USER GUIDE

MAN0142 rev 11

ABB eXplore Touchscreen

Style conventions used in this document:

UI Text: Text that represents elements of the UI such as button names, menu options etc. is presented with a grey background and border, in Tahoma font which is traditionally used in Windows UIs. For example:

`Ok`

Standard Terms (Jargon): Text that is not English Language but instead refers to industry standard concepts such as Strategy, BACnet, or Analog Input is represents in slightly condensed font. For example:

BACnet

Code: Text that represents File paths, Code snippets or text file configuration settings is presented in fixed-width font, with a grey background and border. For example:

```
$config_file = c:\CYLON\settings\config.txt
```

Parameter values: Text that represents values to be entered into UI fields or displayed in dialogs is represented in fixed-width font with a shaded background. For example

`10°C`

Product Names: Text that represents a product name is represented in bold colored text. For example

INTEGRA™

Company Brand names: Brands that are not product names are represented by bold slightly compressed text:

ABB Active Energy

PC Keyboard keys: Text representing an instruction to press a particular key on the keyboard is enclosed in square brackets and in bold font. For example:

[Ctrl]+[1]

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1 Overview

The Cylon eXplore is a standalone, easily customizable, menu-driven touchscreen front end for Cylon's Building Energy Management System (BEMS). eXplore is suitable for supervision of small sites where:

a) no PC is available to run Supervisor software and
b) a more attractive display than a text keypad is required.

eXplore has a color touchscreen and graphical presentation that is suitable for front-office end user applications.

It can be panel-mounted for local supervision (e.g. plant room), or can be wall mounted (e.g. front office, reception, boardroom etc.).

A key feature of the Cylon eXplore over Cylon's text keypads is its ability to display datalogs graphically.

User-friendly and attractive interfaces are provided for adjusting time schedules and setpoints.

```
CYBERSECURITY DISCLAIMER:
This product is designed to be connected to and to communicate information and data via a network interface. It is your sole responsibility to provide and continuously ensure a secure connection between the product and your network or any other network (as the case may be). You shall establish and maintain any appropriate measures (such as but not limited to the installation of firewalls, secure VPNs, application of authentication measures, encryption of data, installation of anti-virus programs, etc.) to protect the product, the network, its system and the interface against any kind of security breaches, unauthorized access, interference, intrusion, leakage and/or theft of data or information. ABB Ltd and its affiliates are not liable for damages and/or losses related to such security breaches, any unauthorized access, interference, intrusion, leakage and/or theft of data or information.
```

SITEGUIDE / ASPECT WITH eXplore

The eXplore touchscreen can be used with both the SiteGuide menu-driven interface or the ASPECT® interface.

SITEGUIDE

The SiteGuide interface is based on a menu structure (created for each BMS Site by the System Integrator). This menu structure is very flexible, allowing the System Integrator to create building-specific interfaces that are intuitive to the end user. The menu structure is engineered using the CXpro^{HD} Keypad Builder Interface for rapid development.

The menu structure is downloaded to the target CBXi-8R8(-H) IP Controller or UC32.netK Communications Controller by the CXpro^{HD} Keypad Builder Interface (new version required). Once the SiteGuide application on the eXplore touchscreen is configured with that Controller as its target, it will automatically read the menu structure from the Controller and display it.

To configure the eXplore unit for use with the SiteGuide program in a CB or Unitron controller SiteGuide system, you must have a CBXi-8R8(-H) or UC32.netK Communications Controller with firmware that supports the SiteGuide V2.2 (i.e. version `2.03.01` or later).

To configure the eXplore unit for use as a SiteGuide, set the Target IP address (as described in in *4] Specify* the Target Controller on page 14) to point at a CBXi-8R8(-H) or UC32.netK that hosts a SiteGuide program.

For information on using the SiteGuide UI, see *3 The SiteGuide Interface* on page 16

