

MANUAL – INSTALLATION







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Safety Precautions

Short circuit or incorrect wiring may permanently damage the controls or other equipment. Ensure proper wiring practices are followed. If a control failure could lead to personal and/or property damage, the installer must add safety/ interlock devices to protect against these events.

Introduction

The Disio Cloud is a complete BACnet Building Managment (BMS) solution for small to medium sized networks. The Disio Cloud hosts all web pages containing graphics and BACnet points reported by the system controllers.

The Disio Cloud is accessed from any computer or smart device (tablet or mobile phone) on the local network using a web browser. Remote access is possible from across the globe through www.disio.io/

Contained within the Cloud are pre-loaded templates with graphics and points lists for the popular Price controls. Changes to the graphics or the creation of new custom graphics are supported from within the web interface.

Disio Cloud can be ordered as DISIO-CLOUD, which contains all of the parts required to network all of the controls, connect them to the Disio Cloud, and then interface them to the building LAN system at a single point. When ordered with the factory mounted enclosure, all controls will come pre-wired and ready for field install.

Disio Cloud Features

Features of the Disio Cloud include:

- Accessibility from www.disio.io through any web browser on a laptop, smart phone, or tablet.
- Two-Factor Authentication
- Multiple simultaneous users
- Support for Email and SMS alerts based on user-defined conditions
- Automatic point charting
- Easy to use Weekly Schedule

INSTALLATION & MOUNTING INSTRUCTIONS

Location

The DISIO-CLOUD components should be mounted in an accessible location close to a network connection. Price suggests mounting these components in the network or server room.

The DISIO-CLOUD, PRTU-BAC-RTR, and PRTU-IP-SWITCH should all be mounted together.



HUB SETUP

Disio Hub Setup

The Disio Cloud is pre-loaded with device templates. To apply these templates, the controllers on the job must be manually assigned by their BACnet address.

The Disio Cloud is accessed through an internet browser. Price recommends using a laptop for the initial setup.

Access to Disio Cloud Hub

The following two pages are also available as a quick start guide and can be accessed using the QR code on the Hub.





SCAN FOR HUB QUICKSTART

HUB SETUP

Disio Hub Quick Start

QUICK START



HUB SETUP

Disio Hub Quick Start Continued

6. Using a browser on the (disioadmin) and password	PC, log into the Disio Hub (<u>h</u> I (Dladmin123). Please conta	ttps://192.168.1.100:5000) and enter the factory default usernan ct Disio support if the default username and password is not
known. If prompted to accept the	security certificate select Ad	vanced > Go to Website
This site is not se	cure	A
This might mean that som or steal any info you send close this site immediately	eone's trying to fool you to the server. You should '.	Your connection is not private Attackers might be trying to steal your information from 192.168.1.100.5000 (for example, passwords, messages, or credit cards). Learn more
📙 Go to your Start page		NET::ERR_CERT_AUTHORITY_INVALID
Details		Help improve Chrome security by sending <u>URLs of some pages you visit, limited system</u> information. and some page content to Google. Privacy, policy
Your PC doesn't trust this certificate.	website's security	Hide advanced Back to safety
The hostname in the webs differs from the website ye	ite's security certificate ou are trying to visit.	This server could not prove that it is 192.168.254.105 ; its security certificate is not trusted by your computer's operating system. This may be caused by a misconfiguration or an attacker intercenting your connection.
Error Code: DLG_FLAG DLG_FLAGS_SEC_CERT_G	SS_INVALID_CA	Proceed to 192.168.254.105 (unsafe)
7. Select System > Network	from the navigation bar	
riptide	HVAC	🍰 Devices 📌 Tools ▼ 🥂 System ▼ ① Cloud Admin ▼
Edit	Riptide Cloud: Connected	ts -== Logic International Int
▶ 聞 Site FDWGP	42 Name	HVAC E Logging
	Туре	Group
8. Select IP Interface (IP1 pi 9. Disable DHCP and config	rimary interface). gure the fields with informatic	on procided to you by the IT department.
riptide	🍰 Devices 🎤 Tools 🔻 🏋 System 🕈	① Cloud Admin ▼
knertaces X Services X System III BAGnet Config		
ip1 eth0 Enabled		
DHCP		
IPv4 Address 192	2.168.254,105	Restart BrightEdge
Netmask	\$255,255.0	
Gateway	.168.254.1	In order for network changes to take effect, Brightedge must be restarted.
Broadcast	2.168.254.255	✓ Restart Now Ø Restart Later
Show Advanced Options		
A Back Clower		

