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PLX35-NB2 Network Bridge

November 8, 2024



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PLX35-NB2 User Manual For Public Use.

November 8, 2024

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For professional users in the European Union

If you wish to discard electrical and electronic equipment (EEE), please contact your dealer or supplier for further information.



Warning - Cancer and Reproductive Harm - www.P65Warnings.ca.gov

Important Installation Instructions

Power, Input, and Output (I/O) wiring must be in accordance with Class I, Division 2 wiring methods, Article 501-4 (b) of the National Electrical Code, NFPA 70 for installation in the U.S., or as specified in Section 18-1J2 of the Canadian Electrical Code for installations in Canada, and in accordance with the authority having jurisdiction. The following warnings must be heeded:

WARNING - EXPLOSION HAZARD - SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIV. 2;

WARNING - EXPLOSION HAZARD - WHEN IN HAZARDOUS LOCATIONS, TURN OFF POWER BEFORE REPLACING OR WIRING MODULES

WARNING - EXPLOSION HAZARD - DO NOT DISCONNECT EQUIPMENT UNLESS POWER HAS BEEN SWITCHED OFF OR THE AREA IS KNOWN TO BE NON-HAZARDOUS.

Class 2 Power

Agency Approvals and Certifications

Please visit our website: www.prosoft-technology.com

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1 Start Here

1.1 About the PLX35-NB2 Network Bridge

The PLX35-NB2 Network Bridge is the ideal solution for system integrators, machine builders, and OEMs requiring remote system access for commissioning, troubleshooting, or network maintenance.

During the commissioning phase, a network bridge is deployed on site with automation equipment. Once the equipment is installed and ready for configuration and programming, the bridge allows the user to remotely access the network to commission, maintain, and troubleshoot the system, thereby reducing travel time costs.

By deploying a network bridge to an existing network, the network bridge allows access from anywhere by authorized personnel. In the event of unscheduled downtime, an authorized user can connect to the network to minimize downtime and loss of profit.

Module configuration and remote connections are accomplished through Belden Horizon™, ProSoft Technology's secure, cloud-native platform for the Industrial Internet of Things (IoT).



The PLX35-NB2 allows users to:

- Securely connect to remote devices from any PC without having to use a 3rd-party software application
- Locally control the VPN connection through an EtherNet/IP® message.

The PLX35-NB2 provides 2 Ethernet ports. One port is used for the local network requiring remote access. The second port is used to connect to the internet.

1.1.1 Specifications

Power	Description
Power	24 VDC nominal, 10 to 36 VDC allowed, Positive, Negative, and GND terminals
Power Connector	Three pin, screw terminal, screw retention, black
Current Load	24 VDC nominal @300 mA
Internal Specifications	Description
EtherNet/IP	Supports local control of VPN access through MSG instruction.
Network Ports	HTTP or HTTPS ports 80
Physical	Description
Enclosure	Extruded aluminum with DIN clip
Dimensions	5.52 x 2.06 x 4.37 in
(H x W x D)	14.01 x 5.24 x 11.09 cm

Shock	IEC 60068-2-27; 20G @ 11ms (Operational)
	IEC 60068-2-27; 30G @ 11ms (Non-Operational)
Vibration	IEC 60068-2-6; 10G, 10 to 150 Hz
Ethernet Port	(2) 10/100 Base-T, RJ45 connector

Environmental	Description
Operating Temperature	IEC 60068; -22°F to +158°F (-30°C to +70°C)
Humidity	IEC 60068-30; 5% to 95%, with no condensation
External Power	10 to 30 VDC
Peak Power Consumption	< 6W

1.2 PLX35-NB2 Package Contents

The following components are included with the PLX35-NB2 and are required for installation and configuration.

Important: Before beginning the installation, please verify the following items are present.

Qty.	Part Name	Part Number	Part Description	
1	PLX35-NB2 Network Bridge	PLX35-NB2	2-port Network Bridge	
1	2-pin Power Connector	002-0116	Power Connector	

If any of these components are missing, please contact ProSoft Technology Technical Support for replacement parts. See Contacting Technical Support (page 85).

1.3 Jumper Information

The module has one visible set of jumper pins on the back of the gateway. These pins should only be jumped/shunted when resetting the gateway back to factory defaults.

To perform a factory reset:

- 1 Set the jumper on both pins and power-cycle the module.
- 2 Wait until the FLT, CFG and ERR LED's flash in a reverse-clockwise direction (the gateway should boot twice by then).
- **3** You will notice all the LED's flashing twice (except interface LED's).
- 4 Remove the jumper and wait for the gateway to finish the power-cycle.
- 5 When the factory reset has finished, the CFG LED flashes.

1.4 Failover and Automatic Backup & Factory Reset

1.4.1 Failover

The Failover process provides a recovery mechanism whenever a serious malfunction renders the main filesystem inoperable.

If the system fails to boot up (all LEDs are solid on) 4 times in a row, on the 5th boot up the gateway will enter a failover state (the FLT LED is solid red and the CFG LED blinks amber). While in this state, the PLX35-NB2 can be accessible using its default configuration. A new upgrade can be performed on the gateway which should fix the serious malfunction that led to the failover state.

1.4.2 Automatic Backup & Factory Reset

If the system fails to boot up (all LEDs are solid on) 10 times in a row, on the 11th boot up the gateway tries to restore the backup firmware and configuration. The backup firmware and configuration are in place before the last upgrade was performed. If the backup restore procedure has performed correctly, only the PWR LED will be lit upon boot up.

The automatic factory reset process takes place when the PLX35-NB2 needs to return to the default configuration. This is because the backup restore process has not succeeded. After this process is completed, it will run the factory default image with the default configuration, in an out-of-the-box condition. In this case, there is no need to use a jumper to perform a factory reset.

If the factory reset has performed correctly, the CFG LED will blink amber.

2 Quick Start

2.1 Local Configuration

Task	Page	
Install the module	10	
Connect to the PLX35-NB2 webpage	13	
Set gateway configuration parameters	15	
Configure login credentials	20	
Update firmware	44	

2.2 Belden Horizon Setup and Configuration

Belden Horizon allows you to remotely configure, maintain, and troubleshoot the gateway.

Task	Page
Obtain an activation key and login to Belden Horizon	48
Create a VPN client	52
Establish a VPN Connection	52
Perform configuration functions in Belden Horizon	57
Add Team Members	58
Change Firmware if required	61

3 Installing the PLX35-NB2

Mount the PLX35-NB2 such that:

- There is easy access for the cables to ensure that they are not bent, constricted, near high amperage, or exposed to extreme temperatures.
- The LEDs on the front panel are visible for troubleshooting and verifying the gateway status.
- There is adequate airflow around the gateway, but also protected from direct exposure to the elements, such as sun, rain, and dust.

Caution: The PLX35-NB2 is in a hardened case and is designed for use in industrial and extreme environments; however, unless the cables are expressly designed for such environments, the cables can fail if exposed to the same conditions the PLX35-NB2 can withstand.

3.1 LED Indicators

The following table describes the diagnostic LEDs on the PLX35-NB2.

LED	State	Description
MGMT	Off	The module cannot reach the internet and is not managed by Belden Horizon (default).
	Flashing Green	The module can reach the internet.
	Solid Green	The module is managed by a Belden Horizon account.
	Solid Red	N/A
	Flashing Red	The module is configured to be managed by Belden Horizon but cannot reach Belden Horizon.
	Alternating Red/Green	N/A
VPN	Off	Belden Horizon is not enabled (default).
	Flashing Green	VPN is possible (normal).
	Solid Green	A VPN tunnel is established.
	Solid Red	The module is managed by Belden Horizon and EIP has disabled VPN tunneling.
	Flashing Red	VPN connection failed.
	Alternating Red/Green	N/A
PWR (Power)	Off	Power is not connected to the power terminals or source is insufficient to properly power the module.
	Solid Green	Sufficient power is connected to the power terminals.
FLT (Fault)	Off	Normal operation
	Solid Red	A critical error has occurred. Program executable has failed or has been user-terminated and is no longer running. Press the <i>Reset</i> button or cycle power to clear the error.
CFG	Off	Normal operation
	Flashing Amber	The module has no configuration.
	Solid Amber	The module is in configuration mode. Either a configuration error exists, or the configuration file is currently being downloaded or read. After power-up or after the <i>Reset</i> button is pressed, the configuration is read and the module implements the configuration values and initializes the hardware.
ERR	Off	Normal operation
	Flashing Amber	An error condition has been detected and is occurring on one of the application ports. Check configuration and troubleshoot for communication errors.
	Solid Amber	The ERR LED is cleared on receipt of a well-formed allowed packet. On receipt of data packet containing an unsupported protocol, the LED is lit. If the LED is solid, a large number of errors are occurring on one or more ports (network communication errors).

LED	State	Description
100 Mbit	Off	No activity on the port
	Flashing Amber	The Ethernet port is actively transmitting or receiving data.
LNK/ACT	Off	No physical connection is detected. No Ethernet communication is possible. Check wiring and cables.
	Solid Green	Physical network connection detected. This LED must be ON (solid) for Ethernet communication to be possible.

3.1.1 Ethernet Port LEDs

4 Local Configuration Using the PLX35-NB2 Configuration Webpage

The PLX35-NB2 contains a browser-based configuration webpage used for configuration. The following sections describe the configuration process.

4.1 Connecting to the PLX35-NB2 Webpage

- 1 Ensure that the module is connected to the network through the LAN port.
- **2** Apply power to the module.
- 3 To log into the PLX35-NB2 configuration webpage through the network, your PC must be able to connect to the PLX35-NB2. The default IP address of the PLX35-NB2 is 192.168.0.250. If your PC is on a different subnet, temporarily set the IP address of your PC to 192.168.0.xxx with a subnet of 255.255.255.0 (where xxx is an available address on the network).

IP address:	192.168.0.
Subnet mask:	255.255.255.0

Note: ProSoft Discovery Service can be used to discover the IP address. Download and install ProSoft Discovery Services from the ProSoft website at <u>www.prosoft-technology.com</u>.

- 4 In a web browser, enter the PLX35-NB2 default address of **192.168.0.250**. Minimum browser requirements: Chrome 58, Firefox 54, and Internet Explorer 10.
- 5 In the PLX35-NB2 configuration webpage, enter the **USERNAME** and **PASSWORD** to log in. The default **USERNAME** is *admin* and the default **PASSWORD** is *password*.

ProSoft	
Login here:	PLX35-NB2
admin	r.com
Enter login credentials for this PLX35-NB2. Belden Horizon login credentials not accepted.	
Remember me Login	in the
Minimum browser requirem Chrome 58, Firefox 54, Internet E	i ents: xplorer 10

Note: For security purposes, it is required to change the default username and password after initial login or factory reset. See *Initial / Factory Reset Login* on page 22.

6 After successful log in, the configuration webpage displays the Overview tab.

O PLX35	-NB2						0.
Lat. Overview	Gateway	Access	File Relay	SD Card	Activity		Apply changes
PERFORMANCE	► LIVE					DEVICE DET/	AILS
5 Days		172 M			7 MB	Model: LAN IP: WAN IP:	ProSoft PLX35-NB2
		310 M			B MB	Serial #: Firmware: System Time:	1.7.10 debug Change 2022-07-20 09:19:33 +0000
						Belden Horizon:	Change Activate

This page allows you to:

- View Performance Information
- View Device Details
- Update Firmware
- Manually enter a custom date and time
- 7 After 5 consecutive failed login attempts, login is suspended for 10 minutes. The login details and status is logged in *syslog* and */psft/loginRecords.txt* (The last 100 login attempts are logged).

	PròSoft	
Login here:		PLX35-NB2
admin1234		ProSoft'
Enter login credentials for Belden Horizon login cre		
Remember me	Login Too many failed logins. Last IP used: You can try again when timer expires: 9m 30s	
	Minimum browser requirements: Chrome 58, Firefox 54, Internet Explore	

4.2 Using the Overview Tab

The *Overview* tab contains performance information as well as device details, access information, and module location information.

In addition, this page allows you to make firmware updates to the gateway. You can view this tab at any time by simply clicking on the *Overview* tab.

Tip: This tab provides an *Activation Code* that allows you to take advantage of configuring and maintaining your gateway using Belden Horizon. See *Cloud-based Maintenance using Belden Horizon on page 48* for details on using this code.

4.3 Setting Gateway Configuration Parameters

1 Click on the *Gateway* tab.

Int Overview	Gateway	Access	File Relay	SD Card	Activity	
GATEWAY						
		Gateway Name	PLX35-NB2			
		Description	Prosoft			
		Address				
			Advanced configuration		A	
LOCAL AREA NETWOR	к					
		IP	92.168.0.26			
		Subnet	255.255.255.0			
		Default Gateway	92.168.0.1			
		DHCP Server	Disabled	~		
		NTP	Enabled	~		
		NTP Server 1).us.pool.ntp.org			
			us.pool.ntp.org			
			us.pool.ntp.org	~		
WIDE AREA NETWORK			anent	Ŷ		
		DHCP Client	Disabled	~		
		IP Address 1	0.20.254.70			
		Subnet Mask 2	55.255.255.0			
		Default Gateway	0.20.254.1			
		DNS 1	0.11.200.201			
			0.11.200.202			
		VLAN ID				
BELDEN HORIZON	(ELDEN HORIZON					
		URL W	ss://belden.io			
	Or	n-Prem IP Address				

2 Use the following table to enter the appropriate parameters:

Parameter	Description
Gateway	
Gateway Name	Enter a name for this gateway.
Description	Enter a description to describe the gateway.
	For example, Network Bridge - Bakersfield.
Address	Enter the street address of the gateway (i.e., where the gateway resides)
Advanced	This link allows you to provide GPS coordinates of the gateway's location.
configuration (link)	
Local Area Network	
IP	Enter the IP address of the gateway. This is a static IP address. The default
	IP address is 192.168.0.250. (The netmask is always 255.255.255.0).
Subnet	Subnet mask of the PLX35-NB2 Ethernet port.
Default Gateway	Default gateway of the PLX35-NB2 Ethernet port.
DHCP Server	Use this parameter to enable or disable DHCP. The default is Disabled . If
	you want to use a DHCP server to select an IP, select Enabled .

Selecting **Enabled** displays a number of additional DHCP-related parameters

DHCP Server	Enabled	٣
DHCP Lease Time	12	
DHCP Lease Units	Hours	٣
DHCP Pool Low	192.168.2. 100	
DHCP Pool High	192.168.2. 249	

DHCP Lease Time - Allows you to select lease times in hour, minutes, or seconds. This is the amount of time an IP address remains available on a particular device before releasing the IP address for use by another device. **DHCP Lease Units** - Allows you to specify Hours and Minutes and works in conjunction with *DHCP Lease Time*.

