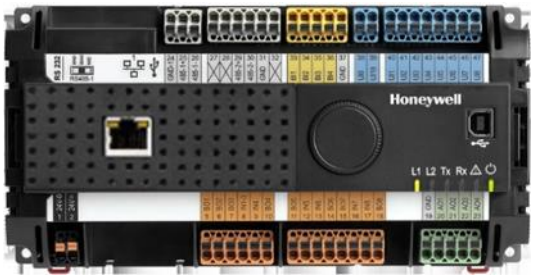
Honeywell

CIPer™ MODEL 50 CONTROLLER

USER GUIDE



July 2021

IMPORTANT NOTE: Email your Host Id to Honeywell WEBs Customer Care (websliense@honeywell.com), so that we can move the license to your organization. For additional queries contact your distributor.

31-00198-03

Disclaimer

The material in this document is for information purposes only. The content and the product described are subject to change without notice. Honeywell makes no representations or warranties with respect to this document. In no event shall Honeywell be liable for technical or editorial omissions or mistakes in this document, nor shall it be liable for any damages, direct or incidental, arising out of or related to the use of this document. No part of this document may be reproduced in any form or by any means without prior written permission from Honeywell.

Software License Advisory

This document supports software that is proprietary to Honeywell Building Technologies and/or to third party software vendors. Before software delivery, the end user must execute a software license agreement that governs software use. Software license agreement provisions include limiting use of the software to equipment furnished, limiting copying, preserving confidentiality, and prohibiting transfer to a third party. Disclosure, use, or reproduction beyond that permitted in the license agreement is prohibited.

Trademark Notice

BACnet and ASHRAE are registered trademarks of American Society of Heating, Refrigerating and Air-Conditioning Engineers. Microsoft, Excel, Internet Explorer, Windows, Windows Vista, Windows Server, and SQL Server are registered trademarks of Microsoft Corporation. Oracle and Java are registered trademarks of Oracle and/or its affiliates. Mozilla and Firefox are trademarks of the Mozilla Foundation. Echelon, LON, LonMark, LonTalk, and LonWorks are registered trademarks of Echelon Corporation.

Niagara Framework ® is a registered trademark of Tridium Inc.

WEBs-AX, WEBs-N4 and WEBStation are registered trademarks of HONEYWELL International, Inc.

CIPer™ is registered trademark of Honeywell Building Technologies.

TABLE OF CONTENTS

Order numbers (SKU)

The onboard HMI is featured in the below listed order numbers:

- WEB-EHSERIESNX26D
- WEB-EHSERIESNX26ND

IMPORTANT

To make efficient use of HMI functionality, it is required to do a few set-up steps in Honeywell WEBStation N4.4.93 or higher. Refer to section HMI configuration principles given below.

WEB-EHSERIESNX26D

The XL2000HMI can be connected and operated with the below listed OS (SKU) numbers.

WEB-EHSERIESNX26ND

HMI configuration principles

To get the onboard HMI or detached HMI operational, the following configuration principles need to be done in WEBs N4:

1. Add & enable the HMI Service.
2. Set a PIN for the HMI access.
3. Add HMI and LED Alarm recipients.

> **NOTE**
> As long as there are unacknowledged alarms in the station, the alarm symbol blink regardless of the user is logged in to the HMI or not. See the picture below:

4. Configure the alarm for the HMI.
5. Fill the Fast Access Lists (FAL) with data points, schedules & parameters.
6. If desired, create a custom HMI sequence.

HMI Service

The onboard and detached HMI will only work when the HMI Service, called "HonEagleHawkHmiService" has been placed into the "Services" of your station.

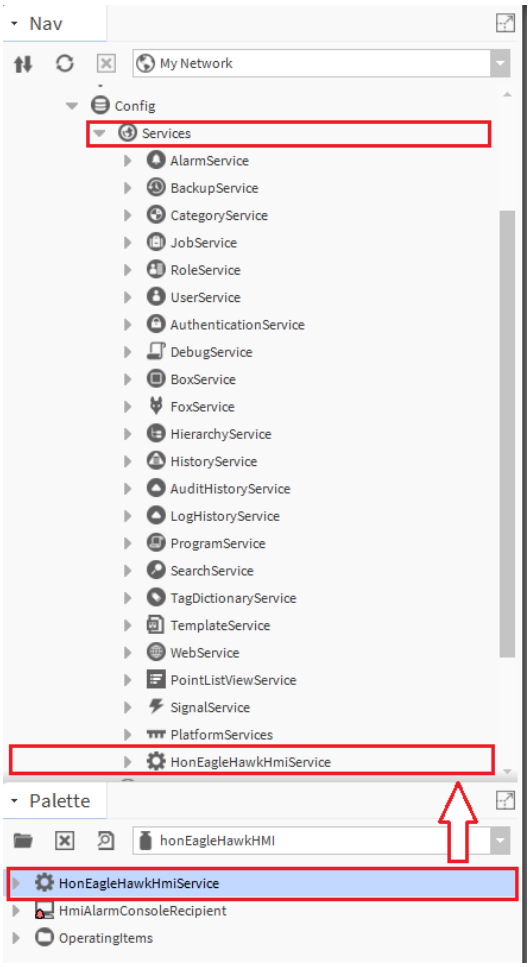
IMPORTANT

Always place the "HonEagleHawkHmiService" into the "Services" folder.

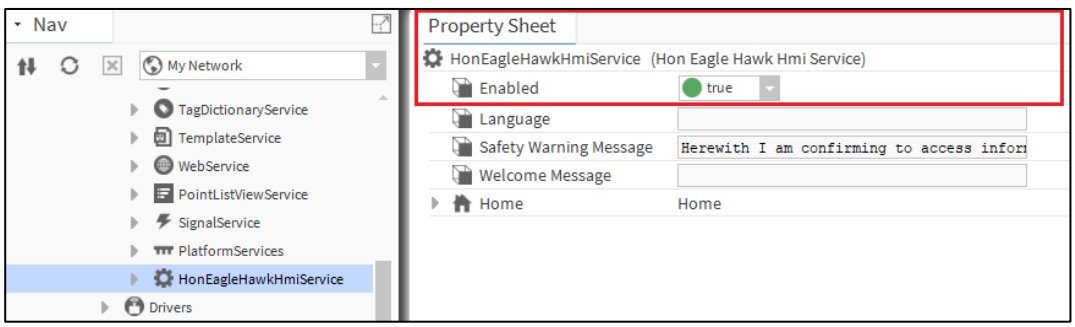
Do NOT place it under any service within "Services"

Steps to configure HMI Service

1. Select the "honEagleHawkHMI" palette and drag the "HonEagleHawkHmiService" into the "Services" of your station.

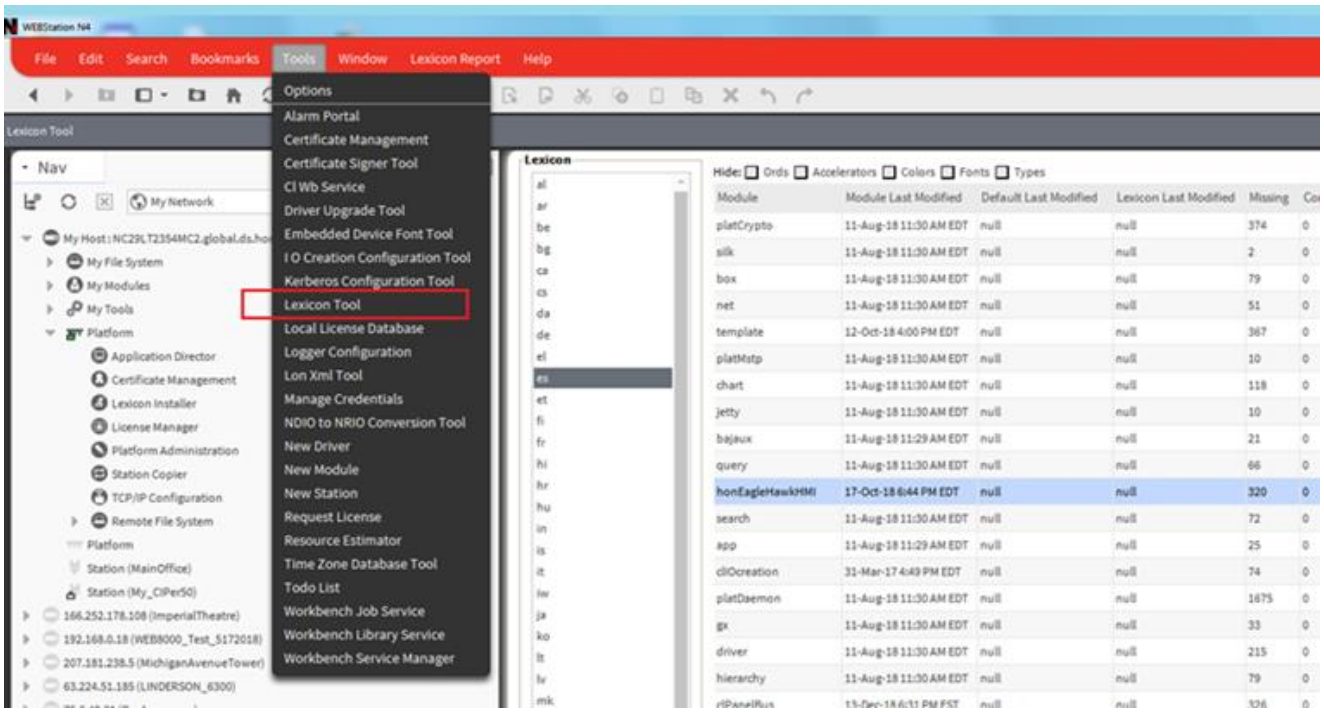


2. Enable the "HonEagleHawkHmiService".



3. Changing, deleting, or translating the messages on the HMI.
4. Changing or deleting can be done in the property sheet of the HMI Service – see below:

For translating the “Warning” and “Welcome” message of the HMI, you can also use the WEBs N4 Lexicon tool, see section “Local language HMI menus – translation” in this bulletin



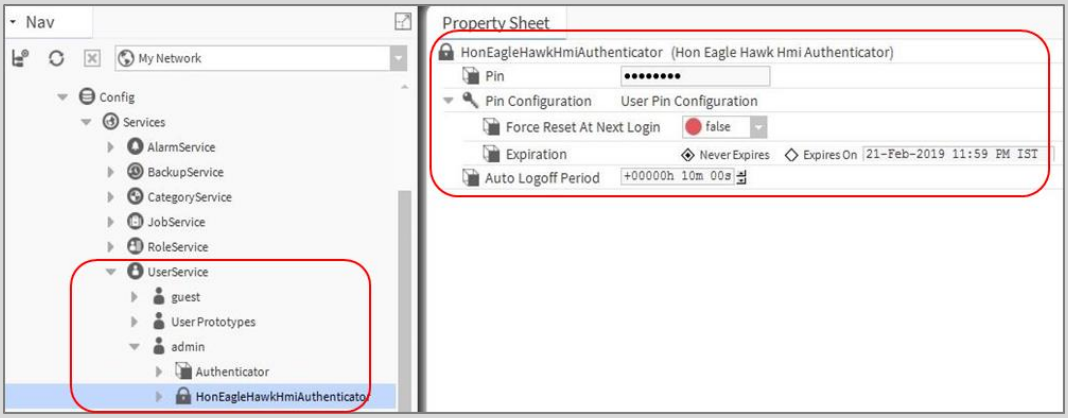
HMI pin

PIN, PIN-configuration, and log-off definition are fully integrated with the Niagara "User Service". This makes it secure and allows to re-use the user definitions already in place for the station.

NOTE

It is mandatory to enter a 5-digit (Numeric only) PIN here. For security reasons, there is no default PIN.

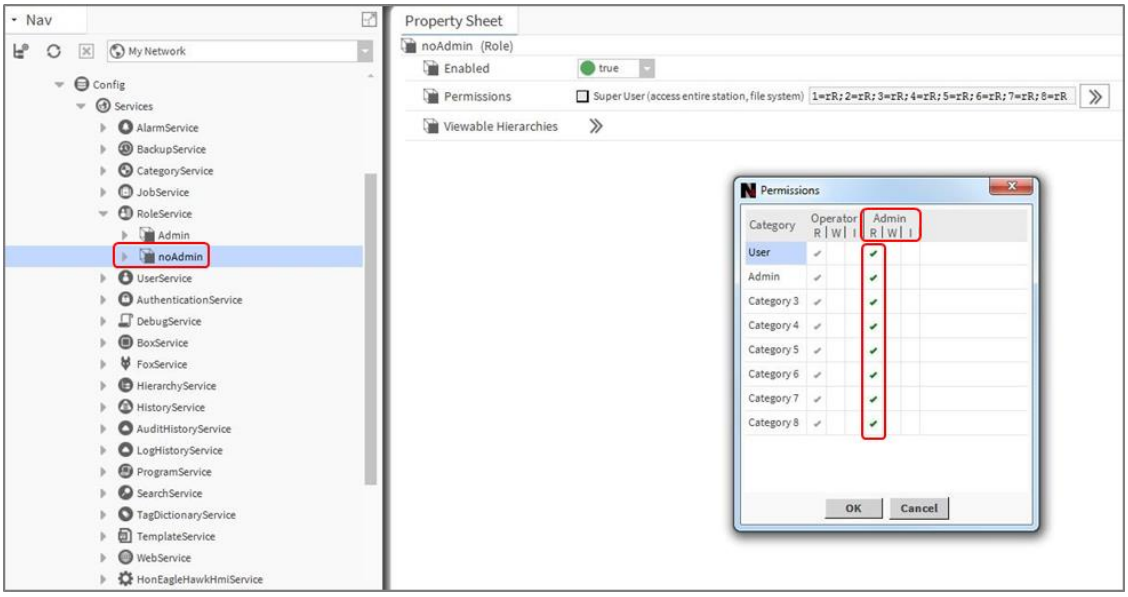
If the PIN is not present, the controller will not function.



HMI user rights

In the Admin column (marked red) for the user permissions of the RoleService, it is mandatory to enable "Read" rights to the categories you want to access via HMI, otherwise, the user will have no access.

You may also provide the "Write" and "Invoke" rights to a category as required.



HMI PIN lock-out

For Cyber Security reasons, users will be locked out after multiple entries of a wrong PIN:

- After three wrong PIN entries in a row, user login is blocked for 1 min. For each wrong PIN after this, the user must wait for 1 min.
- This time sequence is repeated until a successful login is done.

NOTE

For Cyber Security reasons, all users are blocked during the waiting time.

This is intentional behavior.

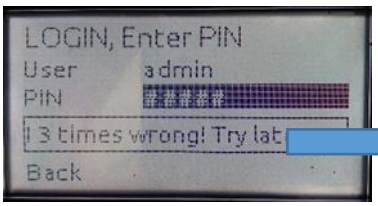
1st time wrong PIN:

2nd time wrong PIN:

3rd time wrong PIN:

Wait time is 1 minute for all users.

