

**MANUAL – INSTALLATION**

**DISIO CLOUD**  
**DISIO** Series

v100 – Issue Date: 01/12/22

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# DISIO CLOUD

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# DISIO CLOUD

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## PRODUCT OVERVIEW

### 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 Management (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/](http://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](http://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

# DISIO CLOUD

## 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.

### MOUNTING DETAILS ▼



MOUNT TOGETHER IN SERVER ROOM

OR

ORDER OPTIONAL FACTORY PROVIDED PANEL



# DISIO CLOUD

## 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.

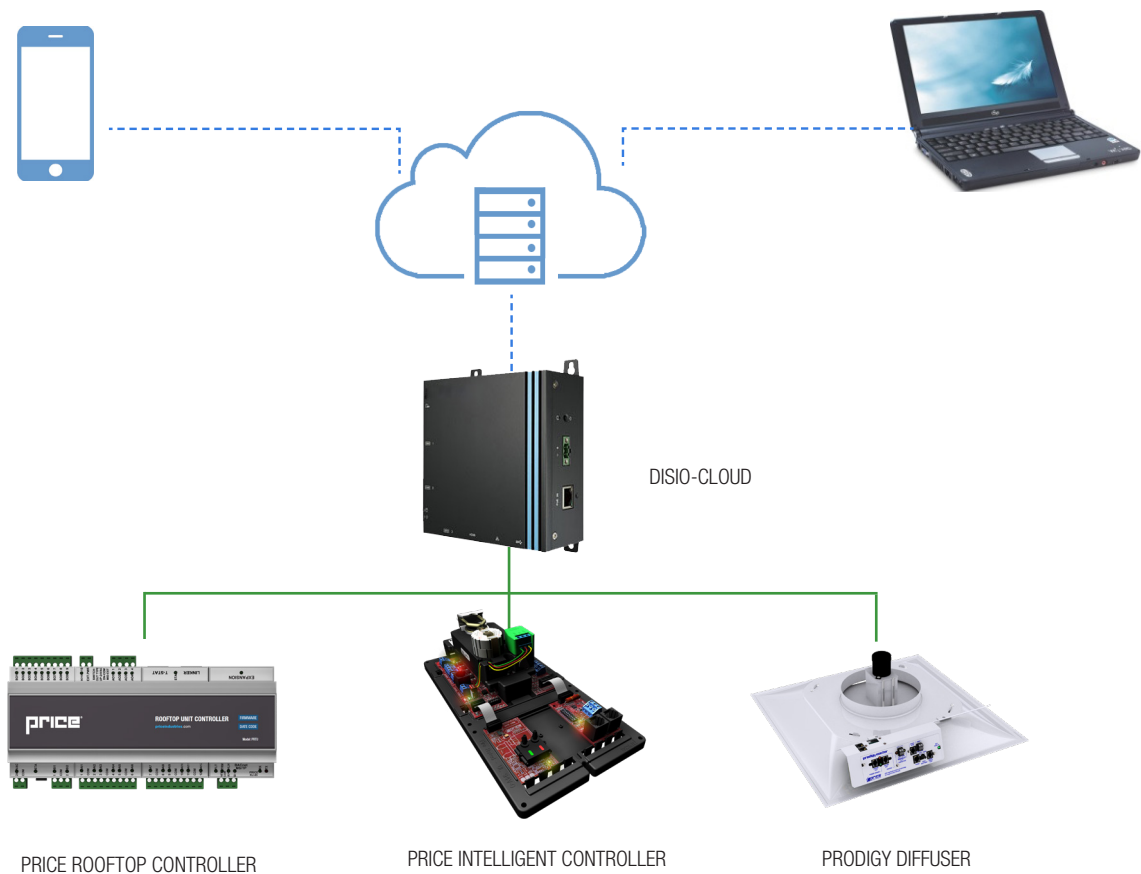
### Access to Disio Cloud Hub

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



## CLOUD STRUCTURE ▼



# DISIO CLOUD

## HUB SETUP

### Disio Hub Quick Start

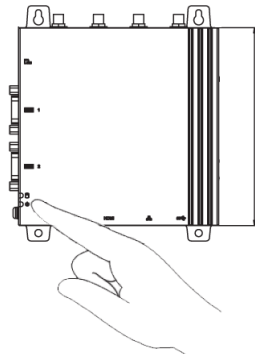
#### QUICK START ▼

## DISIO HUB QUICK START | GETTING ONLINE VIA THE LAN/WAN

The following is a brief overview of the steps required to startup the Disio Hub and get it connected to the customers local area/wide area network.