DHCP Pool Low - DHCP uses a pool of assigned addresses that are available to requests. *DHCP Pool Low* allows you to set the last octet to the low end number of the pool. (See example below)

DHCP Pool High - DHCP uses a pool of assigned addresses that are available for use. *DHCP Pool High* allows you to specify the high-end last octet of the pool

For	examp	le:
	onump	

DHCP Pool Low	192.168.72.	100
DHCP Pool High	192.168.72.	249

This example specifies that the range of addresses that may be used is between 192.168.72.100 through 192.168.72.249.

NTP	This parameter specifies whether or not the Network Time Protocol (NTP) is enabled or disabled. The default is Enabled . If Disabled , the following two
	parameters are not present.
NTP Server 1	Default set to: 0.us.pool.ntp.org. Enter a different NTP server, if needed.
NTP Server 2	Default set to: 1.us.pool.ntp.org. Enter a different NTP server, if needed.
NTP Server 3	Default set to: 2.us.pool.ntp.org. Enter a different NTP server, if needed.
NTP Mode	Default is Client. This can be edited to Client/Server mode.

Wide Area Network	
DHCP Client	This is set to Enabled by default. If your administrator wants to assign a static IP, this should be set to Disabled .
	If Disabled , you must supply the following information:
	IP: The IP address assigned to the WAN port. Subnet: Enter the subnet address.
	Gateway: Enter the gateway address for this subnet. DNS 1: Enter the Domain Name Server IP provided to your system.
	DNS 1 : Enter the backup Domain Name Server IP provided to your system.
VLAN ID	If the gateway is part of a VLAN, enter the VLAN ID.
Belden Horizon	
URL	By default, <i>URL</i> is set to wss://belden.io . If the PLX35-NB2 needs to be activated on premises then the <i>URL</i> must be set as wss://onprem.belden.io . If the PLX35-NB2 is activated to the cloud, this parameter cannot be modified.
	Note: Only wss://belden.io and wss://onprem.belden.io can be configured as the <i>URL</i> .
On-Prem IP Address	This section is disabled by default. If the URL is configured as wss://onprem.belden.io , then the On-Prem server IP address must be entered here.
	If the PLX35-NB2 is activated to the cloud, this parameter cannot be modified. Note: If the <i>URL</i> is configured as wss://belden.io , this parameter will be disabled

3 Click the **APPLY CHANGES** button when complete.

4.3.1 Open Source Software and License Information

To view a list of the software and licenses contained in the PLX35-NB2, click on the **LICENSES** link at the bottom of the *Gateway* tab.

			TUNNE	L CONNECTED	DISCONNECT
🔤 Overview 🏟 Gateway	Access	File Relay	SD Card	Activity	
LOCAL AREA NETWORK					
	IP	192.168.0.250			
	DHCP Server	Disabled	*		
	NTP	Enabled	•		
	NTP Server 1	0.us.pool.ntp.org			
	NTP Server 2	1.us.pool.ntp.org			
	NTP Server 3	2.us.pool.ntp.org			
	NTP Mode	Client	•		
WIDE AREA NETWORK					
	DHCP Client	Enabled	•		
	VLAN ID				_
				Licenses	₽ 🖓
				Powered by ProSoft 1	

A list of the Open Source software and its license terms are displayed:

Lat Overview	O Gateway	Access	🔓 File Relay	🖿 SD Card	Activity	Apply changes
		n the produ				
Package Name		License		Point of Contact		Source Link
acl-2.2.53		LGPL-2.1 GPL-2.0		https://github.com	n/mstorchak	https://gthub.com/openwirt/packages/tree/openwirt-18.07/utila/acl
attr-2.4.48		LGPL-2.1 GPL-2.0		https://github.com	n/mstorchak	https://github.com/opernivrt/packages/tree/lede-17.01/ubla/attr
bash-4.4.18		GPLv3- on-later		https://github.com	n/ja-pa	https://github.com/openwrt/packages/tree/openwrt-10.07/utils/bash
binutils-2.27		GPLv3		Felix Fietkau/nbd	Sopenwrt.org	eq:https://github.com/openwrt/openwrt/inee/openwrt-19.07/package/devel/binut/issues/inee/openwrt/inee/openwrt-19.07/package/devel/binut/issues/inee/openwrt/inee/openwrt-19.07/package/devel/binut/issues/inee/openwrt-19.07/package/devel/binut/is
busybox-1.25.1		GPLv2		Felix Fietkau/nbd	Bopenwittorg	eq:https://github.com/openwit/openwit/tree/iede-17.01/package/utils/busybox
bzip2-1.0.6		bzip2		https://github.com	n/sbyx	https://pthub.com/openwirt/bree/openwirt15.07/package/utils/bz/p2.
curi-7.50.3		мг		https://github.com	n/kaloz	https://gthub.com/openwrt/openwrt/tree/openwrt 19.07/package/network/utils/curl
dnsmasq-2.78		GPLv2		LEDE team		eq:https://gthub.com/openwrt/openwrt/openwrt/bree/lede=17.01/package/network/services/dnumarg and the services and t
dosfstaols-4.1		GPLv3 or later		https://github.com	n/Noltari	https://gthub.com/openwrt/packages/tree/lede-17.01/utlu/dodfstools
expet-2.2.6		MIT		https://github.com	n/sbyx	https://gthub.com/openwit/packages/Inee/lede-17.01/Ibb/expat

License Details:

				TUNNE	L CONNECTED	DISCONNE	T
In Overview	Ø Gateway	Access	📑 File Relay	SD Card	Activity		Apply changes
ipaddr		MIT		https://github.co	m/whitequark		https://github.com/whitequark/jpaddr.js
eonasdan-bootstrap-da	tetimepicker	МІТ		https://github.co	m/Eonasdan		https://github.com/Eonasdan/bootstrap-datetimepicker
					License D	etails	
Packages: busybox-1.2	25.1, dnsmasq-2.78, fstools-	2016-09-31, libcap-2.25	i, iproute2-4.4.0, lede-keyrin	g-2016-04-30, lzo-2.09, r	nbedtls-1.3.17, mbedtls-2	- 0	tifd-2016-11-21, popl-1.16, procd-2016-10-19, u-bool-2016.05, ubus-2016-10-12, ubox, uci-2016-07-04, 1, util-linux-2.28
			9, go-syslog, lua-5.1.5, httpn p-datetimepicker, goxml2jsc		uuid, atomic,testify, serve	r, httpunix, goxml2json	jquery, bootstrap, underscore, backbone, backbone-forms, handlebars, swag, js-cookie, bootstrap3-dialog, backbone-
Packages: go-avro, sol	tethervpn-psft-4.29-9680, g	log					
Packages: acl-2.2.53, a	attr-2.4.48, libiconv, libnl-tin	y-0.1, Linux-PAM-1.2.0,	userspace-rcu-0.9.4, xz-5.2.4	, zlib-1.2.8			
Packages: bash-4.4.18	, binutils-2.27, dosfstools-4.	1, fwtool, readline-7.0					
Packages: pflag, fsnot	ify, snappy, iperf-1.3.4						
Packages: gorilla-web	sockets, libarchive-3.3.2						
Packages: jsonfilter-20	016-07-02, firewall-2016-11-	07, libubox, usign-2015	-07-04, go-sphew				
Package: zlib							
Package: bzip							
					Powered by ProSoft	Technology	

Each entry can be expanded:

				TUNN	EL CONNECTED	DISCONNECT
🕍 Overview	Gateway	🛔 Access	🔓 File Relay	SD Card	Activity	Apply changes
					License D	Details
Packages: busybox-1.	25.1, dnsmasq-2.78, fstools	s-2016-09-31, libcap-2.2	5, iproute2-4.4.0, lede-keyri	ing-2016-04-30, lzo-2.09,	mbedtls-1.3.17, mbedtls-2	3.0, mtd-utils-1.5.2, net/fd-2016-11-21, popt-1.16, procd-2016-10-19, u-boot-2016.05, ubus-2016-10-12, ubus, uci-2016-07-04.1, util-linux-2.28
			.9, go-syslog, lua-5.1.5, http ap-datetimepicker, goxml2j		-uuid, atomic,testify, serve	r, httpunk, goxml2json, jquery, bootstrap, underscore, backbone, backbone forms, handlebars, swag, js-cookie, bootstrap3-dialog, backbone-
Packages: go-avro, so	tethervpn-psft-4.29-9680,	glog				
Packages: acl-2.2.53,	ttr-2.4.48, libiconv, libnl-ti	ny-0.1, Linux-PAM-1.2.0	userspace-rcu-0.9.4, xz-5.2	1.4, zlib-1.2.8		
Packages: bash-4.4.18	, binutils-2.27, dosfstools-4	4.1, fwtool, readline-7.0				
Packages: pflag, fsnot	fy, snappy, iperf-1.3.4					
Packages: gorilla-web	sockets, libarchive-3.3.2	N				
BSD 2-Clause License		3				
Redistribution and use	n source and binary forms, w	vith or without modification	on, are permitted provided the	at the following conditions	are met:	
1. Redistributions of so	irce code must retain the abo	ove copyright notice, this l	ist of conditions and the follo	wing disclaimer.		
IMPLIED WARRANTIES, CONSEQUENTIAL DAMA	NCLUDING, BUT NOT LIMITE GES (INCLUDING, BUT NOT L	D TO, THE IMPLIED WARR	ANTIES OF MERCHANTABILITY	AND FITNESS FOR A PARTI SERVICES; LOSS OF USE, D	ICULAR PURPOSE ARE DISCLA	material provided with the distribution. THIS SOFTWARE IF PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTIORS YAS IS? AND ANY EXPRESS OR NAMED. NI NO EVENT ANALL THE COPYRIGHT AND DECRE CONTRIBUTIONS E LUBLE FOR AN INDERCY INDERCY. INDERCHARGENCE, E ESS INTERRUPTION! HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE
Packages: jsonfilter-2	16-07-02, firewall-2016-11	-07, libubox, usign-2019	5-07-04, go-sphew			
Package: zlib						

4.4 Configuring Login Credentials

The gateway is shipped with the following login defaults: User: admin Password: password

The Access tab allows you to change the default user name and password.

1 Click on the Access tab.

O PLX3	35-NB2					* •
ul Overview	Gateway	Access	File Relay	SD Card	Activity	
					I	Apply changes
WEB INTERFACE						
	Use	er admin				
	Passwor	d ****				
	Confirm passwor	d ****				
		+ Advanced	configuration			

This page allows you to set up the users that can manage and configure this gateway. The *Advanced Configuration* link allows you to restrict access based on user.

- 2 Enter a user name and a password.
- **3** Confirm the password by retyping it.

4.4.1 Advanced Configuration

1 Click on the *Advanced Configuration* link.

O PLX3	85-NB2					•
Jul Overview	Ø Gateway	Access	🔓 File Relay	SD Card	Activity	
						Apply changes
WEB INTERFACE						
	Use	er admin				
	Passwor	d ****				
	Confirm passwor	d ****				
		- Advanced o	configuration			
	Web Protoco			•		
	HTTP po	rt 8080				

- 2 Select the Web Protocol. Select HTTP or HTTPS.
- 3 Choose the port depending on what protocol is selected.
- 4 Click APPLY CHANGES when complete.

4.4.2 Initial / Factory Reset Login

This procedure is used for brand new units, or resetting the PLX35-NB2 to the default configuration. The default credentials are as follows:

User: admin

Password: password

Note: Beginning with PLX35-NB2 firmware v1.5, this process requires you to change the default password on initial/reset login.

1 Connect to the PLX35-NB2 webpage using the default credentials.



2 After logging in, the Access tab will be displayed to change the password.

Note: Beginning with PLX35-NB2 firmware v1.5, this process requires you to change the default password on initial/reset login.

• PLX35	-NB2					•
🔟 Overview	Ø Gateway	Access	🔓 File Relay	SD Card	Activity	Apply changes Cancel changes
WEB INTERFACE				You must chang	ge your password.	
h		User	admin			
		Password	Password must contain a	t least one uppercase		
		Confirm Password	character			
			+ Advanced configuration			
			+ Advanced configuration			

- **3** Select a password that is compatible with the following rules:
 - Between 8 and 40 characters
 - At least one upper case letter
 - At least one lowercase letter
 - Contains at least one digit (0 through 9)
 - Contains at least one special character: !@#\$%^&*()_+=-~
- 4 Re-enter the new password in the *Confirm Password* field.
- **5** After confirming the new password in the *Confirm Password* field, click the **APPLY CHANGES** button in the top right corner of the page.

PLX35	-NB2					• •
In Overview	¢ Gateway	Access	🖺 File Relay	SD Card	Activity	Apply changes
INTERFACE				You must change y	our password.	
		User	admin			
		Password	•••••			
		Confirm Password	•••••			
			+ Advanced configuration			

6 After the changes are applied, you will be logged out and redirected to the login page.



7 After logging in using the username and the new password, future password changes can be done from the *Access* tab as in the *Configuring Login Credentials* section on page 20.

PLX35-	NB2					
al Overview	🌣 Gateway	🛔 Access	🖺 File Relay	SD Card	Activity	
INTERFACE						
		User	admin			
		Password	****			
		Confirm Password	****			
			+ Advanced configuration			

4.5 File Relay

The LAN and WAN ports on the PLX35-NB2 are physically isolated. The File Relay functionality enables simple and secure transfer of files across segmented networks.

For example, if the customer would like to back up their OT equipment configuration files on the server without wanting to create a link between the IT and OT network, the PLX35-NB2 can be used to segment between the two networks.



The *File Relay* tab allows you to use the SD card port on the device as a temporary storage medium for large files that can be automatically transferred to a remote location. Files can be copied to the PLX35-NB2 SD card from an FTP/SFTP Client. The files can then be transferred to a remote FTP/SFTP Server, or via Belden Horizon.

1 In the *Incoming* section of the *File Relay* tab, select the **FTP** or **SFTP** protocol to enable FTP or SFTP Incoming file transfer.