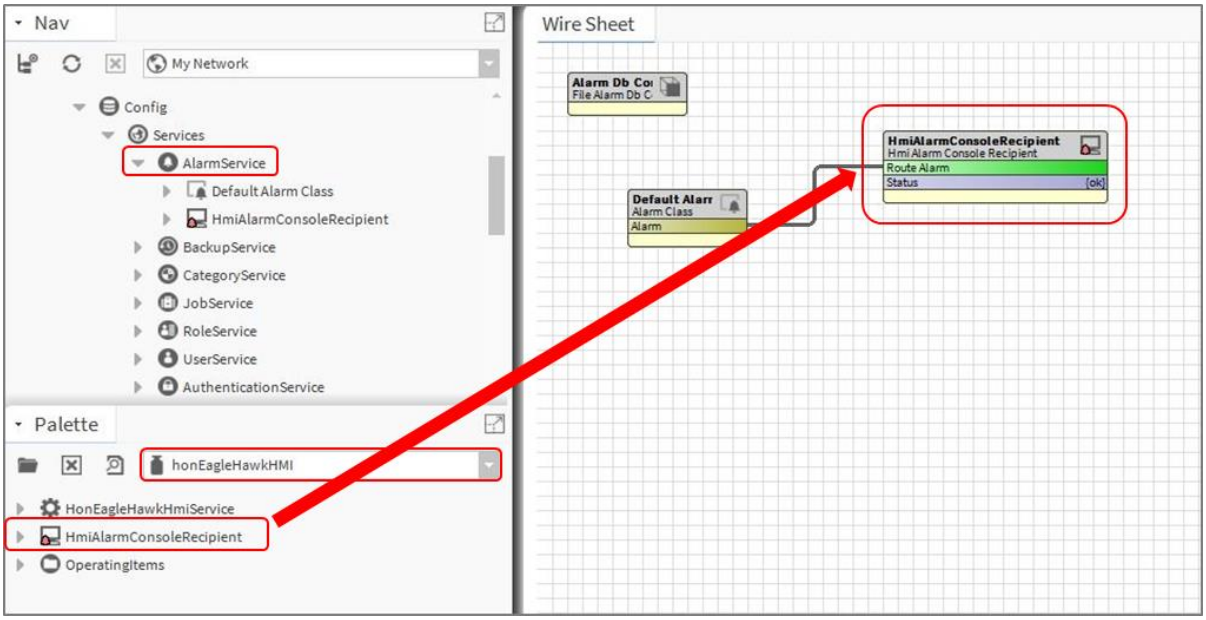
4th / 5th / 6th / … etc time wrong PIN:



Correct PIN entry will restart the lock-out sequence.

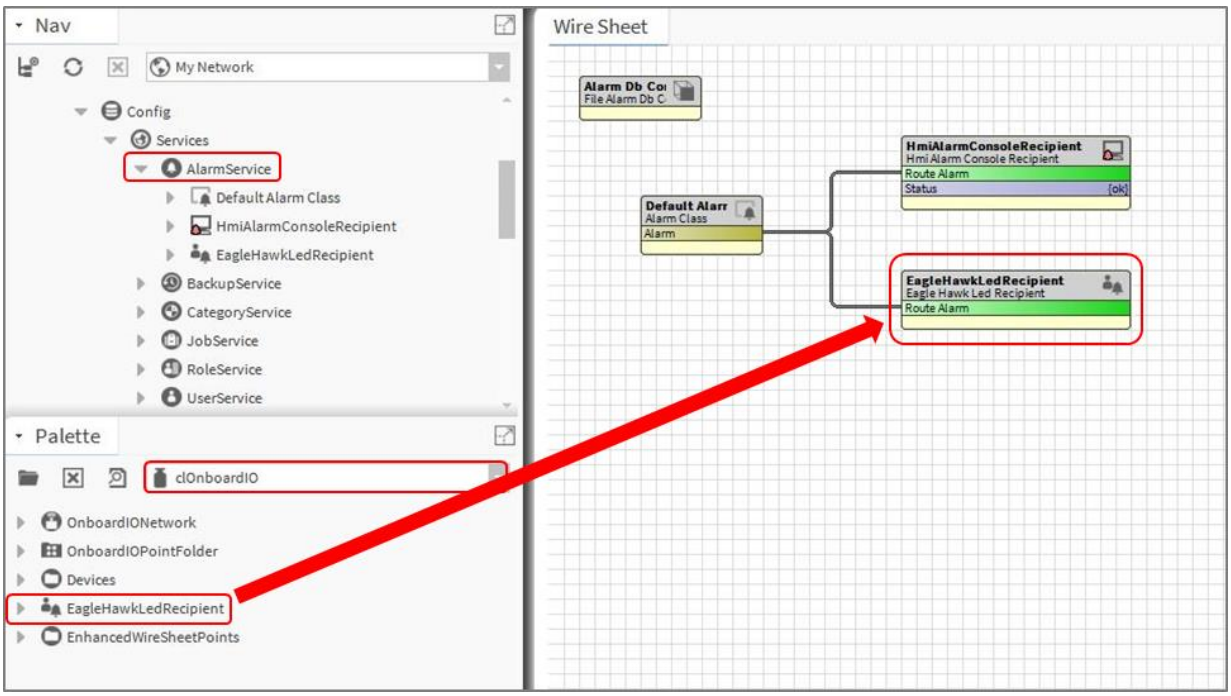
Enabling the alarming on the HMI

From the “honEagleHawkHMI” palette, drag the “HmiAlarmConsoleRecipient” into the “Alarm Service” and connect it to the “Default Alarm Class".



Enabling the alarm LED on the HMI

From the “clOnboardIO” palette, drag the “EagleHawkLedRecipient” into the “Alarm Service” and connect it to the “Default Alarm Class”:



Adjusting alarm poll-rate for the HMI

The update rate for alarms and data points on the HMI has a default setting.

This can be adjusted with the CPU performance, to balance the information demand.

IMPORTANT

i). The faster the alarm and data-point poll rate, the more impact it will have on the performance of the station. This might slower the CPU or station performance.

ii). The default setting for alarm and data-point poll-rate is 15s (15.000 milliseconds).

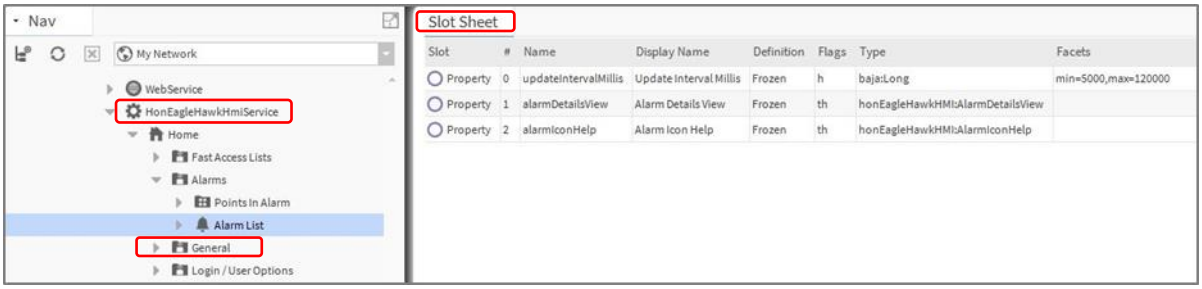
iii). The adjustable range is from 5s to 120s (5.000...120.000 milliseconds).

iv). By default, the poll-rate setting is hidden and can be made visible in the Slot Sheet.

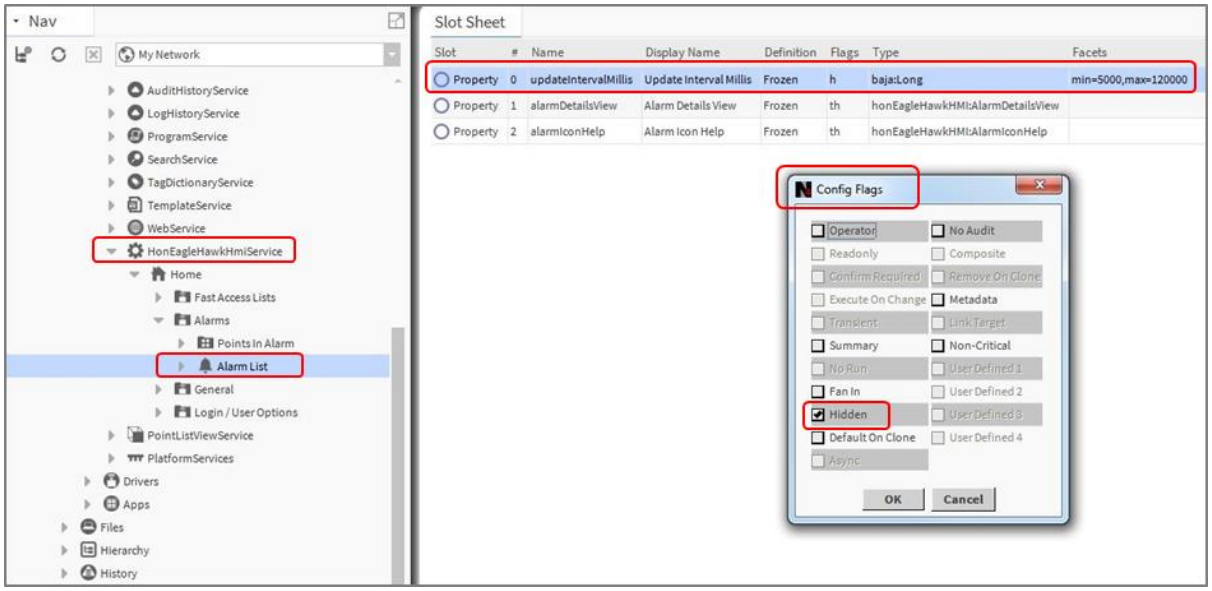
When adjusting for faster polling, watch the CPU load of the station.

To change the alarm poll rate

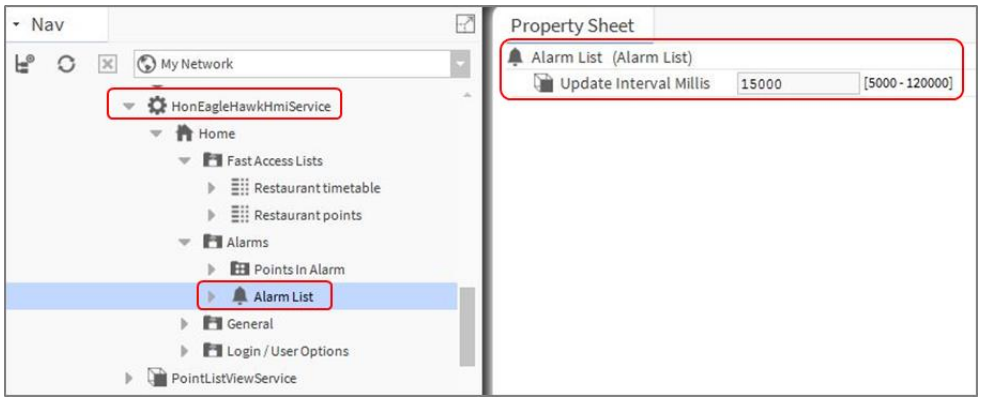
1. Select the alarm menu item and select the **Slot Sheet**:



2. Right-click the "updateIntervalMillis" and uncheck the "Hidden" flag.



3. Double-click the Alarm List in "HonEagleHawkHmiService" and change the poll rate as appropriate.

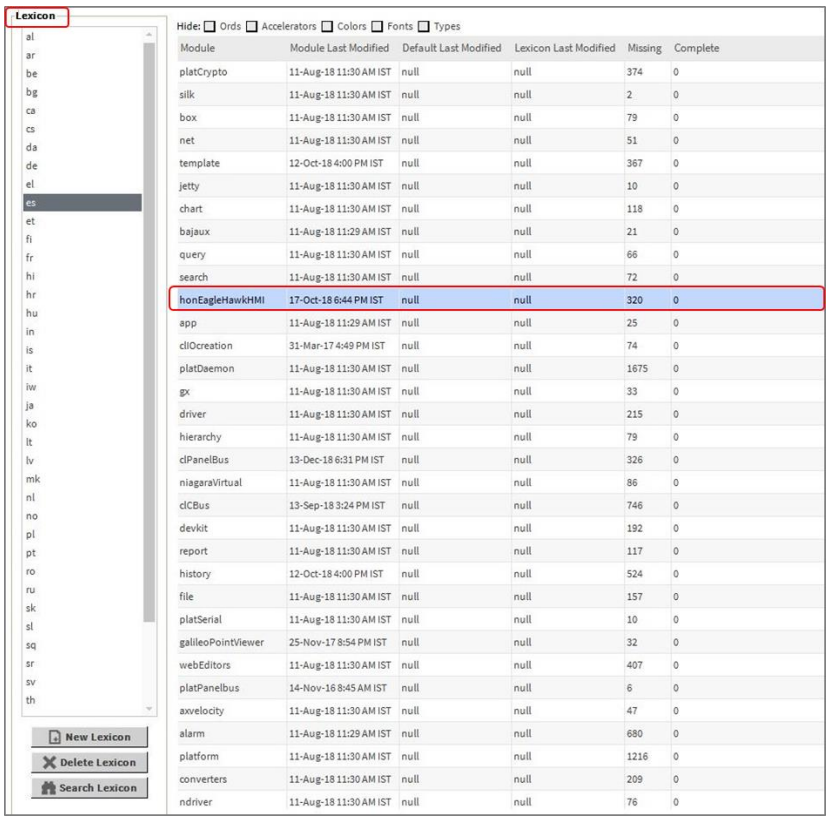


Local language HMI menus - translation

The HMI menus can be localized by making use of the standard Lexicon tool of WEBs N4:

- Open Lexicon tool of WEBs N4 and your local language lexicon file
- Open the "honEagleHawkHMI module
- Do the translations and save this lexicon file
- Commission the lexicon file into the controller
- Generate a new user which uses the new language file

Login user into the HMI and control the translation

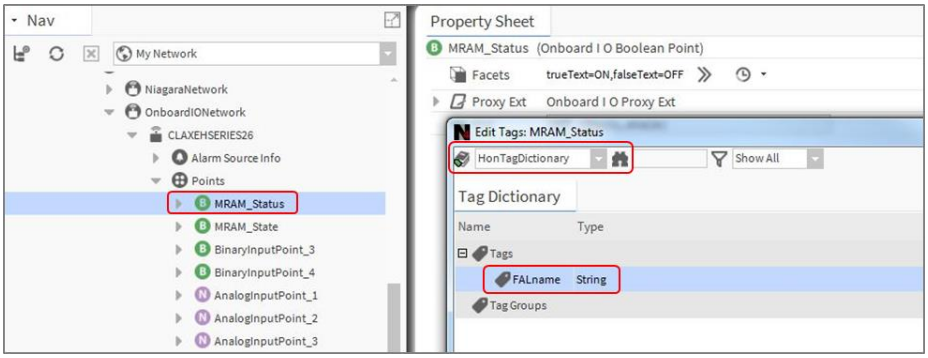


Module	Module Last Modified	Default Last Modified	Lexicon Last Modified	Missing	Complete
platCrypto	11-Aug-18 11:30 AM IST	null	null	374	0
silk	11-Aug-18 11:30 AM IST	null	null	2	0
box	11-Aug-18 11:30 AM IST	null	null	79	0
net	11-Aug-18 11:30 AM IST	null	null	51	0
template	12-Oct-18 4:00 PM IST	null	null	367	0
jetty	11-Aug-18 11:30 AM IST	null	null	10	0
chart	11-Aug-18 11:30 AM IST	null	null	118	0
bajaux	11-Aug-18 11:29 AM IST	null	null	21	0
query	11-Aug-18 11:30 AM IST	null	null	66	0
search	11-Aug-18 11:30 AM IST	null	null	72	0
honEagleHawkHMI	17-Oct-18 6:44 PM IST	null	null	320	0
app	11-Aug-18 11:29 AM IST	null	null	25	0
dlOcreation	31-Mar-17 4:49 PM IST	null	null	74	0
platDaemon	11-Aug-18 11:30 AM IST	null	null	1675	0
gx	11-Aug-18 11:30 AM IST	null	null	33	0
driver	11-Aug-18 11:30 AM IST	null	null	215	0
hierarchy	11-Aug-18 11:30 AM IST	null	null	79	0
dlPanelBus	13-Dec-18 6:31 PM IST	null	null	326	0
niagaraVirtual	11-Aug-18 11:30 AM IST	null	null	86	0
dlCBus	13-Sep-18 3:24 PM IST	null	null	746	0
devkit	11-Aug-18 11:30 AM IST	null	null	192	0
report	11-Aug-18 11:30 AM IST	null	null	117	0
history	12-Oct-18 4:00 PM IST	null	null	524	0
file	11-Aug-18 11:30 AM IST	null	null	157	0
platSerial	11-Aug-18 11:30 AM IST	null	null	10	0
galileoPointViewer	25-Nov-17 8:54 PM IST	null	null	32	0
webEditors	11-Aug-18 11:30 AM IST	null	null	407	0
platPanelbus	14-Nov-16 8:45 AM IST	null	null	6	0
axvelocity	11-Aug-18 11:30 AM IST	null	null	47	0
alarm	11-Aug-18 11:29 AM IST	null	null	680	0
platform	11-Aug-18 11:30 AM IST	null	null	1216	0
converters	11-Aug-18 11:30 AM IST	null	null	209	0
ndriver	11-Aug-18 11:30 AM IST	null	null	76	0