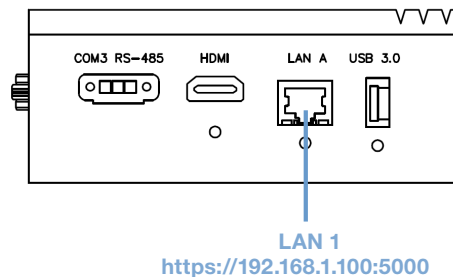
1. Have the building IT department fill out the "IT Request and Information" sheet included in the Cloud Panel and at the end of the Disio Cloud Manual.
2. Mount and power the panel.
3. Verify LED power light is illuminated green on the Disio Hub.

#### DISIO HUB POWER LED



4. Connect an ethernet cable from a PC to (LAN A) on the Disio Hub.

#### DISIO HUB



5. Configure your PC's IP address as follows:

- **IP Address:** 192.168.1.101
- **Subnet Mask:** 255.255.255.0
- **Router/Default Gateway:** 192.168.1.1

#### IT REQUEST FORM



#### PRTU-FRONT-END

##### IT Request and Information Sheet

To the installer: Please have the building IT contact fill in this form. Please request a single static IP address for the Disio Cloud system. Please also request port forwarding for external monitoring (remote access).

Keep one copy of this form for your records, and make one copy to leave with the Disio Cloud.

Static IP \_\_\_\_\_  
(Please assign)

Subnet Mask \_\_\_\_\_

Gateway \_\_\_\_\_

DNS Server(s) \_\_\_\_\_

SMTP Server \_\_\_\_\_  
(Optional -- required for email alerts)

*The following section is optional but required for remote monitoring.*

Public ("External") IP \_\_\_\_\_

Please forward external port \_\_\_\_\_  
Choose Port: Suggest: 8031

to **Port 80** of the above-assigned static IP.

#### QUICK START PAGE 2 ▼

6. Using a browser on the PC, log into the Disio Hub (<https://192.168.1.100:5000>) and enter the factory default username (disioadmin) and password (Dladmin123). Please contact Disio support if the default username and password is not known.

If prompted to accept the security certificate select **Advanced > Go to Website**

### This site is not secure

This might mean that someone's trying to fool you or steal any info you send to the server. You should close this site immediately.

[Go to your Start page](#)

#### Details

Your PC doesn't trust this website's security certificate. The hostname in the website's security certificate differs from the website you are trying to visit.

Error Code: DLG\_FLAGS\_INVALID\_CA  
DLG\_FLAGS\_SEC\_CERT\_CN\_INVALID



#### 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](#)

NET::ERR\_CERT\_AUTHORITY\_INVALID

Help improve Chrome security by sending URLs of some pages you visit, limited system information, and some page content to Google. [Privacy policy](#)

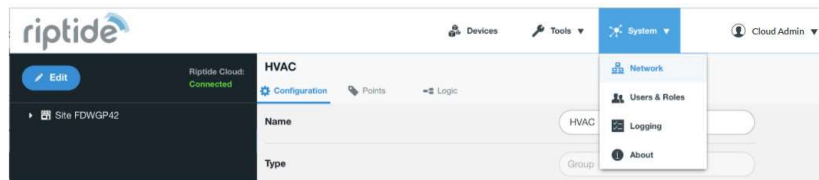
[Hide advanced](#)

[Back to safety](#)

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 intercepting your connection.

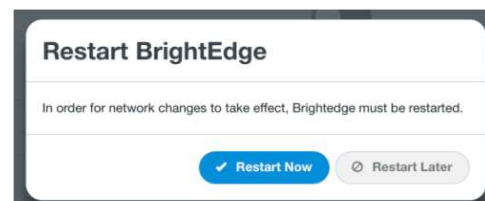
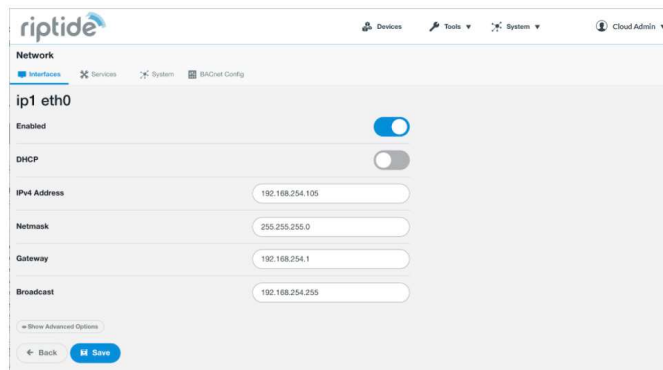
[Proceed to 192.168.254.105 \(unsafe\)](#)