HUB SETUP

Set Site Name

The site name entered here will appear in the Cloud to identify the Hub

1. On first login, the site configuration will appear. You can also press the **Configuration** tab to bring up the site configuration.

			Devices	🏓 Tools 🔻	ັ≯ System ▼
Edit Riptide Cloud: Disconnected	Sample Site				
→ 問 Sample Site	Configuration Points - Logic	Sample Site			
	Туре	Group			
	Control Logic				
	! You have to create a logic before you can associate it with a devi	ce.			

Save

- 2. Enter the site name under Name.
- 3. Scroll down and press the Save button to apply these changes.

HUB SETUP

Creating A New User

User accounts are strongly reccomended for adding new devices, configuring alarms to device points, and enabling logic.

1. From the top menu, select System. A drop down will appear. Select Users & Roles from this list.

2. A list of the current users and their roles will generate. Roles are assigned seperate access levels 🟋 System 🔻 that can be found in the Roles tab beside Users. Retwork A Devices 🏓 Tools 🔻 🛛 🔆 System 🔻 Users 👢 Users & Roles Sers Users Roles Z Logging BrightEdge Administrator (beadmin) Administrator About A Devices 🔎 Tools 🔻 🗡 System 🔻 Users Roles Le Users Administrator ✓ Read ✓ Create ✓ Update ✓ Override 🗸 Delete Operator ✓ Read X Create X Update ✓ Override X Delete Viewer ✓ Read X Create X Update X Override X Delete

3. To create a new user, click the button +Add User.

+ Add User

4. Enter the credentials for the new user.

Users		
L Users Roles		
Full Name	NewUser	
Username		Username used to login to the Hub to add devices and enable notifications.
Role	Operator	
Email		Password used to login to the Hub.
Password	•	This must consist of 6 characters,
Confirm Password		are mandatory.
Enabled		Enable access to Hub. To turn this off
@ Cancel E Save		would suspend access to user.
5. When finished entering	new user settings, press Save.	

HUB SETUP

Add Devices Using Built In Templates

The Disio Hub is provided with pre-built device templates that include pre-configured BACnet points for monitoring and control. These can be located under the **Templates** group in the device tree.



5. A window will appear to map a new destination for the device template.

6. Left click on your site name, At the bottom of the window, the New Location listed should be your site name.

Select a destination	Select a destination
O Sample Site >	> Sample Site
	O Templates >
Old Location: Sample Site > Templates > PRTU-F	Old Location: Samola Site > Templater > DPTILE
New Location:	New Location: Sample Site
Move O Cancel	
. Select Move. 🔅 Move	

HUB SETUP

8. The Hub will move the device to the selected location. This may take a minute. When finished, the window will report the device successfully moved. Select **Close** or to close this window.

Moving		Successfully moved the node from
		/Sample Site/Templates
	🔶 Move 🔗	to
	4	/Sample Site
		O Close
 The device will now appear u Left click the device to bring 	nder the site name in the device g up the device configuration.	ĐĐ.
PRTU-F		
🔅 Configuration 💊 Points 🖃 Logic		
Name	PRTU-F	11. Set a unique device Name to identify the device.
Туре	BACnet IP Device	
Interface	(ip2 4	
Port	47808	
Instance	100	12. Set device Instance . This MUST match the
Control Logic		adding the device to the Hub.
! You have to create a logic before you can associate it	with a device.	
Tags		View BACnet portion of product manual on how to set unique BACnet addresses through and LCC
dis	PRTU	thermostat.
siteRef	/Sample Site	
equip		
group	HVAC	
kpi	Al/Thermostat Temperature	
kpiUnit	°F	
type	meter	
Enter a tag name	Marker + Add Tag	