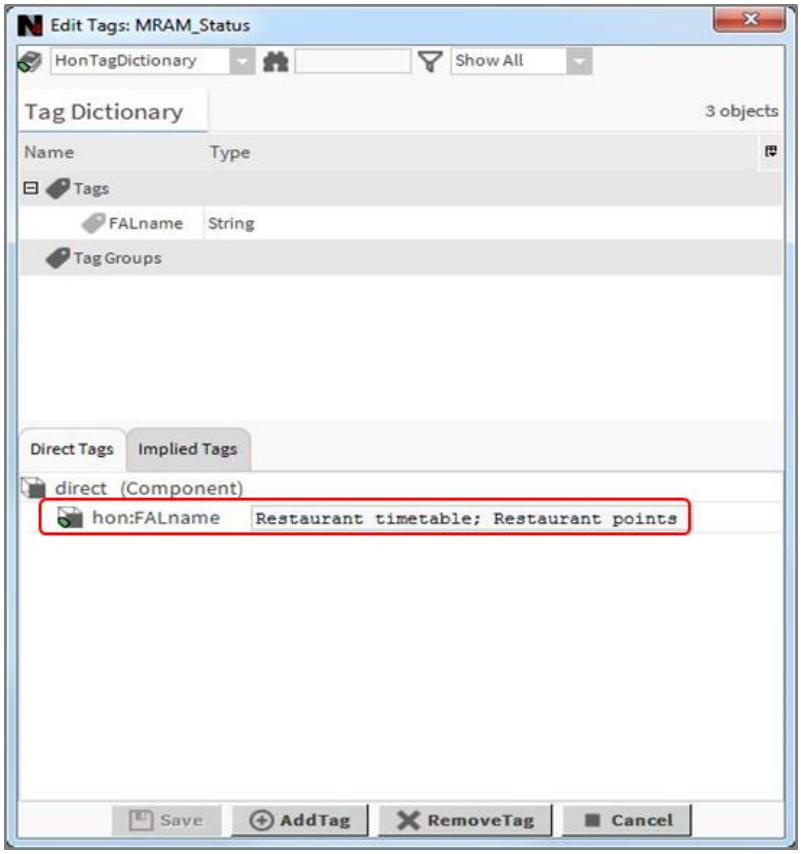
Filling the Fast Access Lists

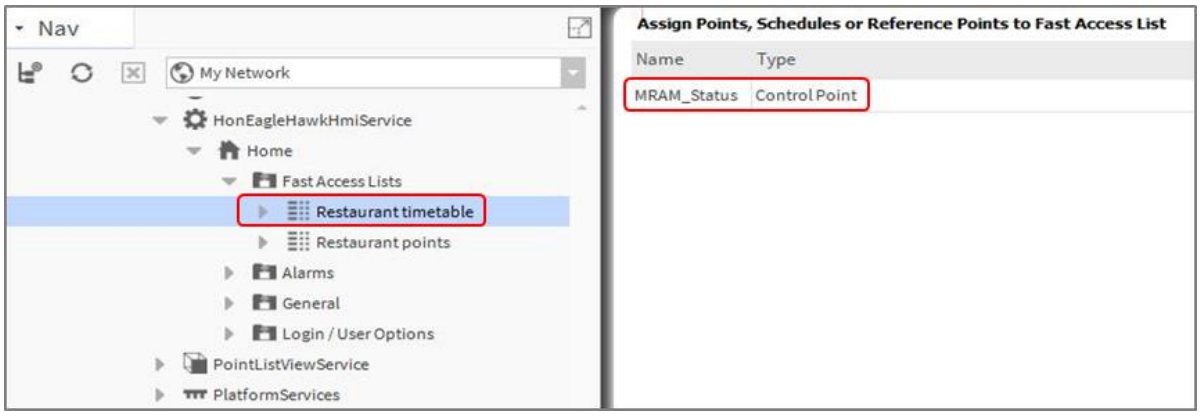
To fill the Fast Access Lists (FAL) with points, parameters, and schedules, you have two options:

- Option 1: Drag and drop points from the Navigation tree on the left into the Fast Access List on the property sheet on the right.
- Option 2: Use tagging: Drag and Drop “HonTagDictionary” into the “TagDictionaryService”. Select the point(s) you want to add, open the tag dialog, select the “HonTagDictionary” and select the tag “FALname”.



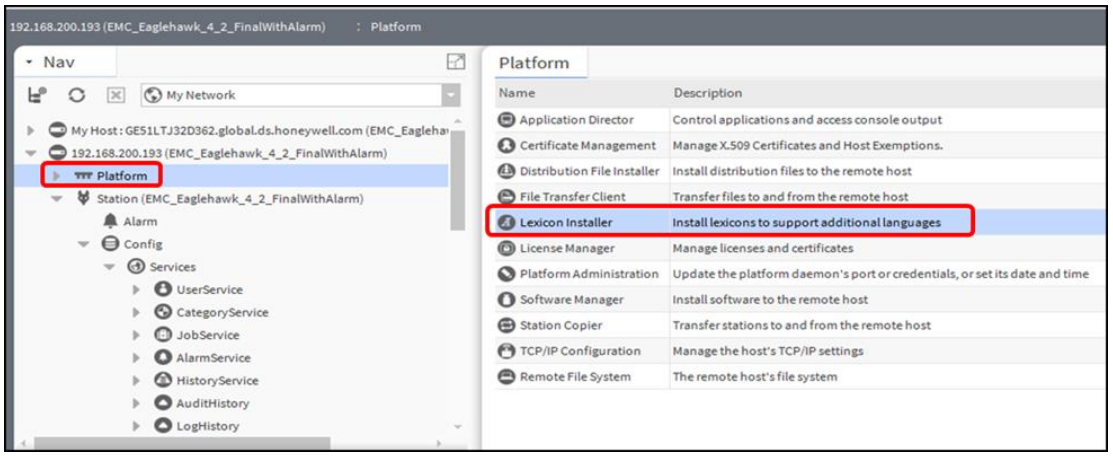
In the attached tag, add the name of the Fast Access List(s) you want to have this data point represented in. Separate multiple Fast Access Lists by using a semicolon “;”



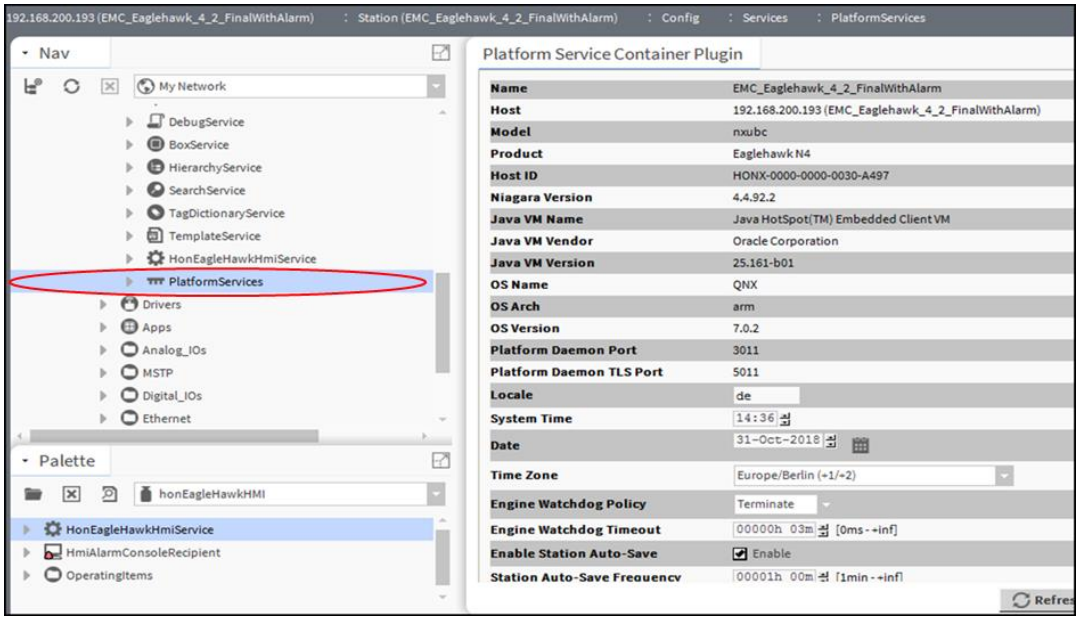


Setting the time format on the home screen

1. Make sure that the Lexicon of the desired local language is installed. If not, use the Lexicon Installer to install it.



2. Set the language in the Station/PlatformService “locale” field.

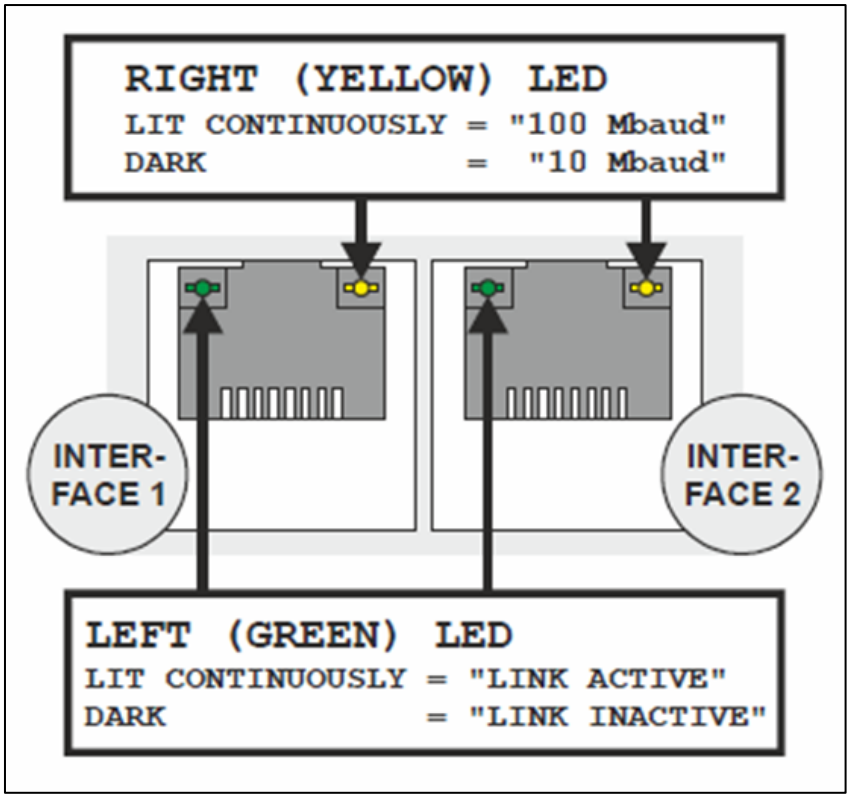


Onboard Inputs and Outputs

Onboard Inputs/Outputs	Description	Max. cable length	WEB-EHSERIESNX26D	WEB-EHSERIESNX26ND
UI (Universal Input)	NTC10k**Ω** (Type II), NTC20k**Ω** (Type II), 0...10V, slow BI 0.4 Hz Short-circuit protected against 24VAC	1200 ft (366 m)	8	8
	NTC10k**Ω** (Type II), NTC20k**Ω** (Type II), 0...10V fix pull-up, slow BI 0.4 Hz Short-circuit protected against 24VAC	1200 ft (366 m)	2	2
BI (Binary Input)	open = 24 VDC, closed 2.0 mA, totalizer @ 15 Hz max. Short-circuit protected against 24VAC	1200 ft (366 m)	4	4
AO (Analog Output)	0..11 V (max. 1 mA)	1200 ft (366 m)	4	4
BO (Binary Output)	Relay Normally Open contact 3A, 250VAC, 30VDC	1200 ft (366 m)	4	4
	Relay Normally Open contact 10A, 250VAC, 30VDC	1200 ft (366 m)	1	1
	Relay Normally Open contact with one common	1200 ft (366 m)	3	3

For all technical details on Onboard Inputs/Outputs, please refer to the *CIPer Model 50 Product Datasheet –31-00197* and *CIPer Model 50 Installation & Commissioning Instructions – 31-00233*.

Dual Ethernet



The CIPer Model 50 is equipped with a Dual Ethernet interface. All information about the Dual Ethernet can be found in the *CIPer Model 50 Installation & Commissioning Instructions – 31-00233*.

Separated networks

SEPARATED NETWORKS = DEFAULT SETTING

For cybersecurity reasons, the default setting of the Dual Ethernet is with the following IP settings:

- Ethernet port 1: IP address 192.168.200.20, subnet 255.255.255.0
- Ethernet port 2: IP address 192.168.201.20, subnet 255.255.255.0

Network switching mode

Optionally, the Dual Ethernet can be operated in network switching mode.

If this mode is desired, disable one of the Ethernet ports in WEBs N4 – see screenshot below.

Typical application scenarios are a closed BMS networks, like for daisy-chaining plant controllers or daisy-chaining room controllers on Ethernet.

NOTE

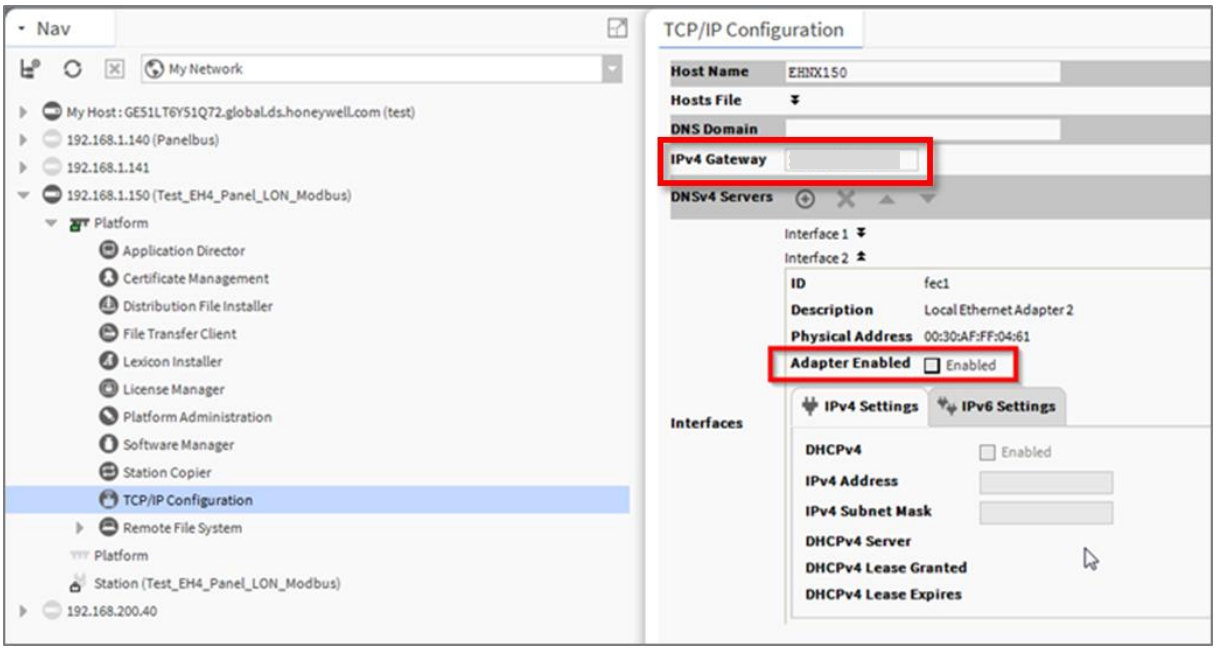
The switching functionality will not work during the power-fail of the CIPer Model 50 controller.

