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Title:

i-Controller Firmware Update Using Windows 10

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This work instruction describes how to configure a Windows 10 PC and a USB thumb drive to update the firmware in the i-Controller. There are six application files associated with the i-Controller firmware update:

- 1. parameters.conf Site specific parameters
- 2. bacnetMSTP.conf BACnet communication parameters
- 3. bacnet.conf BACnet parameter map
- 4. modslave.conf Modbus parameter map
- 5. template.bin Visograph screens
- 6. isadix i-Controller firmware

An automatic i-Controller reboot will only occur if a new isadix file is loaded during a firmware update.

If all five application files are loading into the i-Controller, they must be loaded in this order: parameters, bacnetMSTP.conf, bacnet.conf, template and then isadix. Once the isadix file is loaded, the controller will automatically reboot.

If a parameter.conf or a template.bin or both are loaded into an i-Controller without a new isadix file. The user must manually reboot the i-Controller to initiate the update.

If a new parameters.conf file is loaded into previously configured i-Controller, upon reboot, offsets and settings in the previously configuration i-Controller will be overwritten by the new parameters.conf file. Ensure all sensors are re-calibrated, offsets are entered (if required) and settings are updated after the firmware update.

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Configuring the Windows 10 PC

Connecting the Windows 10 PC to the i-Controller

- 1. Verify the PC Ethernet port used to connect to the i-Controller is configured as seen in figure 6.
- 2. Verify the i-Controller is powered 'ON'.
- 3. Connect an Ethernet cable between the PC Ethernet port and i-Controller Ethernet port.

Configuring the Ethernet connection

Perform the following steps to configure your PC for the Flō i-Controller:

1. Select the Windows icon in the lower left corner of the desktop to display the start menu.



Figure 1. Windows 10 Start Menu

- 2. Using the start menu, scroll down and select the Windows System Folder.
- 3. Within the Windows System Folder, select Control Panel.
- 4. Within the Control Panel, select Network and Internet.
- 5. Within Network and Internet, select Network and Sharing Center.



Figure 2. Network and Internet

6. Within the Network and Sharing Center, select Change Adapter Settings.

🕂 🚽 🕂 🛉 💇 > Control Panel > Net	vork and Internet > Network Connections	0	Seat	ch Netwo	ġ.,
Organize • Disable this network device	Diagnose this connection Rename this connection Change settings of this connection		-	. 0	i
CES VPN Disconnected WANI Miniport (PPTP)	Bonnett Binnows Codels unplugged With A Mathematical				

Figure 3. Internet Network Connections

7. Right click the network adapter you wish to configure and select Properties from the popup menu.



Figure 4. Properties Popup Menu

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8. Within t	he Properties dialog, select Internet	102 100 0 202	

- 8. Within the Properties dialog, select Internet Protocol Version 4 (TCP/IPv4).
- 9. With Internet Protocol Version 4 (TCP/IPv4) highlighted, select the Properties button.



Figure 5. Ethernet Properties Dialog

Configuring the Ethernet connection - *continued*

- 10. Within the Ethernet Properties, select the 'Use the following IP address' radial button.
- 11. Configure the IP Address, Subnet Mask and Default Gateway as seen in figure 6.
- 12. Within the Ethernet Properties, select 'Use the following DNS server address' radial button.
- 13. Configure the Preferred and Alternate DNS servers as seen in figure 6.

IP Address:	192.168.0.200
Subnet Mask:	255.255.255.0
Default Gateway:	192.168.0.1
Preferred DNS:	192.168.0.200
Alternate DNS:	8.8.8.8

Internet Protocol Version 4 (TCP/IPv4) Properties					
General					
You can get IP settings assigned autor this capability. Otherwise, you need to for the appropriate IP settings.	You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.				
Obtain an IP address automatical	ly				
• Use the following IP address:					
IP address:	192.168.0.200				
Subnet mask:	255.255.255.0				
Default gateway:	192.168.0.1				
Obtain DNS server address auton	natically				
• Use the following DNS server add	resses:				
Preferred DNS server:	192.168.0.255				
Alternate DNS server:	8.8.8.8				
Validate settings upon exit	Advanced				
	OK Cancel				

Figure 6. TCP/IPv4 Properties Dialog

- 14. Select 'OK' to accept the TCP adapter settings.
- 15. This concludes the PC configuration portion of the work instructions.
- **NOTE:** To verify the Ethernet connection, type the following hyperlink into your browser: <u>http://192.168.0.250</u>

If the connection is configured correctly, the Webpage in figure 7 will appear. If the iPro Configuration & Analysis Webpage does not appear, verify the Ethernet connection.



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Figure 7. Emerson iPro -Configuration & Analysis Webpage

Loading Application Files via Web Server

- **NOTE:** Load the i-Controller application files in this order:
 - 1. parameters.conf
 - 2. bacnetMSTP.conf
 - 3. bacnet.conf
 - 4. template.bin
 - 5. isadix

Loading the *parameters.conf* file

- 1. Using the Windows 10 PC, connect to the i-Controller using an Ethernet connection.
- 2. Open a Web browser.
- 3. Type the IP address into your web browser: http://192.168.0.250
- 4. The Windows Viewer will be displayed as seen in figure 7.
- 5. Select the login button and enter the login credentials:

USER: admin PASSWORD: Dixell

- 6. Select the "Files" button located on the left-hand menu as as seen in figure 8.
- 7. Select the 'Send and Update" button as seen in figure 9.
- In the Windows viewer, navigate and select the parameter.conf file from its storage location and select "Open".
- A dialog box will appear as seen in figure 10, "OK to upload parameter.conf?"; select "OK".
- In the Windows viewer, navigate and select the parameter.conf file from its storage location and select "Open".
- 11. After the parameters.conf file has been loaded, select the "Advanced" tab.
- 12. Select "Reboot the machine" to reboot the controller.
- 13. It will take the controller 60-seconds to reboot.