HUB SETUP

14. Now that the device has been added, select the **Points** beneath the assigned device name.

RTU-100

🔅 Configuration 🛛 💊 Points

15. If the device was correctly configured live values will populate:

Logic

Name 🔻	Туре 🔻	Value 🔻
Standalone Cool Setpoint	AV	74.5 💉 🆉
Fan BO1	BO	True 🕺 🧪
Motion Occupied Time	AV	241.0 💉 🥒
Al9 Spare 0-10VDC	AI	0.0 🕺
Fan AO1	AO	6.2 N
Binary Input 2	BI	False N
Al10 Spare 0-10VDC	AI	0.0 🕺
Temperature Units	MV	Fahrenheit 🕺 🥒
AI7 Spare 0-10VDC	AI	0.0 8
Cool 2 BO3	BO	False 🕺 🥒
Cool Enable BO10	BO	False N
Night Cool Setpoint	AV	83.0 🕺 🖉
AI6 10K Thermistor Spare	AI	-59.0 N
Polled Deadband Demand	AV	18.0 🕺 🖉
Polled Heating Demand	AV	53.0 🕺 🖉
AI2 Spare 0-10VDC	AI	0.0 🖋
Standalone Heat Setpoint	AV	70.5 🕺 🖉
RAT Hot Trip 1	AV	120.0 🕺 🥖

NOTE: If values display as N/A check device configuration in Hub, the BACnet Address at the device, and the BACnet network connections.

HUB SETUP

Adding Multiple Of The Same Device

1. After adding and saving the configuration of your first device (in this example a Price Intelligent Controller (PIC), left click on the device you would like to add multiples of in the device tree.

2. Select Edit and Replicate.

3. A replication window will open. Devices that will be added to the Hub can be manually entered here.

4 A	dd
E R	Replicate
⊕ N	love
a li	mport
• E	xport
T R	lemove

Replicate

Create 2 replicas	Set number to desired device duplicates
Replace <u>name</u> with a number beginning at	Device name as it appears in the device tree will be replaced by a number beginning at this number.
Replace interface with a number beginning at 2	Set this to 2 . This sets the port the Hub will look at for this controller.
Replace port with a number beginning at 47808	Set this number to 47808
Replace <u>instance</u> with a number beginning at 102	Set this to the device instance of the controller range being adding.
Replace <u>bbmd port</u> with a number beginning at 47808	
Replace max batch size with a number beginning at 2	
Replace time sync with a number beginning at	
Replicate Ø Cancel	

4. Select the Replicate button. The Hub will begin replicating the information provided.

Replicate

Replicate		
 Replicating 		The Device /Sample Site/PIC-F was successfully replicated.
	O Close	⊘ Close

5. The replicated device(s) will now appear in your device tree configured to the set parameters.

CLOUD SETUP

Accessing the Cloud (for the first time)

To view a Hub/Building in the Cloud the installer MUST reach out to Price Industries to add the Hub online once it has been powered, assigned a static IP, and connected to the building LAN via ethernet with access to the internet. Price will provide a username and password specific to this site.

Support Email: support@disio.io controls@priceindustries.com

Phone: 204.654.5613 (Option 4)

Accessing the Cloud

Once the Hub has been added online and a user had been provided login credentials, the following steps will grant access to the Cloud:

1. Visit https://cloud.disio.io/

2. Enter your assigned username and password. Please contact Disio support if this account is not known or you are connecting to the Cloud for the first time.

- 3. Conscent to the use of cookies by clicking the check box.
- 4. Select Continue.



Username)
Password	
Password)
Cookies	
I consent to the use of cookies.	
Our application uses cookies delivered by us and third parties to deliver a better experience. By logging in, you agree to our Terms of Service.	
→ Continue	
Forgot your password?	
CONTROLS	

5. A 6-digit verification code will be sent to the email address and phone number assigned to the account username. This is manditory to login to the Cloud and must be entered in the provided time (120 seconds) before the code expires.