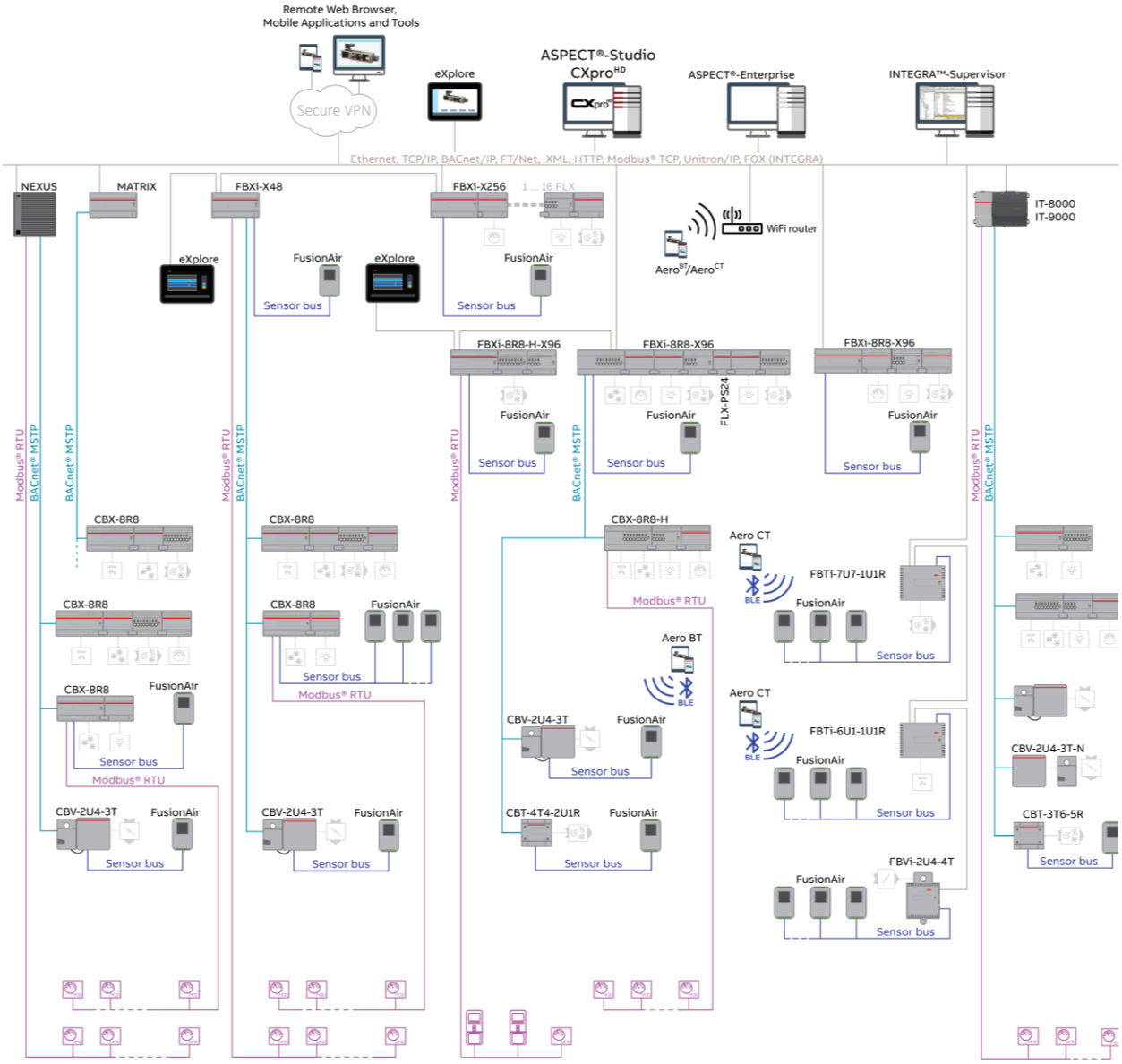
ASPECT HTML5

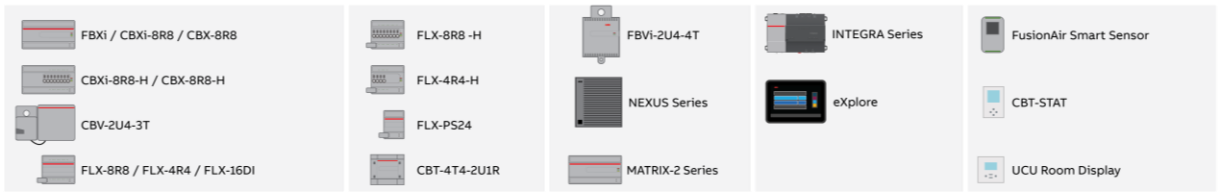
If eXplore is configured to target a Nexus Series or other ASPECT Control Engine (ACE) then it can display any page within the ACE's configured HTML5 UI. It is best to bear the touchscreen size in mind when designing an ASPECT UI for eXplore.

To configure the eXplore unit for use as an ASPECT® supervisor, set the Target IP address (as described in *4] Specify* the Target Controller on page 14) to point at an ACE.

The ASPECT® HTML5 interface is generated by ASPECT®-Studio, for details on how to use the UI See Cylon Manual *MAN0129 ASPECT-Studio help* for full details.

eXplore IN THE ABB CYLON SYSTEM





2 Commissioning the eXplore

INSTALLING THE eXplore UNIT

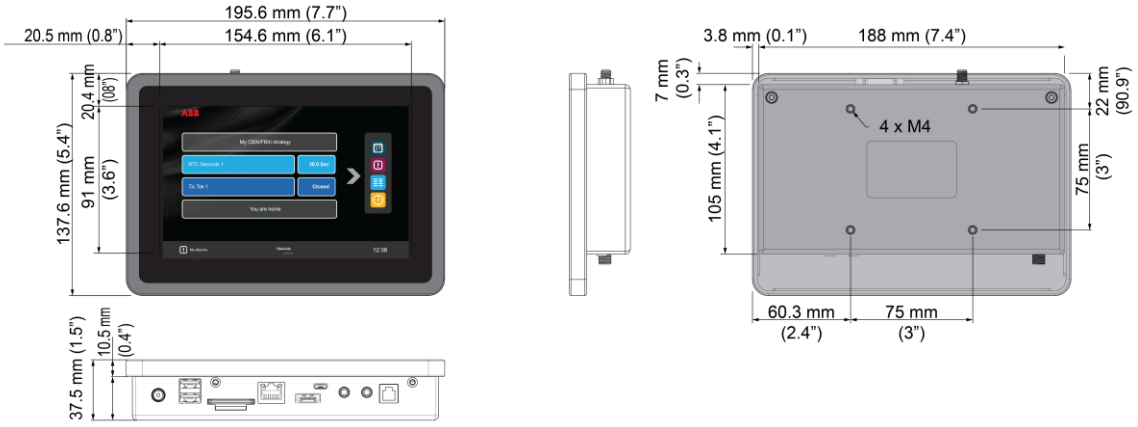
Included in the packing box:

- Either **eXplore-C7** or **eXplore-C10**
- Mains power supply (USA, Europe, UK/Ireland)
- Mounting bracket kit for panel installation
- 4 x **VESA 75 mm** mounting screws
- Wi-Fi antenna

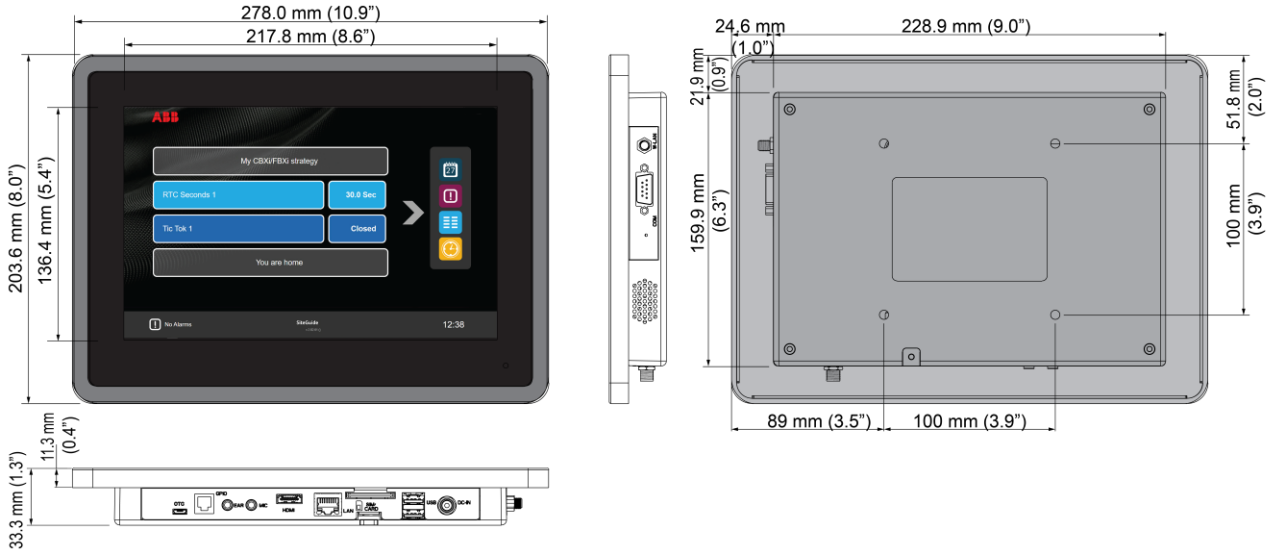
The **eXplore** Unit can be panel mounted, or surface-mounted on a wall.