PLX35-N	IB2				
ull Overview	🌣 Gateway	Access	📔 File Relay	SD Card	Activity
OMING					
		Protocol	FTP	Ŧ]
		User	f-relay		\searrow
		Password	***		
		Confirm Password	***		

2 Use the following table to enter the appropriate parameters:

Parameter	Description
Incoming	•
Protocol	FTP (File Transfer Protocol)
	SFTP (Secure File Transfer Protocol)
User	The username is for uploading files through FTP to the module's SD card.
	The default value is f-relay .
Password	Password for FTP access. The password must have at least 8 characters,
	contain at least one uppercase letter, one lowercase letter, and one special
	character.
Outgoing	
Protocol	Protocol of the server used as final destination for the File Relay.
	Supported protocols for upload are FTP/SFTP/Belden Horizon
URL	URL of the server used as final destination for the File Relay.
	Supported protocols for upload are FTP/SFTP/Belden Horizon
	For FTP the format is specified in the field: http://user@host:port/path/
	For SFTP the format is: sftp://user@host:port/path/
Password	Password used to upload to the remote server. You can view the
	configured value by pressing the "eye" button.
	Password is used only for FTP.
	This field is greyed out for SFTP.
	This field is removed for Belden Horizon.

Host Key	Public Key that authenticates SFTP Server and proves its identity to PLX35-NB2 client. This should be copied from SFTP Server and pasted
	here.
	Used only for SFTP
	This field is greyed out for FTP
	This field is removed for Belden Horizon
	 Keys supported: RSA 2048, RSA 3072, RSA 4096, Ed25519 2
	ECDSA nistp256, ECDSA nistp384, ECDSA nistp521
	 Keys unsupported: DSA 1024, ECDSA secp256k1
	Public Key from SFTP Server should be exported as OpenSSH format. Example:
	• ssh-rsa
	<pre>AAAAB3NzaC1yc2EAAAADAQABAAACAQDaE1+/MsozgFb5JF y1dhlYfeyPTrsforNIKKfQRE1KACOF3c6eRsSkUnOazfUW CT2B49sxgpteiDu4Phg01kECKjCvISeUuRmWX9CDbGUJNQ wapZ7WRBIoSBh0aua1ywcnvdMZ0dd16J9t+T49KRJtxG8i AKE5yTzBegsRmIv2IWQV444w7+Z/DcLR5BmSxuXA/Mm6VC kp60xdfVFzKEkVWSgIAi8E3quMH3+UOJHfCK3yH4byUFvh fcqMsOHe/QaiblnIjpvGL7VB0gdAln2Igtd5nmyKUPHkBn 26/YKsa69P2Z8qfkpMZV3jKp0xHu5CLEYG4fj1BKLSDVY4 20T6CS+ad++vMdD0boALiJfM08ztUbMBKVkQDZ4FJD/n41 jJn0U8Ax3Jw7jghkisES3J4sKIPSvse8DR8+iGzg6oYp1Z bzEGJgHE46hIM80vOYcsU7hfyaSRZOZtA0+UIg7tKkraWo eZFa70xEH8iJSW15Qcp2QMniDy6vd+QPuZr3byu0EVw6Px IPhKKLKEoz3lUxxH3c+T6CfP/CVzSuhik523ZAZyjK0Nni: MSmROE8hrPWSCg9uimIzGHWLWxjxbSmHRz42EdUi1rWA5U 7vK19xFgwji0wNLj1x8I3ZmcIehQ== ecdsa-sha2-nistp384 AAAAE2VjZHNhLXNoYTItbmlzdHAzODQAAAAIbmlzdHAzOD ABhBDbqqXJXwsBDy+kGaAZbeHC02FL8p0xmXEQfy9X1yuX bw5UH/QgiBzrj2hIEm/njbPG2yb0a98pUBuw1mM5ftDjKV 5Ilave96BqJEYyJYYH2y8Ve5qDD1iwvZzyg==</pre>
	Standard SSH2 format is NOT supported:
	BEGIN SSH2 PUBLIC KEY
	AAAAB3NzaC1yc2EAAAADAQABAAABgQDanO7WbWaWl+Ukd2RJfvNTS
	eNUlkzaQS17fCYfAX
	GuAHjrVi3WxynQF9vyV/an+0XAsfiFUhMRE+DaaLMzvjnmXIMFHcj
	FsHZk3RUOfF5d5Syd 1fuqMDj2+s2dcjidnkBRXF2Nq+Ii7rPCHtjmDgwE7b7dZxgG6erVs
	Ybbr9dAuUs7i5ri79
	m3BCHtxLvF/OOm1R27jEyizMRyOBswa5DJBL6sk18oK5fdgSdmVyy
	I88cedD01ipwCt+X9
	511jeFzXlIa/L+NzshBs4vAjr3obgHWNiwEDdckw0RU/FDFdbjmH5 vWAa7M71E+A8/UFEa
	MZ2LMqLdULwiOHb4TtVCoYfnQlrqE18VFw8A77vH8KadGpZ2EuLZF
	cdYUgovb5pzgbmVHh
	MiMaRjkVtdc118nPwdeO4CUn1mLIIWROSLf2JGTg2GTZipbT1Fge8
	wEO9bHiDBORRU5PZP RQOlQDnbtFnE4gswFdhvs4+tHaunw4wBVDIIol0=
	END SSH2 PUBLIC KEY

Note: Host Key will be removed from the outgoing server configuration upon downgrade from PLX35-NB2 1.5 release to any older firmware.

	OUTGOING	
	Protocol	SFTP v
	URL	
	UKL	sftp://admin@192.168.0.13:22/
	Password	•••••
	Host Key	ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAACAQD
	SSH-Key	Generate SSH Key
	Daily Upload Time	07:56
SSH-Key	transfer. Once generated, it shoul file and associated with the design	es place the first time it is requested. ame public key. ateway factory reset. or FTP
	OUTGOING	
	Prote	col SFTP v
	,	sftp://admin@192.168.0.13/
	Passw	ord ****
	Host	BVDIIol@= END SSH2 PUBLIC KEY
	SSH-	Generate SSH Key
	Daily Upload Ti	me 03:00
	PLX35 Public Key	×
	ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAABAQDk++MYn46 pm7j2Dv4jwusjciCdal/Pa327XEKUoiv2nTsxLbX73BH;Hkr./ Morengw6Kbh1xb3NSpdDUMYOMUR/zjlN+AcaiCZJURINS2 OLBinkMOl-GL1kYQsRhiRBDP;2ZBdv20j2a2VZ3bDb0/2F EZ8+17UkG6Ph7QP8J2eVm5e1JAakQr/F7X7fJJ2P4BMTmn	MIU4CVwX++MoGWsX3Udlxs4307VXH ehVtbkd8MOHa3UoEviYxsiRxqHB8TkP pAVTzAQwtYLMGANcsKIB7nEtVj91GD
	2.166	Copy to Clipboard
	۲	L,
D 11 11 1	The uplead time, shown in the Le	col III is UTC similar with the time or
Daily Upload Time	the Overview page. Default time v	cal UI is UTC – similar with the time on value is 03:00.

3 Click APPLY CHANGES when complete.

4.5.1 Example #1: Transferring Files Across Segmented Networks Using FTP

This example shows an incoming FTP to an outgoing FTP.

- On the LAN port, the PLX35-NB2 acts as an FTP Server for the incoming files to a WinSCP Client, The files are temporarily stored in the PLX35-NB2 SD card.
- On the WAN port, the PLX35-NB2 acts as an FTP Client to a Filezilla Server. The files are pushed from the PLX35-NB2 to the Filezilla FTP Server.

Filezilla Serv (Resides on a PC) User: admin Password: Pros	er	WAN		z	LAN	WinSCP Client (Resides on a PC) User: f-relay Password: Prosoft1234!
OPLX35-N	IB2					•
all Overview	🗘 Gateway	🛔 Access	🔓 File Relay	SD Card	Activity	Apply changes
INCOMING						
		Protocol	FTP	•	•	
		User	f-relay			
		Password	朱 朱★★			
		Confirm Password	***			
OUTGOING						
		Protocol	FTP	•		
		URL				
		Password Host Key	••••••	۲		
			Host-key required		4	
		SSH-Key	Generate SSH Ke	Ey		
		Daily Upload Time	07:00			

1 From the WinSCP Client, open a FTP session to PLX35-NB2 and transfer a few files to the *Upload* folder on the PLX35-NB2 SD card:



2 Click OK.

🌆 f-relay@192.168.0.254 (FTP) -	WinSCP									
Local Mark Files Commands	Session Option	is Remote H	lelp							
- Friend Synchronize				ngs Default		• 🥵 •				
f-relay@192.168.0.254 (FTP)			-	-						
	7] •] ◆ • →		c) 21 🗞					- 🗳 - 🔽	- 14-	
🗊 Upload 👻 📝 Edit 👻 🗶							Dow	nload 👻 📝 Edi		
D:\Test\										
Name		Size	Туре		Changed		Name			
t		3126	Parent directory		-	0 3:19:19 PM	INdifie			
test file 01.txt		1 KB	Text Document			0 2:05:20 PM				
test file 02.txt		1 KB				0 10:14:00 AM				
test file 03.txt		1 KB	Text Document		4/30/ Pa	assword - f-relay@192.168	.0.254 (FT	P)		×
						connecting to 192.	к 🖓	Cancel	Help	
	🖗 Queue 🔹 🛛 Transfe ion	r Settings Default	• 18 •	/ <root></root>	- 🚰 • 🕁 •	+·+· (≧ ≅ 6 2 Q	Find Files	2	-	
🕼 Upload - 🛛 Edit - 🗶 🛃 🕞 Properties	🚰 New - 🗄 🖃 🛛	4		Download	• 📝 Edit •	🗙 🛃 🕞 Properties 📑 New - 🕴	+ - V			
D:\Test\ Name	Size Type		hanged	Name			Size	Changed	Rights	Owner
t test file 01.txt	Parent dire 1 KB Text Docum		/30/2020 3:20:43 PM /14/2020 2:05:20 PM	t				4/30/2020 8:18 AM	IWXIWXIWX	f-relay
test file 02.bit	1 KB Text Docum 1 KB Text Docum		/21/2020 10:14:00 AM /30/2020 3:20:56 PM	sent				4/30/2020 7:57 AM 4/30/2020 7:57 AM	DWXDWXDWX DWXDWXDWX	f-relay f-relay
				lostnfound				4/22/2020 12:04 PM	DWXDWXDWX	f-relay
					ß					
0 B of 9 B in 0 of 3				0 B of 0 B in 0 of	1					
									FTP	0:01:13
upload - f-relay@192.168.0.254 (FTP) - WinSCP Local Mark Files Commands Session Options	Remote Help								-	0 X
🖶 🔀 📚 Synchronize 🛛 🖉 💽 🍥	🖗 Queue 🔹 🛛 Transfe	r Settings Default	• <i>1</i>							
U f-relay@192.168.0.254 (FTP) × I New Sess D: Data • I + I + I + I + I + I + I + I + I + I				unload	🕰 . 🖂 .	🔶 - 🔶 : 🗈 🖻 🏠 🛃 🖻	Find Files			
Upload - 2 Edit - X 🚮 🕞 Properties		₹				🗙 🚮 🕞 Properties 📑 New - 1		1		
D:\Test\			hanged	/upload/				Changed	Pichte	Owner
Name	Size Type Parent dire	tory 4	hanged /30/2020 3:20:43 PM	Name				Changed	Rights	Owner
test file 01.txt	1 KB Text Docum 1 KB Text Docum	ient 4	/14/2020 2:05:20 PM /21/2020 10:14:00 AM	test file 03.txt			1 KB	4/30/2020 12:29 PM 4/30/2020 12:29 PM	TWXTWXTWX TWXTWXTWX	f-relay f-relay
test file 03.bt	1 KB Text Docum	ient 4	/30/2020 3:20:56 PM	test file 01.txt			1 KB	4/30/2020 12:29 PM	INVXIVIXIVIX	f-relay
0 B of 9 B in 0 of 3				0 B of 9 B in 0 of 5						
0003010015				00019610001				9	FTP 🗐	0:03:44

3 Log into the FTP Filezilla Server.

User: admin Password: Prosoft1234! Folder: C:\FTP_Root):



age:	Shared folders			Users	
General Shared folders Speed Limits IP Filter	Directories	s for one directory	with the pipe charact	er ()	<u>R</u> emove Cop <u>v</u>
OK Cancel					

4 Start the server:

FileZilla Server (127.0.0.1)
File Server Edit ?
🗲 🖺 😹 🕰 📽 💡 /c/ =\ 🎫 🗸
FileZilla Server 0.9.60 beta
Copyright 2001-2016 by Tim Kosse (tim.kosse@filezilla-project.org)
https://filezilla-project.org/
Connecting to server localhost:14147
Connected, waiting for authentication
Logged on
Warning: FTP over TLS is not enabled, users cannot securely log in.
Retrieving account settings, please wait
Done retrieving account settings
Retrieving account settings, please wait
Done retrieving account settings
Retrieving account settings, please wait
Done retrieving account settings
Creating listen socket on port 21
Server online

5 At the configured *Daily Upload Time*, set (hh:mm, default is 03:00). The files from the PLX35-NB2 SD card *Upload* folder will be time-stamped (yyyy-mm-dd) and transferred to the FTP Filezilla Server on folder C:\FTP_Root.