NOTE: If you did not recieve an email containing this information check your inbox junk folder and that the address noreply@disio.io is white-listed.



CLOUD SETUP

Syncing The Hub To The Cloud

To apply changes applied in the Hub (such as adding new devices, configuring alarms or schedules), the Hub must be synced to the Cloud.

- 1. Enter your login crednetials at https://cloud.disio.io/. If you are unsure what these credentials are, contact Disio support.
- 2. Select the site you wish to update from the customer list.

CUSTOMER LIST V	3. Beside the name of the site there are three icons:
DISIO	Add Site As Favorite
Search Sites Q	Configure Hub
All Sites	Sync With Hub
Customer 4	Select the last icon, Sync with Hub. 4. It may take up to 10 minutes for your changes to be applied. If devices still do not
All Sites	populate, refresh the web page.
Price v	
Price Electronics - Price	
Price Industries	

Tool Bar

0

Once logged into the Cloud a series of icons will appear on the left side of the screen. These can be used to navigate the Cloud.

- **Sites -** Used to navigate a site overview, alerts, and equipment.
- --- Analytics Logic builder used to create custom programs.
- **Charting -** Used to generate, export, and view equipment point data that is logged.
- **Graphics -** Create and assign graphics to equipment.
- Notifications Configure alarm distribution such as email and SMS settings.
- **Reporting -** Generate reports that are emailed at desired frequency to monitor equipment.
- **Schedule -** Set on and off times for equipment.
- Users/Account Managment Create new accounts, configure access levels, and assign roles to users.
- **Support -** Disio Support Center

CLOUD SETUP

Graphics

The Disio Cloud comes equip with pre-loaded and configured graphical templates for Price equipment.

- 1. To apply a template to a discovered graphic, select the Graphics icon from the Tool Bar.
- 2. At the top of the navigation, select **+ Add New**

Graphics *



3. This will create a new Graphics Configuration window. From here enter your configuration:

Sample Link	
+ Next	
Configuration	
Customer	Price
Name	Sample Link
Description	Enter Description

4. Under Graphics Template select the Graphic for your controller from the drop down.

Example: If adding a standard PIC controller, select PIC-C or PIC-F depending on desired temperature units.

Linked Graphic	Search	
	Select All	Clear Selection
Default Graphic	PIC C Graphic	-
	PIC F Graphic	
Parameters	PIC-SD C Graphic	
	PIC-SD F Graphic	
Link To	PRTU-C-Poll-4C4H Graphic	
	PRTU-C-StAl-2C0H Graphic	
Filter Sites	PRTU-C-StAl-4C4H Graphic	
	PRTU-F-Poll-2C2H Graphic	
Â	PRTU-F-Poll-4C4H Graphic	

5. Under **Default Graphic** select wether you would like the default to be the summary page (a hart of the room temperature) or a graphic based summary.

6. Select **Next** at the top under the name of your Graphic when you've selected your paramaters.



|--|

7. A new field will appear called **Parameters** will appear at the bottom. Select the drop down and select **Equipment**.

Parameters

Link To	Equipment
Filter Sites	Disio Cloud
Linked Equipment	All (Search Q
 8. A second drop down will appear called Filter Site. Select your site name. 9. A list of all the linked equipment on that site will appear. The search bar can be used to filter throu name assigned to it. To assign your template to a controller, simply select the Link button. NOTE: You can assign the sample template to multiple pieces of equipment. 	gh your equipment by the
Linked Equipment	All (Search Q
Equipment Name Site	Link To
PIC F Dialo Cloud	Unlinked (Link)
10. When your equipment has succesfully linked to a graphic the Cloud will display an alert in the top right corner.	Graphics Link Updated PIC F linked to PIC Template.
Your device will also show Unlink under Link To .	
Your device will also show Unlink under Link To.	Link To

CLOUD SETUP

Account Managment

Mutiple user accounts with seperate access levels can be configured in the Disio Cloud. Contact information, such as an email address in a users account will be used to send allerts and reports when assigned to a specified user.