DIMENSIONS

eXplore-C7

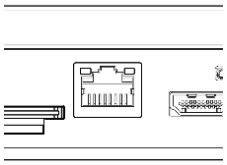


eXplore-C10

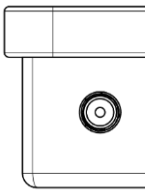


ELECTRICAL CONNECTIONS

The eXplore device requires the following electrical connections:



LAN (Ethernet) Port



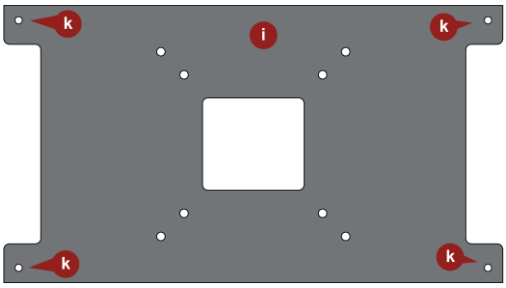
Power input (12 Vdc 2 A)

Note: Network connection can be via WiFi instead of Ethernet if required

MOUNTING OPTIONS

Panel Mounting

A Panel Mounting plate and 4 fixing screws are included as standard in the eXplore kit.

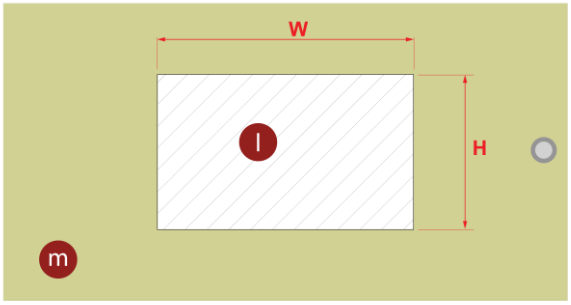


i	Panel Mounting plate
k	M4 screws

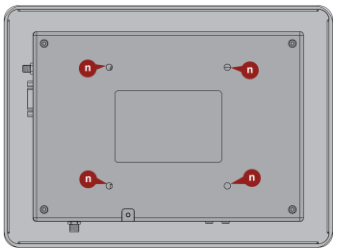
Mounting procedure

Cut a rectangular hole in the panel / cabinet door as follows:

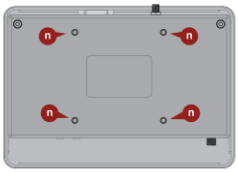
Model	W	H
eXplore-C10	240 mm	170 mm
eXplore-C7	190 mm	115 mm



l	Hole to be cut out
m	Panel door



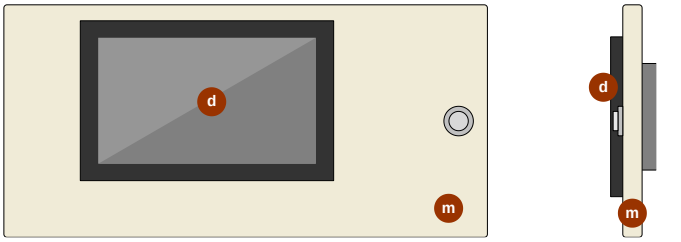
eXplore-C10



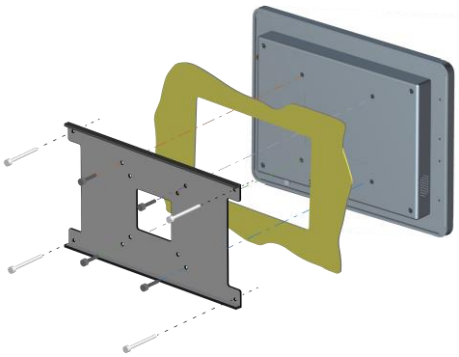
eXplore-C7

n	4 x VESA 75 (sXplore-C7) or VESA 100 (eXplore-C10) screw holes (4 x M4 screws included in packaging)

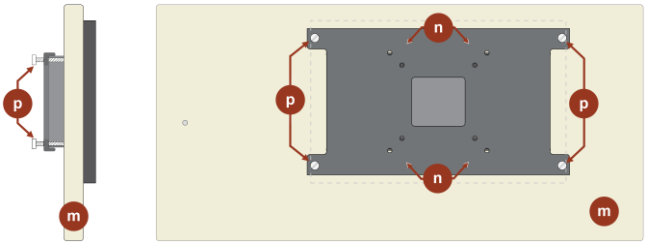
Mount the **eXplore** device so that its front side is against the front of the panel door, and the body is passing through the hole cut in the door.



d	eXplore
m	Panel door

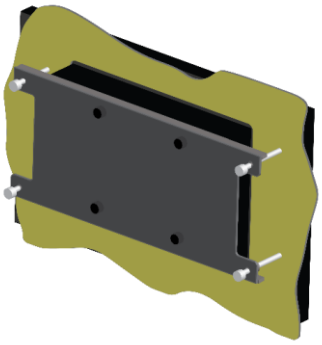


Place the back plate against the back of the **eXplore** unit and re-insert the 4 x VESA screws.



n	4 x VESA screws (included in packaging)
p	M4 clamping screws

Tighten the M4 clamping screws **P** on the bracket to apply appropriate pressure to secure the device against the panel door.



Wire up Power and Ethernet connections.

VESA wall mounting/ panel surface mounting

The **eXplore-C7** / **eXplore-C10** housings are standard VESA 100 mm compliant.

VESA 75mm mounting brackets can be used for surface mounting (not supplied).

Only use the supplied 4 x screws for attaching a VESA 75 mm bracket.

Note: Additional holes will be required for Ethernet and 12 V DC power cabling.

CONFIGURATION PROCEDURE

To configure the **eXplore** unit for use as an **ASPECT®** supervisor, set the Target IP address (as described in in *4] Specify the Target Controller* on page 14) to point at an ASPECT® Control Engine.

To configure the **eXplore** unit for use with the **SiteGuide** program in a **CB** or **Unitron** controller **SiteGuide** system, you must have a **CBXi-8R8(-H)** or **UC32.netK** Communications Controller.