IMPORTANT

Set a gateway address

For the Ethernet switching functionality to work, it is mandatory to enter a Gateway address. If there is no gateway in the subnet, then use a gateway address that relates to the IP address of the Ethernet adapter that is enabled.

In the screenshot below, the gateway address is 192.168.1.1, hence the IP address of Ethernet adapter 1 must be in the range of 192.168.1.2 to 192.168.1.255.



Combined network switching & separated networks

Optionally separating networks and switching functionality can be combined.

This allows to have one (or more) controllers connected to the customer intranet, and all other controllers residing in a closed BMS network.

A typical application is the supervisory controller(s) accessible from the customer intranet, and the room controllers residing in a closed network, and thus being not directly accessible from the customer intranet.

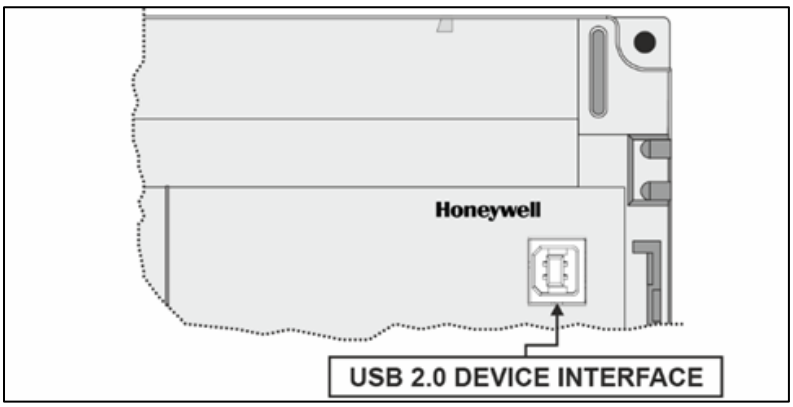
Front USB/Ethernet interface

All details regarding installation and commissioning of the CIPer Model 50 can be found within the *Installation & Commissioning Instructions – 31-00233*.

All models of the CIPer Model 50 controller are equipped with a USB 2.0 Device interface at the front, which is an Ethernet over the USB connection.

The permanent IP address of this USB interface is 192.168.255.241.

This interface allows connection of WEBs N4 for programming and operation, and web browsers or 3rd party touch panels.



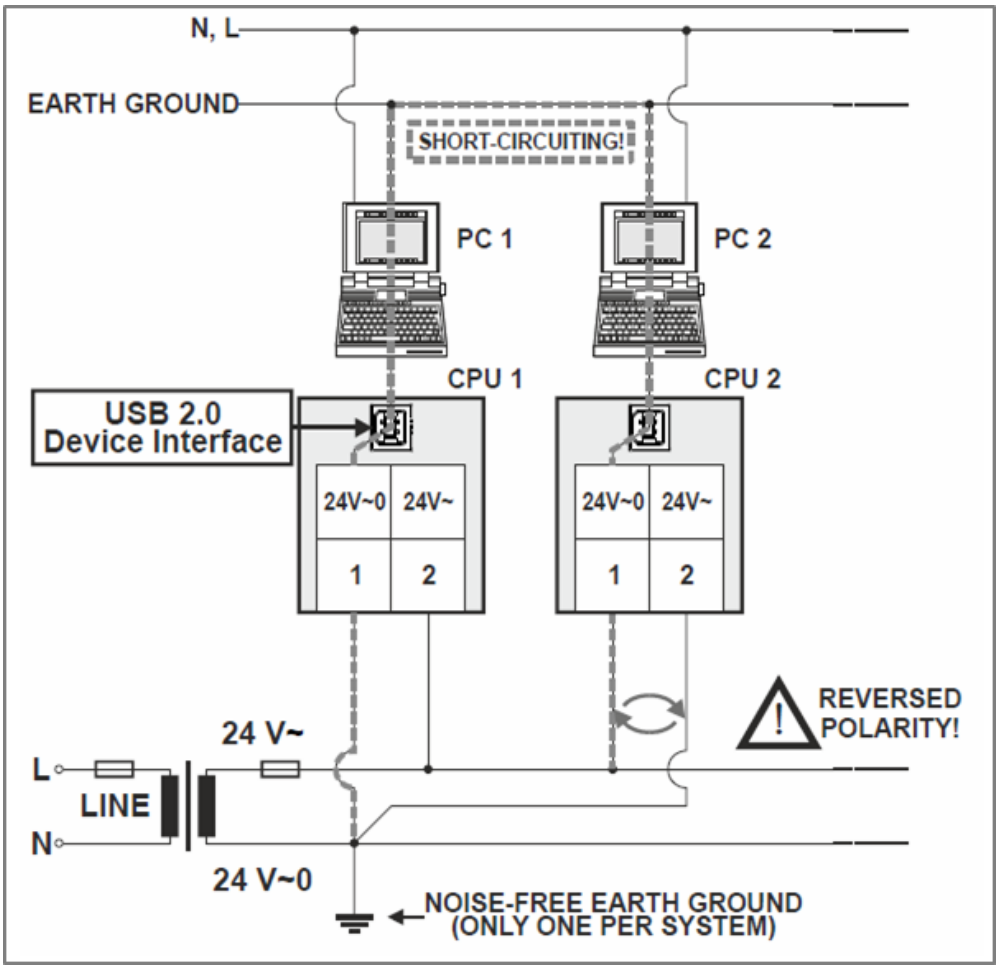
If your WEBs N4 PC or your web browser does not connect to this USB interface, the Windows driver may be missing. In this case, please see Appendix chapters *USB Driver Installation for Windows 7*, *USB Driver Installation for Windows 8*, and *USB Driver Installation for Windows 10* installation for WINDOWS 7/8/10".

ATTENTION:

Due to the risk of short-circuiting (see below figure), it is strongly recommended that the CIPer Model 50 controller be supplied with power from a dedicated transformer.

However, if the CIPer Model 50 controller is to be supplied by the same transformer powering other controllers or devices (e.g., the PW M-Bus Adapter), care must be taken to ensure that correct polarity is observed.

For more details on the Power supply connections and recommended VA ratings, refer to the Power Supply section in the *CIPer Model 50 Installation & Commissioning Instructions – 31-00233*.



Secure Boot – Increased Cyber Security

The CIPer Model 50 is an IIoT (Industrial Internet of Things) device.

Its benefits and typical deployments include network access as well as browser access via Intranet and Internet.

Beginning with the firmware of this release, the CIPer Model 50 will only boot and run authenticated WEBs N4 firmware. This is achieved by a firmware signature.

To achieve the best possible cybersecurity, please note the following:

1. Read and apply the *Honeywell General Security Best Practices - 31-00129*, available at the Honeywell Buildings Forum.
2. It is not possible to downgrade the released CIPer Model 50 firmware to a previous or older firmware version due to Cyber Security reasons.
3. Always install/upgrade to the latest firmware and software versions available on the Honeywell Buildings Forum for the latest secured versions and bug fixes.
4. Operate controllers either in internal networks, or use a coded VPN connection for internet access, to limit attacks from external Internet users.
5. Recommend your customers (network domain owners) to make use of HTTPS for secure web browser access to the controller.
6. Recommend your customers (network domain owners) to obtain a certificate from a Certification Authority and download this certificate into the controller.
7. If web access outside a VPN is to be realized, it should be handled through a firewall with appropriate “Whitelisting”, although a VPN is strongly recommended, because it is the best way to provide secure and encrypted communications to the controller.
8. Close all ports on the Internet router/gateway, and only open those ports that are mandatory for operation or maintenance, to minimize the attack surface.
9. BACnet (e.g. port 47808) should never be exposed to the Internet, not even through a firewall, but should only be exposed on internal networks or via a VPN because the BACnet protocol does not have security built-in.
10. Never use the default passwords, because they are widely available and are therefore easily guessed.
11. Use “strong” passwords, because modern password "crackers" can break simple passwords in a matter of minutes.
12. Never operate CIPer controllers unprotected on the open Internet.

NOTE

“Whitelisting” stands for allowing explicit IP-Addresses or MAC addresses of dedicated and trusted PCs to access the controller behind the firewall and router.

Part numbers and supporting material

Ordering Part Numbers

Table 1. Ordering Part Numbers

OS Number (SKU)	Description
WEB-EHSERIESNX26D	CIPer Model 50 PLANT CONTROLLER, w/ HMI, 26 IO, 100 points, 5 devices
WEB-EHSERIESNX26ND	CIPer Model 50 PLANT CONTROLLER, w/o HMI, 26 IO, 100 points, 5 devices
WEBSEHN4LIC	CIPer MODEL 50 CORE LICENSE with SMA-0005-1YR-INT PIN-0005 - 18 mo Maintenance

License Upgrades

Table 2. License Upgrades

Model	License content/Upgrade license
EAGLEH255PUP	255 Additional Panel-bus Expansion I/O Points
PIN-DEV-UP-1	+50 open points upgrade, +1 Device
PIN-DEV-UP-2	+100 open points, +2 Devices
PIN-DEV-UP-10	+500 open points, +10 Devices
PIN-DEV-UP-25	+1250 open points, +25 Devices
PIN-DEV-UP-50	+2500 open points, +50 Devices

Software Maintenance Agreements

Table 21. Software Maintenance Agreements

Model	License content/Upgrade license
SMA-0005-1YR	PIN-0005 - 1 year maintenance
***SMA-0005-1YR-INIT**	PIN-0005 - Initial 18 month maintenance must be purchased in conjunction with the initial Core software. Optional 3 or 5 year maintenance may be substituted.
SMA-0005-3YR	PIN-0005 - 3 year maintenance
SMA-0005-5YR	PIN-0005 - 5 year maintenance
SMA-0010-1YR	PIN-0010 - 1 year maintenance
SMA-0010-1YR-INIT	PIN-0010 - Initial 18 month maintenance must be purchased in conjunction with the initial Core software. Optional 3 or 5 year maintenance may be substituted.
SMA-0010-3YR	PIN-0010 - 3 year maintenance
SMA-0010-5YR	PIN-0010 - 5 year maintenance
SMA-0025-1YR	PIN-0025 - 1 year maintenance
SMA-0025-1YR-INIT	PIN-0025 - Initial 18 month maintenance must be purchased in conjunction with the initial Core software. Optional 3 or 5 year maintenance may be substituted.
SMA-0025-3YR	PIN-0025 - 3 year maintenance
SMA-0025-5YR	PIN-0025 - 5 year maintenance
SMA-0100-1YR	PIN-0100 - 1 year maintenance
SMA-0100-1YR-INIT	PIN-0100 - Initial 18 month maintenance must be purchased in conjunction with the initial Core software. Optional 3 or 5 year maintenance may be substituted.
SMA-0100-3YR	PIN-0100 - 3 year maintenance
SMA-0100-5YR	PIN-0100 - 5 year maintenance

NOTE : *included with the initial purchase of WEBSEHN4LIC

Performance

Performance tests

The system boundaries are hard to define, as they depend on many factors, such the boundaries of the hardware performance in general, the network performance, the "traffic" created by the application, concurrent polls from Supervisors, Station Save intervals, Recovery Service intervals, etc.

In addition to the general Tridium guidance of a maximum of 80% CPU load, Honeywell has undertaken two exemplary performance tests.

The maximum recommended CPU usage is outlined in the two tables below.

	No. of modules	No. of hardware I/O points	Points in PX pages	Freq. of value changes	Histories enabled	CPU usage	Test result
Panel Bus (via RS485-1)	46 [A)]	491	491 [B)]	2 sec (poll rate)	--	30% (occasionally: 50%)	OK for non-critical applications [C)]
BACnet MS/TP (via RS485-2)	13	559	559 [D)]	2 sec (COV) [E)]	500		

[A)] 9x 821A, 9x 822A, 9x 823A, 9x 824, 5x 825, 5x 830A

[B)] Four (4) PX pages: AI, AO, BI, and BO points each in a dedicated PX page per point type

[C)] About 0.5% of the BACnet MS/TP point updates are occasionally delayed.

[D)] One (1) PX page with all points

[E)] COV: Change of Value. COV frequency is the rate of change in the value of an object property.

	COV [E)] frequency	Max. no. of COV updates per min. across RS485-1 and RS485-2 together	CPU usage	test result
BACnet MS/TP at 38,500 bps	4 sec	4,000	25...35% (occasionally: 60%)	OK

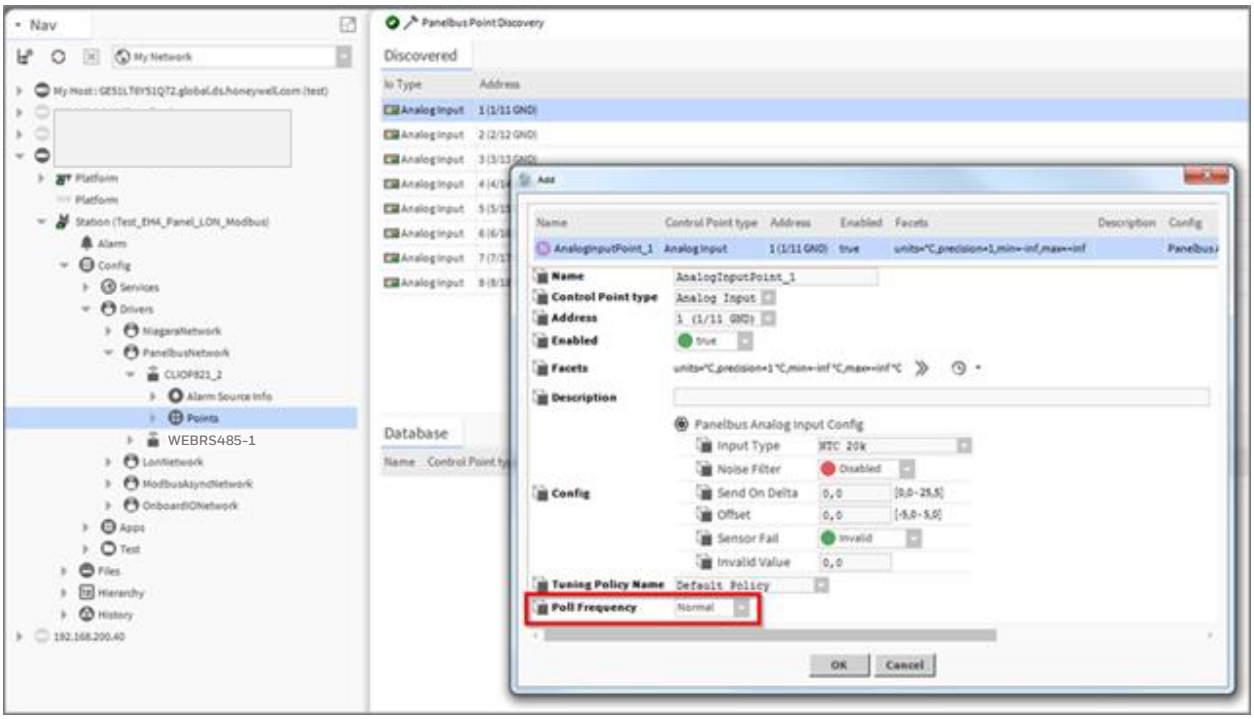
PanelBus Communication tuning

The default polling time for all Panel-Bus points is set to “Normal = 10s”.