File Server					
		Ci/ 🏢 🕶			
letrieving acco	account settings, please wait unt settings, please wait				
letrieving acco	account settings ount settings, please wait account settings				
reating listen s erver online	ocket on port 21				
00136)4/30/2	2020 15:41:02 PM - (not lo 2020 15:41:02 PM - (not lo	gged in) (192.168.0.254)> Connecte gged in) (192.168.0.254)> 220-FileZ	d on port 21, sending welcome messa lla Server 0.9.60 beta	je	
)00136)4/30/2)00136)4/30/2	2020 15:41:02 PM - (not lo 2020 15:41:02 PM - (not lo	gged in) (192.168.0.254)> 220-writte gged in) (192.168.0.254)> 220 Pleas	n by Tim Kosse (tim.kosse@filezilla-pro e visit https://filezilla-project.org/	ject.org)	
00136)4/30/2	2020 15:41:02 PM - (not lo	gged in) (192.168.0.254)> USER ad gged in) (192.168.0.254)> 331 Pass	min word required for admin		
00136)4/30/2	2020 15:41:02 PM - (not lo 2020 15:41:02 PM - admin 2020 15:41:02 PM - admin	gged in) (192.168.0.254)> PASS *** (192.168.0.254)> 230 Logged on (192.168.0.254)> BWD			
00136)4/30/2	2020 15:41:02 PM - admin 2020 15:41:02 PM - admin 2020 15:41:02 PM - admin	(192.168.0.254)> 257 "/" is current	directory.		
00136)4/30/2 00136)4/30/2	2020 15:41:02 PM - admin 2020 15:41:02 PM - admin	(192.168.0.254)> 229 Entering Exte (192.168.0.254)> TYPE I	nded Passive Mode (60833)		
00136)4/30/2 00136)4/30/2	2020 15:41:02 PM - admin 2020 15:41:02 PM - admin	(192.168.0.254)> 200 Type set to I (192.168.0.254)> STOR 2020-04-3	test file 01.txt		
00136)4/30/2	2020 15:41:02 PM - admin	(192.168.0.254)> 226 Successfully	channel for file upload to server of "/2 ransferred "/2020-04-30test file 01.txt"	020-04-30test file 01.txt"	
00136)4/30/2	2020 15:41:02 PM - admin 2020 15:41:02 PM - admin 2020 15:41:02 PM - admin	(192.168.0.254)> QUIT (192.168.0.254)> 221 Goodbye (192.168.0.254)> disconnected.			
00137)4/30/2	2020 15:41:02 PM - (not lo	gged in) (192.168.0.254)> Connecte gged in) (192.168.0.254)> 220-FileZ	d on port 21, sending welcome messa lla Server 0.9.60 beta	je	
00137)4/30/2 00137)4/30/2	2020 15:41:02 PM - (not lo 2020 15:41:02 PM - (not lo	gged in) (192.168.0.254)> 220-writte gged in) (192.168.0.254)> 220 Plea:	n by Tim Kosse (tim.kosse@filezilla-pro e visit https://filezilla-project.org/	ject.org)	
00137)4/30/2 00137)4/30/2	2020 15:41:02 PM - (not lo 2020 15:41:02 PM - (not lo	gged in) (192.168.0.254)> USER ad gged in) (192.168.0.254)> 331 Pass gged in) (192.168.0.254)> PASS ****	min word required for admin		
00137)4/30/2	2020 15:41:02 PM - (not lo 2020 15:41:02 PM - admin 2020 15:41:02 PM - admin	(192.168.0.254)> 230 Logged on			
00137)4/30/2	2020 15:41:02 PM - admin 2020 15:41:02 PM - admin 2020 15:41:02 PM - admin	(192.168.0.254)> 257 "/" is current	directory.		
00137)4/30/2	2020 15:41:02 PM - admin	(192.168.0.254)> 229 Entering Exte (192.168.0.254)> TYPE I	nded Passive Mode (1161831)		
00137)4/30/2 00137)4/30/2	2020 15:41:02 PM - admin 2020 15:41:02 PM - admin	(192.168.0.254)> 200 Type set to I (192.168.0.254)> STOR 2020-04-3)test file 02.txt		
00137)4/30/2	2020 15:41:02 PM - admin	(192.168.0.254)> 226 Successfully	channel for file upload to server of "/2 ransferred "/2020-04-30test file 02.txt"	020-04-30test file 02.txt"	
00137)4/30/2	2020 15:41:02 PM - admin 2020 15:41:02 PM - admin 2020 15:41:02 PM - admin	(192.168.0.254)> Q011 (192.168.0.254)> 221 Goodbye (192.168.0.254)> disconnected.			
00138)4/30/2 00138)4/30/2	2020 15:41:02 PM - (not lo 2020 15:41:02 PM - (not lo	gged in) (192.168.0.254)> Connecte gged in) (192.168.0.254)> 220-FileZ	d on port 21, sending welcome messa lla Server 0.9.60 beta		
)00138)4/30/2)00138)4/30/2	2020 15:41:02 PM - (not lo 2020 15:41:02 PM - (not lo	gged in) (192.168.0.254)> 220-writte gged in) (192.168.0.254)> 220 Pleas	n by Tim Kosse (tim.kosse@filezilla-pro e visit https://filezilla-project.org/	ject.org)	
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4.5.2 Example #2: Transferring Files Across Segmented Networks Using SFTP

This example shows an incoming SFTP to Outgoing SFTP.

Public Key: Copied from PLX35-NB2

SSH-Key box to Bitvise

- On the LAN port, the PLX35-NB2 acts as a SFTP Server for the incoming files from the WinSCP Client. The files will be temporarily stored on the SD card.
- On the WAN port, the PLX35-NB2 acts as a SFTP Client to a Bitvise Server. The files are pushed from the PLX35-NB2 to the Bitvise SFTP Server.



1 From the WinSCP Client, open a SFTP session to PLX35-NB2 and transfer few files to the *Upload* folder on PLX35-NB2 SD card:

	Gateway	🛔 Access	🖹 File Relay	SD Card	Activity	
COMING						
		Protocol	SFTP	v		
		User	f-relay			
		Password	**			
		Confirm Password	朱 朱 六 代			
ITGOING						
		Protocol	SFTP	Ŧ		
		URL	sftp://admin@192.16	8.0.13:22/		
		Password	***	۲		
		Host Key	ssh-rsa AAAAB3NzaC1yc2EAA			
		SSH-Key	Generate SSH Key			
		Daily Upload Time	12:41			
f-relay@192.168.0.254 (SFTI cal Mark Files Commanc f-relay@192.168.0.254 (SFTI D: Data C C C C C C C C C C C C C C C C C C	ds Session Options Ren	eue 🔹 🛛 Transfer Setting	gs Default		• @ • ፬ • vnload • 2* Edit • \$	
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e 02.txt e 03.txt	1 KB Text Document 1 KB Text Document	4/21/2020 10:14:00 AM 4/30/2020 3:20:56 PM	test file 02.txt		1 KB 4/21/2020 10:14:00 AM 1 KB 4/14/2020 2:05:20 PM	naxinaxinax ro naxinaxinax ro
) PLX35-N	NB2		Ш			
al Overview	Gateway	Access	📔 File Relay	SD Card	Activity	
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		Protocol	SFTP	Ţ		
		User	f-relay			
		Password	***			
		Confirm Password	光 云云光			
GOING						
		Protocol	SFTP	Ŧ		
		URL	sftp://admin@192.	168.0.13:22/		
		Password	党党党党	۲		
		Host Key	ssh- <u>rsa</u> AAAAB3NzaC1yc2E			
		SSH-Key	Generate SSH P	Key Do		
		Daily Upload Time	12:41			
PLX35 Public Ke	у			×		
Z4yGaxTvx1McKxk vdYFOcTtjTqzaUZ	aC1yc2EAAAADAQABAA O4egu8cbV5flLF+A3lul UJSXkqKS2J88Fk8y0A	Hr6O8t/hMepVUHv f0C9IXUPmWJ4Dth	H3Dlr1WlW0XE298 kVnQs6AZJV48fEU	NuzK8lgpGcFflOSJ		

- 2 On the Bitvise server, managing public keys:
 - Generate a key on Bitvise Manage host keys, export it as OpenSSH format, then copy the key to Host Key box into the PLX35-NB2
 - Generate SSH Key on PLX35-NB2, copy into a .pub file and add it on admin account on Bitvise server

erver Sessions					
ver manageme	ent Bitvise SSH Server and manage its host	t kours contification password	cache and estimate Click the question	an mark irons to loarn shout oar	h canfiguration amount
e SSH Server service is		r keys, ceruncates, passivoru i	cacile, and settings. Click the quest	or mark icons to learn about eac	Instance type: <u>Standalon</u>
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CSA host key 4096 bits	: e:3d:3b:13:10:67:ee:85:23:3f:aa:2e:3	3a-07-02 Copy			
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HA-256 fingerprint: CDSA/nistp384 host	jeHYWZRn 10I/Y5veH 1JhL0CJGyd8aaBo	qcPCazBjsGSE Copy			
1D5 fingerprint: 6a:7	9:0d:66:54:6f:bd:62:3d:31:4d:a1:fd:cf	f:c9:f2 Copy			
ubble-Babble: xuck-f HA-256 fingerprint:	fipig-resek-dilut-dopor-pahyh-narec-dyz xa8ejnFWLLKCyduyCf3qY385gu2jqoiJH	zel-lefez-turuf-baxox <u>Copy</u> HiGvOuusBao <u>Copy</u>			
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HA-256 fingerprint:	e1:87:81:81:1a:08:6f:24:74:77:02:9f:	:2a:80:b8:b1:cc:43:30:8a:5b:	b2:f6:96:da:db:b5:22:c4:80:e0:1c	Copy	
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Ver manageme is tab to start and stop s SSH Server service is : ip type: <u>Automatic</u> log folder viewer ost keys -SA host key 4096 bits	n t Bitvise SSH Server and manage its host stopped <u>Start Server</u>	t keys, certificates, password (cache, and settings. Click the question		Send us feed
er manageme s tab to start and stop : SSH Server service is : p type: Automatic log folder viewer ost keys SA host key 4096 bits Bitvise SSH Server	nt Bitvice SSH Server and manage its host stopped <u>Start Server</u>	t keys, certificates, password		< – – ×	Send us feed
er manageme er manageme s SH Server service is : p type: <u>Automatic</u> log folder viewer ost key 4096 bits Bitvise SSH Server ⁽²⁾ 1. Server settings	nt Brviee SSH Server and manage its host stopped <u>Start Server</u> Edit existing entry of Simplified vi Entry 0 in Simplified vi	t keys, certificates, password	>	< – – ×	Send us feed
Vermanageme vermanageme ab to start and stop sSH Server service is : p type: Automatic loa folder viewer ost keys SA host key 4096 bits Bitvise SSH Server 1. Server settings implified virt ritual accounts are key	nt Bitvice SSH Server and manage its host stopped <u>Start Server</u>	t keys, certificates, password	>	< – – ×	Send us feed
Ver manageme stab to start and stop SSH Server service is : p type: Automatic p type: Automatic p type: Automatic SA host key 4096 bits BRVise SSH Server 1. Server settings implified virt rual accounts are p port forwarding, bu	nt Brviee SSH Server and manage its host stopped <u>Start Server</u> Edit existing entry of Simplified vi Entry 0 in Simplified vi	t keys, certificates, password	>	< ×	Send us feed
Ver manageme stab to start and stop sSR-Server service is : loa folder viewer SSA host key 4096 bits SSA host key 4006 bits SSA host key	nt Brviee SSH Server and manage its host stopped <u>Start Server</u>	t keys, certificates, password of virtual accounts	>	cure only file transfer cal Windows account to on a domain	Send us feed
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Ver manageme s tab to start and stop SSH Server service is is to type: Automatic SA host key 4096 bits Bitvise SSH Server 1. Server settings Simplified virtual accounts are is pro the purpose of exhans and hards and account of the service of the hards and the service of the service of the service of the hards and the service of the service of the service of the hards and the service of the service of the service of the hards and the service of the service of the service of the service of the hards and the service of the servic	nt Brive SSH Server and manage its host stopped <u>Start Server</u> Edit existing entry of Simplified vi Extry 0 in Simplified vi Examd / Collasse al hele Virtual account name Virtual account name Virtual account name Cugo alowed	t keys, certificates, password of virtual accounts irtual accounts admin not set	>	quire only file transfer cal Windows account nso na domain tual accounts in	Send us feed
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Consider the second secon	nt Brive SSH Server and manage its host stopped <u>Start Server</u> Edit existing entry of Simplified vi Entry 0 in Simplified vi Excand / Colacce al hele O Virtual account name O Virtual account name O Virtual account name O Login allowed D	t keys, certificates, password of virtual accounts irtual accounts admin not set J key Z byShell	- D >	Guire only file transfer cal Windows account tso a doceann tual accounts in access type A	Send us feed
Consider the second secon	nt Brive SSH Server and manage its host stopped <u>Start Server</u> Edit existing entry of Simplified vi Entry 0 in Simplified vi Excand / Colasse al help (*) Virtual account name (*) Virtual account name (*) Virtual account name (*) Login allowed (*) Existence (*) Allow file transfer	t keys, certificates, password of virtual accounts intual accounts admin not set 2 1 key 2	- D >	Guire only file transfer cal Windows account tso a doceann tual accounts in access type A	Send us feed
Ver manageme Ver manageme Is tab to start and stop SSH Server service is : p type: Automatic p type: Automatic SSH Server (SSH Server (I. Server settings Simplified virt Irusia accounts are ik r ort forwarding, bu or the purpose of es r port forwarding, bu or the purpose of est r ortfolwarding, bu or the successful or ontrolley, you need Virtual account re admin	nt Brive SSH Server and manage its host stopped <u>Start Server</u> Edit existing entry of Simplified vi Entry 0 in Simplified vi Excand / Colacce al hele O Virtual account name O Virtual account name O Virtual account name O Login allowed D	t keys, certificates, password of virtual accounts infual accounts admin not set J key Z byShell	- D >	quire only file transfer quire only file transfer cal Windows account tso a domain tal accounts in access type acl	Send us feed
Ver Manageme is tab to start and stop E SSH Server service is us by type: Automatic Lison folder viewer SSA host key 4096 bits Bitvise SSH Server 1. Server settings Stimplified virtual scontroller, vou need to promoto are like promoto forwarding, bu for the purpose of est promoto are like promoto are like promoto are like to controller, vou need to controller, vou need to admin	nt Brive SSH Server and manage its host stopped Start Server Edit existing entry of Simplified vi Entry 0 in Simplified vi Examd / Colasse al hele Virtual account name Virtual account name Virtual account name Virtual account name Virtual account name Virtual account name Virtual account name Start Server Alow file transfer Shel access type Alow port forwarding	tkeys, certificates, password of virtual accounts intual accounts admin not set 2 1 key 2 1 key 2 9 vshell 9 vshell	- D >>>	Guire only file transfer cal Windows account tso a doceann tual accounts in access type A	Send us feed
Ver manageme ver manageme is tab to start and stop is tab to start and stop is SH Server service is up type: Automatic log folder viewer ost keys SSA host key 4096 bits Bitvise SSH Server 1. Server settings Simplified virtu- ficula accounts are k p ontfolwarding, bu for the purpose of es- tion stops of the stops ontfolder, you need to vontoller, y	nt Brive SSH Server and manage its host stopped <u>Start Server</u> Edit existing entry of Simplified vi Entry 0 in Simplified vi Excend / Colasse al hels © Virtual account name © Virtual account name © Virtual account name © Virtual account name © Diducters © Login allowed © Eublichers © Allow file transfer © Shell access type © Allow port forwarding © Virtual flesystem layout	tkeys, certificates, password of virtual accounts intual accounts admin not set i key i key i key i key i key i u key	- D >	quire only file transfer quire only file transfer cal Windows account tso a domain tal accounts in access type acl	Send us feed
Ver manageme Ver management Ve	nt Brive SSH Server and manage its host stopped <u>Start Server</u> Edit existing entry of Simplified vi Entry 0 in Simplified vi Excend / Colasse al hels © Virtual account name © Virtual account name © Virtual account name © Virtual account name © Diducters © Login allowed © Eublichers © Allow file transfer © Shell access type © Allow port forwarding © Virtual flesystem layout	tkeys, certificates, password of virtual accounts intual accounts admin not set 2 1 key 2 9 9Vshell 2 1 1 unit to root directory C:(SFTP_Root	- D >	quire only file transfer quire only file transfer cal Vindows account tsol a domain tal accounts in access type ell	Send us feed

Close

3 After the Bitvise server is started, set the Daily Upload Time (hh:mm, default is 03:00). The files from the PLX35-NB2 SD card Upload folder will be time-stamped (yyyy-mm-dd) and transferred to PC 2 FTP Bitvise Server on folder C:\SFTP_Root.