1] POWER UP THE EXPLORE UNIT

Apply power to the **eXplore** device

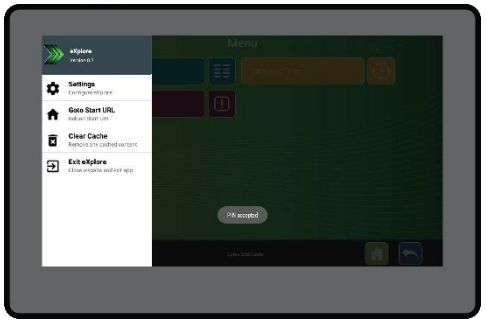
- If the **Target Controller** has been configured with a **Keypad Program**, the after a minute or so the **SiteGuide** UI or **ASPECT® UI** (whichever is supported by the **Target Controller**) will be displayed.
- If the **eXplore** cannot connect to a Target Controller then an error will be displayed. You can resolve this by setting the Target – and **eXplore**'s own IP address - in the **eXplore** configuration application.

2] ACCESS THE EXPLORE CONFIGURATION APPLICATION

To enter the configuration application, swipe from the left of the screen,

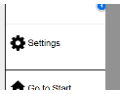
and enter the security PIN. The factory default value for this PIN is `29566285` ("cylonctl").

If the PIN is correctly entered, the **eXplore** app will display a "PIN Correct" message, and the main Settings menu.

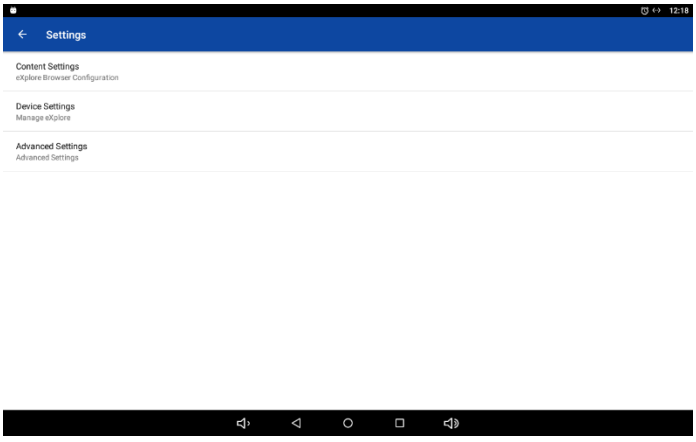


3] CONFIGURE NETWORK SETTINGS FOR THE EXPLORE DEVICE:

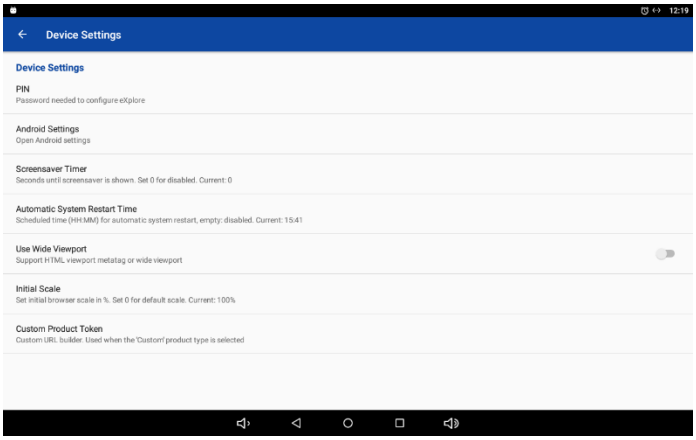
If necessary the IP address can be set as follows:

1. Select Settings 

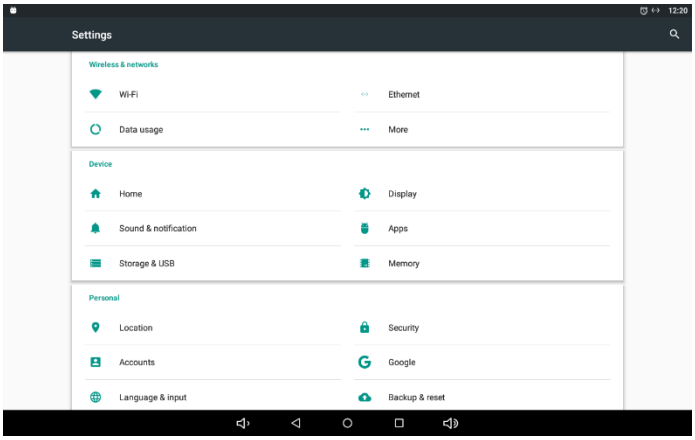
from the main menu. This will open the Settings page:



2. Select Device Settings from the menu to open the Device Settings Screen:

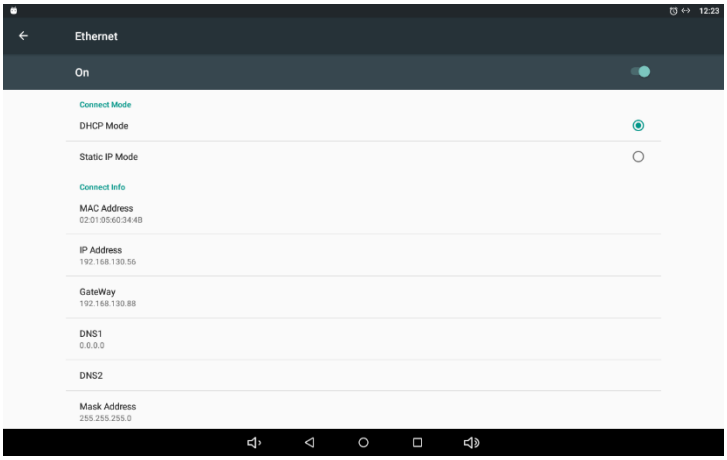


3. Select Android Settings to open the Android Settings screen.

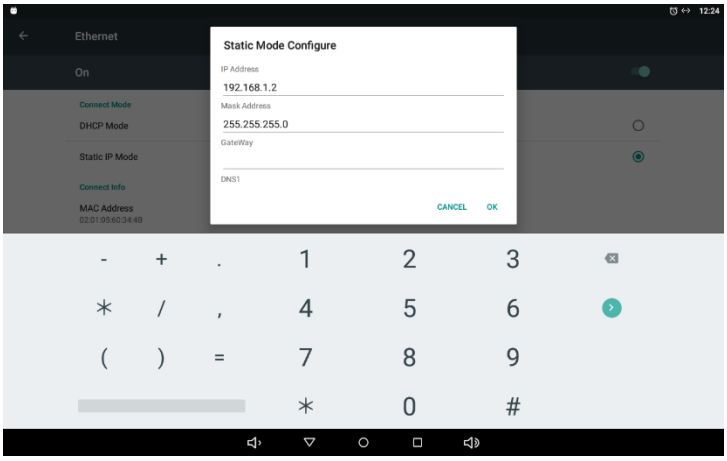


Wired Ethernet connection

4. If the eXplore unit is to be connected to the network by wired Ethernet, select Ethernet from the Android Settings page to display the Ethernet page:



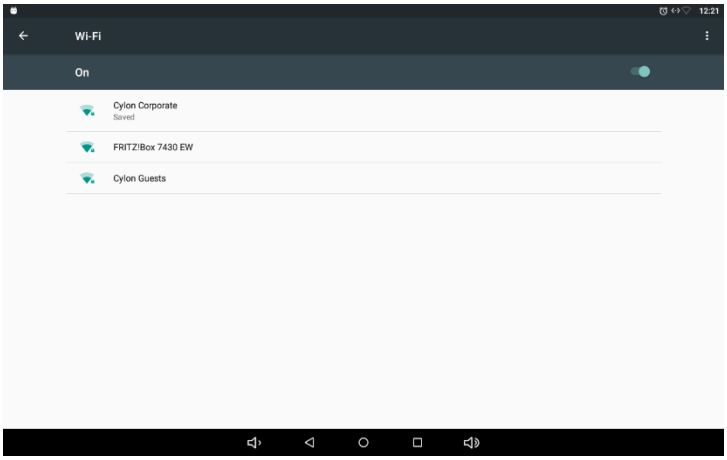
5. Select Static IP Mode



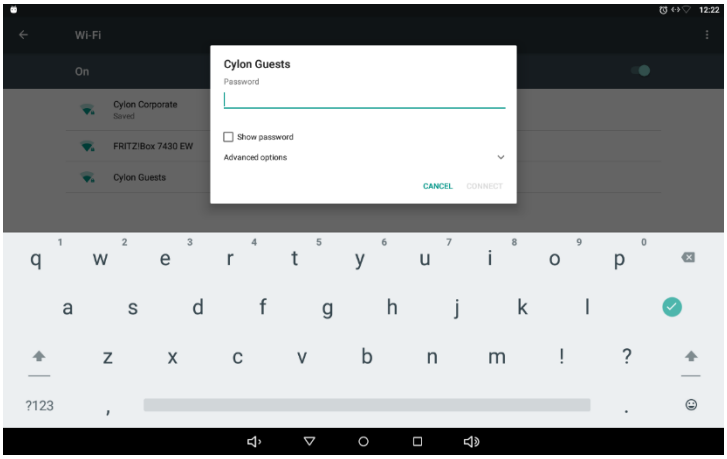
6. And set the IP Address and Mask, and the Gateway if required. Click OK to save.
7. Use the “back” button ◁ at the bottom of the screen several times to return to the eXplore Configuration application (Settings Page).
8. Use the “back” button ◁ at the bottom of the screen several times to return to the eXplore Configuration application (Settings Page).

Wireless Ethernet (Wifi) connection

9. If the eXplore unit is to be connected to the network by wireless Ethernet, select WiFi from the Android Settings page to open the Wifi Page:

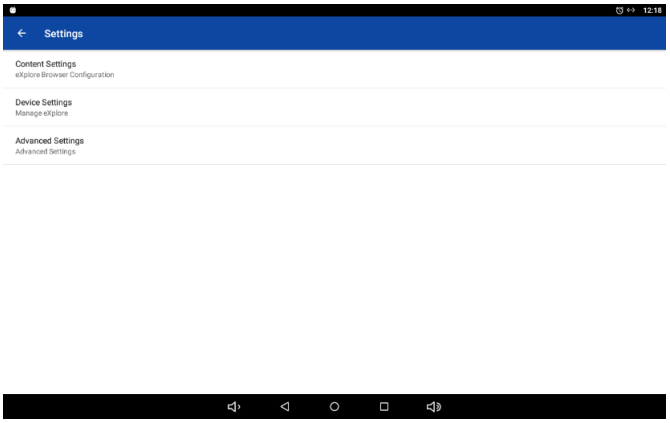


10. Select the network to which you wish to connect, and enter the relevant password:



11. Click Connect to connect to the wireless network

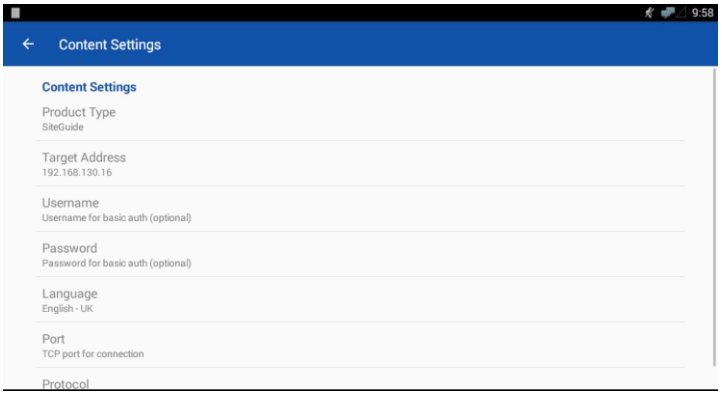
12. Use the “back” button ◁ at the bottom of the screen several times to return to the eXplore Configuration application (Settings Page).



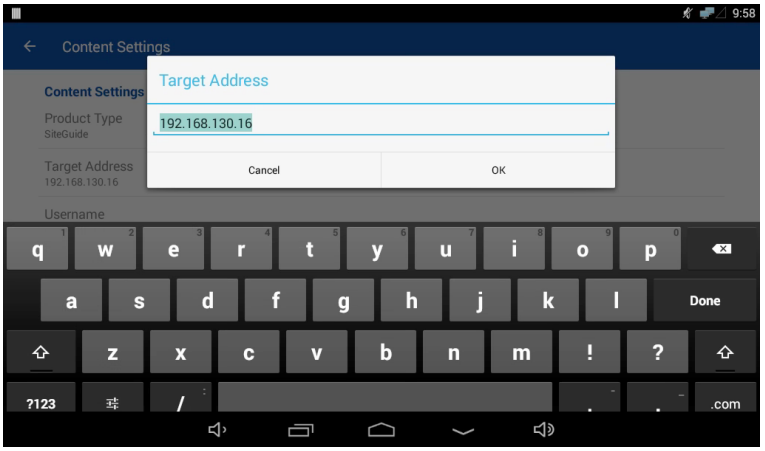
4] SPECIFY THE TARGET CONTROLLER

1. Select `Settings` from the main menu. This will open the `Settings` page:

2. Select `Content Settings` to open the `Content Settings` page



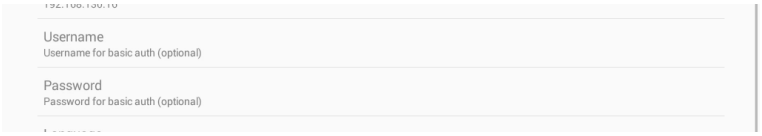
3. Select `Product type` and set either `SiteGuide` or `ASPECT` (defaults to `SiteGuide`).
4. Then select `Target Address`. This opens a dialog where you can enter the IP address of the Target Controller.