This means that the data from the field are updated every 10s.

Write commands are sent without time delay.

The polling frequency can be changed, and we do recommend that it must be updated more frequently.



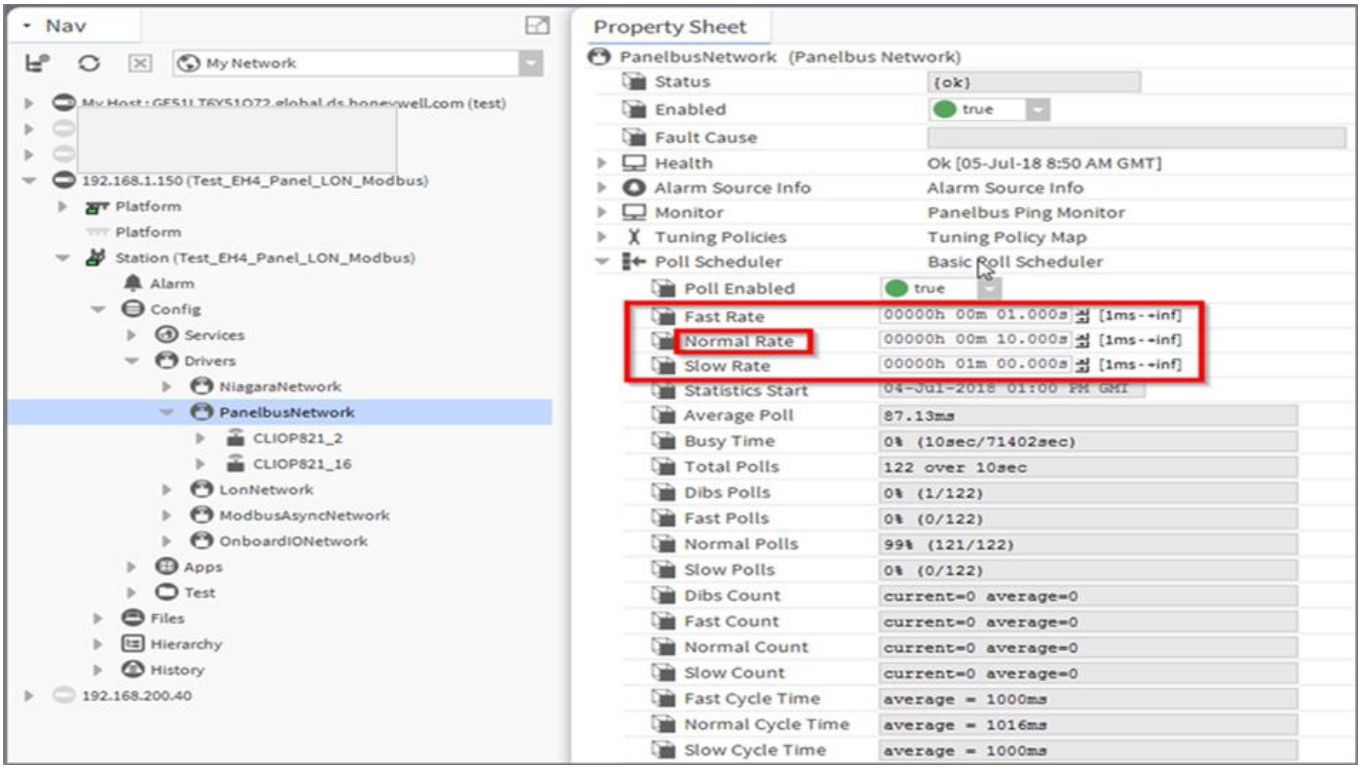
IMPORTANT

For CIPer Model 50, the fastest poll rate is 200 milliseconds.

Do NOT set a faster poll rate, as this may overload the CPU in larger systems.

Editing the standard polling frequency can be done inside the “Poll Scheduler” of the Property Sheet of the PanelbusNetwork:

The Assignment of the different Poll Intervals for each point is done inside the Panelbus Point Discovery Dialog.



Panel-Bus cable type and length

See *CIPer Model 50 Installation and Commissioning Instructions – 31- 00233* for all details.

Max. Panel Bus length:

120 ft (36.5 m) for any type of cabling and topology. No additional end termination is permitted.

2400 ft (731.5m) for twisted-pair or telephone cable and daisy chain topology. The Controller must be positioned at one end of the Panel-Bus, and an end termination (120 Ω) at the other end. Furthermore, the three-position slide switch must be set to "END." Use Honeywell cable 3322 or 3251.

I/O Modules

Pluggable I/O Modules

There are 2 variants of pluggable I/O modules:

- Panel Bus I/O modules with communication via Panel Bus (light-gray housings). Panel Bus I/O modules are automatically commissioned (with firmware download) by the CIPer Model 50 Controller.
- LONWORKS Bus I/O modules (dark-gray housings) with communication via LONWORKS (FTT10-A, link power compatible) for easy integration and use with 3rd-party controllers.

Mixed I/O Modules

Besides the pluggable Panel Bus I/O modules (consisting of a terminal socket and a removable electronic module), there are also mixed Panel Bus I/O modules. Specifically: the XFU830A is mixed Panel Bus I/O module, featuring an integrated screw terminal (incl. bridge connector and swivel label) and a variety of inputs and outputs; housing matches XL800 design. Mixed Panel Bus I/O modules have a light-gray housing and are likewise automatically commissioned (with firmware download) by the CIPer Model 50 Controller.

Terminal Sockets

Pluggable I/O modules must be mounted on the appropriate terminal sockets. Pluggable Panel Bus I/O modules and pluggable LONWORKS Bus I/O modules use the same terminal sockets. These terminal sockets are available with a screw-type terminal (XSU82...).

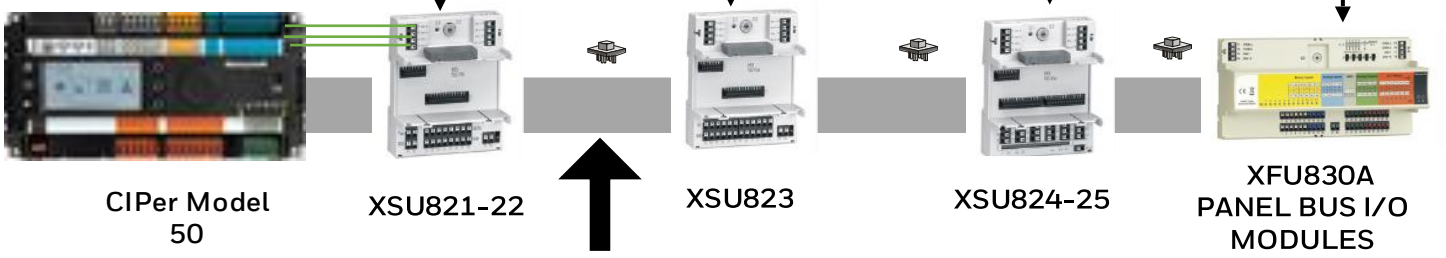
Mixed I/O modules feature an integrated terminal socket. 128 Panel-Bus IO modules per CIPer Model 50 are supported.

Color Coding

To distinguish modules and components, the following color coding is used:

Color	Part
Red	All of the user-accessible adjustable mechanical parts (i.e., bridge connectors and locking mechanism) and operating controls (manual overrides, etc.)
Light-gray	Panel Bus I/O modules
Dark-gray	LONWORKS Bus I/O modules

	Pluggable Analog Input	Pluggable Analog Output	Pluggable Binary Input	Pluggable Relay Output	Pluggable Floating Output	Mixed I/O
LonWorks BUS MODULE	XFL821A	XFLR822A XFL822A	XFL823A	XFLR824A XFL824A		
PANEL BUS MODULE	XF821A	XFR822A XF822A	XF823A	XFR824A XF824A	XFR825A	XFU830A



CIPer Model 50

XSU821-22

XSU823

XSU824-25

XFU830A PANEL BUS I/O MODULES

LonWorks or Panel Bus

Panel Bus I/O Module Overview

Panel Bus module	LonWorks Bus module	Description	Inputs	Outputs	Manual controls	LEDs [A]
XF821A	*XFL821A	Analog input module	8	–	–	–
XF822A	*XFL822A	Analog output module	–	8	–	8 status LEDs
XFR822A	*XFLR822A	Analog output module	–	8	8 Manual overrides	8 status LEDs
XF823A	*XFL823A	Binary input module	12	–	–	12 status LEDs
XF824A	*XFL824A	Relay output module	–	6 [B]	–	6 status LEDs
XFR824A	*XFLR824A	Relay output module	–	6 [B]	6 Manual overrides	6 status LEDs
XFR825A	–	Floating output module	–	3	3 Manual overrides	3 pairs of status LEDs
XFU830A	-	Mixed I/O Module	8 AI 12 BI	8 AO 6 BO		

[A] In addition to the power LED and service LED

[B] Changeover outputs

* Module no longer supportable, refer substitute product option(s)

IMPORTANT

LonWorks Product material number Substitution information

LonWorks Bus module products are no longer supportable. Substitute product option(s) have been identified to help ease the transition to currently supported products.

Please refer to the below table for Replacement.

Material	Description	Replacement
XFL821A	8 ANALOG INPUT (LON)	1. IF-LON2 w/ CIPer 50 & panelbus I/O 2. CLIF-CBUS 3. LON Spyder 4. LON Stryker
XFL822A	8 ANALOG OUPUT MODULE (LON)	
XFL823A	12 BINARY INPUT MODULE (LON)	
XFL824A	6 RELAY OUTPUT MODULE (LON)	
XFLR822A	8 ANALOG OUTPUT MODULE (LON) W/OVR	
XFLR824A	6 RELAY OUTPUT MODULE (LON) W/OVR	

NOTE: *If you do not purchase products directly from Honeywell, please coordinate purchases of the 'End of Life' products with your current supplier. In this case, recognize that your supplier must meet the outlined 'Last Time Buy' parameters. If you have any questions concerning this 'End of Life' or 'Last Time Buy' process, please contact your Distributor or Honeywell Sales Representative.*

Compatibility

WEBs compatibility

WEBs 4.4U2 or higher is mandatory for CIPer Model 50, also the related jar files and modules to run the CIPer Model 50 with HMI. Downloaded the workbench version WEBs N4.4.93 or higher from the Honeywell Buildings Forum.

For compatibility of WEBs N4, please refer to the latest *Release Bulletin*.

Input and Output module compatibility

All Panel-Bus module versions (XF8xxx...) are supported by CIPer Model 50.

- XF821A
- XF822A, XFR822A
- XF823A
- XF824A, XFR824A
- XFR825A
- XFU830A

All LON I/O modules (XFL8xxx) are supported by CIPer Model 50.

Please review license limitations if LON modules should be used.

- *XFl821A
- *XFL822A, *XFLR822A
- *XFL823A
- *XFL824A, *XFLR824A

Note: *For replacement, refer to LonWorks Product material number Substitution information.

Spyder & Stryker tool compatibility

The Spyder tool is supported by CIPer Model 50 controller. Configured Spyder controllers LON and/or BACnet can be integrated. They are supported as 3rd party LON and BACnet devices. The CIPer Model 50 comes with a Honeywell license with the features required to program a non-ILC Spyder.

3rd party modules

Support and distribution of WEBs N4 modules that have been developed and distributed by 3rd party companies lie with these 3rd party companies.

CIPer Model 50 modules

The following are the modules supported by CIPer Model 50 controller:

NOTE

These modules are supported by CIPer Model 50 controller, from WEBs N4.4.93 or higher versions.

Module	Description	Version
CentralineAhuPx-wb	Centraline AHU Graphics	4.3.58.24.1
CentralineHtgPx-wb	Centraline Heating Plant Graphics	4.3.58.24.1
CentralineLONIOr5-wb	LON IO and Smart IO	4.10.0.2.0.12
clEnoceanNetwork-rt	Enocean Network Utilities	4.3.58.1.84
clEnoceanNetwork-wb	Enocean Network Utilities	4.3.58.1.84
clHVACAirConditioning-doc	HVAC control macro library: Air Conditioning	4.8.0.110.51
clHVACAirConditioning-rt		
clHVACChiller-doc	HVAC control macro library: Chiller	4.8.0.110.51
clHVACChiller-rt		
clHVAC-doc	Eagle control primitives	4.4.94.14.1.10
clHVACEnergyManagement-doc	HVAC control macro library: Energy Management	4.8.0.110.51
clHVACEnergyManagement-rt		
clHVACGeneral-doc	HVAC control macro library: General	4.8.0.110.51
clHVACGeneral-rt		
clHVACHeating-doc	HVAC control macro library: Heating	4.8.0.110.51
clHVACHeating-rt		
clHVACNordicAirCondition-doc	HVAC control macro library: Nordic Air Conditioning	4.8.0.110.51
clHVACNordicAirCondition-rt		
clHVACNordicGeneral-doc	HVAC control macro library: Nordic General	4.8.0.110.51
clHVACNordicGeneral-rt		
clHVACRoomControl-doc	HVAC control macro library: Room Control	4.8.0.110.51
clHVACRoomControl-rt		
clHVAC-rt	Eagle control primitives	4.4.94.14.1.10
clHVAC-wb		
clIOcreation-rt	Honeywell IO Creation modules	4.10.0.2.0.12

Module	Description	Version
clIOcreation-wb		
clOnboardIO-rt	Honeywell Onboard-IO Driver	4.10.0.2.0.12
clOnboardIO-wb		
clPanelBus-rt	Honeywell Panelbus serial driver	4.10.0.2.0.12
clPanelBus-wb		
clPrintout-doc	Honeywell Printout	4.10.0.2.0.12
clPrintout-rt		
clPrintout-wb		
honEagleHawkHMI-rt	Honeywell Human Machine Interface	4.10.0.2.0.12
honEagleHawkHMI-ux		
honEagleHawkHMI-wb		
honTagDictionary-rt	Honeywell Tag Dictionary to generate station model based on HBT Ontology	4.10.0.2.0.12
platPanelbus-rt	Honeywell Panelbus Platform Service	4.10.0.2.0.12

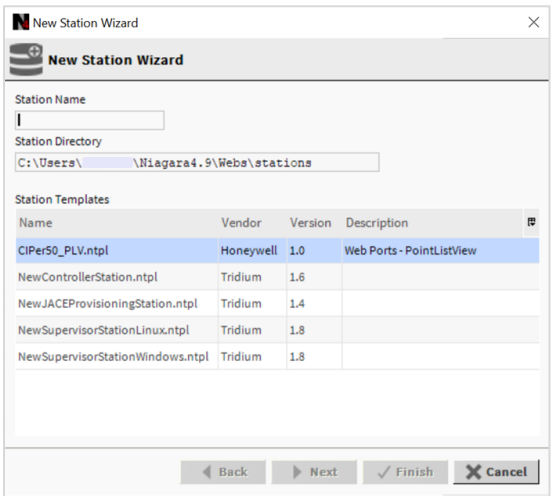
Steps to install into WEBs N4

1. Shut-down CIPer Model 50 controller.
2. Copy the *.jar files into the folder “c:\Honeywell\WEBStation-N4-4.x.x.xx\modules\” on your PC where the WEBStation N4 installation resides.
3. Restart WEBStation N4 workbench.