	Organize	New	Open	Select				
Local	Disk (C:) > SFTP_Root						✓ ひ Search SFTP_Root	Ą
	Name				Date modified	Туре	Size	
	2020-04-30test file 03.txt				4/30/2020 4:23 PM	Text Document	1 KB	
*	2020-04-30test file 01.txt				4/30/2020 4:23 PM	Text Document	1 KB	
*	2020-04-30test file 02.txt				4/30/2020 4:23 PM	Text Document	1 KB	
*								

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4.6 SD Card

The *SD Card* tab allows you to Eject, Mount, Format, and diagnose the PLX35-NB2 SD Card. You can also optimize the SD Card in this tab.

You can only access the SD Card from a FTP/SFTP Client.

• PLX35-NB2										
Lul Overview	Gateway	Access	🖹 File Relay	SD Card	Activity					
						Apply changes				
SD CARD										
	SD Card State	us null (null% fu	ll)							
	Eject	Mou	File Sys	tem Check	Format					
SPACE MANAGE	MENT									
	Reclaim Spac	e Disabled		¥						
	High water mark (%) 75								
	Low water mark (%) 50								

1 Use the following table to enter the appropriate parameters:

Parameter	Description
SD Card	Note: The SD Card options may be greyed out according to the SD card status.
	If the SD Card is not present, the SD Card options are greyed out.
	If the SD Card is not mounted, the Eject and Format buttons are greyed out.
	If the SD Card is mounted, the Mount button is greyed out.
Eject	Recommended to be done before manually removing SD Card.
Mount	This allows the SD card to be visible to the PLX35-NB2. When the SD Card is not
	'mounted', it will not be visible to the PLX35-NB2.
File System Check	Checks the SD Card for errors. This should be used in case the SD Card cannot be
	mounted. The page will be refreshed after the File System Check process is
	finished, then the user can manually mount the SD Card using Mount button.
Format	Removes the data from the SD Card and creates a new file system (FAT32 type).
Space Management	
Reclaim Space	Automatically cleans up the SD Card. Default value is Disabled .
High Water Mark (%)	The system will start deleting files from the SD Card when this threshold is
,	reached.
Low Water Mark (%)	The system will delete files from the SD Card until this threshold is reached.

Note: The High and Low Water Mark values should be based on the size of the SD Card and the sizes of the uploaded files. Inappropriate values may cause the deletion of files before the upload is performed.

2 Click **APPLY CHANGES** when complete.

4.7 Viewing Gateway Log file Activity

1 Click on the *Activity* tab.

	O Gateway	Access	🖿 file Relay	SD Card	Activity					Apply changes
rewnload log file	A The timester	ng is in UTC format.			D	Systog level:	Info	•	Search	
$\label{eq:response} \begin{split} n & \log \gamma \; 00000127\\ 200000127 & 00000127\\ 200000127 & 00000127\\ 200000127 & 000000127\\ 200000000000000000000000000000000000$	2020 systop and PUX-Age (vol timeout) 0000 systop and PUX-Age 0000 systop and PUX-Age 0000 systop and PUX-Age 100 systop and PUX-Age 100 timeout 000 systop and PUX-Age 100 timeout 0000 systop and PUX-Age 100 timeout 0000 systop and PUX-Age 100 timeout 0000 systop and PUX-Age 100 timeout 0000 systop and PUX-Age 000 systop and PUX-Age 000 systop and PUX-Age 0000 systop and PUX-Age 00000 systop and PUX	nt [100]: client, go:28 nt [100]: client, go:24 (100): client, go:24 (100): controller, go: (100): client, go:28 (1100): controller, go: (1100): controller, go: gent [100]: controller, go: gent [100]: controller, go: (1100): controller, go: (1100): client, go:28 (1100): client	Connection WSSCIent (Elent connection WSSCIent (223 Al Mislaeric AC (223 Al Mislaeric AC (223 Al Mislaeric AC (Connection WSSCIent (223 Al Mislaeric AC (224 Al Mislaeric	ddressvas://qa.prooft mt. (addressvas://qa.prooft www.proadtechologi dressvas://qa.prooft mt.faddressvas://qa.prooft ddressvas://qa.prooft ddressvas://qa.prooft ddressvas://qa.prooft ddressvas://qa.prooft ddressvas://qa.prooft ddressvas://qa.prooft ddressvas://qa.prooft ddressvas://qa.prooft ddressvas://qa.prooft ddressvas://qa.prooft tat/dressvas://qa.prooft tat/dressvas://qa.prooft	ref mag Type com-procedures of calcular part objective gateway/manager, prory, site costilluity (end of the cost of the cost objective gateway/manager, prory, years) agend, states 3.0.0 ACTIVATE Disal costilluity (end of the cost of the cost of the cost of the cost of the cost years) agend, states 3.0.0 ACTIVATE Disal cost of the cost of the cost of the cost of the cost of the cost of the cost of the cost of the cost of the cost of the cost of the cost of the cost years) agent, states 3.0.0 ACTIVATE Disal cost of the cost of the cost of the cost of the cost of the cost of the cost of the cost of the cost of the cost years) agent, states 3.0.0 ACTIVATE Disal years agent, states 3.0.0 ACTIVATE Disal years agent, states 3.0.0 ACTIVATE Disal to life cost of the cost o	clickle, emclomeet emor; mada top 20:3 statulie failed, emclomeet emor; mad top 20: adator failed about hate hate phonting failed, emclomeet emor; mad top 20: statulie failed, failed, emclomeet emor; mada emory and emory and emory and emory adators failed, emclomeet emor; mad top 20: statulie failed, emclomeet emor; mad top 20: statul	80.111.169:06036-044.2 195.00.111.169:06060- 90.111.169:06040-044.2 195.00.111.169:06040- 01-0421-03080040040- 04.201.111.169:06044-044.2 195.00.111.169:06044-044.2 195.00.111.169:06044-044.2 195.00.111.169:06044-044.2	-44.228.48.172.443: (io timeout 28.48.172.443: (io timeout 44.228.48.172.443: (io timeout 28.48.172.443: (io timeout 28.48.172.443: (io timeout	eout) closed: read top 195.90.) was closed: read top 195.90.	11.189:60636- 11.169:60640- 11.169:60640- 11.169:60644- 11.169:60644-

Options on this page include search, search filter options, and a Download log file option.



2 Click on the **DOWNLOAD LOG FILE** button to download a .txt file to the download folder of your PC or laptop.

Note: Some options that appear in the configuration UI may not be available during management or configuration options within Belden Horizon.

4.8 Importing a Configuration File

1 Select **IMPORT CONFIGURATION** from the **SETUP** icon located in the upper-right corner of any configuration page.

Lat. Overview	Gateway	Access	File Relay	SD Card	Activity			Export configurati Change firmware Reboot gateway Factory reset
RFORMANCE FLIVE							DEVICE DETAILS	(> Logout
1 Day		345				568 MB	Model: LAN IP: WAN IP:	PreSoft PLX35-NB2 192.168.0.26 10.20.254.70
		302				111 MB	Serial #: Firmware: System Time:	00.0d:8d:a2:b2:20 1.8:30-r0 debug Change 2024-02-01 07:13:11 +0000

2 Locate and select a configuration file to import and then click the **IMPORT** button.

Import Configuration	×
CHOOSE AN IMPORT CONFIGURATION TO UPLOAD	
Choose File	
Close	Import

4.9 Exporting a Configuration File

1 In the upper-right corner of any configuration page, select **EXPORT CONFIGURATION** from the setup icon.

PLX35 Prosoft	-NB2_QA	_BH							O Import configuration
Lat. Overview	O Gateway	Access	File Relay	SD Card	Activity				Export configuration Change firmware Reboot gateway Factory reset
PERFORMANCE	▶ LIVE						DEVICE DETAILS		(+ Logout
1 Day		WAN DAT	6 MB A RECEIVED 2 MB A RECEIVED			569 MB WAN DATA SENT 111 MB LAN DATA SENT	Model: LAN IP: WAN IP: Serial #: Firmware: System Time: Beldee Horizon:	ProSoft PLX35 192.168.0.26 10.20.254.70 00:0d.8d.a2:b2 1.8.30-r0 debu Change 2024-02-01.07 Change Deactivate	20

2 The gateway downloads a **tar.gz** file to your PC or laptop. Do not modify this file.

4.10 Updating the Firmware

Note: Downgrading to old firmware versions: If running firmware version is 1.2.13 or higher, performing a downgrade to versions 1.1.57 or 1.0.24 is not supported.

If running firmware version is 1.2.31 or higher, performing a downgrade to versions 1.2.13, 1.1.57 or 1.0.24 is not supported.

If running firmware version 1.7.1 or higher, users cannot downgrade to versions 1.6.90 and lower due to a new signing key method implementation.

Note: Belden Horizon can also schedule updates to the latest firmware for multiple PLX35-NB2 gateways.

1 Click the **SETUP** icon in the top-right corner of the page and then click **CHANGE FIRMWARE**.

PLX35- Prosoft											
Lat. Overview	O Gateway & Access	File Relay	SD Card	Activity				Export configuration Change firmware Reboot gateway Factory reset			
PERFORMANCE •	LIVE					DEVICE DETAILS		🕞 Logout			
2 Days	wan D.	441 MB WAN DATA RECEIVED 325 MB LAN DATA RECEIVED			686 MB WAN DATA SENT 132 MB LAN DATA SENT	Model: LAN IP: WAN IP: Serial #: Firmware: System Time: Belden Horizon:	ProSoft PLX35 192.168.0.25 10.20.254.70 00.0d.8d.a2.b2 1.8.30-r0.debuj Change 2024-02-02.07: Change Deactivate	:20 g			

This opens the Change firmware dialog.

Change firmware	×
CHOOSE A FILE TO UPLOAD	
Choose File	
Close	Change

- 2 Click the **CHOOSE FILE** button and locate the firmware file.
- **3** Select the file and click **OPEN**.
- 4 Click the **CHANGE** button to load the new firmware.
- **5** After the firmware update is complete, refresh PLX35-NB2 webpage.

4.11 Rebooting the Gateway

1 Click the **SETUP** icon in the top-right corner of the page and then click **REBOOT GATEWAY**.

Prosoft	PLX35-NB2									Import configuration Export configuration
M Overview	O Gateway	& Access	File Relay	SD Card	Activity					Change firmware Reboot gateway Factory reset
PERFORMANCE	LIVE							DEVICE DETAILS		🗢 Logout
2 Days	-			687 мв иал дата белт 132 мв		Model: LAN IP: WAN IP: Serial #: Firmware:	ProSoft PLX35- 192.168.0.26 10.20.254.70 00:0d:8d:a2:b2 1.8.30+r0 debug	20		
			A RECEIVED			LAN DATA SENT		System Time: Belden Horizon:	Change 2024-02-02 07: Change Deactivate	09:23 +0000

This opens the *Reboot gateway* dialog.

Gateway Name	Keiths_Demo	A		
Description	Reboot gateway		×	
Address		Are you sure you want to reboot this gateway? Warning: the gateway will be offline for several minutes.		
	Close		Reboot	

2 Click the **REBOOT** button when ready.

4.12 Factory Reset

The *Factory Reset* option will reset the PLX35-NB2 to its default configuration. All custom configuration changes will be lost after this procedure.

1 Click the **SETUP** icon in the top-right corner of the page.

O PLX35-NB2						• •
ull Overview	🌣 Gateway	Access	🔓 File Relay	SD Card	Activity	Apply changes

2 In the drop down, select the **FACTORY RESET** option.

O PLX35-N	IB2						o ·
Ltd. Overview	Ø Gateway	Access	File Relay	SD Card	Activity		 Import configuration Export configuration Change firmware Reboot gateway
PERFORMANCE	LIVE					DEVICE DETAI	Eactory reset
4 Hours		26 KB		1.4 (Model: LAN IP: WAN IP: Serial #:	€ Logout ProSoft PLX35-NB2

3 Click the **FACTORY RESET** button in the pop-up message that appears on the screen.

Factory Reset	×
Are you sure you want to perform a factory reset?	
The gateway will be accessible on the default IP: 192.168.0.250:8080 The gateway will be offline for several minutes	
Close	Factory Reset

A pop-up message will indicate the factory reset procedure has begun.



4 After a few minutes, the PLX35-NB2 UI will be available by using the default IP address 192.168.0.250.

$\begin{array}{c} \diamondsuit \text{ Login - PLX35-NB2} \\ \leftarrow \end{array} \rightarrow C \blacktriangle \text{ Not secure } 192.1 \end{array}$	+ 68.0.250/#login	
	ProSoft	
	admin Password	PLX35-NB2
	Enter login credentials for this PLX35-NB2. Belden Horizon login credentials not accepted.	
	Minimum browser requirem Chrome 58, Firefox 54, Internet I	ients: Explorer 10

5 After the factory reset is complete, the first login will be done using the default credentials (admin/password).
 It will then require you to change the password as shown in the See *Initial / Factory Reset Login* section on page 22.

5 Cloud-based Management Using Belden Horizon

Belden Horizon allows you to manage multiple gateways on the network through a secure VLAN tunnel via a webpage. You can perform multiple tasks, including activating, setting up VPN clients, perform configuration and maintenance, and invite team members.

5.1 Log In and Activate Belden Horizon

Belden Horizon requires that you activate the PLX35-NB2 the first time you use it. You must obtain an activation key from the gateway.

- 1 Connect your gateway WAN port to a network that can reach the internet. The MGMT LED will flash green if the PLX35-NB2 can reach the internet and is not yet activated.
- 2 Log in to the module from the LAN port as described in the section entitled "Connecting to the PLX35-NB2 Webpage" (page 13). This takes you to the Overview tab.
- 3 Under Device Details, click the ACTIVATE link to the right of the Belden Horizon label.