Click `OK` to return to the `Content Setting` page

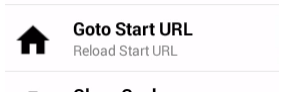
5. Select `Port`, and set to the port used by the Target Controller e.g. `80` (SiteGuide default), or `7226` (ASPECT® default)

6. Set the User Name and Password for the Target Controller in the same way (defaults to SiteGuide values – sg/sg)



Note: The language setting is used to localize inbuilt strings in the **SiteGuide** UI, but strings that are configured in the **CXpro^{HD} Keypad Builder** and stored in the keypad file (".kpml" file) will be displayed as configured.

7. When finished, use the back button ← at the top left of the screen to return to the eXplore configuration application.
8. Select Go to Start URL to open the configured UI in the target Controller.



Note: For a **SiteGuide** host, this assumes that a keypad program has been downloaded to the **SiteGuide** host Controller from the **CXpro^{HD} keypad builder**. If not, the Go to Start button will not open the UI.

Note:

For details on how to use the **ASPECT®** UI see Cylon Manual *MAN0129 ASPECT-Studio help*.
For information on using the **SiteGuide** UI, see *3 The SiteGuide Interface* on page 16.

ADVANCED SETTINGS

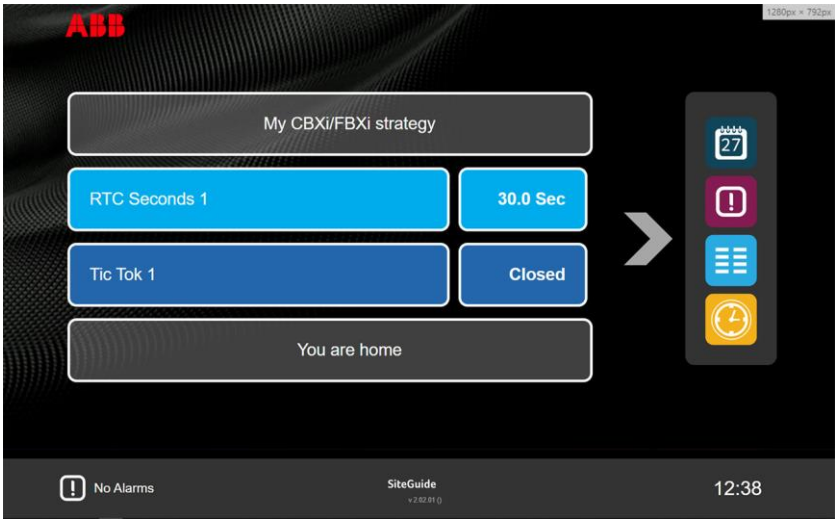
If you contact Cylon TSG for a specific issue, you may be asked to access the Advanced Settings menu. Cylon TSG will be able to determine the PIN for this option on your **eXplore** device if required.

3 The SiteGuide Interface

The **SiteGuide** interface consists of a number of standard screens as described below, which display elements of a Cylon BMS Site as configured in the **CXpro^{HD} Keypad Builder interface.** see Cylon manual *MAN0138US CXproHD Keypad Builder* for details.

DEFAULT SCREEN

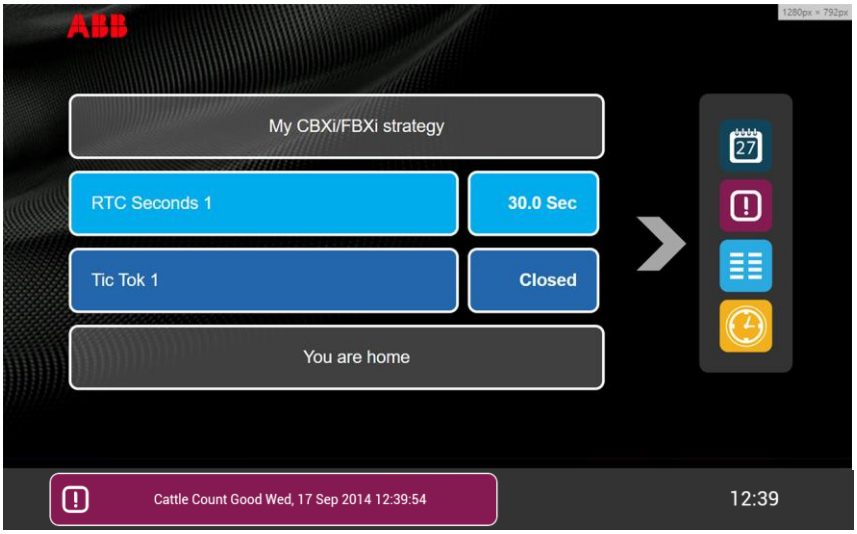
The Default Screen is the screen that is displayed while the **SiteGuide** menu structure is not being used. It displays up to 4 lines of text - either point values or arbitrary text strings.



The current Controller time is displayed at the bottom right-hand corner of the Default screen. This is read from the Target **UC32.netK**.

In addition there is an alarm display area showing the most recently-triggered active alarm (if alarm list has been added to the menu in **Keypad Builder**)

If alarms are active then the most recent one is shown at the bottom of the Default Screen,



and touching this bar opens the Alarms List (see *Alarm Screen* on page 22).Touching anywhere else on the default screen opens the Menu Screen for the root menu defined in the **CXpro^{HD} Keypad Builder**.

MENU SCREEN

Menus defined in the Keypad builder are displayed in the SiteGuide as a 2-column list of text + icon

(

) items:

The icons are chosen depending on:

1. The type of item – Alarms, Date/Time and Schedule have fixed icons and colors
2. Keywords – if the menu description (defined in the Keypad builder) contains one of the terms in *Preconfigured Icon list* on page 29 then the associated icon will be displayed.
3. Position – If the menu item is not one of the recognized types, and does not contain a recognized term, then an icon will be assigned from the *Generic Icons* on page 28.

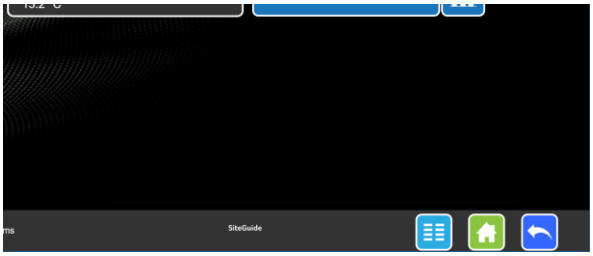
The color of each menu item is also assigned by position, unless it is one of the recognized types.

Touching on a Menu Item opens the associated menu or editor (in the case of recognized types).