NOTE

While booting the controller station, a warning displays in the application directory. This is a default behavior; it will not impact the controller's functionality or performance.

4. Run the “software manager” and “update all out-of-date” files.
5. Start station.



WEBs N4 Driver compatibility

Supported Drivers		
Protocol	**Default Port**	**Hardware Interface(s)**
Platform Daemon	3011	Ethernet RJ45, IP via USB-B
Platform Daemon SSL	5011	Ethernet RJ45, IP via USB-B
Station (FOX)	1911	Ethernet RJ45, IP via USB-B
Station Secure (FOXS)	4911	Ethernet RJ45, IP via USB-B
HTTP *	8080 8443	Ethernet RJ45, IP via USB-B
BACnet/IP	47808	Ethernet RJ45
Email, SMTP	25, 465, 587 (check Email provider)	Ethernet RJ45
TCP/IP	N/A	Ethernet RJ45, IP via USB-B
SSH	N/A	Not supported
SNMP	10161, 10162	Ethernet RJ45
MQTT	1883	Ethernet RJ45
MQTT Secure	8883	Ethernet RJ45
KNX EIBnet/IP	3671	Ethernet RJ45
LON IP	2540, 2541	Ethernet RJ45
Modbus TCP	502	Ethernet RJ45
oBIX	80 or 8443	Ethernet RJ45
Open ADR	Check customer System Admin (e.g. 80, 8443, 5222, 5223, 5269, 5280)	Ethernet RJ45
EnOcean	Check customer System Admin	Ethernet RJ45
Fidelio FIAS MICROS protocol	Check customer System Admin	Ethernet RJ45
C-Bus Driver (SUSI)	2499	Ethernet RJ45
BACnet MSTP	N/A	RS485-1, RS485-2
Panel-Bus	N/A	RS485-1, RS485-2
Modbus RTU/ASCII Master	N/A	RS485-1, RS485-2
Modbus RTU/ASCII Slave	N/A	RS485-1, RS485-2
M-Bus	N/A	RS232 plus PW3/20/60

NOTE

For Cyber Security reasons, all ports ranging 1024 or lower cannot be used for services on the device.

Information on HTTP and HTTPS ports:

WEBs-N4 Version N4.4.93 or higher includes a template which automatically changes these two ports to 8080 (HTTP) and 8443 (HTTPS), when creating a new station.

Un-supported Drivers	
Protocol	Hardware Interface(s)
CCTV Not supported for performance reasons.	Ethernet RJ45
SMS The Niagara framework does not support this protocol on N4.	RS232 plus modem
RdbmsNetwork	Ethernet RJ45

Drivers not tested	
Protocol	Hardware Interface(s)
Other drivers listed under “Supported Drivers” and “Un-supported Drivers” may well work but have not been tested.	Ethernet RJ45

Web-Browser compatibility

Supported browsers are Google Chrome, Mozilla Firefox, MS Internet Explorer 11, and MS Edge.

For the best result, we recommend the current version of Google Chrome.

CIPer Model 50 Firmware

Firmware & Hardware compatibility

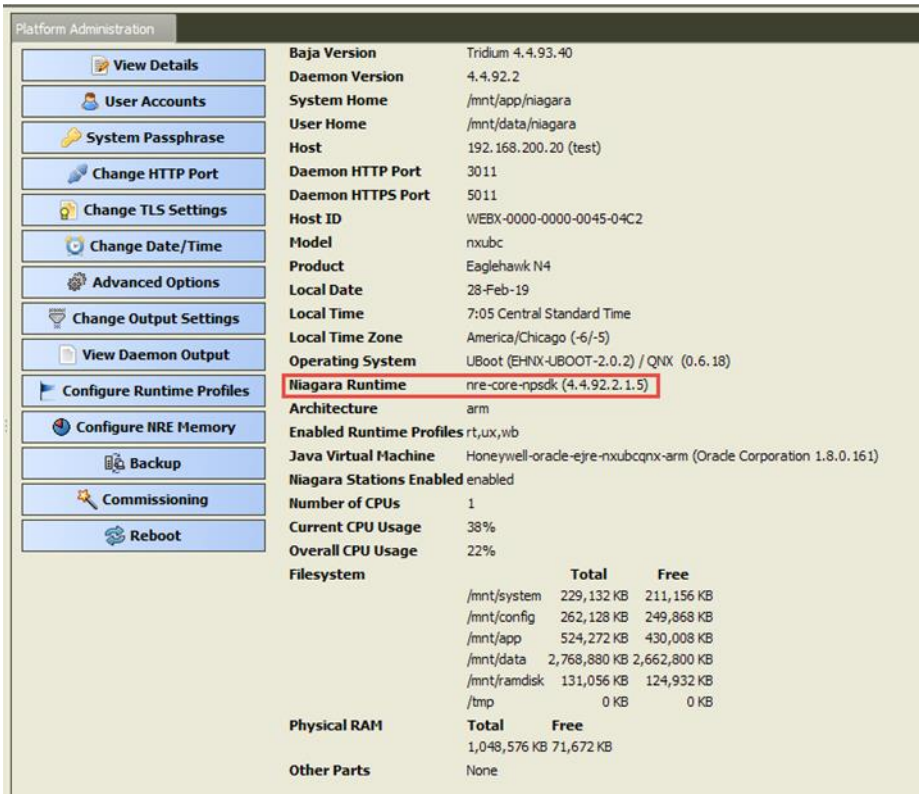
This WEBs N4 firmware version is compatible with all released CIPer Model 50 models, date code 1844 or later, see table below:

OS Number (SKU)	Description	Built-in IO points
WEB-EHSERIESNX26D	CIPer Model 50 PLANT CONTROLLER, w/o HMI, 26 IO, 100 points, 5 devices	26
WEB-EHSERIESNX26ND	CIPer Model 50 PLANT CONTROLLER, w/o HMI, 26 IO, 100 points, 5 devices	
WEBSEHN4LIC	CIPer Model 50 Core License with SMA-0005-1YR-INT PIN-0005 - 18 mo Maintenance	

Firmware upgrade

Check the installed firmware version in your CIPer Model 50.

Open WEBs N4, go to the Platform/Platform Administration, and check the version of the Niagara Runtime for the CIPer Model 50 installed.



Firmware updates may be available on the Honeywell Buildings Forum and the firmware upgrade procedure will be available with the firmware updates. If there are any queries on Firmware updates, please reach out to your WEBs technical support.

Restore the CIPer Model 50 controller

The CIPer Model 50 restore functionality has been enhanced to offer three levels of delete and restore, with three different CleanDist files.

These CleanDist files allow each user to individually clean up the respective CIPer Model 50 controller according to the requirements. To restore the CIPer Model 50 user needs to install the "Clean Dist" file.

NOTE

If there are any unsigned third-party modules with a release level of N4.10 or below connected to your system, then any attempt to upgrade your controller may fail. For a successful controller upgrade, make sure to sign all third-party modules using Niagara's Jar Signing Tool.

If the upgrade still not successful after signing the third-party modules, then you should perform the factory reset using the clean-dist-honeywell-nxubc.dist file.

Choose one of the following "CleanDist" files to delete and restore settings on the CIPer Model 50 controller**.**

CleanDist Files Details

CleanDist Type	CleanDist file	Version	Description
CleanDist 1	clean-dist-1-honeywell-nxubc.dist	1.2	Deletes all the station and modules.
CleanDist 2	clean-dist-2-honeywell-nxubc.dist	1.4	Deletes all the station, modules, system passphrase, username and password, and clean-up service folder
CleanDist 3 (Restore CIPer 50 Controller to factory out settings.)	clean-dist-3-honeywell-nxubc.dist	1.3	Deletes all the station, modules, system passphrase, username and password, clean-up service folder, license, and certificates. Also resets the IP address to its default i.e. • Ethernet interface 1: 192.168.200.20, mask 255.255.255.0 • Ethernet interface 2: 192.168.201.20, mask 255.255.255.0 Additionally, CleanDist 3 will reset the installed firmware to the Factory Firmware Version 4.4.92.2.1.04.3.

Which Elements are deleted?	CleanDist 1	CleanDist 2	CleanDist 3
Station	X	X	X
Module	X	X	X
System Passphrase	--	X	X
User & Password	--	X	X
Cleanup Service Folder	--	X	X
IPAddress	--	--	X
License and Certificates	--	--	X
Firmware	--	--	X
			↓
			Factory Default

NOTE

Factory out CIPer Model 50 Controller

The Factory out CIPer Model 50 Controller comes with WEBs N4.4 versions, which prevents the version conflict during commissioning between engineering tool and controller.

The introduction of this basic firmware became necessary because the CIPer Model 50 controller cannot downgraded in terms of the firmware. The base firmware does not allow to start a station and therefore it must be upgraded to the appropriate firmware version using the Commissioning Wizard.

Before performing CIPer 50 controller rstoring process, make sure to copy clean dist file in the C:\Honeywell\WEBStation-N4-4.x.x.xxx\cleanDist folder.

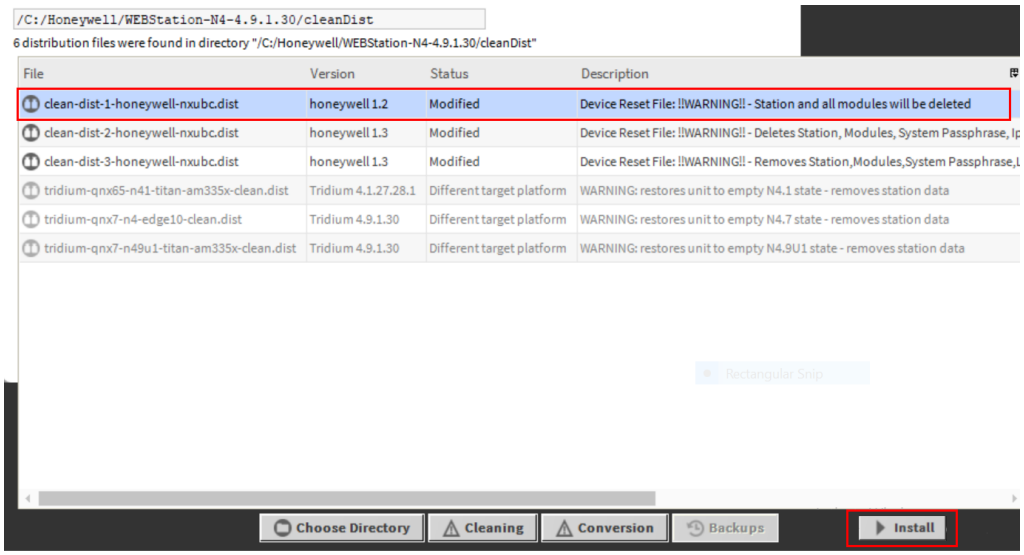
Steps to restore CIPer Model 50 Controller:

1. Connect and enter login details of the CIPer Model 50 platform.

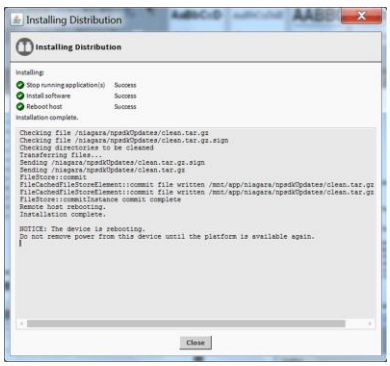
   NOTE

   Users must keep a record of login credentials details for the CIPer Model 50 platform.

2. Select **Distribution File Installer**.
3. Select the file **clean-dist-1-honeywell-nxubc.dist** from the list and click the **Install**



Wait for the installation to complete.



After the installation has been completed, the CIPer Model 50 controller will disconnect and reboot.

- The default platform passphrase will be active after reboot, enter default login/password for the platform will be active after a reboot. After entering logging credentials Licenses and Certificates and TCP IP Address Settings will retain.
- This action will delete all the modules, station and station data will be erased.
- Now the Firmware is retained.

4. Click **Close** after completing the installation.

Resetting CIPer Model 50 controller

To reset the CIPer Model 50 controller, the user needs to delete the following

- Passphrase
- Username
- Password
- Ethernet IP
- Station

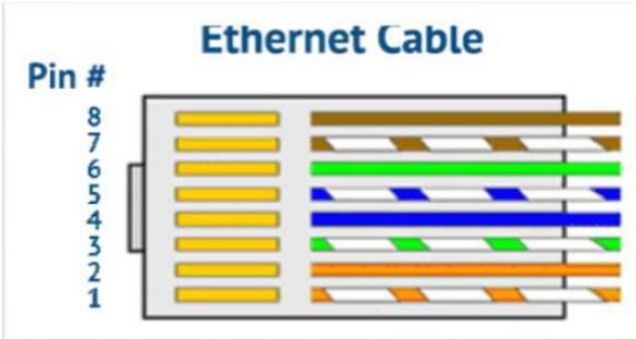
> **NOTE**
>
> In order to delete Modules, the “Clean dist file” needs to be downloaded.

Cable

Using the following two cables connected end-to-end, TECHTOO USB 3.0 and YIOVVOM DB9 Breakout Connector, setup a connection between the CIPer Model 50 and a terminal program (Putty) via RS232.

Therefore you need the cables TECHTOO USB 3.0 and YIOVVOM DB9 Breakout Connector. Both a USB RS-232 DB-9 male adapter (since most PCs and laptops no longer have a conventional DB-9 male jack) as well as a nifty little DB-9 female Jack with (small) screw terminals to connect wires (your cut Ethernet cable) to the pins.

To can make up your RJ-45 to conventional to RS-232 DB-9 female connecting cable using a standard Ethernet cable with the one end cut off. The standard color codes are:



- Pin **2** / RxD (receive data) = **Orange**
- Pin **3** / TxD (transmit data) = **White/Green stripe**
- Pin **5** / GND = **White/Blue Stripe**

For proper serial communication:

Tx on your host (laptop) must go to Rx on the CIPer50

Tx on the CIPer50 must connect to Rx on your host so your Wire PIN 2 <> PIN 3 and PIN 3 <> PIN 2.

At the RS-232 DB-9 female connection:

- **Orange** > DB-9 pin **3**
- **White/Green** > DB-9 Pin **2**
- **White/Blue** > DB-9 Pin **5**

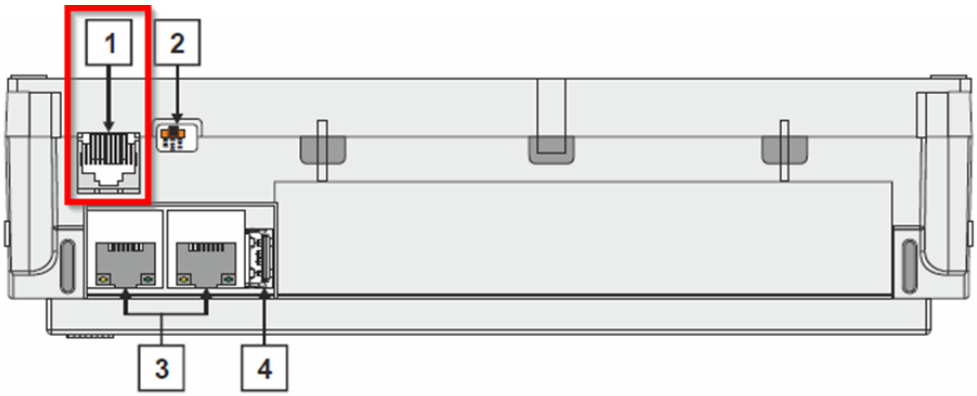
You can purchase an equivalent cable or make one yourself as well.