Note: If the gateway is already connected to a Belden Horizon account, the link reads "Deactivate".

4 The gateway securely retrieves an alphanumeric activation key from Belden Horizon that is only valid for three (3) hours. Record this activation key.

Note: The module must be connected to the internet through the WAN port in for the module to retrieve an activation key.

5 Open a new tab in your web browser, enter **www.belden.io** in the address bar, and then press **ENTER**.

6 In the *Belden Horizon Login* screen, enter your Belden Horizon login email and password and click **Login**, or click **Sign up** to create a new account. Login credentials are not interchangeable between Belden Horizon and the local interface.

BELDEN HORIZON™	
ProSoft.io is now rebranded as Belden.io. To log onto Belden.io, use the same credentials you used to access ProS	oft.io.
Have an account? Log in here: Email address	
✓ Remember me Log In	
New Customer ? Sign Up	

7 After you are logged in, you can take a tour of the features of Belden Horizon by clicking **TAKE THE TOUR**. Or you can skip the tour to configure the gateway.

Welcome to Belden Horizon
BELDEN HORIZON TH
Hello,
Welcome to Belden Horizon!
Belden Horizon helps you get the most out of your ProSoft Gateways. Belden Horizon makes configuring, managing and using your Gateway a snap. Here is a tour for you to show you around.
Skip the tour Take The Tour!

8 When ready, activate the PLX35-NB2 within the tour, or you can click on the ADD GATEWAY button from the *Gateways* tab.

HORIZON"		VPN 0 Open Tunnels	Alerts Activity Projects 🗶 -
PROSOFT, YEAH!!	Gateways 🗢		+ Add Gateway
	III Tiles 9 Map III Table O Export	SORT BY: Name • FILTER: S	Show All • Search Q
II GATEWAYS			
曾 TEAM		GATEWAYS (0)	
ALERTS			
PROJECT SETTINGS			
SUPPORT		Powered by Belden	

9 Belden Horizon prompts you for the activation key that you recorded earlier. Click **ACTIVATE**.

Enter act	ivation key		
fs0jab			
Show me how to a	activate my gateway		
≓ Transfer Gateway	+ Add Data Logger		

10 Upon successful activation, the PLX35-NB2 appears on the *Gateways* page.

HORIZON"		۷۶۸ 0 Open Tunnels Alerte	s Activity Projects 🕕 •
PROSOFT, YEAH!!	Gateways 🗅		+ Add Gateway
	Tiles ♀ Map Ⅲ Table ♥ Export	SORT BY: Name * FILTER: Show.	All • Search Q
GATEWAYS			
🗑 TEAM		GATEWAYS 1	
Ο ΑΓΤΙΥΙΤΥ	PLX35-MB2 Prode PLX35-MB2 Connect		
ALERTS			
PROJECT SETTINGS			
SUPPORT		Powered by Belden	

5.1.1 Belden Horizon On-Prem

Belden Horizon On-Prem requires that you activate the PLX35-NB2 the first time you use it. To do this, you must obtain an activation key from the gateway.

- 1 Connect your gateway WAN port to On-Prem server.
- 2 Log in to the PLX35-NB2 from the LAN port as described in the section entitled "Connecting to the PLX35-NB2 Webpage" (page 13). The *Overview* tab displays.
- 3 In the Overview tab > Device Details, click the **ACTIVATE** link to the right of the Belden Horizon label.

Note: If the PLX35-NB2 is already connected to a Belden Horizon account, the link reads "**Deactivate**".

4 The PLX35-NB2 securely retrieves an alphanumeric activation key from Belden Horizon On-Prem. It is valid for three (3) hours. Record this activation key.

Note: Access to Internet is not necessary for generating a key or adding it to Belden Horizon On-Prem server.

- 5 Open a new tab in a web browser, enter **www.onprem.belden.io** and press **ENTER**.
- 6 In the Belden Horizon On-Prem Login screen, enter the user credentials or click **SIGN UP** to create a new account. The login credentials are not interchangeable between Belden Horizon On-Prem and the local interface.
- 7 After logging in, you can take a tour of the features of Belden Horizon On-Prem by clicking **TAKE THE TOUR**. Or you can skip the tour to configure the gateway.
- 8 When ready, activate the PLX35-NB2 within the tour, or click on the ADD GATEWAY button from the *Gateways* tab.
- **9** Belden Horizon On-Prem prompts you for the activation key that you recorded earlier. Click **ACTIVATE**.
- **10** Upon successful activation, the PLX35-NB2 appears on the *Gateways* page.

5.2 Creating and Connecting a New VPN Client

Belden Horizon uses your native Windows VPN client for secure remote access.

The first time you intend to establish a VPN connection, you must set up the client and then connect to it. Initial VPN client configuration is only done once and is described in the following steps. If you already have a Belden Horizon VPN Client established in your Network Connections folder, you do not need to perform these steps.

Once the PLX35-NB2 is activated, the gateway is displayed on the Gateways page.



1 In the Gateways tab, click on the **CONNECT** button of the gateway profile.



2 Assign the PC's IP address and subnet mask.

Assign local IP addres	S			×
		Assign IP add	lress to computer when tunneling	
			Enter an IP address below. Your computer will be given this IP address when connectir through the gateway to devices at the remote site. This IP address must not be in use b the end devices at your remote site.	
			an IP address below. Your computer will be given this IP address when connecting the the gateway to devices at the remote site. This IP address must not be in use by d devices at your remote site. onfiguration only has to be set one time per gateway IP Idress Subnet Mask	
/			Client IP	
			IP address	
	<u> </u>	Ear	Client Subnet Mask	
(- 0 -	0		IP address	
Cancel			Save & Connect	t

3 The system generates a unique secure one-time use username.

Open Tunnel for PLX35-NB2	×
✓ Username generated	
This username is only valid for a single session. Copy and paste the username below into you VPN client to connect. (Don't worry, you won't need a password or domain.)	ır
Region: NA California	
51Z082OPKT@Tun-X30RXR93RYMR8LY7Z	
Copy To Clipboard	
Show me how to setup my VPN client	
The tunnel has been initiated. We are waiting for you to connect to your PC	

4 Click the **COPY TO CLIPBOARD** button to save this username.

5 Click "SHOW ME HOW TO SETUP MY VPN CLIENT." This opens the Set Up VPN Client in Belden Horizon dialog.

	Set up VPN client for Windows 10 (Region: US West)
Windows 10	Download the quick setup by clicking the link below: Window 10 64-Bit System
	Other available versions: Window 10 32-Bit System
	Or, you can set up your new VPN client by following instructions: 1. Initial configuration (one-time setup)
	2. Connecting to the Tunnel
	al about other OS

6 Click on the **INITIAL CONFIGURATION (ONE-TIME SETUP)** option. Follow the tutorial to complete the setup. The tutorial also shows you how to connect to the VPN tunnel.

Initial configuration 1/11				
After tunneling to	we gateway by pressing Connect, you will see a window showing you the generated username for tunnel access. Copy the username to be used later in setup.			
	Open tunnel for PLX35 ×			
	✓ Username generated			
	This username is only valid for a single session. Copy and paste the username below into your VPN client to connect. (Don't worry, you won't need a password or domain.) Region: NA California			
	54060fe3b1@Tunnel-P9EKD39WI00FLDUB8			
	Copy to Clipboard Show me how to setup my VPN client			
	The tunnel has been initiated. We are waiting for you to connect to your PC			
I have completed V	/PN client setup			

5.2.1 Verifying the VPN Connection

The module on the *Gateways* page of Belden Horizon provides a VPN indicator as shown:



You can view the connection status by hovering over the VPN icon or by hovering over the status at the top of the page. See the next section for more details.

This indicator is grayed out if there is no connection established. However, you can hover over this indicator to obtain more information about the connection.



The example above shows both the gateway and the user are connected to the VPN server.

If only one part of the tunnel connection is established, the indication may appear as shown below:



This example shows a connection between the gateway and the VPN server. However, it shows the user as "Disconnected". In this case, Belden Horizon may be waiting for the user to provide a user name in order to connect to the VPN.

5.3 Using Belden Horizon to Configure the PLX35-NB2

All configuration tasks may be performed using Belden Horizon. You do not need to use the module's internal web server to configure the module or edit existing configurations.

To access configuration parameters, click on the module name.

VPN	٥
PLX35-NB2-TEST	
ProSoft PLX35-NB2	ProSoft
Disconnect	

This opens the gateway's configuration pages.

In addition to the normal features of Belden Horizon, these configuration pages are exclusive to the PLX35-NB2. The configuration tabs are the same as those described under "Local Configuration using the Gateway's Configuration Webpage" on page 13.

BELCEN HORIZON			VPN 0 Open Tunnels Alerts	Activity Projects 🚺 •
PROSOFT, YEAH!!	PLX35-NB2 Description			Connect Ø •
M OVERVIEW	Description			
E GATEWAYS	📶 Overview 🎙 Gateway	🕯 Access 📄 Files 🧿 Activity		0 Apply
참 TEAM	Performance			vice Details
© ACTIVITY	Performance		► LIVE De	vice Details
	5 Days	20 GB remaining		del: ProSoft PLX35-NB2
	UPTIME VPN DATA LIMIT	VPN DATA LIMIT		N IP:
				rial#:
	175 мв	58 MB	Fir	mware: 1.7.1-r0
	WAN DATA RECEIVED	WAN DATA SENT		Change Firmware
			Ga	teway Time: 12:04:53 UTC, 20-Jul
	314 мв	29 мв		Synchronize Gatewa
	LAN DATA RECEIVED	LAN DATA SENT	SD	Card: Not present

5.4 Adding Team Members

Within Belden Horizon, you can invite team members to your account. This allows others to securely access the remote site and perform maintenance and configuration functions on the gateway once invites are accepted.

1 Click on the **TEAM** icon.



2 Click on the **INVITE TEAM MEMBERS** button located in the upper-right hand corner of the page.

	(UTW)	0 Open Tunnels	Alerts	Activity	Projects	
PROSOFT, YEAH!!	Team ®			•	Invite Team Me	mbers
LAL OVERVIEW	III Tiles III Table O Export			Q. Sear	h	
GATEWAYS						
🗑 ТЕАМ	•					
ο αςτινιτή	Project Admin course					

3 The Invite New Team Member dialog opens.

nvite New Team Mem	ber		×
expire in 5 days (Ju	tivation link will be sent to t I 25 2022 @ 17:46). If the u to manually reset their pas	ser does not activate thei	
Message			
	elden Horizon. bunt to manage <u>ProSoft</u> gate account to access any devi		t gateway using a
Email			
E-mail address			
First Name			
First Name			
ast Name			
Last Name (optional)		
Choose project role			
Project Admin	Configure & Connect	Connect Only	Custom

4 Enter the information and the project role of the person you want to invite.

Note: An email address can only be associated with one Belden Horizon account at a time.

- 5 Modify the *Message* dialog to send a unique message to the invitees.
- 6 When you are done, click the **SEND INVITATION** button. You should receive an "invitation sent successfully" message if the email address was valid. You can edit a member's access rights once the invite is sent.

5.4.1 Editing Team Member Access

As an administrator, you can control the type of access rights assigned to your team members. When a team member accepts an invitation, a card appears on the *Team* page of Belden Horizon.

	o
B Smith bsmith@psft.com Connect	

1 Click on the EDIT ACCESS option.

	٢
B Smith bsmith@psft.com	C Edit Access
Connect	× Remove from Project

2 This opens the access dialog for the new team member. Initially, access defaults to "Connect only" which means that that user is allowed to create a tunnel, but is not allowed to configure a gateway.

ss for B Smith		
Project Admin	Configure & Connect	Connect Only
B Smith can manage team members, connect to and configure all gateways in the project	B Smith can connect to and configure all gateways in the project	B Smith can connect to all gateways in the project
Dismiss		Save Acces

3 Change this user's access rights by clicking on any of the first 3 access selections and then click the **SAVE ACCESS** button.

5.5 Changing Firmware

You can schedule a firmware change for multiple gateways or a single gateway through Belden Horizon. There are two ways to start the firmware change process:

• Click the firmware **CHANGE** option in the *Device Details* block.

HORIZON"		0 Open Tunnels Alerts Activity Projects 👔
PROSOFT, YEAH!!	Gateways 🗅	+ Add Gateway
ian overview ■ Gateways	# Tiles Q Map II Table O Export	SORT BY: Name • FILTER: Show All • Search Q
N TEAM		GATEWAYS ①
Ο ΑCTIVITY	PLX35-NB2 ProSoft PLX35-NB2 Connect Connect Retrieve Loss	

• Select **CHANGE FIRMWARE** from the setup icon in the top-right corner of every configuration page.

HORIZON			۷۶۹ 0 Open Tunnels Ale	erts Activit	y Projects	
PROSOFT, YEAH!!	●PLX35-NB2				Connect	۰.
	Description				O Import Configura	ition
GATEWAYS	📶 Overview 🎙 Gateway	🛔 Access 📑 Files 🧿 Activity			 O Export Configura 	
쓸 TEAM	Performance		► LIVE	Device De	 Remote Retrieve Logs 	*
Ο ΑCTIVITY	5 Days UPTIME 175 MB WAN DATA RECEIVED	20 GB remaining VPN DATA LIMIT 58 MB WAN DATA SENT			 Change Firmwarn Reboot Gateway Remove from My 1.7.1-r0 Change Firmwarn 	Account
	314 MB Lan data received	30 MB		Gateway Tin		20-Jul

1 Click on the **CHANGE FIRMWARE** option to open the *Firmware Upgrade* dialog.

Firmware Upgrade	×			
Please cho	oose firmware version			
Version	Release Date 🔻			
PLX35-NB2 Firmware v1.3.22	2019-03-15 08:10:33 Details			
Need to specify URL instead of one of the supported upgrades above? Click here				
Cancel	Schedule For Later Change Now			

This dialog lists the most recent firmware versions and details about this version.

2 Select the version to install by clicking the radio button.



There are options to upgrade now or schedule for later.

- i. **Change Now** Allows you select additional gateways for upgrade and then immediately performs the upgrade.
 - 1 With the correct firmware version selected, click the **CHANGE Now** button. You are prompted as to whether or not you want to upgrade other gateways.