Loading of the parameter.conf file is complete.

م iPro	- Configuration & Analysis
Home Zariables Configure Files Accounts Advanced Firewall	System status 27 (BL) - TTALY EIOS release is 2015101200 2754 Application release is Bro-CES2015Rev111 15aGraf status: ok Free dis space: 98556 KB 13 Total memory: 64 MB 1P Address: 192.168.1.250 Free dis space: 192.168.1.250



User: admin	G iPro - Co Legout	onfiguration & Analy	sis EMERSON. Alimento Technologico
Home	Files Management		
Variables			
Configure	Log files	•	Export
Files			Funct D. Balan (b)
Accounts	Configuration files	•	Export M Delete M
Advanced	Bin files (Visograph)	default.bin 🔻	Export 🛃 Delete 🧃
Firewall	Spalt files	default.spalt •	Export 🛃 Delete 🧃
	Update applicati (isadix, *.bin, *.co	on and configuration files	Send and update

Figure 9. Emerson iPro -Configuration & Analysis Website



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Figure 10. Figure 10. Emerson iPro -Configuration & Analysis Website

User: admin	IPro - Configuration & Analysis			
Home	Advanced options			
Variables				
Configure	Disable WatchDog for this session			
Files	Reboot the machine			
Accounts	Generate debug report			
Advanced	1970/03/10 - 07.43 - Synchronize clock			
Firewall				

Figure 11. Emerson iPro -Configuration & Analysis Website

Loading the *bacnetMSTP.conf, bacnet.conf* and *modslave.conf* files (*if applicable*)

- 1. Using the Windows 10 PC, connect to the i-Controller using an Ethernet connection.
- 2. Open a Web browser.
- Type the IP address into your web browser: <u>http://192.168.0.250</u>
- 4. The Windows Viewer will be displayed as seen in figure 7.
- 5. Select the login button and enter the login credentials:

USER: admin PASSWORD: Dixell

6. Select the "Files" button located on the left-hand menu.

- 7. Select the "Send and Update" button.
- Navigate and select the bacnetMSTP.conf file from its storage location and select "Open". A dialog box will appear with the prompt, "OK to upload template?"; select "OK".
- Select the "Send and Update" button, and navigate and select the bacnet.conf file from its storage location and select "Open". A dialog box will appear with the prompt, "OK to upload template?"; select "OK".
- Navigate and select the modslave.conf file from its storage location and select "Open". A dialog box will appear with the prompt, "OK to upload template?"; select "OK".

If you are updating **only** the bacnetMSTP.conf, bacnet.conf and modslave.conf files, you must reboot the controller or if you are loading additional files, this step is complete.

- After the bacnetMSTP.conf, bacnet.conf and modslave.conf files have been loaded, select the "Advanced" tab.
- 12. Select "Reboot the machine" to reboot the controller.
- 13. It will take the controller 180-seconds for the Visograph screens to load.

Loading of the BACnet files is complete.



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Loading the *template.bin* file

- 1. Using the Windows 10 PC, connect to the i-Controller using an Ethernet connection.
- 2. Open a Web browser.
- 3. Type the IP address into your web browser: http://192.168.0.250
- 4. The Windows Viewer will be displayed as seen in figure 7.
- 5. Select the login button and enter the login credentials:

USER: admin PASSWORD: Dixell

- 6. Select the "Files" button located on the left-hand menu.
- 7. Select the "Send and Update" button.
- 8. Navigate and select the template.bin file from its storage location and select "Open".
- 9. A dialog box will appear with the prompt, "OK to upload template?"; select "OK".
- If you are updating **only** the template.bin file, you must reboot the controller or if you are loading additional files, this step is complete.
- 10. After the template.bin file has been loaded, select the "Advanced" tab.
- 11. Select "Reboot the machine" to reboot the controller.
- 12. It will take the controller 180-seconds for the Visograph screens to load.

Loading of the template.bin file is complete.

Loading the *isadix* file

- Using the Windows 10 PC, connect to the i-Controller using an Ethernet connection and open a Web browser.
- 2. Type the IP address into your web browser: http://192.168.0.250
- The Windows Viewer will be displayed as seen in figure 7.
- 4. Select the login button and enter the login credentials:

USER: admin PASSWORD: Dixell

- 5. Select the "Files" button located on the left-hand menu.
- 6. Select the "Send and Update" button.
- In the Windows viewer, navigate and select the isadix file from its storage location and select "Open".
- A dialog box will appear as seem in figure 9, "OK to upload isadix?"; select "OK".

Login	j iPro - Configuratio	on & Analysis
Home	iPro by Dixell S.r.l.	System status
Configure	DIXELL S.r.l. Z.I. Via dell'Industria, 27 32010 Pieve d'Alpago (BL) - ITALY	BIOS release is 2015101200 Application release is iPro-CES2015Rev111
Accounts Advanced	P.IVA/VAT: IT 00876120254 Tel. +39.0437.9833 r.a. Fax +39.0437.989.313	ISaGraf status: ok Free disk space: 98556 KB
Firewall	dixell@dixell.com www.dixell.com User web site	IP Address: 192.168.1.250 iPro date: 2016/04/19 - 09.36

Figure 12. Emerson iPro -Configuration & Analysis Website

- 9. Once the isadix file is loaded, wait 2-minutes then, open your web browser.
- Navigate to the Emerson iPro Configuration & Analysis website.
- The 'Application Release' will read 'iPro-CESDYearRevXXX', where 'XXX' is the version loaded in the instruction 8.

Loading and verification of the isadix file is complete.