7. Select System > Network from the navigation bar



8. Select IP Interface (IP1 primary interface).

9. Disable DHCP and configure the fields with information provided to you by the IT department.



10. Select Save and Restart Now.

11. Contact support@disio.io or 204-654-5613 Option 4 to confirm unit is now connected to Internet to complete setup.

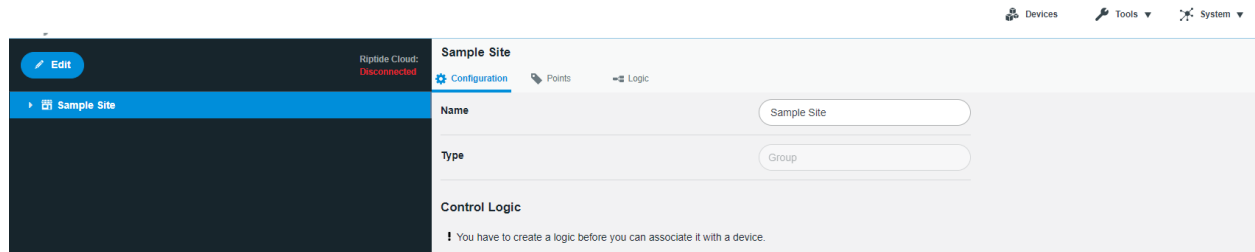
# DISIO CLOUD

## 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.



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





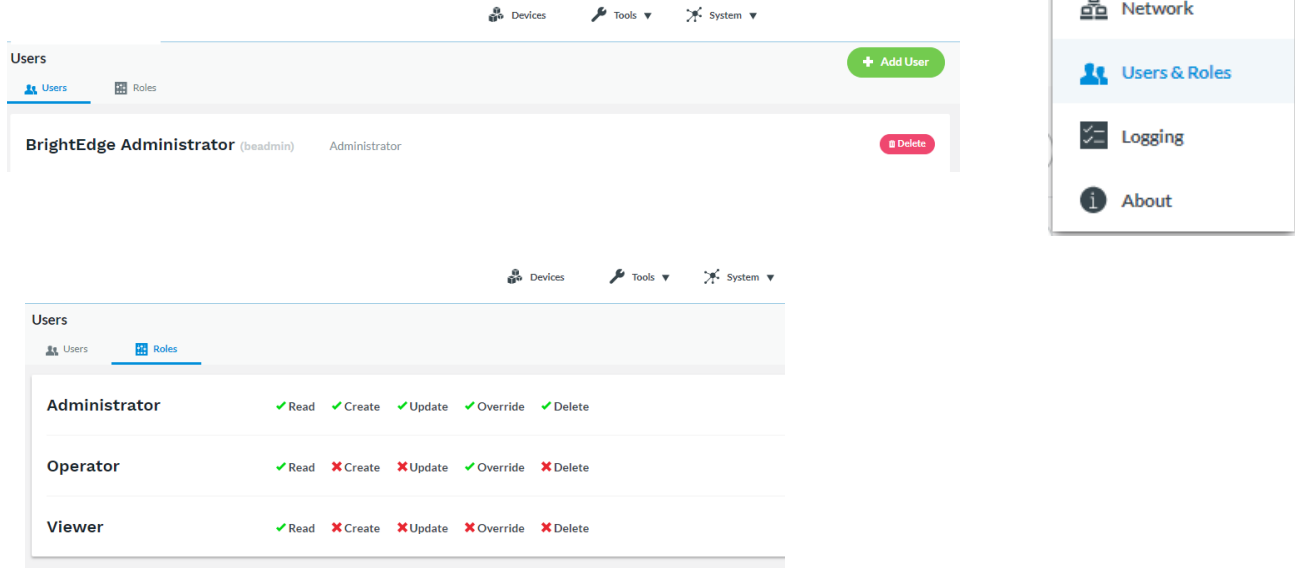
# DISIO CLOUD

## HUB SETUP

### Creating A New User

User accounts are strongly recommended 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 separate access levels that can be found in the **Roles** tab beside **Users**.