NOTE

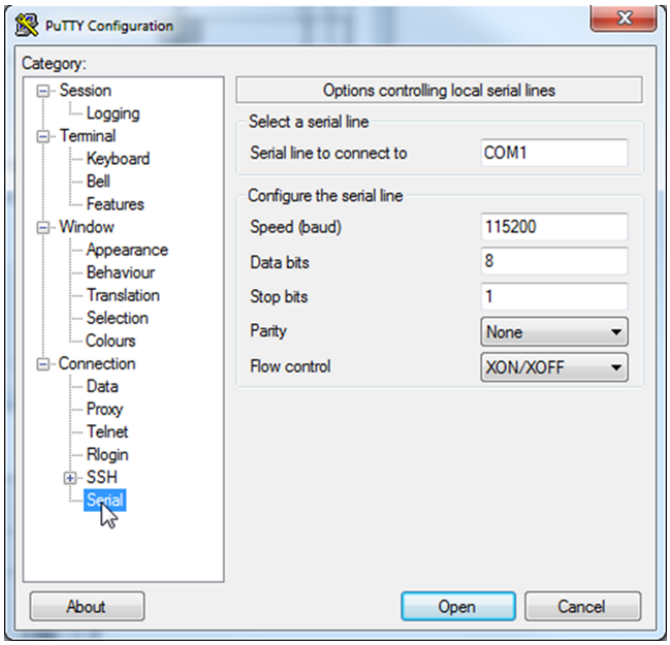
TECHTOO USB 3.0 to Serial Adapter USB RS232 Cable USB Serial Cable Converter DB9 USB (10ft) with FTDI Chipset Gold Plated for Win10/8.1/8/7/Vista/XP/2000/Android/Linux/Mac OS X10.6 & Above.

YIOVVOM DB9 Breakout Connector to Wiring Terminal RS232 D-SUB Male Serial Adapters Port Breakout Board Solder-Free Module with case (Female Serial Adapter).

Connect the RS232 of the CIPer Model 50 (red marked) with the com port of your PC.

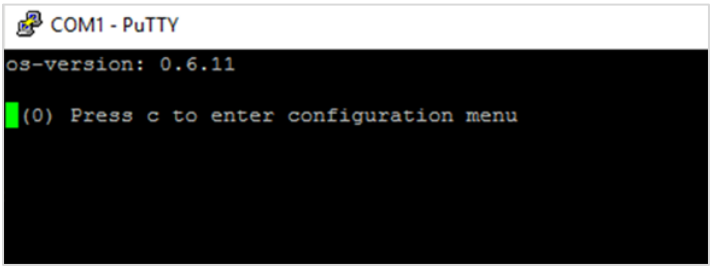


1. Start your terminal program and setup the serial interface with the following settings.

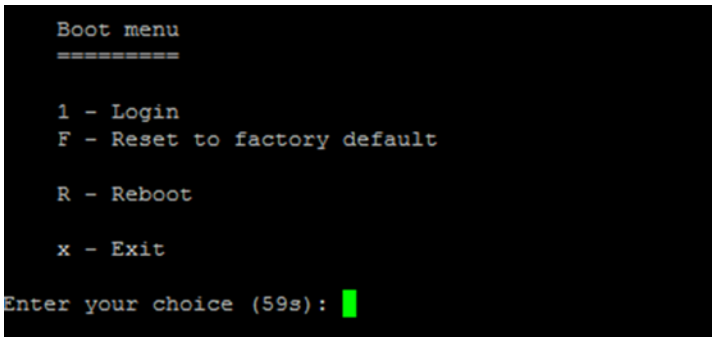


2. After the terminal program has started you have to restart the CIPer Model 50.

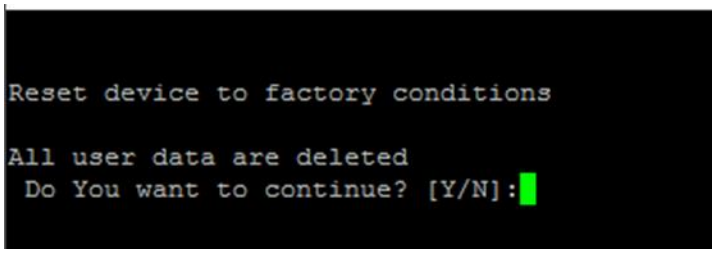
3. When the following screen is shown in the terminal program you have 3 seconds to push the key “c” to start the Boot menu.



4. The Boot menu looks like the below image.



5. Now push "F" to choose the reset the controller to factory default menu point.



6. To start the reset procedure, press the key “Y”.
7. Now the IP-Address and Login credential will also so be reset to default in addition to the modules and station.

   Default platform Credentials:

   - Passphrase = niagara
   - Username = tridium
   - Password = tridum

The default primary interface IP address is 192.168.200.20 and the subnet mask is 255.255.255.0

Technical Documentation

Product	Document type	Document name
WEBs	Honeywell General Security Best Practices	31-00129
CIPer Model 50	Product Data Sheet	31-00197
CIPer Model 50	Mounting Instructions	31-00234
CIPer Model 50	Installation and Commissioning Instructions	31-00233
CIPer Model 50	Sell sheet	01-00110

Appendix

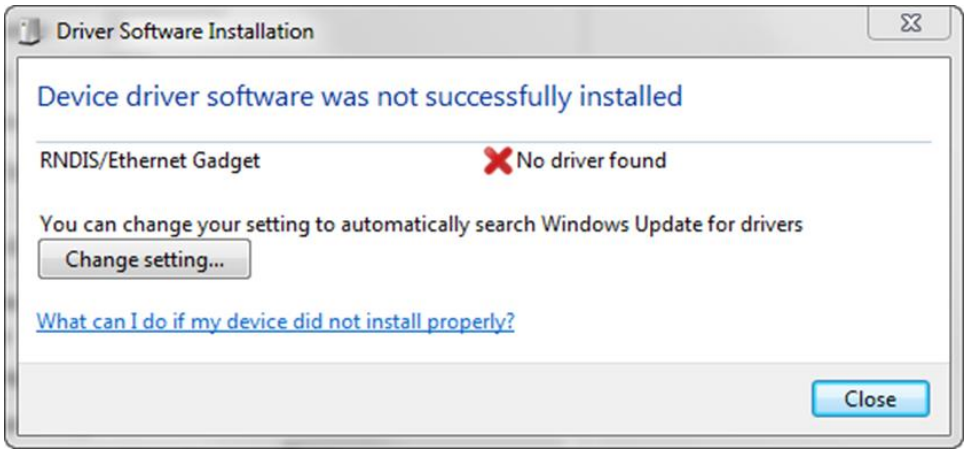
USB Driver Installation for Windows 7

1. Insert the A Male connector of the USB cable into an USB interface jack of the PC and insert the B Male connector into the controller´s USB device interface jack.

   RESULT: The Found New Hardware Wizard is enabled in the Windows Task Line.

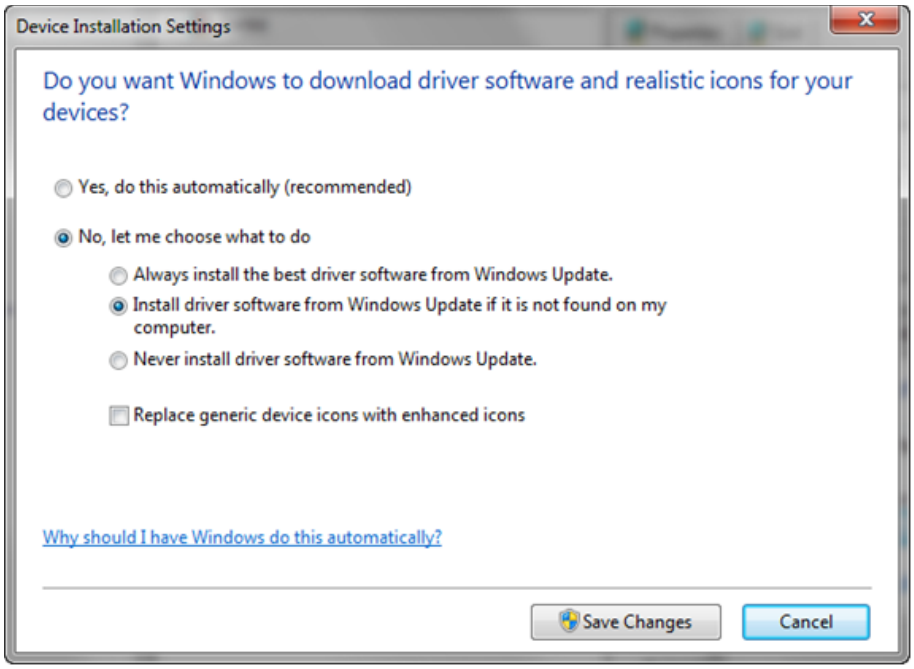
2. In the Windows Task Line, double-click the icon.

   RESULT: The Driver Software Installation message box displays.



3. If no RNDIS/Ethernet Gadget driver was found as indicated by the message ´X No driver found`, click the Change setting... button.

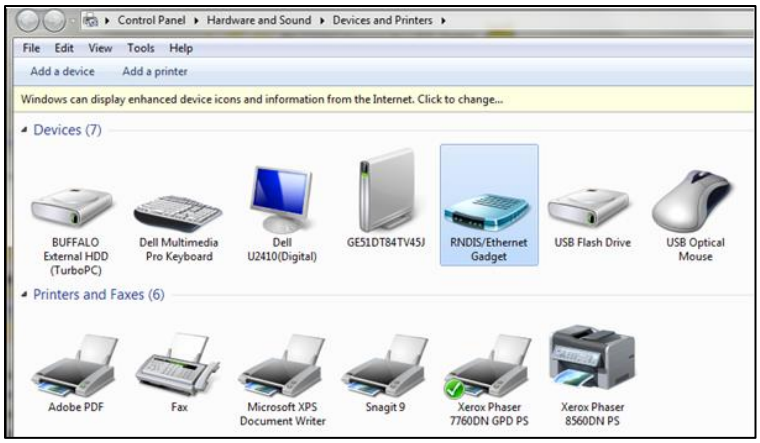
   RESULT: The Device Installation Settings dialog box displays.



4. Select **No, let me choose what to do,** and then select **Install driver software from Windows Update if it is not found on my computer.**
5. Click the **Save Changes** button.

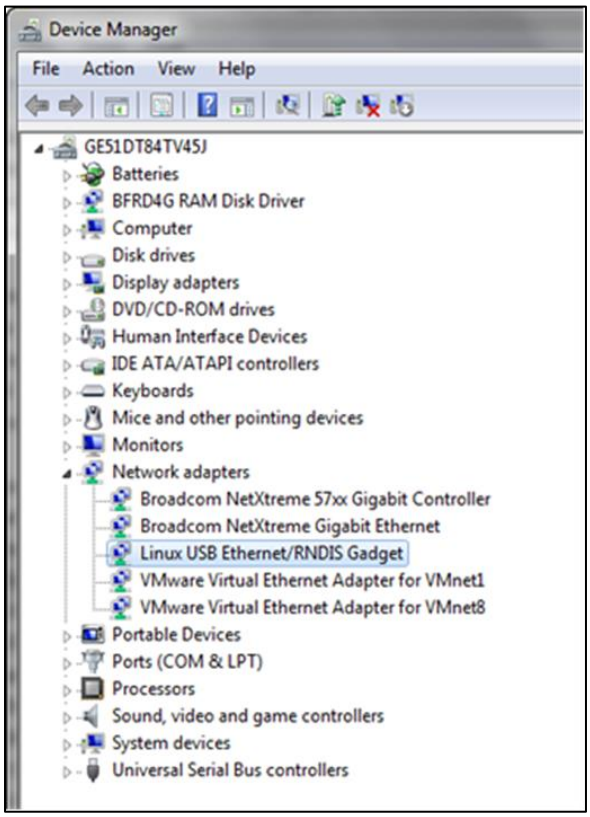
   RESULT: Software tries to install the RNDIS/Ethernet Gadget driver. If the driver is successfully installed, it can be seen in the following locations within Windows (see figures below):

6. In Control Panel\Hardware and Sound \ Devices and Printers.



In Control Panel \ Network and Internet \ Network Connections.

In Control Panel \ Device Manager \ Network Adapters

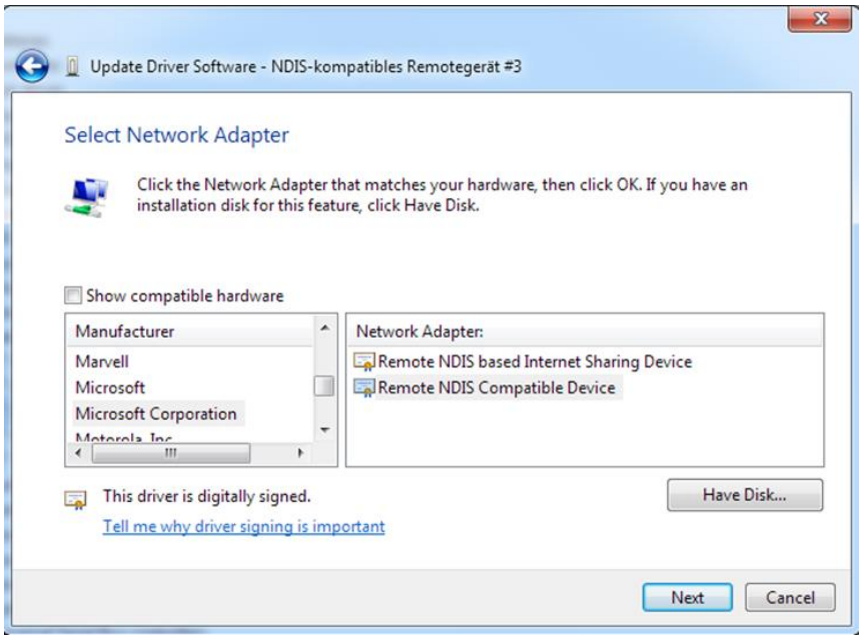


If the driver has still not been successfully installed, do the following:

7. Right-click on the driver in the **Network adapters** folder in the *Device Manager*, and then click **Update Driver Software.**
8. Click **Browse my computer for driver software.**
9. Click **Let Me Pick from a list of device drivers on my computer**.
10. Click **Have Disk.**
11. Click **Browse** and navigate to the folder <drive:>\CARE\drivers.
12. Depending on your Windows operating system type (32 bit or 64 bit), select the RNDIS USB driver (32Bit) or the RNDIS USB driver (64Bit) file, and then click **Open**.

13. Click **OK**.
14. Select **Linux USB Ethernet/RNDIS Gadget**, and then click **Next>**.
15. If a warning message displays, click **Continue Anyway**.

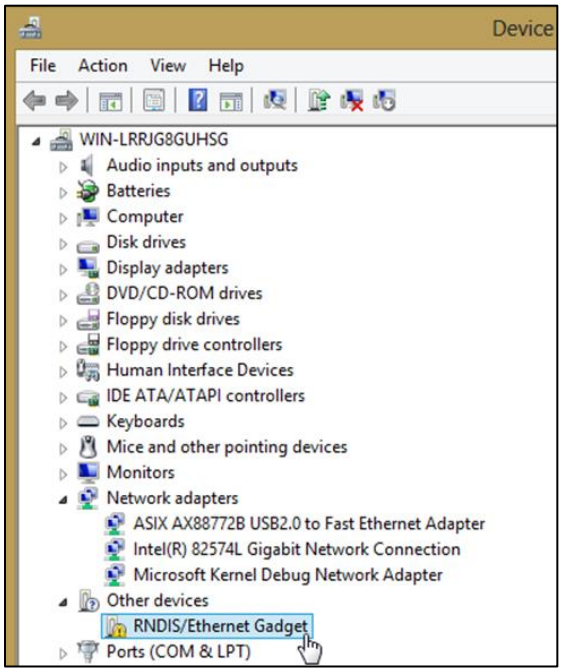
    RESULT: Windows will install the driver.
16. Click **Close.**
17. Check the successful installation of the driver as described in step 5.
18. If this still does not work, use the driver shipped with Windows.
19. Right-click on the driver in the **Network adapters** folder in the *Device Manager*, and then click **Update Driver Software.**
20. Click **Browse my computer for driver software.**
21. Click **Let Me Pick from a list of device drivers on my computer**.
22. Uncheck the Show compatible hardware box.
23. Select the Manufacturer Microsoft Corporation.
24. Select Remote NDIS Compatible Device.



