

Turntide App

Operations and Maintenance Manual

support@turntide.com



SENSING



CLIMATE CONTROL



LIGHTING



ENERGY



ACCESS

Building Performance Software

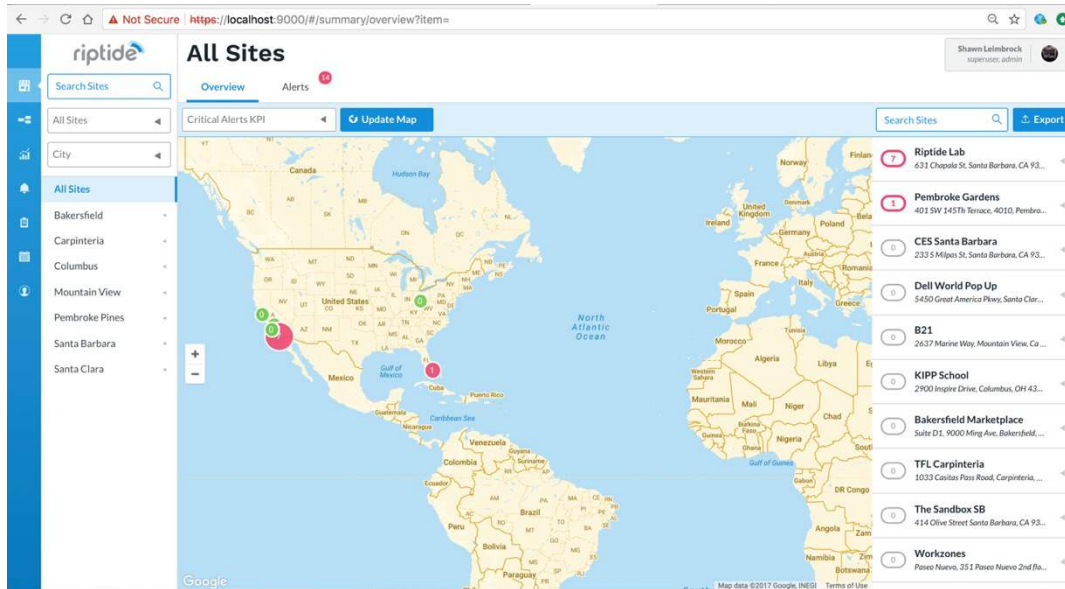
Operations and Maintenance Manual

Turntide Application: Overview

Turntide Application Overview

INTRODUCTION

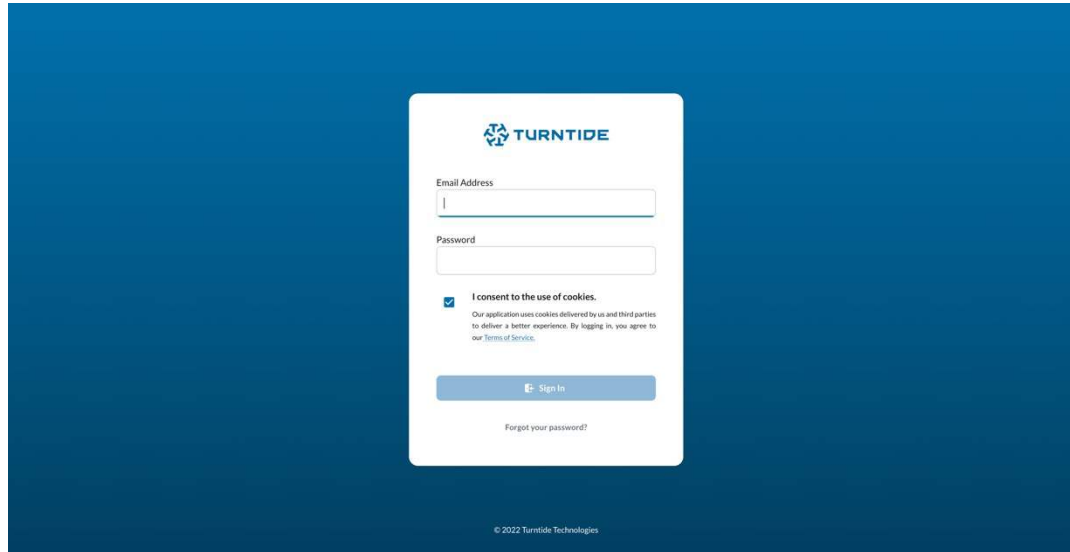
- The Turntide building performance software allows you to easily manage a portfolio of buildings. It provides real-time visibility and analytics to help you efficiently identify issues, manage and control your buildings.



Turntide Application Overview

THE LOGIN PAGE

1. Browse to app.turntide.com
2. In the login form enter your Email Address and Password
3. Click the Login button to login

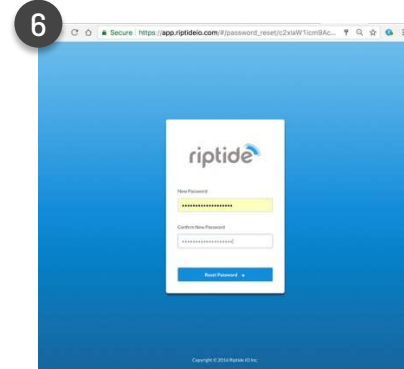
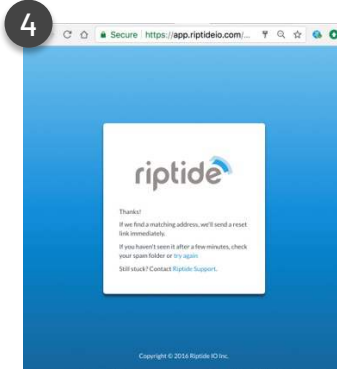
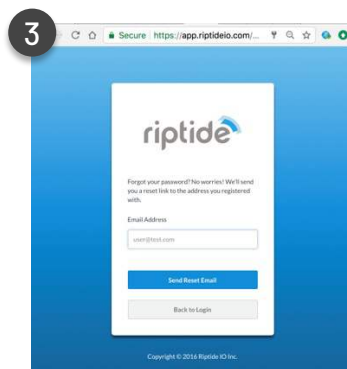
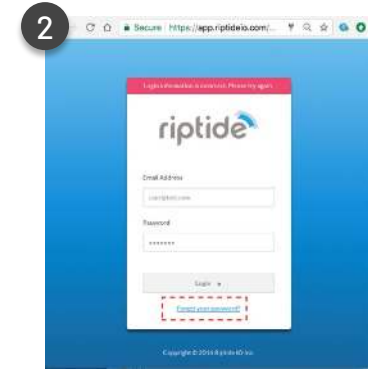


The screenshot shows the login page for the Turntide application. It features a white login form centered on a dark blue background. At the top of the form is the Turntide logo, which consists of a stylized 'T' made of three arrows forming a triangle, followed by the word 'TURNTIDE' in a bold, sans-serif font. Below the logo are two input fields: 'Email Address' and 'Password'. Underneath these fields is a checkbox that is checked, with the text 'I consent to the use of cookies.' and a small paragraph of text below it: '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](#).' At the bottom of the form is a blue button with the text 'Sign In' and a small icon of a person. Below the button is a link that says 'Forgot your password?'. At the very bottom of the form, there is a small copyright notice: '© 2022 Turntide Technologies'.