Firmware Upgrade					
	U	pgrade other gatewa	ys?		
	Name 🔺	Serial Number	Version		
	PLX35-NB2-TEST1		1.4.50-r0		
	PLX35-NB2-TEST2	0.000	1.4.50-r0		
	Cancel	This Gateway and S	elected Only This Gateway		

- 2 Choose any available gateways that you want to upgrade, if applicable.
- 3 Click the **APPLY ONLY TO THIS GATEWAY** button if you have do not need to upgrade additional gateways or click the **APPLY TO THIS GATEWAY AND SELECTED** button to upgrade firmware on the current gateway and any selected gateways.
- 4 The firmware upgrade starts immediately.

- ii. **Schedule for Later** Allows you to select additional gateways for upgrade and then allows you to schedule a data and time for the upgrade to occur.
 - 1 With the correct firmware version selected, click the **SCHEDULE FOR LATER** button. You are prompted as to whether or not you want to schedule upgrades for other gateways.

Firmware	Upgrade		×
	Schedule up;	grade for other g	gateways?
	Name 🔺	Serial Number	Version
	PLX35-NB2-TEST1		1.4.50-r0
	PLX35-NB2-TEST2		1.4.50-r0
Ca	ncel	This Gateway and S	elected Only This Gateway

2 If you don't want to schedule upgrades for other gateways, click the **APPLY ONLY TO THIS GATEWAY** button to schedule the upgrade.

hedule Firmware Upgrade						
Schedule Firmware Upgrade Version: PLX35-NB2 Firmware v1.3.22 Cateway: PLX35-NB2-TEST						
Please select a date and time						
01/08/2020 9:05 AM						
 January 2020 A 						
Su Mo Tu We Th Fr Sa 09 : 05	АМ					
29 30 31 1 2 3 4						
5 6 7 8 9 10 11						
12 13 14 15 16 17 18						
19 20 21 22 23 24 25						
26 27 28 29 30 31 1						
2 3 4 5 6 7 8						
Cancel Schedule						

- **3** Schedule the date and time for the firmware change to occur.
- Click the SCHEDULE button.
 If you want to schedule changes for other gateways, use the APPLY TO THIS
 GATEWAY AND SELECTED button and follow the same procedure.

5.6 Remote Packet Capture

The following procedure describes a remote packet capture. This feature is available in firmware version v1.6.60 and newer.

1 Right-click on the **SETUP** icon of the PLX35-NB2, and select **PACK CAPTURE**.



2 Select the duration and interface to be used in the capture. Click **CAPTURE** to begin.

HORIZON"			0 Open Tunnels Alerts Activity Projects 🕘 •
PROSOFT, YEAH!!	Gateways ©		+ Add Gateway
M OVERVIEW	II Tiles 9 Map	III Table O Export	SORT BY: Name * FILTER: Show All * Search Q
III GATEWAYS			
曾 ТЕАМ		Remote Packet Capture (PLX3S-NB2)	×
ο αςτινιτγ	PLX35-HB2 PLX35-HB2 PrySoft PLX35-HB2 Connect	You can remotely capture packets on a Gateway. Please select the interface and packet capture. The file will be available for download once packet capture. Duration 1 Minute Maximum 5 minutes 0 WAN	d duration for the

3 Once the capture is complete, the captured file can be viewed.



4 The captured files are saved in Belden Horizon for few days. It can also be downloaded from the *Activity* tab as shown below:

HORIZON	0 Open Tunnels Alerts	Activity Projects
PROSOFT, YEAH!!	Activity	
M OVERVIEW	■ Filter Activity ▲ Ø 1-11 of 11 entries < 1 >	Q. Search activity
II GATEWAYS		
😭 TEAM	Packet Capture (5KB) upload complete. PLX35-NB2_2022-07-20_12-27-07.pcap.zip will be saved for 30 days	System
	Gateway G PLX35 NB2 Q 0 comments	3 minutes ago @ 5:57:08 PM
	Packet Capture executed successfully on LAN interface for duration 1 Minute	🔗 System
	Gateway G PLX35-NB2 R2 0 comments	3 minutes ago @ 5:57:05 PM
	Packet Capture started on LAN interface for duration 1 Minute	
	Gateway 🖨 PLX35-NB2 💫 0 comments	4 minutes ago @ 5:56:04 PM
	Tunnel has been closed after client VPN connection for atripathi@prosoft-technology.com was lost for more than 5 minutes	🔗 System
	Tunnel C PLX35-NB2 Q 0 comments	27 minutes ago @ 5:32:22 PM
	Tunnel has been opened for region US West	
	Tunnel B PLX35-NB2 R2 0 comments	33 minutes ago @ 5:27:09 PM
	Project PROSOFT, YEAH!! updated	
ALERTS	S Region has been changed from APAC Mumbai to US West	33 minutes ago @ 5:27:02 PM
• PROJECT SETTINGS	Project Qi 0 comments	
SUPPORT	Tunnel has been closed	Go to Settings to activate Windows.

6 Easy Bridge

The PLX35-NB2 supports bridge capability to allow access to Logix Controllers using RSLinx. This chapter covers the "Easy Bridging" configuration between a Local System and Remote Devices, using the VPN Tunneling functionality. This feature is only available for PDN (Persistent Data Network) Projects in **Belden.io**.

\leftrightarrow \rightarrow \mathbf{C} belden.io /webclient/#p	projects
BELDEN HORIZON	
Projects	
Belden PDN	
0 gateways	
NH	PDN.

6.1 VPN Tunnel Connection

Once a local connection to the PLX35-NB2 gateway has been established (see *Connecting to the PLX35-NB2 Webpage* on page 13 for more information), ensure the following:

- WAN port has internet access (see *Setting Gateway Configuration Parameters* page 15 for more information).
- Activation is successful through the Belden Horizon UI (see *Cloud-based Management Using Belden Horizon* page 48 for more information).

Once the PLX35-NB2 is activated, it will be listed in the *Gateways* section of the **Belden.io** page.

← → C 🗎 belden.io/webclient/	*prj-a69d11db-7743-4c04-a243-eb08d5497ebc/devices	Q 년 ☆ 🖻 × 🛊 팩 🖬 🛓
HORIZON"		0 Open Tunnels Alerts Activity Projects 👔 -
Belden PDN	Gateways 🔿	+ Add Gateway
₩ OVERVIEW	II Thes V Map III Table O Expert	SORT BY: Name * FILTER: Show All * Search Q
➡ APPLICATIONS	GATEWAYS ①	
W TEAM O ACTIVITY A ALERTS	PX354-Re2 Px354-R235-Re2 Remote Access	

1 Click on the PLX35-NB2 name within the tile.



2 In the Overview tab, ensure the Device Details are correct.

HORIZON .			0 Open Tunnels Alerts Activity	Projects
Belden PDN	OPLX35-NB2 Description			lemote Access
GATEWAYS	🕍 Overview 🖓 Gateway 👗 Acc	ess 🗟 Files O Activity		0 Appl
APPLICATIONS	Performance		► LIVE Device Details	
	20 Mins uftine 1.95 MB wan data received 1.20 MB lan data received	20 GB remaining VPN DATA LINIT 3.59 MB WAI DATA SENT 334 KB LAN DATA SENT	Model: Protoch P0333 M33 LAN 07 123 L165 L113 MAK 07 121 L133 L353 L15 Serial n: 0050370 A216 Greater N: 1.55 40 (distrug) Caterrary Time: 1.55 40 (distrug) Greater N: 1.55 20 UC 0.10 & Spockarized Caterrary Time: 1.55 20 UC 0.10 &	ep-2023
			Online End Devices	Manage Acce

3 The *Device Details* should match the *Device Details* on the module's webpage (see below). This confirms the Activation and PDN are operating prior to starting the VPN Tunnel.

← → C 🔺 Not	・ → C A Not secure 192.168.0.171									
					TUNNEL CONNECT	DISCONNECT				i
• PLX35-NB2							۰.			
al Overview	O Gateway	Access	File Relay	SD Card	Activity				Apply chang	pes
PERFORMANCE	PERFORMANCE > LIVE DEVICE DETAILS									
20 Min	S		95 MB			3.59 MB		Model: LAN IP: WAN IP:	ProSoft PLX35-NB2 192.168.0.171 192.168.3.213	
			20 MB			334 KB		Serial #: Firmware: System Time:	00:0d:8d:a2:b2:bc 1.6:90-r0 debug Change 2023-09-01 16:35:02 +0000	
								ProSoft Connect:	Change Deactivate	

4 Ensure the PLX35-NB2 LAN IP address is on the same network as the PLC Controller IP address.

This exercise uses the following IP address examples: PLX35-NB2 LAN IP: **192.168.0.171** PLC Controller: **192.168.0.215**

			0 Apply
► LIVE	Device Details		
	Model:	ProSoft PLX35-NB2	
	LAN IP:	192.168.0.171	
	WAN IP:	192.168.3.213	
	Serial #:	00:0D:8D:A2:B2:BC	
	Firmware:	1.6.90-r0 (debug)	
		Change Firmware	
	Gateway Time:	16:45:22 UTC, 01-Sep-2023	
		Synchronize Gateway Time	
	SD Card:	Not present	

5 On the left tab of **Belden.io** page, click on the **PROJECT SETTINGS** button. Under the *Persistent Data Network Options* section, verify the PLX35-NB2 IP address range is correct.

HORIZON.	I Open Tunnel
Belden PDN	Projekt u Golawa (Jeter Diversione Catago
M OVERVIEW	
CATEWAYS	Project Type
+ APPLICATIONS	
🗑 ТЕАМ	
ALERTS	Standard Persistent Data Network Layer 3 Persistent Data Network
	IDENTIFICATION DE LA CONTRACTION DE LA CONTRACTICA DE LA CONTRACTI
	Update a stop Update a stop Update a stop Submet Mask 2525253 The P address range is used to assign IP addresses to clients that connect for socure remote access. The P address range is used to assign IP addresses to clients that connect for socure remote access. Allowed IP Connections
	Big 2010 B 350 Big 20
	Backet Mak 2523232530 The W address may in succe to a salign PF addresses to clients that connect for soccer remote access. Earlier Databat Cashing this will also tunneled clients to reach specific IP addresses through the tunned. Other IP addresses will not be accessible. Databat Chailing this will also tunneled clients to reach specific IP addresses through the tunned. Other IP addresses will not be accessible.
	Big 2010 B 350 Big 20

6 From the *Gateways* tab, click on the **REMOTE ACCESS** button to enable a secure, remote access to the PLX35-NB2.

BEL	RECEN HQRIZON					
Belden PDN		Gateways 🗅				
	OVERVIEW	Tiles ♀ Map III Table ♥ Export				
•	GATEWAYS					
₩	APPLICATIONS					
쓭	TEAM	PON A				
0	ACTIVITY	PLX35-NB2				
•	ALERTS	Click here to enable Secure Remote Access to this galoway Remote Access				

Then click on the **CONNECT** button.

HORIZON	
Belden PDN	Gateways 🗅
네 OVERVIEW	Tiles ♀ Map II Table ♥ Export
GATEWAYS	
APPLICATIONS	
😤 TEAM	PON A
@ ΑCTIVITY	PLX35-NB2
ALERTS	ProSoft PLX35-NB2 00:0D:8D:A2:B2:BC Connect

7 In the Open Tunnel for PLX35-NB2 dialog, a username is automatically generated. Click the **COPY TO CLIPBOARD** button. This is a one-time use username key. This key is needed to connect the VPN Client to the Belden Horizon Tunneling Server.



8 Open the **WINDOWS SETTINGS** > **NETWORK & INTERNET** > **VPN** selection. Under the *PDN Belden Horizon* – *US West* VPN option, click the **CONNECT** button.

Settings		×
ഹ VPN		
+ Add a VPN connection		
PDN Belden Horizon - US West		
Connect Advanced options Remove		
Belden Horizon - US West		
Advanced Options		
Allow VPN over metered networks		
On Con		
Allow VPN while roaming		
On		

9 In the VPN Client dialog, paste the one-time username key and click the **CONNECT** button.



10 Upon successful VPN Tunnel connection, the status is shown in the **OPEN TUNNEL** option in the **Belden.io** menu.

						VPN 1 0	pen Tunnel	Alerts	Activity	Projects	
Gateways 🕀				< Tunnels			PLX35-NB2		🕂 Add G	atew	
			× Gateway		Connected t	o PDN					
Tiles ♀ Map III	Table O Export				×	You	Connected t	o PDN	Search		
						Client IP	192.168.0.X)				
				GATEWAYS (1)							
_											
PDN 🔔	٥										
PLX35-NB2	hite										
ProSoft PLX35-NB2 00:0D:8D:A2:B2:BC											
Disconnect 1	4 m 2012										
6.1.1 Verifying VPN Tunnel Connection

1 To verify the VPN Tunnel connection is active, double-click the PDN Belden Horizon icon in Windows *Network Connections*.



2 In the *Belden Horizon Status* dialog, click on the **DETAILS...** button to open the *Network Connection Details* dialog. The *IPv4 Address* (Alias IP address) is the link through the established VPN Tunnel.



3 The active network connection can also be viewed through a Command Prompt 'ipconfig -all' command.

C:\Users\Sysadmin>ipconfig -all
Windows IP Configuration
Host Name : Win10_VM_ENV Primary Dns Suffix : Node Type : Hybrid IP Routing Enabled : No WINS Proxy Enabled : No
Ethernet adapter Ethernet0:
Connection-specific DNS Suffix .: Description: Intel(R) 82574L Gigabit Network Connection Physical Address: 00-0C-29-64-82-41 DHCPE Enabled: No Autoconfiguration Enabled: Yes Link-local IPv6 Address: fe80::e20d:b291:8b53:f224%2(Preferred) IPv4 Address: 192.168.3.294(Preferred) Subnet Mask: 255.255.255.0 Default Gateway: 192.168.3.1 DHCPv6 IAID: 1006666409 DHCPv6 Client DUID: 100-201-20-73-81-6D-00-0C-29-64-82-41 DNS Servers: 10.2.10.73 NetBIOS over Tcpip :: Enabled
PPP adapter PDN Belden Horizon - US West:
Connection-specific DNS Suffix .: Description

4 The PLC Controller's IP Address (ex. 192.168.0.215) can now be pinged.



6.2 Configuring a New Driver in RSLinx

- 1 Open RSLinx to view the available Rockwell Controllers.
- 2 Click on the **COMMUNICATIONS** > **CONFIGURE DRIVERS** option to configure a new driver.