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



4. Enter the credentials for the new user.

The image shows the 'Add User' form with the following fields and callouts:

- Full Name:** Text input field with the value 'New User'.
- Username:** Text input field. Callout: 'Username used to login to the Hub to add devices and enable notifications.'
- Role:** Dropdown menu with 'Operator' selected.
- Email:** Text input field.
- Password:** Text input field. Callout: 'Password used to login to the Hub. This must consist of 6 characters, UPPER case, lowercase, and digits are mandatory.'
- Confirm Password:** Text input field.
- Enabled:** Toggle switch (currently turned on). Callout: 'Enable access to Hub. To turn this off would suspend access to user.'

At the bottom of the form are 'Cancel' and 'Save' buttons.

5. When finished entering new user settings, press **Save**.



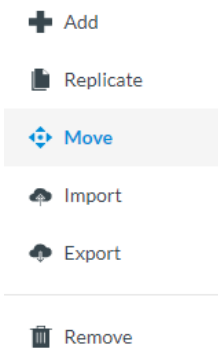
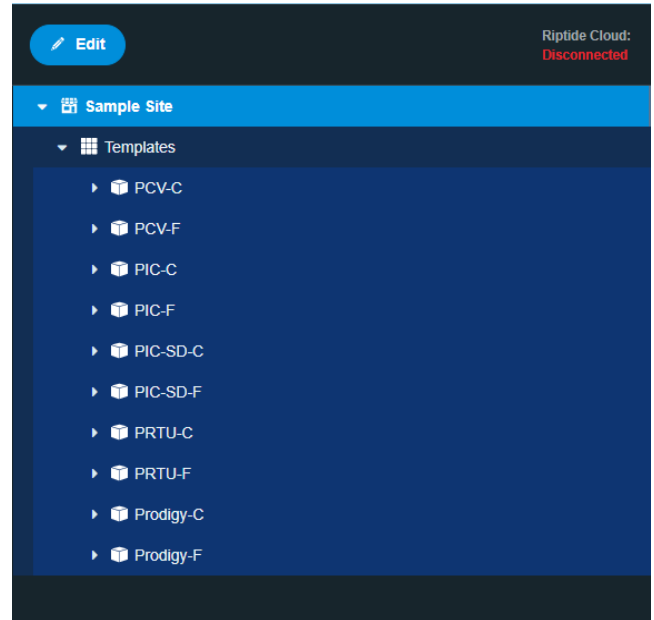
# DISIO CLOUD

## 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.

1. Select the drop down arrow, left of the site name to reveal the **Templates** group in the device tree to view the available templates.
2. Each device template is organized by the product name and temperature units.
3. Select your device from the device tree. Once the product name is highlighted, select **Edit** from the top left corner.
4. From the drop down menu, select **Move**



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

○ Sample Site >

Old Location: Sample Site > Templates > PRTU-F  
New Location:

Move Cancel

### Select a destination

> Sample Site

○ Templates >


Old Location: Sample Site > Templates > PRTU-F  
New Location: Sample Site

Move Cancel


7. Select **Move**.



# DISIO CLOUD

## 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**  to close this window.

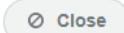
### Select a destination

 Moving

 Move 

### Select a destination




Successfully moved the node from ✓  
**/Sample Site/Templates**  
to  
**/Sample Site**

 Close

9. The device will now appear under the site name in the device tree.

10. Left click the device to bring up the device configuration.

**PRTU-F**

 Configuration  Points  Logic

**Name**

**Type**

**Interface**








**Port**


**Instance**






**Control Logic**

! You have to create a logic before you can associate it with a device.

**Tags**

<input type="text" value="dis"/>	<input type="text" value="PRTU"/>	
<input type="text" value="siteRef"/>	<input type="text" value="/Sample Site"/>	
<input type="text" value="equip"/>		
<input type="text" value="group"/>	<input type="text" value="HVAC"/>	
<input type="text" value="kpi"/>	<input type="text" value="AI/Thermostat Temperature"/>	
<input type="text" value="kpiUnit"/>	<input type="text" value="&amp;#xb0;F"/>	
<input type="text" value="type"/>	<input type="text" value="meter"/>	



Recommended Tags:     

11. Set a unique device **Name** to identify the device.

12. Set device **Instance**. This **MUST** match the unique address assigned to the controller prior to adding the device to the Hub.