Turntide Application Overview

PASSWORD RESET

1. Browse to app.turntide.com
2. Below the login form click the Forgot your password? link
3. Enter your Email Address in the reset form and click the Send Reset Email button
4. Check the email address provided for a password reset email
5. When email is received click the password reset link in the email
6. In the new password form enter a new password in the New Password and Confirm New Password fields and click the Reset Password button
7. Login with your email address and new password



Turntide Application Overview

CLOUD USER INTERFACE LAYOUT

The screenshot displays the Riptide application interface. The browser address bar shows the URL `https://localhost:9000/#/summary/overview`. The page title is "All Sites". The interface includes a search bar for sites, a navigation menu on the left with icons for home, search, and alerts, and a main content area with a map and a list of sites. The map shows the United States with state boundaries and labels. The list of sites includes:

- Riptide Lab (7 alerts)
- Pembroke Gardens (1 alert)
- CES Santa Barbara (0 alerts)
- Dell World Pop Up (0 alerts)
- B21 (0 alerts)
- KIPP School (0 alerts)
- Bakersfield Marketplace (0 alerts)

User Dropdown

Current Location

Tab Bar

Features Sidebar

Sites Sidebar

Details Area

Map Sidebar

Turntide Application Overview

MAP OVERVIEW

1. Login to app.turntide.com
2. Click the Site icon in the sidebar to view sites
3. Select All Sites in the sites sidebar
4. Select the Overview tab in the tab bar
5. Hover over a site to see KPI details
6. Expand a site in the Map Sidebar to see details
7. Click on the Site Name or Equipment Name in the map sidebar to navigate to the site

The screenshot displays the Riptide application's 'All Sites' overview page. The interface includes a sidebar with a search bar and a list of sites. The 'All Sites' tab is selected, and the 'Overview' sub-tab is active. A map of the United States is shown, with a red dashed box highlighting the 'Riptide Lab' site. A tooltip for 'Riptide Lab' is displayed, showing its address and a 'Critical Alerts KPI' of 7. A detailed alert list for Riptide Lab is visible, including 'Room Temperature Alert', 'RTU-01 Diagnostic - Fan Fail Alarm Alert', 'Active Cooling Setpoint Alert', 'New Point3 Alert', 'p1 Alert', and 'Boardroom Temperature Alert'. The browser address bar shows 'https://localhost:9000/#/summary/overview'.

Turntide Application Overview

SITE OVERVIEW

1. Login to app.turntide.com
2. Click the Site icon in the sidebar to view sites
3. Select a site in the sites sidebar
4. Select the Overview tab in the tab bar
5. The site overview will display the following components:
 - a. Weather = Current temperature and description
 - b. Connection Status = Hub connection status
 - c. Alerts = Number of open alerts and severity
 - d. Location Info = Map of location and address
 - e. Equipment List = List of equipment with KPI value, alert status and history sparkline
6. Select an item in the list to view equipment details
7. Click the alert link for an item to see the alerts details

The screenshot shows the Riptide Lab site overview dashboard. The interface includes a sidebar with a search bar and a list of sites. The main content area displays the site's overview, including weather information, connection status, alerts, and a table of equipment.

riptide Riptide Lab

Overview Alerts 2 Equipment

Shawn Leimbrock
superuser_admin

Search Sites

All Sites

City

All Sites

Bakersfield

Carpinteria

Columbus

Mountain View

Pembroke Pines

Santa Barbara

CES Santa Barbara

Riptide Lab

The Sandbox SB

Workzones

Santa Clara

Mostly Cloudy, 66°
Local Weather

Connected
Site Status

7 (1 Unacknowledged)
Critical Alerts

Status Name	Type	Value	Alert	Trend
Lab (AC-01)	Comfort	73.01°F		
Reception/Lobby (AC-02)	Comfort	75.60°F		
Lab (Lab Tables)	Lighting	Off		
Office (Office)	Lighting	Off		
Weather (Weather)	Weather	66.00°F		

SANTA BARBARA DOWNTOWN

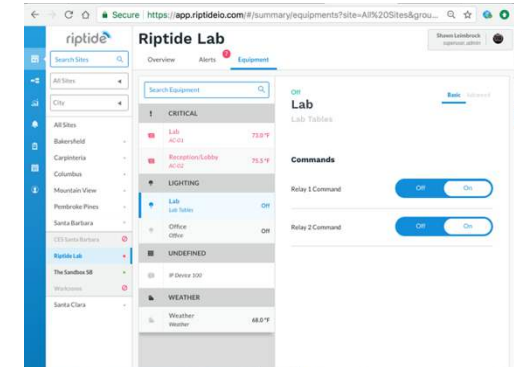
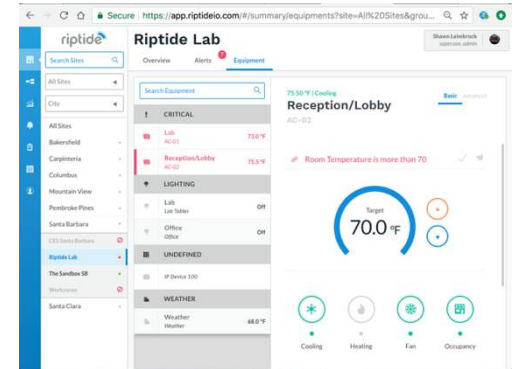
Santa Barbara

Address: 631 Chapala St, Santa Barbara, CA 93101, USA

Turntide Application Overview

EQUIPMENT VIEW - BASIC

1. Login to app.turntide.com and select a Site
2. Select the Equipment tab in the tab bar
3. The first item in the equipment list will be selected
4. Type the equipment name in the Search bar to find a particular piece of equipment
5. Select any item to view a simple graphical depiction of the equipment in the right pane
6. The equipment details will show the equipment name, KPI value and location served in the upper left hand corner
7. If an equipment has any critical alerts it will be displayed at the top of the list in red
8. A link to the alert will appear in red in the equipment details
9. Interactive controls like buttons and switches will be available based on the type of equipment selected



Turntide Application Overview

EQUIPMENT VIEW - ADVANCED

1. Login to app.turntide.com and select a Site
2. Select the Equipment tab in the tab bar
3. Select any item to view the equipment details
4. Select the Advanced tab in the equipment details
5. Search for points by entering the point name in the Search box
6. Expand the point groups to see the point names and current value
7. If a point is overridable it's current value will appear in blue
8. Click on any overridable point value to open the Override dialog
9. Enter a value at the desired priority and click the Save button to finish
10. To release an override follow steps 8 & 9 but leave the priority blank

3

The screenshot shows the 'Equipment' tab for 'Office 1'. The main display shows 'Office 1' with a current value of 72.84°F. Below this, there are sections for 'Points List', 'Diagnostics', 'Refrigeration', 'Setpoints', and 'Fan Speed'. The 'Setpoints' section shows 'Set Temperature' at 66.00°F. The 'Fan Speed' is set to 'High'. The 'Points List' section has a search bar and a list of points.