3 Click the ADD New button and select the ETHERNET DEVICES Driver Type.

RSLinx Classic Lite - [RSWho - 1]				- 🗆 X
File View Communications Station DDE/OPC	Security Window Help			- 8 ×
* 20				
Autobrowse Refresh 🔯 🔩 🏢 Not Browsing	1			
	***	남 사 사	器	
🗄 📲 Linx Gateways, Ethernet		6 66 66	<u>66</u>	
⊕ 옮 AB_ETHIP-1, Ethernet	Configure Drivers		? ×	
由 器 AB_ETHIP-2, Ethernet	Available Driver Types:			
🕀 🚠 Compact_38, Ethernet			Close	
🗄 🚣 ControlLgxEN2T, Ethernet	Ethernet devices	✓ Add New	Help	
	Configured Drivers:			
	Name and Description	Status		
	AB_ETHIP-1 A-B Ethernet RUNNING	Bunning	Configure	
	AB_ETHIP-2 A-B Ethernet RUNNING	Running		
	Compact_38 A-B Ethernet RUNNING ControlLoxEN2T A-B Ethernet RUNNING	Running Running	Startup	
	Controlegizenza involucionali rioritaria	Training	<u></u>	
			Start	
			Stop	
			Delete	
	,			
	1			

4 In the Add New RSLinx Driver dialog, assign a unique name.

Name and Descriptin Add New RSLinx Classic Driver X AB_ETHIP:1 A:B EtHIP:2 A:B EtHIP:2 Compact_38 A:B EtHIP:2 Choose a name for the new driver. ControlLgxEN2T A:B DK PIX:35 Net 0.215 Cancel	Configure Startup
	Start Stop Delete

5 Add the Controller's IP Address and click the **APPLY** button. Then click the **OK** button.

Autobrowse Refresh	Carfinger Di V25 Net 0 215	? X	
□	Configure driver: PLX35_Net_0_215	r X	
Linx Gateways, Ethe	Station Mapping		
			2 × 4 192.168.1.25
AB ETH	Station Host Name	Add New	. WIN10_VM
⊕	0 192.168.0.215		Close
±	1	Delete	
	63 Driver		Help 1
E SLC05_ Configured			
Name a			
AB_ET			Configure
AB_ETI Compac			
Compation			Startup
PLX35_			Start
PLX35M SLC05_			otat
5000	19		Stop
			Delete
		1	
	OK Cancel Apply	Help	

6 To locate the newly created Driver in the RSLinx panel, expand its branches to display the Controller. The Controller is ready to be accessed.

💊 RSLinx Classic Lite - [RSWho - 1] 🦳 🗕	×
📓 File View Communications Station DDE/OPC Security Window Help	- 8 ×
<u>* 5</u> 5	
Autobrowse Refersh 12 Beg ## Not Browsing	
E	
B → Linx Gateways, Ethernet	
B-욻 AB_ETHIP-1, Ethernet Backplane	
□ 器 AB_ETHIP-2, Ethernet 1756-A7/C	
효-옮 Compact 38, Ethernet	
B-器 ControlLgxEN2T, Ethernet	
由-器 PLX35_Net_0_215, Ethernet	
😑 🖞 192.168.0.215, 1756-L81E LOGIX5581E, L81_Template	
e 📾 Backplane, 1756-A7/C	
⊕- 00, 1756-L71 LOGIX5571, AOIs_v2_8	
🖞 01, 1756-L81E LOGIX5581E, L81_Template	
02, 1756-OX8I/A, 1756-OX8I/A RELAY n.o. & n.c.	
03, MVI56E-AFC, MVI56E-AFC	
205, Unrecognized Device, MVI56 ProSoft Technology, Inc.	
⊕ 10, 1756-EN2T, 1756-EN2T/D	

6.3 Uploading .ACD Project File

1 Open Studio/RSLogix 5000 and select the option to open **FROM UPLOAD**.



2 In the *Upload From Controller or Terminal* dialog, select the Controller to upload its .ACD project file from. Click the **UPLOAD** button.

	쥥 Upload From Controller or Terminal	?	×	
	Communication software: 🏽 🍓 RSLinx Classic		Ŷ	
	Autobrowse Refresh			
Roc	□			_ X_
1100	Enx Gateways, Ethemet			
	표···• • AB_ETHIP-1, Ethernet			
	표··· 器· AB_ETHIP-2, Ethernet			
S	⊡			
	· 문 ControlLgxEN2T, Ethernet			
	금器 PLX35_Net_0_215, Ethernet 금 웹 192.168.0.215, 1756-L81E LOGIX5581E, L81_Template			
	□			ore
	in 1 00, 1756-L71 LOGIX5571, AOIs v2.8			
	01, 1756-L81E LOGIX5581E, L81_Template			
	02, 1756-OX8I/A, 1756-OX8I/A RELAY n.o. & n.c.			
	03, MVI56E-AFC, MVI56E-AFC			
Recei	05, Unrecognized Device, MVI56 ProSoft Technology, Inc.			
Recei				
💰 Contr	-			~
💕 Comp				Io V
	Version: 32.00			
	Upload	Can	cel	

3 In the Connected to Upload dialog, click the SELECT FILE... button.

🔘 Logix Designer - Lö i_remplate (1756-Lö i E 34	2.111	
	MMUNICATIONS TOOLS WINDOW HELP	
ै 🖕 💾 🖶 🗶 🗇 ती 🤊 🤆 🗌		3 13
Run Mode Controller OK Formy Strange OK	_Net_0_215\192.168.0.215\8adqplane\1* 🦹 🖁 ┥ ⊣ 🖂	
	Connected To Upload	×
	Options General Date/Time Major Faults Minor Faults Nonvolatile Memory	
	Condition: The project file "L81_Template.ACD' was not found in your project directory. Select new or existing project file.	
	Select new or existing project file. Connected Controller: Controller Type: 1756-181E ControlLogix® 5580 Controller Comm Path: PLX35_Net_0_215\192.168.0.215\Backplane\1 Setal Number: 011D1E1E Security: No Protection Offline Project Controller Name: Controller Name: File Setal Number: Security:	
	Select File	e Cancel Help

4 This opens the *Enter New or Select Existing File* dialog. Enter a new file name or select an existing .ACD file, then click the **SELECT** button.

Look in:	Other Uplo	ads		G D C	🤊 🛄 v	
Quick access	Name	^	This folder is e	Date mod		Тур
Desktop						
Libraries						
	<					
		-				Select
	File name:	L81_Contr	roller_0_215		× :	Select

5 Click the **YES** button to create and upload the project file.

Co Look in: Other Uploads Co Quick access Desktop Libraries This PC Network File name: L81_Controller_0_215 Files of type: Logix Designer Project Files (*ACD) \checkmark Select Cancel	-		r Select Existing Fi	e Miner Fruite Monuclatile Momen e		×
Name Date modified Type Quick access This folder is empty. This folder is empty. Desktop Logix Designer X Libraries Create project file 'L81_Controller_0_215.ACD' and upload? Yes Network Yes No File name: L81_Controller_0_215 Select		Look in:	Other Upload	s ~	G 🌶 📂 🖽 -	
Logix Designer Libraries This PC Metwork Yes No File name: L81_Controller_0_215 Select		ck access	Name	^ This folder is empt		Туре
Libraries This PC Network File name: L81_Controller_0_215.ACD' and upload? Yes No Select	Off D	esktop				
Network File name: L81_Controller_0_215	Li	braries				
< The name: L81_Controller_0_215 Select Select	Т	his PC		Yes No		
File name: L81_Controller_0_215 V Select	N	etwork				
			<			>
Files of type: Logix Designer Project Files (*.ACD) <			File name:	L81_Controller_0_215	~	Select
			Files of type:	Logix Designer Project Files (*.ACD)	\sim	Cancel

6 The upload process will initiate and complete.

Connected To Upload	\times
Options General Date/Time Major Faults Minor Faults Nonvolatile Memory	
Condition: The project file "L81_Template ACD' was not found in your project directory. Select new or existing project file.	
Connected Controller: Controller Name: ControlLgxL81_Upload_PLX35_Net_0_215 Controller Type: 1756-L81E ControlLogix® 5580 Controller Comm Path: PLX35_Net_0_215\192.168.0.215\Backplane\1 Uploading Uploading Uploading all Data Types File: Security: Cancel	
Select File Cancel Hi	elp

6.4 Ending the Tunnel Connection

1 In Logix, connect to the Controller and set it to **Remote Run** mode to confirm the VPN Tunnel connectivity.



2 While the Controller is in **Remote Run** mode, the Tunnel Connection can be ended by clicking the **DISCONNECT** button in the **Belden.io** page.



3 When the VPN tunnel connection terminates, the Controller displays a 'lost communications' message.

lame		== -	Value 🗧	Force Mask	+	Style
AFC			{}		{}	
AFCMeter01DifferentialGas			{}		{}	
AFCMeter02DifferentialLiquid			{}		{}	
AFCMeter03LinearGas			{}		{}	
AFCMeter04LinearLiquid			{}		{}	
AOI56EAFC	Logix D	esigner		X	{}	
AOI56EAFCMeter01DifferentialGas					{}	
AOI56EAFCMeter02DifferentialLiquid	6	Can't communicate with RSLinx.			{}	
AOI56EAFCMeter03LinearGas	•	Logix Designer has been taken offline.			{}	
AOI56EAFCMeter04LinearLiquid		If online operations are in progress, they will not			{}	
AOINetworkConfig		Offline operations after communication loss will r correlation. To avoid loss of correlation, close vi			{}	
Local:3:C		applying changes before attempting to go online			{}	
Local:3:I			_		{}	
Local:3:0		OK Help			{}	
Network	Error 806-8	0042535			{}	

7 Ethernet Cable Specifications

ProSoft recommends using a category 5 (or better) Ethernet cable with the PLX35-NB2. A category 5 cable has four twisted pairs of wire that are color-coded and cannot be swapped. The gateway only uses two of the four pairs when running at 10 MBit or 100 MBit speeds.

The Ethernet port on the gateway automatically detects the network speed and cable type and use the appropriate pins to send and receive Ethernet signals. Use either a standard Ethernet straight-through cable or a crossover cable when connecting the gateway to an Ethernet hub, a 10/100/1000 Base-T Ethernet switch, or directly to a PC.

7.1 Ethernet Cable Configuration

Note: The standard connector view shown is color-coded for a straight-through cable.

Crossover ca	able		Straight- thro	ough cable
RJ-45 PIN	RJ-45 PIN	Pin #1	RJ-45 PIN	RJ-45 PIN
1 Rx+	3 Tx+	\\	1 Rx+	1 Tx+
2 Rx-	6 Tx-		2 Rx-	2 Tx-
3 Tx+	1 Rx+		3 Tx+	3 Rx+
6 Tx-	2 Rx-		6 Tx-	6 Rx-
		12345678 12345678		

8 Appendix

8.1 PLX35-NB2 Network Requirements

The following port and transport protocol specifications are utilized by the PLX35-NB2 LAN and WAN ports.

8.1.1 PLX35-NB2 LAN Port

Port	Transport Protocol	Purpose
80	TCP	HTTP
123	UDP	NTP
53	UDP	DNS
443	TCP	HTTPS

IP Addresses

0.0.0.0/0 (all)

8.1.2 PLX35-NB2 WAN Port

Port	Transport Protocol	Purpose
68	UDP	DHCP Renewal
53	TCP	DNS
53	UDP	DNS
443	TCP	Tunnel Connection
500	UDP	Tunnel Connection
4500	UDP	Tunnel Connection

IP Addresses

0.0.0.0/0 (all)

DNS Addresses

*.belden.io

*.prosoft.io

8.2 PDN & SRA Tunnel Server IP/DNS Addresses

The following are the IP and DNS addresses of the Persistent Data Network (PDN) and Secure Remote Access (SRA) tunnel end points. Ensure that the required endpoints are accessible to the PLX35-NB2 WAN port to successfully establish a VPN connection to the PLX35-NB2.

IP Address	SRA Tunnel Server	Region
54.148.164.142	us-west-tunnel-agent.prosoft.io	NA California / US West
18.192.94.16	eu-frankfurt-tunnel-agent.prosoft.io	EMEA/EU Frankfurt
54.169.94.228	apac-singapore-tunnel-agent.prosoft.io	APAC Singapore
52.65.129.24	apac-sydney-tunnel-agent.prosoft.io	APAC Sydney
13.127.196.149	apac-mumbai-tunnel-agent.prosoft.io	APAC Mumbai
18.178.158.9	apac-tokyo-tunnel-agent.prosoft.io	APAC Tokyo
177.71.185.249	sa-sao-paulo-tunnel-agent.prosoft.io	SA Sao Paolo
54.227.141.76	us-east-tunnel-agent.prosoft.io	US East
15.185.119.47	middle-east-tunnel-agent.prosoft.io	Middle East

IP Address	PDN Tunnel Server	Region
44.233.217.124	pdn-us-west-tunnel-agent.prosoft.io	NA California / US West
18.198.29.67	pdn-eu-frankfurt-tunnel-agent.prosoft.io	EU Frankfurt
18.139.132.236	pdn-apac-singapore-tunnel-agent.prosoft.io	APAC Singapore
54.153.176.80	pdn-apac-sydney-tunnel-agent.prosoft.io	APAC Sydney
15.206.59.157	pdn-apac-mumbai-tunnel-agent.prosoft.io	APAC Mumbai
3.115.215.189	pdn-apac-tokyo-tunnel-agent.prosoft.io	APAC Tokyo
34.196.232.179	pdn-us-east-tunnel-agent.prosoft.io	US East
157.175.22.109	pdn-middle-east-tunnel-agent.prosoft.io	Middle East

9 Support, Service & Warranty

9.1 Contacting Technical Support

With Belden Horizon, you can click on the **SUPPORT** link to initiate a chat with Support about issues in Belden Horizon, or gateways managed by Belden Horizon.



ProSoft Technology, Inc. is committed to providing the most efficient and effective support possible. Before calling, please gather the following information to assist in expediting this process:

- **1** Product Version Number
- 2 System architecture
- 3 Network details

If the issue is hardware related, we will also need information regarding:

- 1 Module configuration and associated ladder files, if any
- 2 Module operation and any unusual behavior
- 3 Configuration/Debug status information
- 4 LED patterns
- 5 Details about the interfaced serial, Ethernet or Fieldbus devices

Note: For technical support calls within the United States, ProSoft Technology's 24/7 after-hours phone support is available for urgent plant-down issues.

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For additional ProSoft Technology contacts in your area, please visit: <u>www.prosoft-technology.com/About-Us/Contact-Us</u>.

9.2 Warranty Information

For complete details regarding ProSoft Technology's TERMS & CONDITIONS OF SALE, WARRANTY, SUPPORT, SERVICE AND RETURN MATERIAL AUTHORIZATION INSTRUCTIONS, please see the documents at: www.prosoft-technology.com/legal