View BACnet portion of product manual on how to set unique BACnet addresses through and LCD thermostat.

13. Select **Save**  to apply changes.

# DISIO CLOUD































## HUB SETUP

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

### RTU-100

 Configuration  **Points**  Logic

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

Name ▾	Type ▾	Value ▾
<input type="text"/>	<input type="text"/>	<input type="text"/>
Standalone Cool Setpoint	AV	74.5  
Fan BO1	BO	True  
Motion Occupied Time	AV	241.0  
AI9 Spare 0-10VDC	AI	0.0 
Fan AO1	AO	6.2  
Binary Input 2	BI	False 
AI10 Spare 0-10VDC	AI	0.0 
Temperature Units	MV	Fahrenheit  
AI7 Spare 0-10VDC	AI	0.0 
Cool 2 BO3	BO	False  
Cool Enable BO10	BO	False  
Night Cool Setpoint	AV	83.0  
AI6 10K Thermistor Spare	AI	-59.0 
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.

# DISIO CLOUD

## 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.

- + Add
- Replicate
- Move**
- Import
- Export
- Remove

### Replicate

Create  replicas ————— Set number to desired device duplicates

Replace name 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  ✖ ————— **Set this to 2.** This sets the port the Hub will look at for this controller.

Replace port with a number beginning at  ✖ ————— **Set this number to 47808**

Replace instance with a number beginning at  ✖ ————— Set this to the device instance of the controller range being adding.

Replace bbmd\_port with a number beginning at  ✖

Replace max\_batch\_size with a number beginning at  ✖

Replace time\_sync with a number beginning at  ✖

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

### Replicate

↳ Replicating..

### Replicate

✔ The Device /Sample Site/PIC-F was successfully replicated.

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

# DISIO CLOUD

## 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. Consent to the use of cookies by clicking the check box.
4. Select **Continue**.



Username

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.

[Forgot your password?](#)



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

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

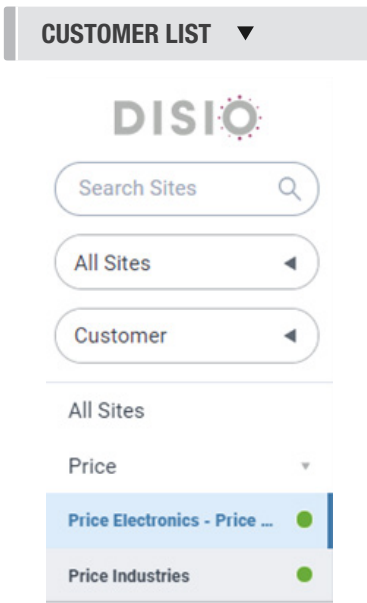
# DISIO CLOUD

## 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 credentials 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.



3. Beside the name of the site there are three icons:











-  Add Site As Favorite
-  Configure Hub
-  Sync With Hub

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 populate, refresh the web page.

### Tool Bar

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.

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

# DISIO CLOUD

## CLOUD SETUP

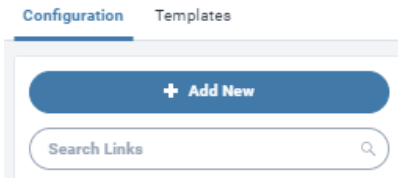
### Graphics

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

Name

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

Default Graphic

**Parameters**

Link To

Filter Sites

Search

Select All Clear Selection

- PIC C Graphic
- PIC F Graphic
- PIC-SD C Graphic
- PIC-SD F Graphic
- PRTU-C-Poll-4C4H Graphic
- PRTU-C-SIAl-2C0H Graphic
- PRTU-C-SIAl-4C4H Graphic
- PRTU-F-Poll-2C2H Graphic
- PRTU-F-Poll-4C4H Graphic

All

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.

**PIC Template**  
Template For PIC Controller

→ Next



# DISIO CLOUD

## CLOUD SETUP

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

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 through your equipment by the name assigned to it.

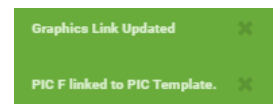
To assign your template to a controller, simply select the **Link** button.