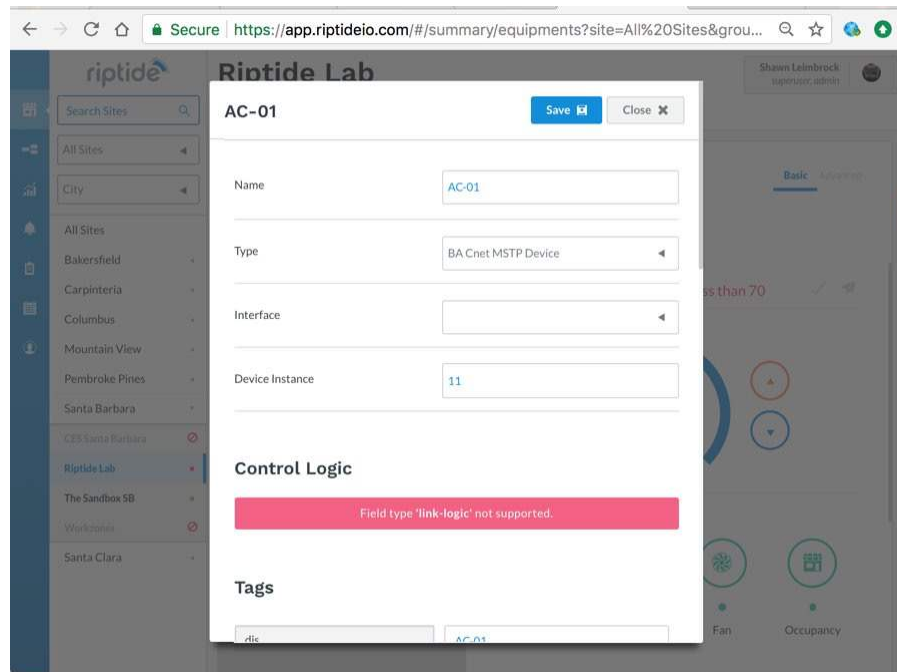
8

The screenshot shows the 'Override - Set Temperature' dialog for 'Office 1'. The dialog has a grid for setting a new value and priority. The 'Current Value' is 66.00°F. The 'Override - Set Temperature' field is set to 68. The 'Priority' is set to 1. The 'Save' button is highlighted.

Turntide Application Overview

EQUIPMENT VIEW - CONFIGURATION DETAILS

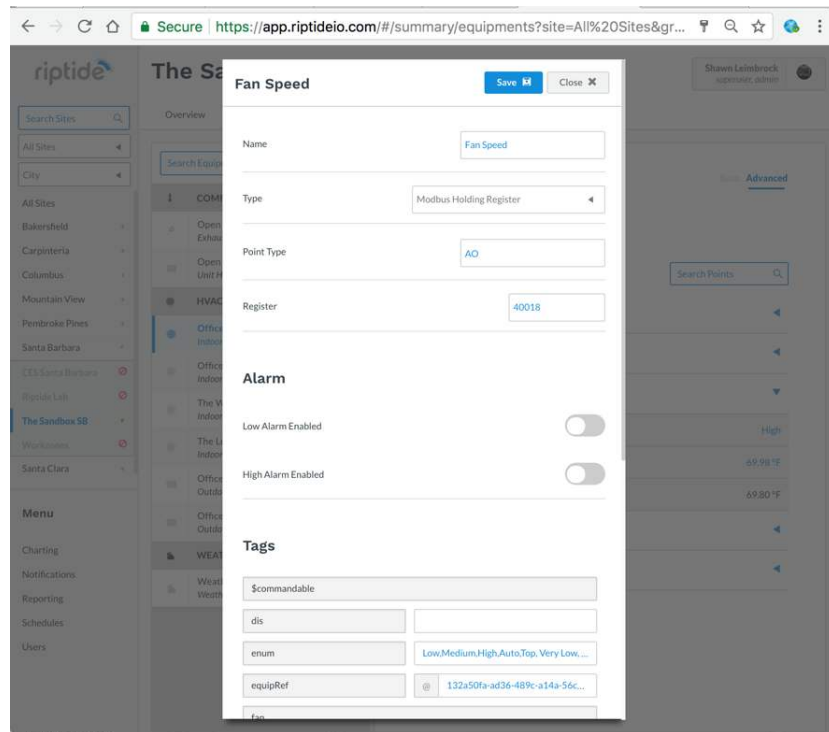
1. Login to app.turntide.com and select a Site
2. Select the Equipment tab in the tab bar
3. Click on the equipment name in the details area to open the configuration dialog
4. Edit the desired property
5. Click the Save button to finish



Turntide Application Overview

EQUIPMENT VIEW - POINT CONFIGURATION DETAILS

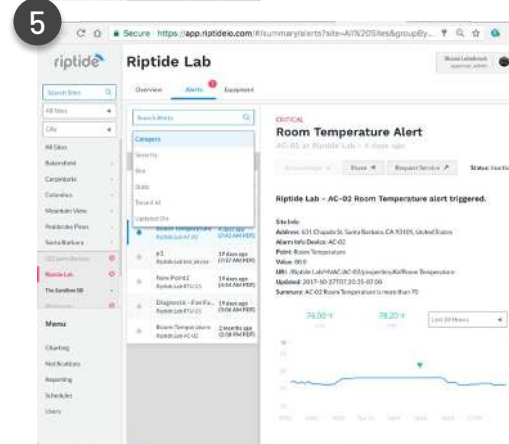
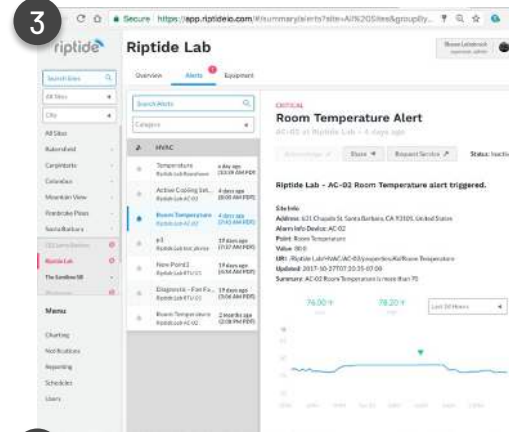
1. Login to app.turntide.com and select a Site
2. Select the Equipment tab in the tab bar
3. Select an item from the equipment list
4. Select the Advanced tab in the equipment details
5. Expand a point group and click on point name to open the configuration dialog
6. Edit the desired property
7. Click the Save button to finish



Turntide Application Overview

ALERTS VIEW

1. Login to app.turntide.com and select a Site
2. Select the Alert tab in the tab bar
3. Select an item from the alert list to see the alert details
4. The details will show the following:
 - a. Criticality - alert criticality
 - b. Name - Alert name
 - c. Alert metadata- equipment name, site name and alert time
 - d. Action buttons - Acknowledge, Share and Request Service buttons
 - e. Alert subject -subject configured in the alert template on the hub
 - f. Alert message - message configured in the alert template on the hub
 - g. Alert history - history of point in alert
5. Sort the alerts by different criteria using the dropdown above the list



