.

IO Runtime Updater(ETN)	
Coupler Module	
Module Firmware: iR-DM16-N_v1000_20180102 • IP: 192 . 168 . 0 . 212	Port : 502
Module number Start : 1 🔮 🖉 End: 💈 🗬	Update
Version: 1.00.0	
	Software Version: 1.1

4.2. Updating iR-Module Firmware

Step 1. Open Module tab, select the firmware file, enter the iR-ETN's IP address, select the module number and then click Update button.

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📧 IO Runtime U	pdater(ETN)		_		×
Coupler	Module				
Module:	App_iR_AI04_TR_v1000_20180919 •				
IP : 192 Module n	App_iR_Al04_VI_v1000_20180913 App_iR_Al04_VI_v1000_20180913 App_iR_AM06_VI_v1000_20180913	1	Port : 5 Up	i02 idate	
Version:	App_IR_AQ04_VI_v1000_20180913 IR-DI16_K_v1000_20180206 IR-DQ08_R_v1000_20180206				
	iR-DQ16_N_v1000_20180305 iR-DQ16_P_v1000_20180223				
	IR_DM16_N_V1000_20180102 IR_DM16_P_v1000_20180102				.::



IO Runtime Updater(ETN)	_		\times
Coupler Module			
Module: App_ IO Runtime Updater(ETN) × IP: 192 . If Burning Firmware to module 1 Module numbe 5% Version: 1.00. Abort	Port : E	502 odate	
IO Runtime Updater(ETN)			
Coupler Module Module: Ar IO Runtime Updater(ETN) IP : 192 Module num Version: 1.(× t:E Up	502 odate	

4.3. Notes on Updating iR Module Firmware

1 Please make sure that the firmware filename matches the module's model

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name.

- 2 Only iR-ETN can be used to update iR module's firmware.
- 3 Please make sure that no device is communicating with iR-ETN when updating iR module's firmware.

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