**NOTE: You can assign the sample template to multiple pieces of equipment.**

Linked Equipment All Search

Equipment Name	Site	Link To
PIC F	Disio Cloud	<span>Unlink</span> <span>Link</span>

10. When your equipment has successfully linked to a graphic the Cloud will display an alert in the top right corner.



Your device will also show **Unlink** under **Link To**.

Equipment Name	Site	Link To
PIC F	Disio Cloud	<span>PIC Template</span> <span>Unlink</span>

# DISIO CLOUD

## CLOUD SETUP

### Account Management

Multiple user accounts with separate access levels can be configured in the Disio Cloud. Contact information, such as an email address in a user's account will be used to send alerts and reports when assigned to a specified user.

1. To create a new account, select the **+ Add New** button just below Account Management.
2. This will create a new user field. Enter the credentials of the new user and select **Save** to apply changes.

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

### Account Management ★

Accounts    Audit Logs

+ Add New

### USER ACCOUNT SETTINGS ▼

John Disio

john@disio.io

Save

#### User Information



Update Photo

Customers

Price

Full Name

John Disio

Email Address

john@disio.io

Phone Number

+1 636-555-3226

Timezone

Canada/Central

Password

.....

Confirm Password

.....

Active



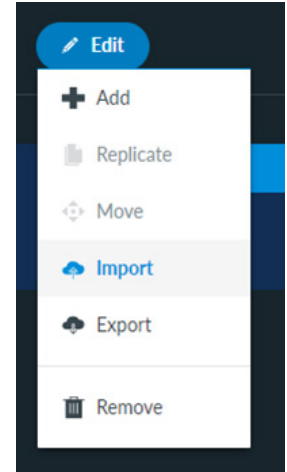
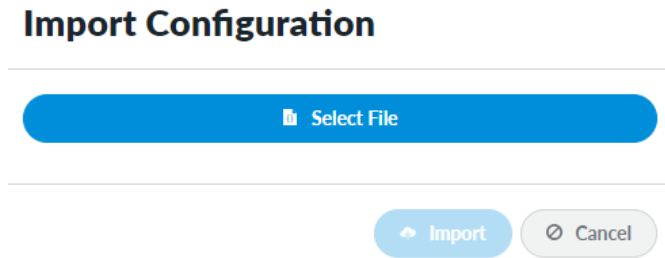
# DISIO CLOUD

## 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](http://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**.

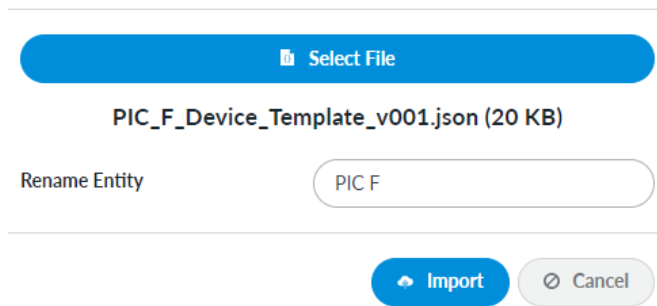


3. You will now need to locate the **Hub templates** for your controller. Each Price controller has it's own pre-configured .json template.

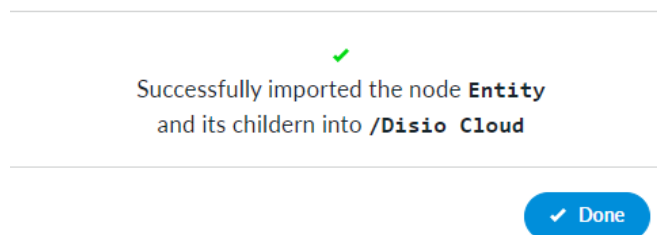
**NOTE:** If you have downloaded your templates from the [www.disio.io](http://www.disio.io) website, try searching your downloads folder for your downloaded templates.