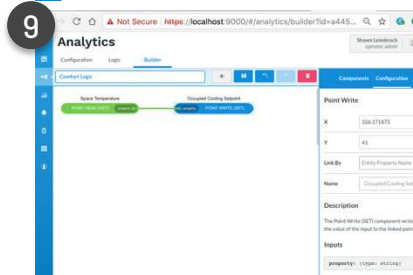
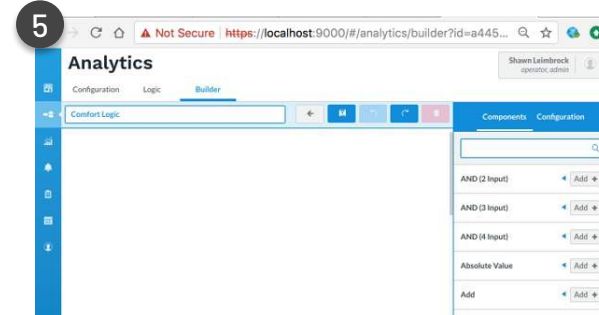
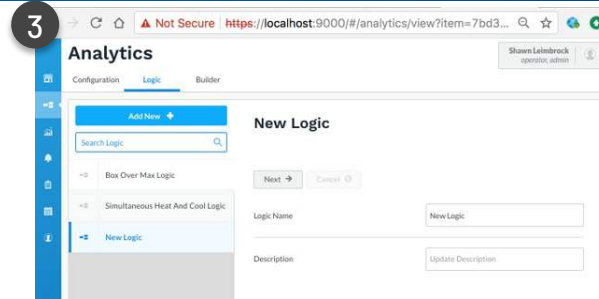
Operations and Maintenance Manual

Turntide Application Tools: Analytics

Turntide Application Tools - Analytics

ANALYTICS - LOGIC BUILDER

1. Login to app.turntide.com and select Analytics in the sidebar
2. Select the Logic tab in the tab bar
3. Click the Add New button to create new logic
4. Name the logic and add a description
5. Click the Next button
6. The logic Builder tab will be automatically selected
7. The builder will show Components and Configuration on the right side
8. Add a Point Read to read a points current value
9. Add a Point Write to override a point
10. Add any other components (math, logic, etc.) required
11. Connect the components by dragging from output to input
12. Click the Save button to finish

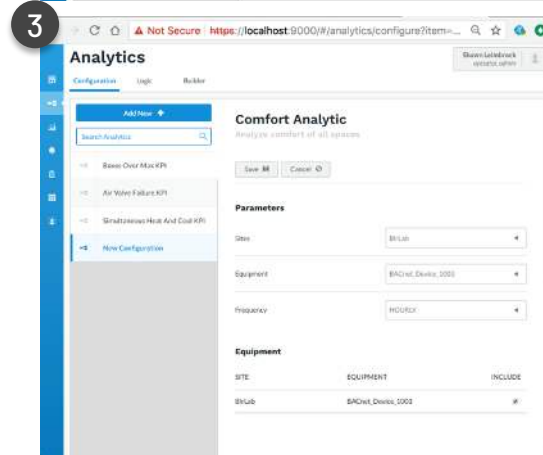
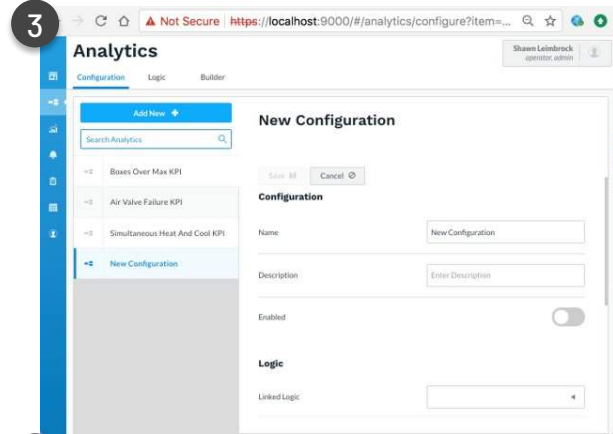


Turntide Application Tools - Analytics

ANALYTICS - CONFIGURATION (LOGIC LINKING)

1. Login to app.turntide.com and select Analytics in the sidebar
2. Select the Configuration tab in the tab bar
3. Click the Add New button to create a new analytic
4. Configure the analytic as follows:
 - a. Name = descriptive name
 - b. Description = short description of the analytic
 - c. Enabled = ON
 - d. Linked Logic = Select the appropriate logic
 - e. Sites = Select desired sites to filter available equipment
 - f. Equipment = Select the desired equipment to run the logic against
 - g. Frequency = Select the frequency to execute the logic
5. Click the Save button to finish

NOTE: The logic will begin to execute once it's linked to equipment and saved



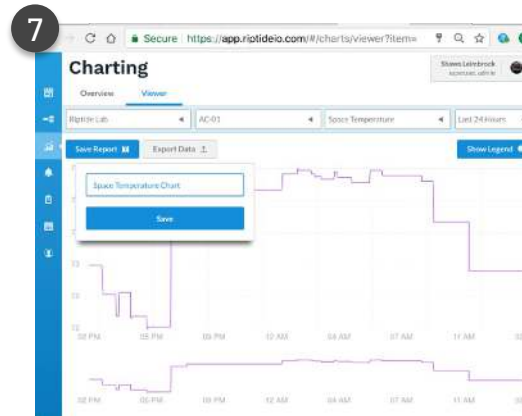
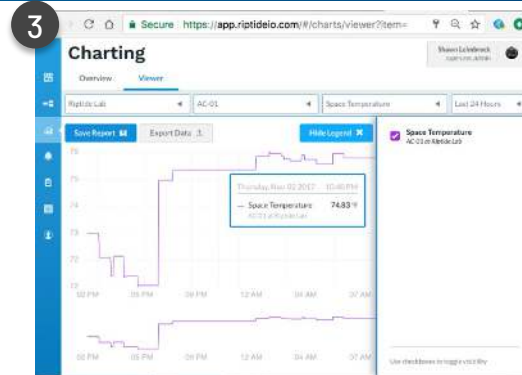
Operations and Maintenance Manual

Turntide Application Tools: Charting

Turntide Application Tools - Charting

CHARTING

1. Login to app.turntide.com and select Charting in the sidebar
2. Select the Viewer tab in the tab bar
3. Use the dropdowns to select the desired Sites, Equipment, Points and Date Range
4. Hover over the chart to see the value at that point in time
5. Click the Show Legend button to expand the legend
6. Show/hide points by clicking on the checkbox next to the point name
7. Click the Save Chart button and name the chart
8. Click the Save button to finish
9. Click the Export Data button to save the chart as a CSV file on your local system



Operations and Maintenance Manual

Turntide Application Tools: Notifications

Turntide Application Tools - Notifications

NOTIFICATIONS

1. Login to app.turntide.com and select Notifications in the sidebar
2. Click the Add New button to add a new notification
3. Configure the notification fields
4. Enable Digest if desired and configure fields
5. Enable Escalation if desired and configure fields
6. Click the Save button to finish

Note:
Digest sends a single email with all of the notifications that occurred over the selected time period.

Escalation sends a notification if an alarm is unacknowledged for the specified time period.