1. To create a new account, select the + Add New button just below Account Managment.

2. This will create a new user field. Enter the credentials of the new user and select Save to apply changes.

Account Management *

NOTE: Passwords must contain UPPER case, lower case and numbers.

USER ACCOUNT SETTINGS **v**

John Disio nd@disio i IN Save

User Information

Ó	න Update Photo
Customers	Price
Full Name	John Disio
Email Address	(johnd@disio.io
Phone Number	I+I · 636-555-3226
Timezone	Canada/Central
Password	
Confirm Password	(
Active	



CLOUD SETUP

Adding Device Templates

Price provides pre-built templates for the Disio Hub and Cloud that can be found on the www.disio.io website. The following instruction can be used to add a device template to your Hub.

- 1. Select the **Edit** button and click on **Import**.
- 2. An import Configuration window will appear. Click Select File.

Import Configuration	Replicate
🖬 Select File	Move
	Import
• Import Ø Cancel	Export
	TRemove

3. You will now need to locate the **Hub templates** for your controller. Each Price controller has it's own pre-configued .json template.

NOTE: If you have downloaded your templates from the www.disio.io website, try searching your downloads folder for your downloaded templates.

4. The Import Configuration screen will now show the selected template file and allow a device name to be entered before adding it to the Hub. Select Import and the devices will begin to upload.



Import Configuration

Edit

DISIO CLOUD CLOUD SETUP

5. Your device will now be populated in the device tree:



6. You will now need to configure your device. Left click on the device in the Device Tree on the left side of the screen. This will bring up the Configuration:

ne	PIC F
pe	BACnet IP Device
terface	(ip1 4
vrt	47808
stance	101
ontrol Logic You have to create a logic before you can a	associate it with a device.
ontrol Logic ! You have to create a logic before you can : igs dis	associate it with a device.
ontrol Logic You have to create a logic before you can hgs dis siteRef	PIC I /Disio Cloud I
ontrol Logic You have to create a logic before you can ags dis siteRef kpi	Associate it with a device.
ontrol Logic You have to create a logic before you can sgs dis siteRef kpi kpiUnit	Al/Room Temperature
ontrol Logic You have to create a logic before you can be be be be be be be be be be	PIC 1 /Disio Cloud 1 Al/Room Temperature 1 °F 1 HVAC 1
ontrol Logic You have to create a logic before you can ags dis siteRef kpi kpiUnit group equip	Associate it with a device.
ontrol Logic You have to create a logic before you can ags dis siteRef kpi kpiUnit group equip type	Associate it with a device.

7. Adjust the Device Instance to match the address of your device. NOTE: You must press SAVE Save to apply these changes.

BACNET ROUTER CONFIGURATION

PRTU-BAC-RTR (BACnet Router Configuration)

If you want to log into the BAC Router to check any settings, you need to set your machine to a Static IP; something close to the IP address located on the front of the router, but not the same.

Type the IP address (192.168.97.299 for example) on the front of the router into a web browser, and a log in prompt will appear.

When prompted, enter the following:

- a. User Name: price
- b. Passwordr: price1999



PRTU-BAC-RTR Configuration



The IP address should match what is on the router itself, the MAC address should be set to 0 (zero) and the baud rate is defaulted to 76800.



WEB SERVER

APPENDIX A

Hardware Specifications

Power Requirements	10~30 VDC, 12W (Typical), 20W (MAX)
Processor And Memory	Intel Atom E3815, 1.46GHz
Communication ports	[2] Ethernet Port 10/100/1000 Mbps (Default IP Address: 192.168.1.100:5000) [1] USB 3.0 Port
Size	4.92" x 4.92" x 1.96"
Weight	1.5lb (1500g)

APPENDIX B

IT Request and Information Form

T Request and Info	mation Sheet	
To the installer: Please have	the building IT contact fill in this form. Please request a single	e static ID
iddress for the Disio Cloud s	istem.	
Geep one copy of this form f	or your records, and make one copy to leave with the Disio C	loud.
Static IP		
Please assign)		
Netmask		
Gateway		
Broadcast		

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