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



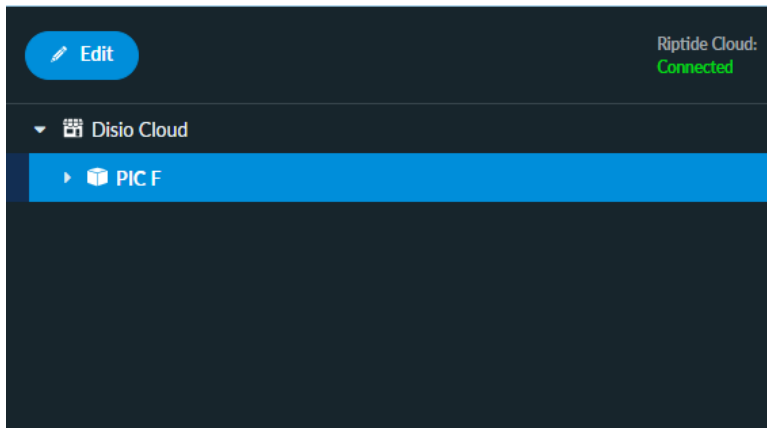
### Import Configuration



# 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:

**PIC F**

Configuration Points Logic

Name: PIC F

Type: BACnet IP Device

Interface: ip1

Port: 47808

Instance: 101

**Control Logic**

! You have to create a logic before you can associate it with a device.

**Tags**

dis	PIC	✖
siteRef	/Disio Cloud	✖
kpi	AI/Room Temperature	✖
kpiUnit	&#xb0;F	✖
group	HVAC	✖
equip		✖
type	meter	✖

Enter a tag name: Marker + Add Tag

Recommended Tags: +locationServed +absorption +ahu +airCooled +boiler Show More

7. Adjust the Device Instance to match the address of your device.

**NOTE: You must press SAVE** Save to apply these changes.

# DISIO CLOUD

## BACNET ROUTER CONFIGURATION

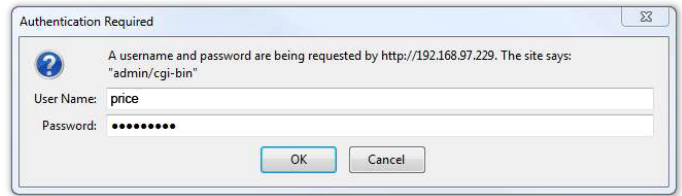
### PRTU-BAC-RTR (BACnet Router Configuration)

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. Password: **price1999**



Configuration   Advanced   Routing   Security   Status   BDT   FDT

## PRTU-BAC-RTR Configuration

Device Name	PRTU-BAC-RTR
Device Instance	63229
Device Location	
Ethernet Network	0
BACnet/IP UDP Port 1	BAC0
BACnet/IP Network 1	1
IP Assigned By	FIXED
IP Address	192.168.97.299
IP Subnet	24
IP Gateway	192.168.97.1
MS/TP MAC	0
MS/TP Network	63229
Max Masters	127
Max Info Frames	100
MS/TP Baudrate	76800
MS/TP Tolerance	<input type="radio"/> Strict <input checked="" type="radio"/> Lenient

Save Changes

**MAC Address**      **00-50-DB-00-E2-A8**  
**Firmware Revision**      **3.0.6**

Advanced

Device Instance is factory set. It is recommended that you leave as is.

Status

Each BAC-RTR comes with a factory set IP Address and this should match what is on the label of the BAC Router.

Routing Table

Price factory sets the MS/TP MAC Address to 0, so that it won't collide with other devices on your network. Zero is the recommended value.

Security

Baud Rate is defaulted to 76800, and the tolerance of the MS/TP should be kept to Lenient.

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.

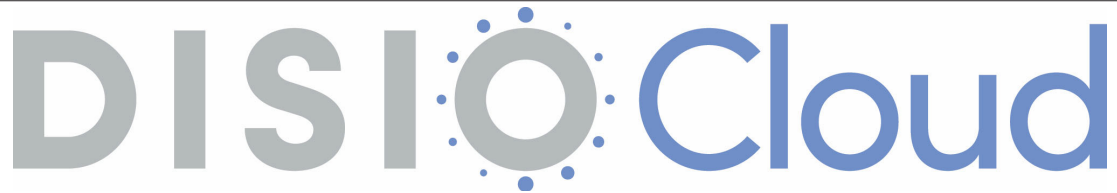
# WEB SERVER

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## APPENDIX A

### Hardware Specifications

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



#### **PRTU-FRONT-END**

##### *IT Request and Information Sheet*

To the installer: Please have the building IT contact fill in this form. Please request a single static IP address for the Disio Cloud system.

Keep one copy of this form for your records, and make one copy to leave with the Disio Cloud.

Static IP \_\_\_\_\_  
(Please assign)

Subnet Mask \_\_\_\_\_

Gateway \_\_\_\_\_

DNS Server(s) \_\_\_\_\_

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This document contains the most current product information as of this printing.  
For the most up-to-date product information, please go to [priceindustries.com](http://priceindustries.com)

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