3

Notifications

Overview

Add New

Search Notifications

CES

New notification

LBRANDS

Lbrands Notifications

RIPTIDE

Riptide Daily Notifications

Riptide HVAC Notifications

Save

Cancel

Customer: Riptide

Name: Training Notification

Configuration

Enabled:

Sites: Riptide Lab

Equipment: AC-01

Points: Space Temperature

Alarm States: Active

Alarm Categories: HVAC

Alarm Severity: Critical

Send email to: Enter email address

Operations and Maintenance Manual

Turntide Application Tools: Reporting

Turntide Application Tools - Reporting

REPORTING - OVERVIEW

1. Login to app.turntide.com and select Reporting in the sidebar
2. Click the Add New button and configure the report fields
3. Click the Add Datasource button and select the desired points
4. Configure Delivery options desired
5. Click the Save button to finish

3

Configure Datasource

Name	<input type="text" value="HVAC Data"/>
Sites	<input type="text" value="Riptide Lab"/>
Equipment	<input type="text" value="AC-01"/>
Points	<input type="text" value="Space Temperature, +1 more"/>
Dates	<input type="text" value="Today"/>

2

Reporting

Overview Builder

Shawn Leimbrock
supervisor, admin

Add New +

Search Overview

LBRANDS

Map Test

RIPTIDE

Riptide HVAC Report

RiptideLab Weather Report

UNDEFINED

New report

Training Report

RiptideTraining

Save Build Cancel

Customer RiptideTraining

Name Training Report

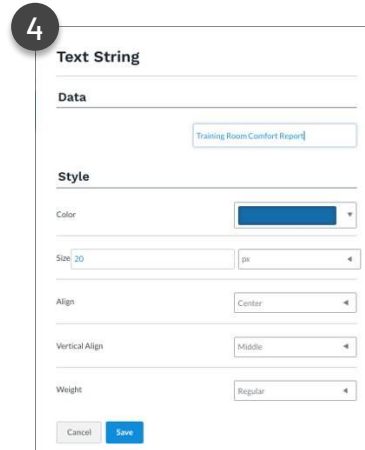
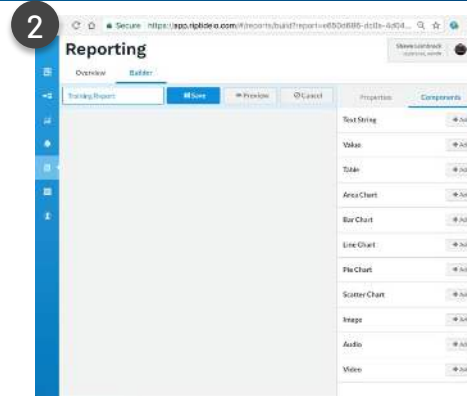
Datasources

+ Add Datasource

Turntide Application Tools - Reporting

REPORTING - BUILDER

1. Login to app.turntide.com and select Reporting in the sidebar
2. Select the desired report from the list and click the Build button
3. Select the Components tab
4. Add the desired reporting components, configure and Save
 - Area Chart - add an area chart to a report
 - Audio - embed an audio file in a report
 - Bar Chart - add a bar chart to a report
 - Image - add an image to a report
 - Line Chart - add a line chart to a report
 - Pie Chart - add a pie chart to a report
 - Scatter Chart - add a scatter chart to a report
 - Table - add a table to a report
 - Text String - add a string of text to a report
 - Value - add a single point value to a report
 - Video - embed a video in a report
5. Click the Save in the header to finish



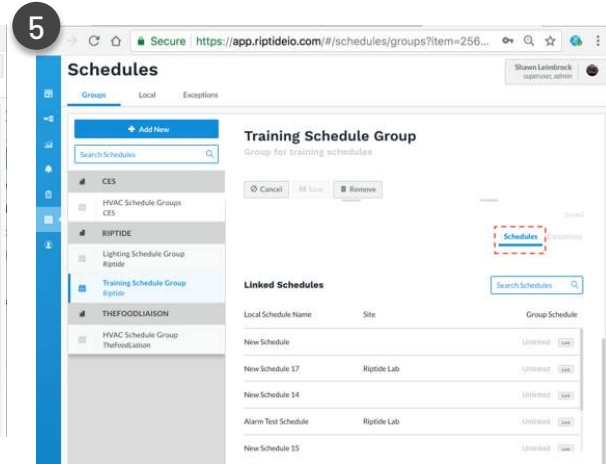
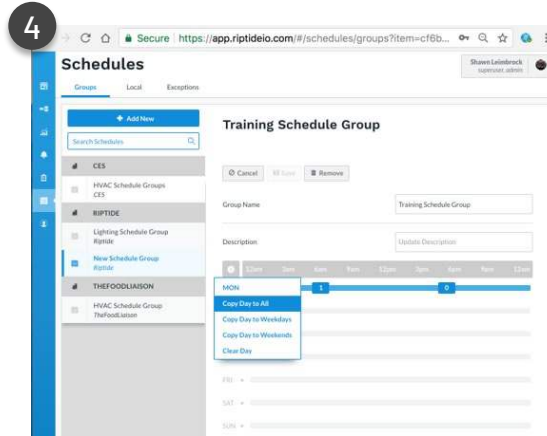
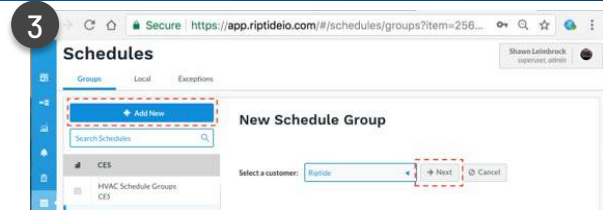
Operations and Maintenance Manual

Turntide Application Tools: Schedules

Turntide Application Tools - Schedules

SCHEDULES - GLOBAL

1. Login to app.turntide.com and select Schedules in the sidebar
 2. Click the Global tab and click the Add New button
 3. Select the customer and click the Next button
 4. Configure the schedule group options and add events
 5. Click the Link/Unlink button to associate a local schedule
 6. Click the Save button to finish
- Note: Group schedules allow you to write to the event times of 1 or more local schedules which in turn are evaluated in the local hub.

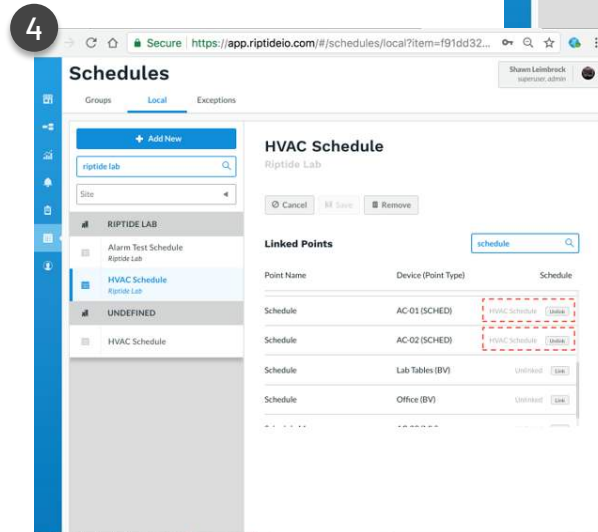
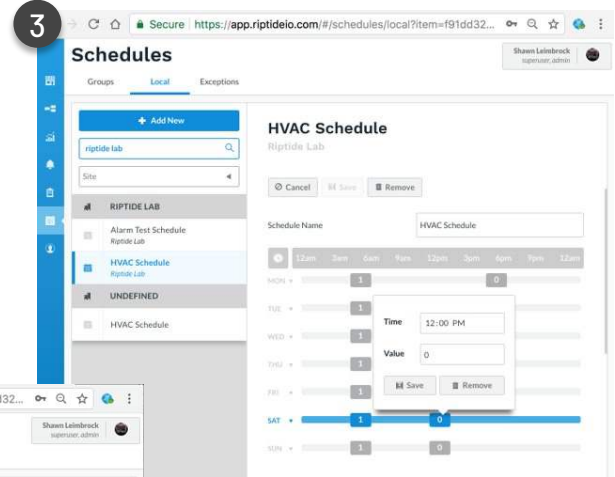