25. Check the successful installation of the driver as described in step 5.
26. If the device status is “This device cannot start. (Code 10)”, reboot your PC.

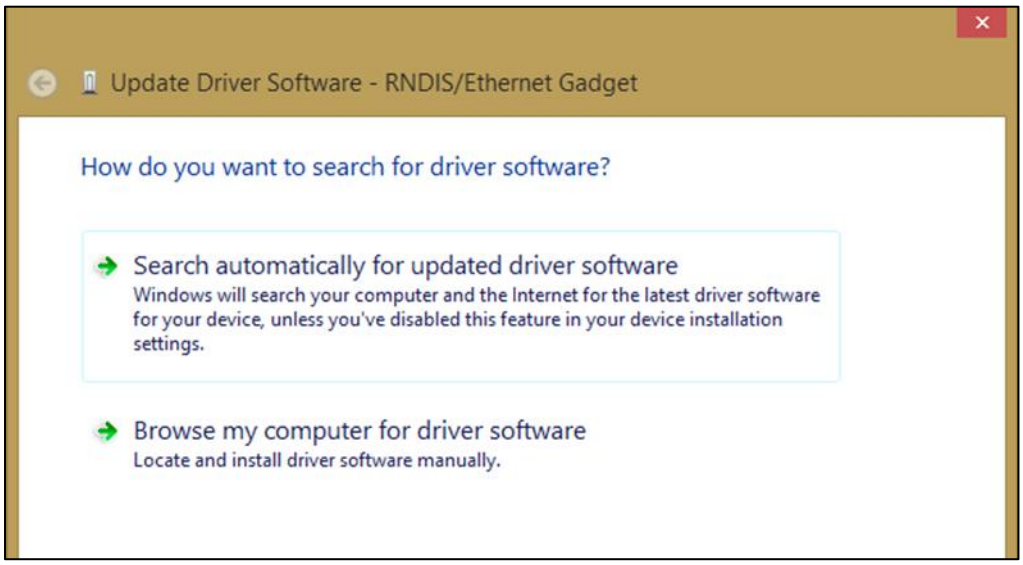
USB Driver Installation for Windows 8

1. Insert the A Male connector of the USB cable into a USB interface jack of the PC and insert the B Male connector into the controller ´s USB device interface jack.
2. In Windows, start the device manager.

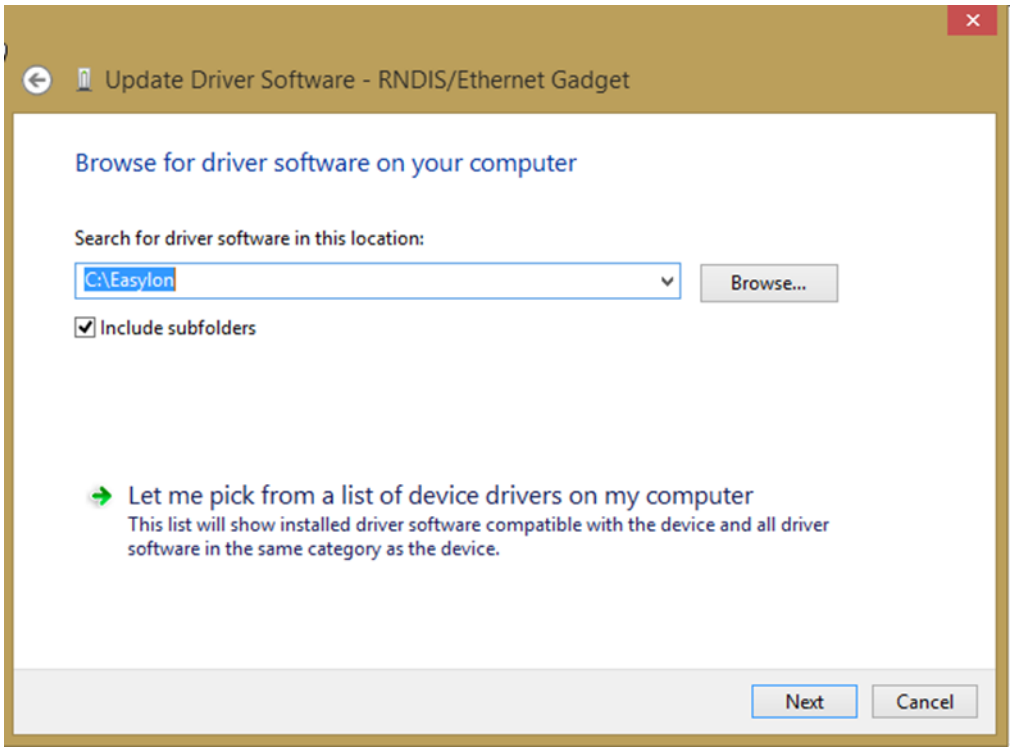


3. Click Other devices, then right-click RNDIS/Ethernet Gadget, and then select Update Driver Software.

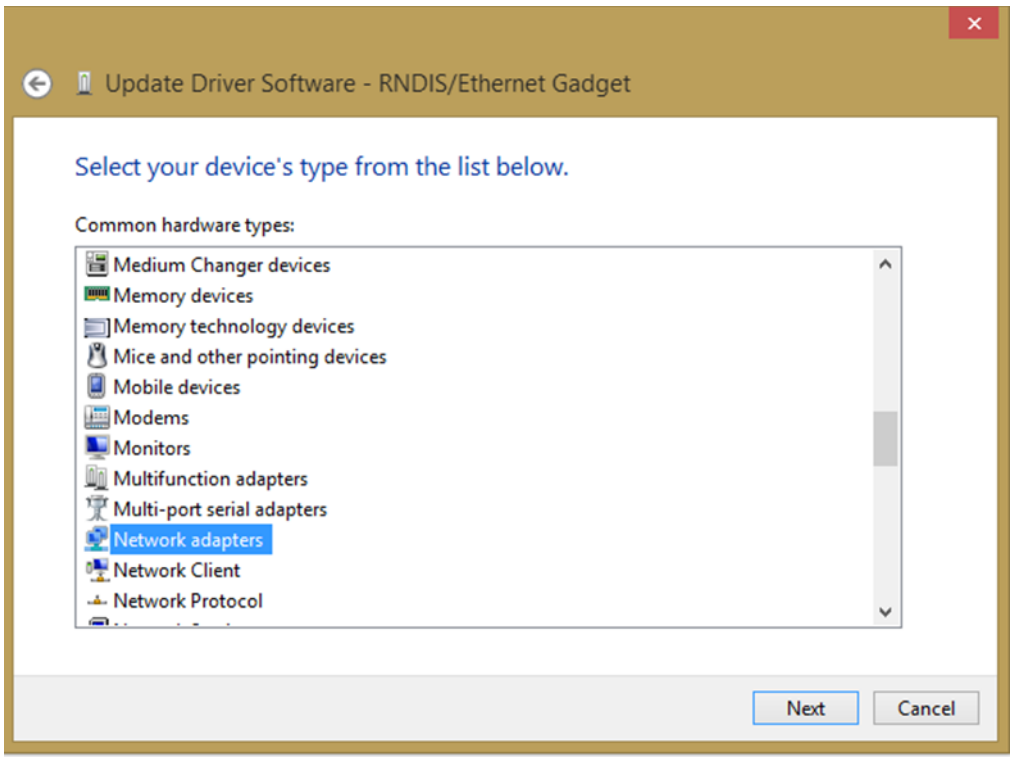
   RESULT: The Update Driver Software – RNDIS/Ethernet Gadget dialog displays.



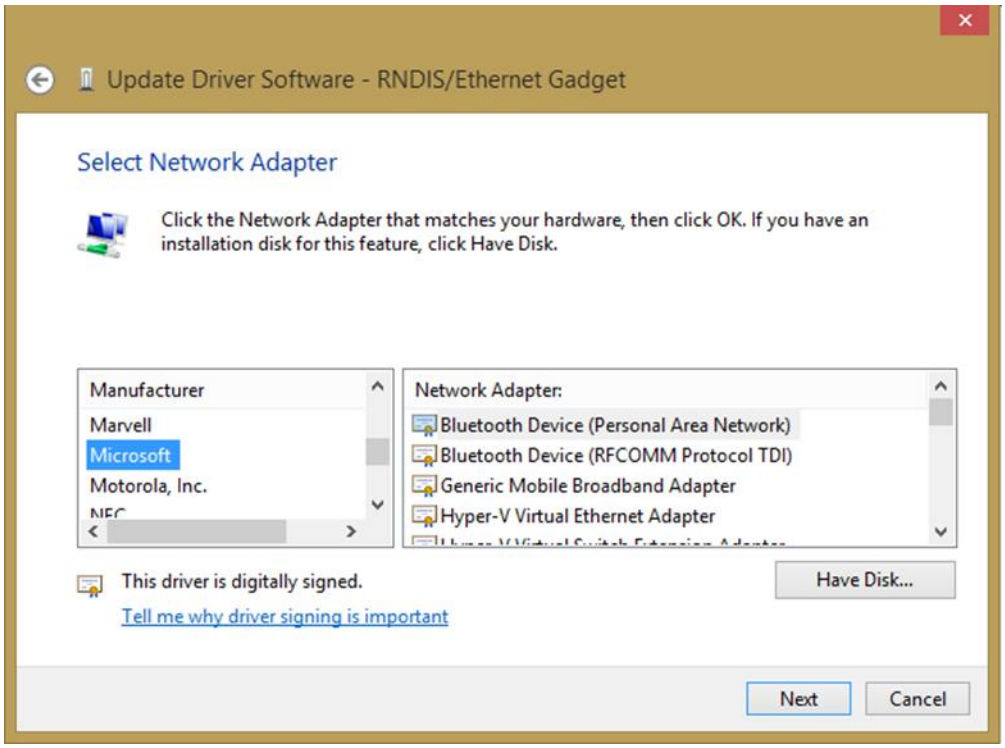
4. Click **Browse my computer for driver Software.**



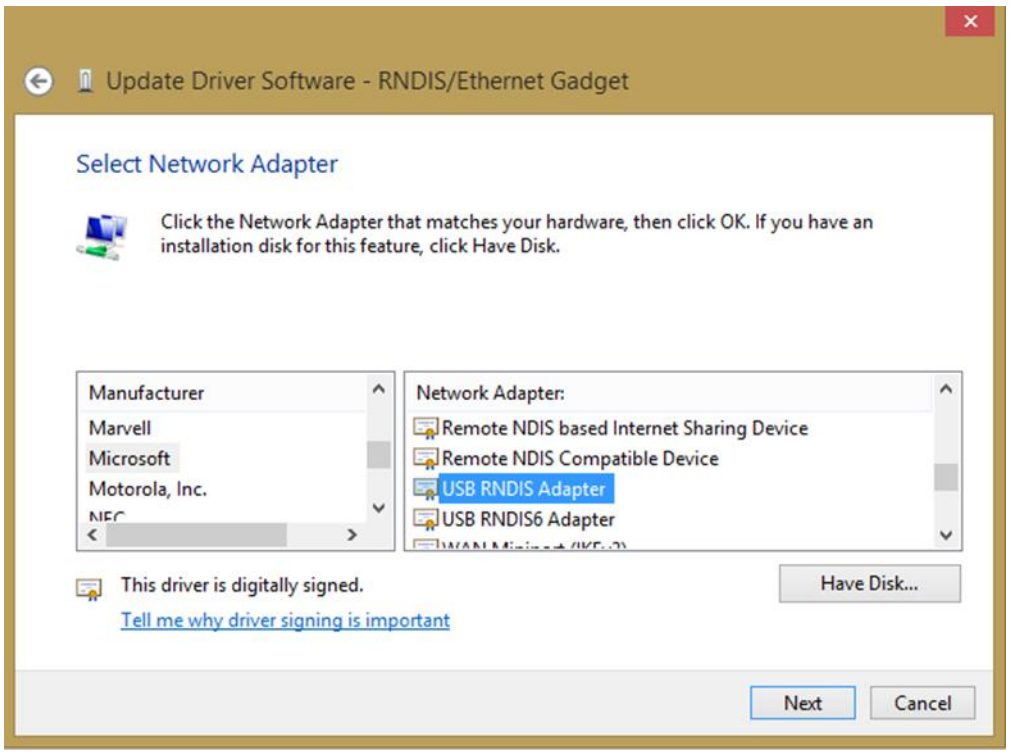
5. Click **Let me pick from a list of device drivers on my computer.**



6. Select **Network adapters.**

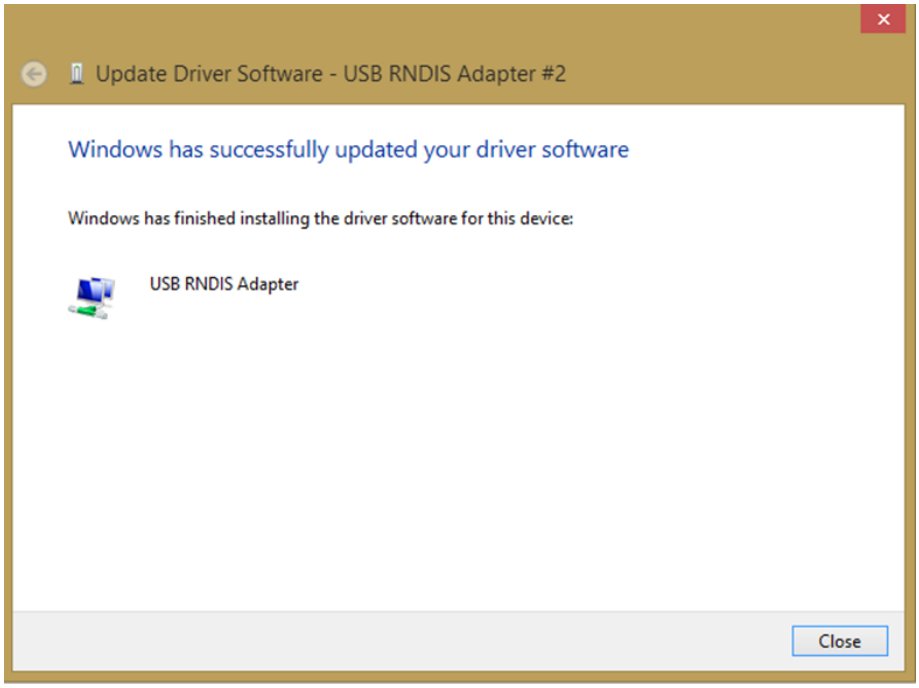


7. Select **Microsoft.**



8. Select **USB-RNDIS-Adapter**, and then click **Next** button.
   RESULT: The Update Driver Warning message box displays.

9. Confirm the warning by clicking **Yes** button.
   RESULT: The driver will be installed successfully as indicated by the final message box.



10. Click the **Close** button.

USB Driver Installation for Windows 10

Typically, the appropriate driver is automatically installed with a Windows update.

If you have issues with the installation, please contact the manufacturer of your PC to obtain updates on the chipset driver.

Honeywell Building Technologies
1985 Douglas Drive North
Golden Valley, MN 55422
customer.honeywell.com
Honeywell Building Controls

31-00198-03 | Rev 07-2021

Honeywell