Turntide Application Tools - Schedules

SCHEDULES - LOCAL

1. Login to app.turntide.com and select Schedules in the sidebar
2. Click the Local tab and select the Schedule for your site
3. Click on an event to edit the time or output value
4. Click the Link or Unlink button next to a point name to control or release the point from the schedule

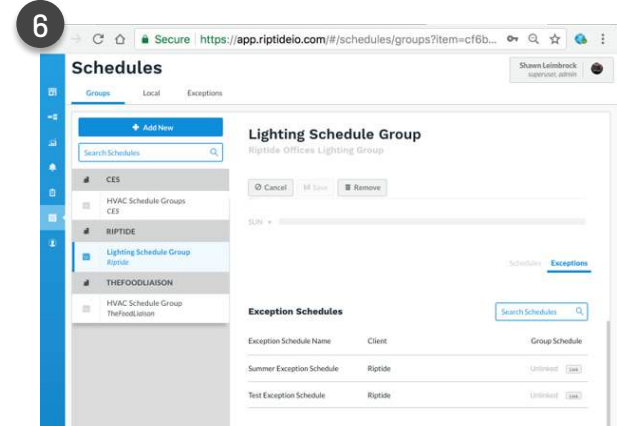
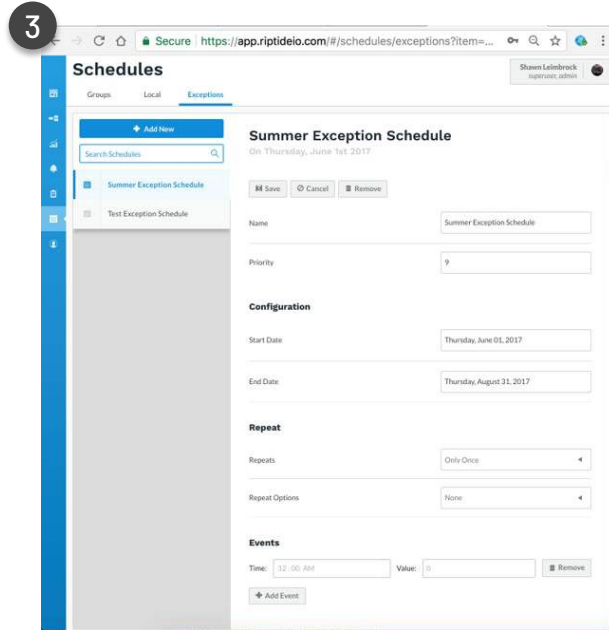
Note: Local schedules are associated with a single site and override one or more points. Local schedules can be created, updated and removed in the cloud but the execution of the schedule occurs in the hub.



Turntide Application Tools - Schedules

SCHEDULES - EXCEPTIONS

1. Login to app.turntide.com and select Schedules in the sidebar
2. Click the Exceptions tab and click the Add New button
3. Configure the exception schedule options as required
4. Click the Save button to finish
5. Select the Groups tab and select the schedule group to override
6. Scroll down and select the Exceptions tab
7. Click the Link/Unlink button to associate an exception schedule



Operations and Maintenance Manual

Turntide Application Tools: Users

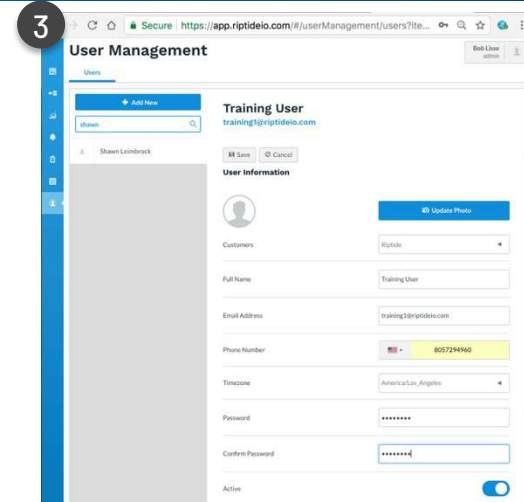
Turntide Application Tools - Users

USERS

1. Login to app.turntide.com and select Users in the sidebar
2. Click the Add New button and configure the required options
3. Click the Save button to finish. The new user will be added with the operator role
4. To change the users role select Edit next to the desired customer and select the desired role

USER ROLES

Administrator	<input checked="" type="checkbox"/> Read	<input checked="" type="checkbox"/> Create	<input checked="" type="checkbox"/> Update	<input checked="" type="checkbox"/> Override	<input checked="" type="checkbox"/> Delete
Operator	<input checked="" type="checkbox"/> Read	<input checked="" type="checkbox"/> Create	<input checked="" type="checkbox"/> Update	<input checked="" type="checkbox"/> Override	<input checked="" type="checkbox"/> Delete
View-Only	<input checked="" type="checkbox"/> Read	<input checked="" type="checkbox"/> Create	<input checked="" type="checkbox"/> Update	<input checked="" type="checkbox"/> Override	<input checked="" type="checkbox"/> Delete



Operations and Maintenance Manual

Turntide Mobile App Overview

Turntide Mobile App Overview

THE LOGIN PAGE

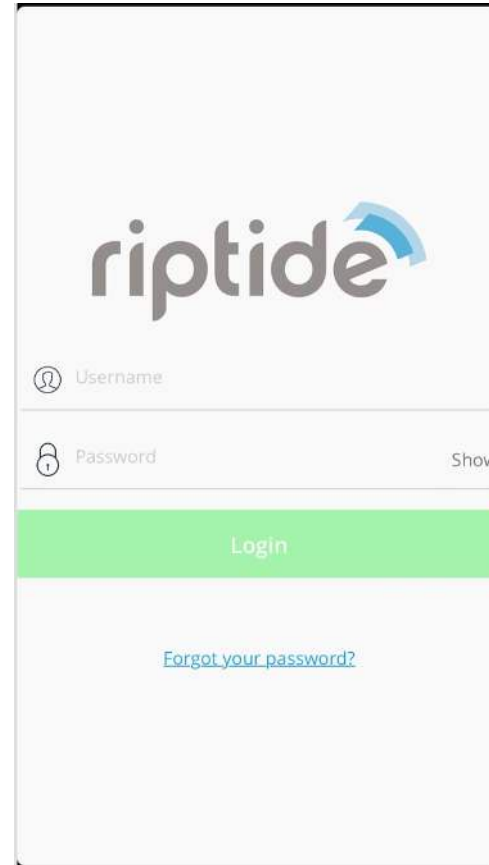
1. Download and install the Turntide application

- https://play.google.com/store/apps/details?id=com.turntide.bma&hl=en_US&gl=US
- <https://apps.apple.com/us/app/turntide/id1579562775>

2. Launch the app and enter your Email

Address and Password

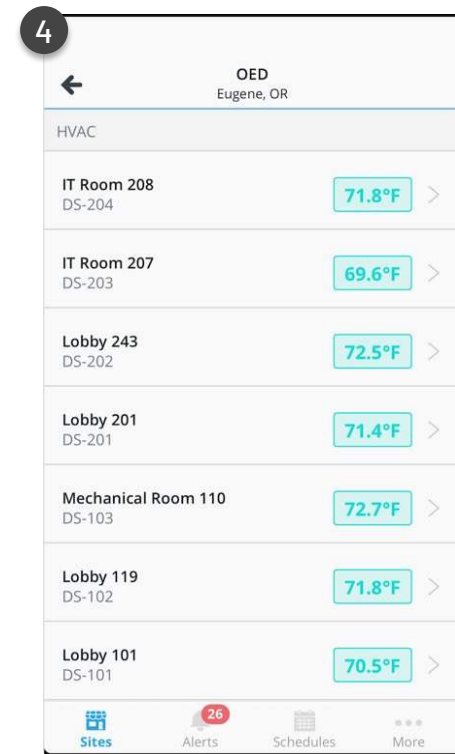
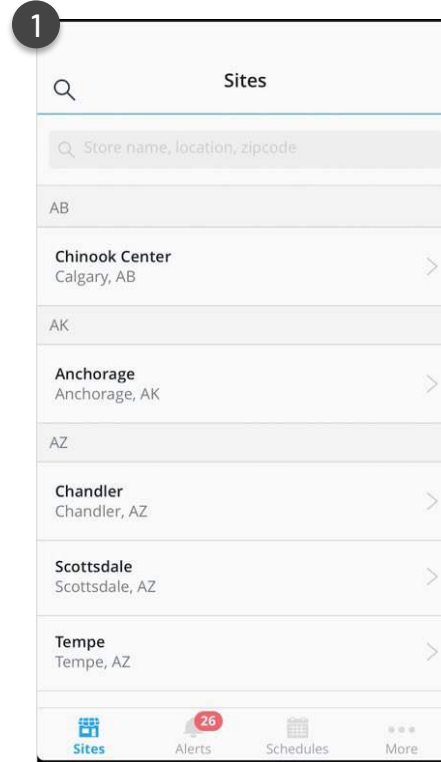
3. Click the Login button to login



Turntide Mobile App Overview

NAVIGATION

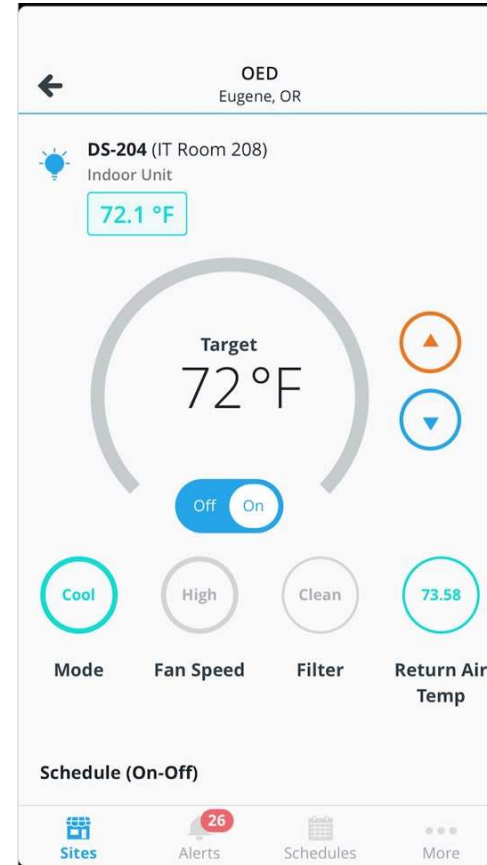
1. Select your site from the list of available sites
2. Press the search icon to enter a specific site name
3. Select the desired group
4. The Equipment overview screen will show the equipment name and current status
5. Select the desired equipment to view details



Turntide Mobile App Overview

NAVIGATION

1. For units that can be controlled a thermostat style graphic will be displayed
2. The current space temperature is displayed in the upper left hand corner
3. Press up/down arrows to adjust the target/setpoint temperature
4. Press the Off/On switch to toggle the unit Off/On
5. Press the Mode button to switch unit mode (Heat, Cool, Fan)
6. Press the fan button to change the fan speed (Low, High)
7. Scroll down to see unit schedule and full list of points

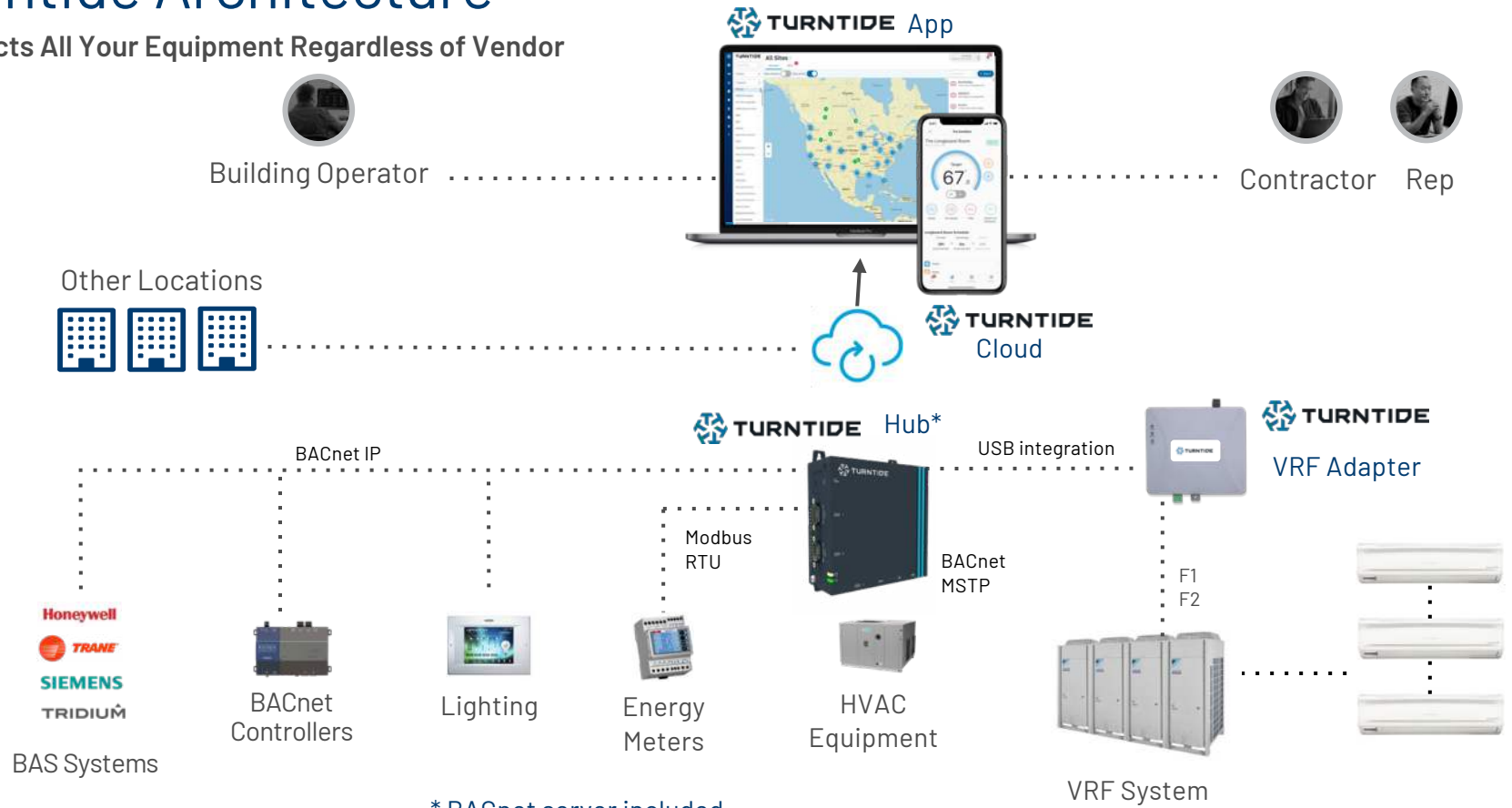


Operations and Maintenance Manual

Turntide Architecture

Turntide Architecture

Connects All Your Equipment Regardless of Vendor



Operations and Maintenance Manual

Turntide Hardware

Turntide Hub 6

Features & Specifications

PROTOCOLS SUPPORTED

- BACnet MSTP
- BACnet IP
- Daikin DIII-Net
- Lennox Sysbus
- Modbus RTU
- Trane Comm4
- Modbus TCP
- OpenADR
- NOAA Weather
- Generic REST
- iButton Link
- Green Button

POINT CAPACITY

- Manages ~5000 system points*
- *Capacity adjusts with BACnet Server

BACNET SERVICES

- BACnet Client
- BACnet Server
- BACnet Router
- BBMD

CORE HARDWARE SPECIFICATIONS

Item	Specification
Model	Advantech UNO-420
Dimensions	125mm x 125mm x 50 mm (4.9" x 4.9" x 2.0")
Form Factor	Fanless design, optimized for wall mounting
Weight	1.5 kg
Processor	Intel® Atom™ E815 1.46GHz
Operating System	Ubuntu Core 20 Linux OS
Memory	DDR3L type @ 1066 MHz: 2GB
Drive / Storage	32GB eMMC
I/O	LAN Ports: 2x GbE RJ-45 Ethernet (1x PoE) USB Port: 1x USB 3.0 Serial Ports: 2x RS-232 1x RS-485 RS485 Baud Rates: 9600, 19200, 38400, 57600, 115200 bps
Video	1x HDMI port
Power Input	Nominal input 10-30VDC 12W (Typical), 20W (Max)

ENVIRONMENTAL AND OTHER SPECIFICATIONS

Item	Specification
Storage Temperature	-40°C to 80°C
Operating Temperature with 0.7 m/s airflow	-20°C to 60°C @ ~85% RH
Relative Humidity	Operating: 10% @ 95% RH @ 40°C (non-condensing)
Vibration Protection	2 Grms, random, 5-500 Hz, 1 hr / axis
Shock Protection	50G, half sine, 11ms
EMC	CE, FCC, CB, UL, CCC
Ingress Protection	IIEC 60068
Security	Secure Boot, BIOS password, I/O port disablement
Warranty	2 year limited hardware warranty

Link to data sheet [here](#)



Turntide Hub (Legacy)

Feature	3000 Hub	5000 Hub
Systems	Ubuntu Core 16 & Riptide Edge Software	Wind River Linux & Riptide Edge Software
I/O	1 x 10/100 Fast Ethernet(RJ-45) with PoE USB: 1x USB 2, 1x USB3	Dual Independent Gigabit Ethernet (RJ-45) USB: 2 x USB2, 1 x USB3
	Serial Interfaces: 2 x RS-232/422/485	Serial Interfaces: 1 x RS-232, 2 x RS-485. 1 x RS-422/485.
	Optional ZigBee module	Optional modular I/O expansion interface 802.11n Wi +Bluetooth Low Energy; WWAN (3G or LTE).
	Integrated MEMS: Accelerometer, Pressure, Temperature and Humidity	Optional wireless mesh modules: IEEE 802.15.4 ZigBee
Memory	2 GB, DDR3L- 1066 MH	2G (4x256Mx16DDR33L) 1067 MHz
Processing	Intel Atom E3805 1.33 GHz / 1 MB	Intel Atom E3825 1.33 GHz + 2GB DDR3L-1067MHz

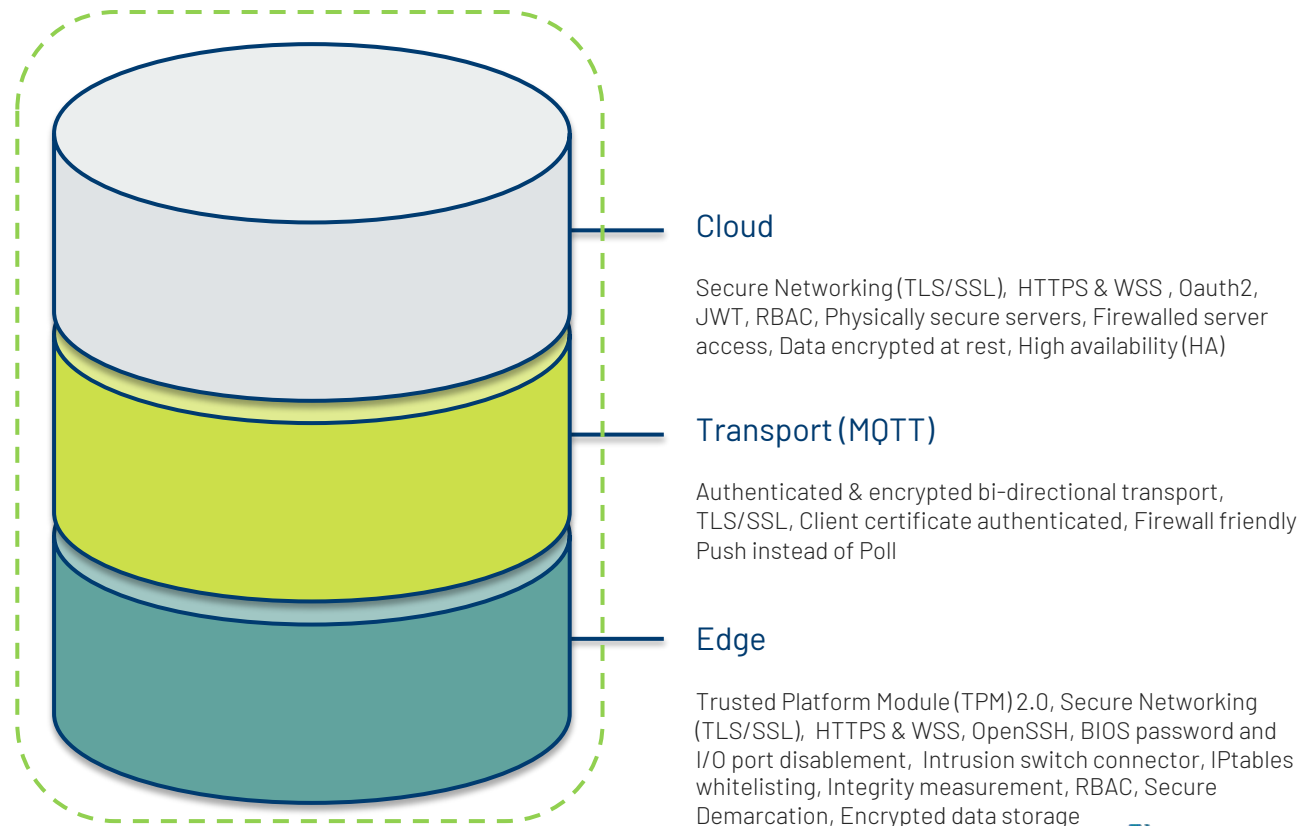


Operations and Maintenance Manual

Turntide Security

Security You Can Trust

END-TO-END SECURITY



Questions?

Support@turntide.com