Menu items that represent Points or Setpoints do not have an icon but instead display the point value. For setpoints and overridable hardware points, editing features are also displayed – see *Point Items* on page 20.

STANDARD NAVIGATION BUTTONS

At the bottom of most SiteGuide screens, there are 3 standard buttons:



These buttons have the same purpose in all screens:

Menu

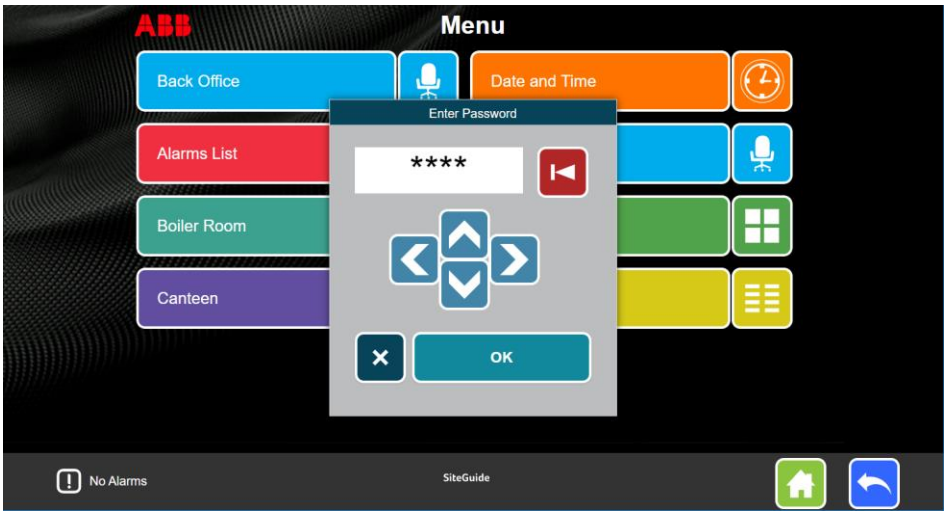
Home (default screen)

Back

PASSWORD PROTECTION

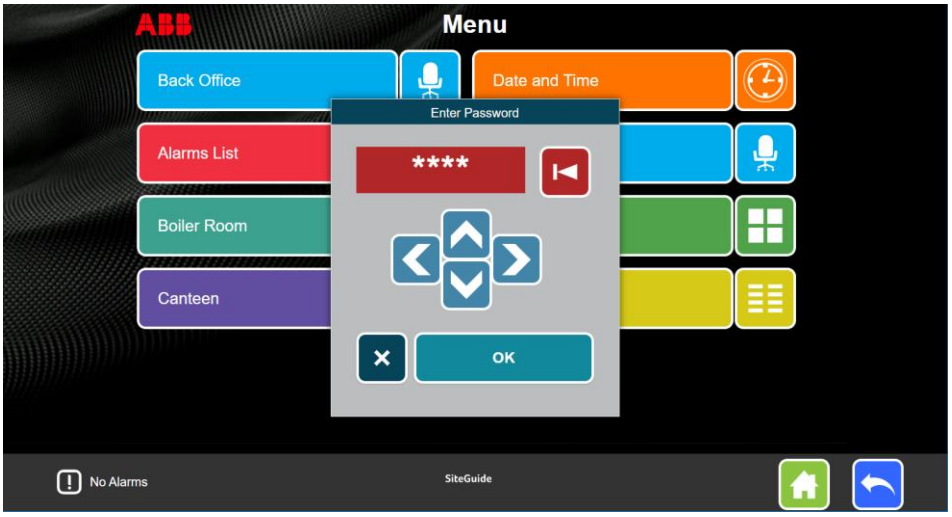
Any menu can be protected by a password of between 4 and 6 characters, preventing access to sections of the menu structure by unauthorized users. This is configured in the CXpro^{HD} Keypad builder – see *MAN-0138 CXpro^{HD} Keypad Builder* for details.

When a user tries to open a password protected menu, they will be presented with a screen allowing them to enter a combination of arrow symbols. This is to allow compatibility with existing UCKRA420 keypads.



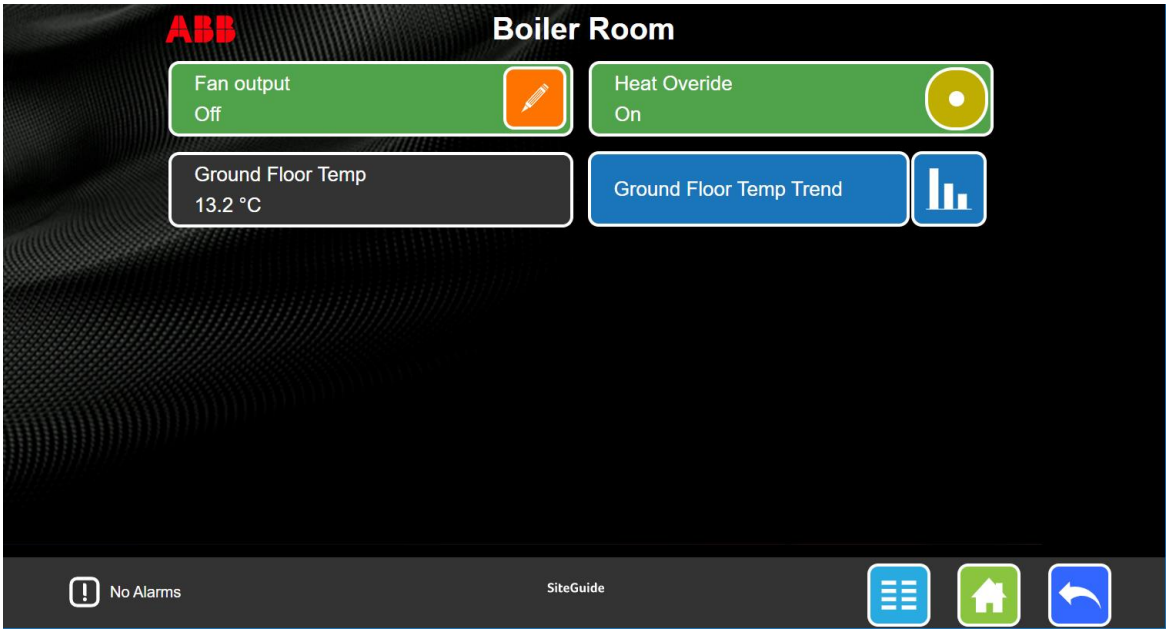
When the password is entered, press the OK button

- If the password is valid, the relevant menu will be displayed on the SiteGuide screen.
- If the password is invalid, then the password input changes color:



POINT ITEMS

The value for each point will be displayed along with the point name in the SiteGuide menu as shown here:



The SiteGuide menu allows the values of Setpoints to be adjusted directly, and Hardware points to be overridden (if configured to do so in the EC Keypad Builder):

SETPOINTS

Analog Values

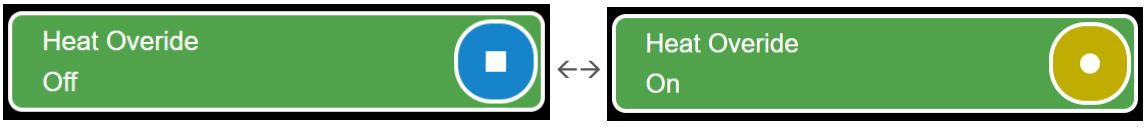
Setpoints

Analog setpoint values are adjusted by using the increment/decrement buttons in the menu item

Digital Values

Setpoints

Digital setpoint values are "toggled" by pressing the button in the menu item



HARDWARE POINTS

If override is not enabled for a hardware point, the value will be displayed but cannot be edited.

Analog

Digital

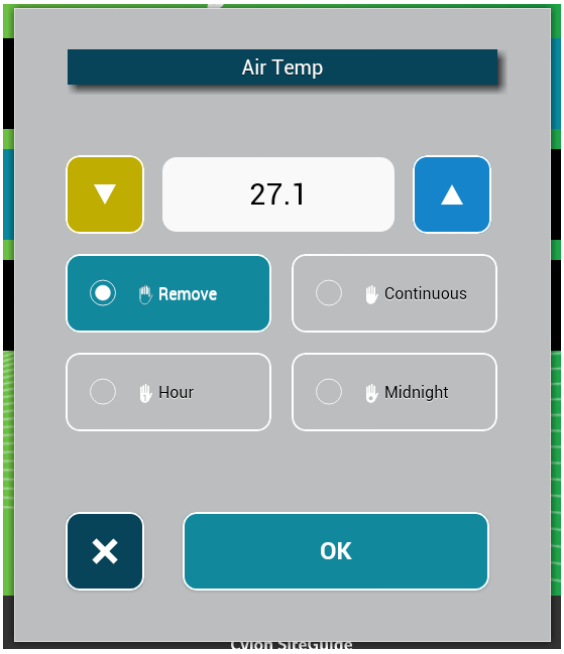
If override is enabled for a hardware point, an edit button will be displayed in its menu item, and an icon beside the value will indicate whether override is currently active or inactive:

Analog

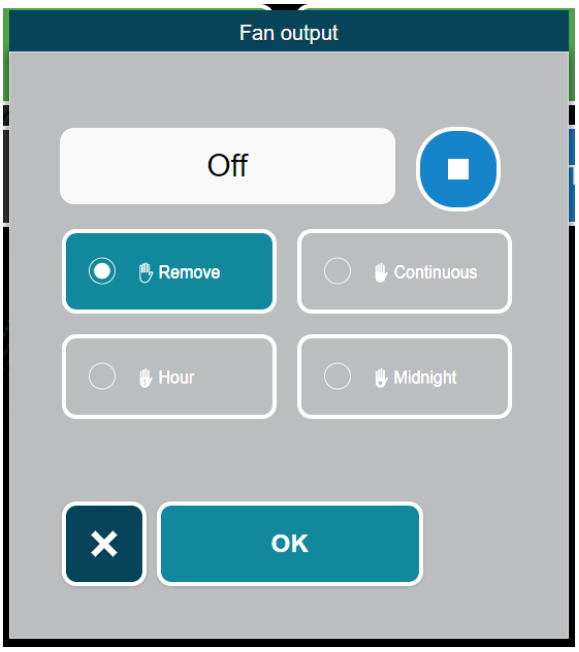
Digital

Touching the edit button will open the override editor:

Analog



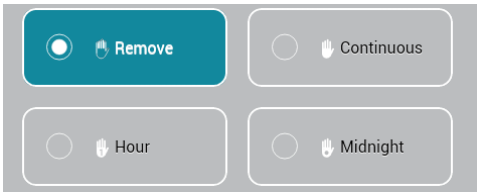
Digital



For Analog points, the override value can be set using the value spinner,

For Digital points the override value can be toggled by touching the toggle button,

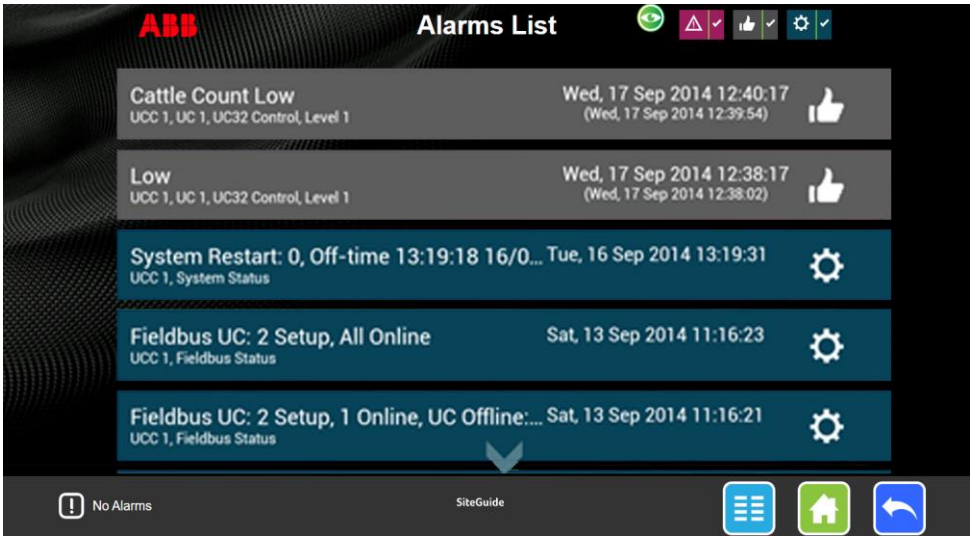
The duration of the override must be specified by selecting one of the 4 buttons



- **Remove** means that the override will not be applied, and the point value will be the value generated by the Strategy.
- **Continuous** means that the point value will remain at the specified override value indefinitely.
- **Hour** means that the point value will remain at the specified override value for a period of one hour, and then revert to the value generated by the Strategy.
- **Midnight** means that the point value will remain at the specified override value until the next midnight, when it will revert to the value generated by the Strategy.

ALARM SCREEN

The Alarm Screen (opened from a menu item or from the alarm display on the Default Screen) lists the current contents of the Comms Controller Alarms List.



You can scroll through all of the items in the list by “dragging” the screen.

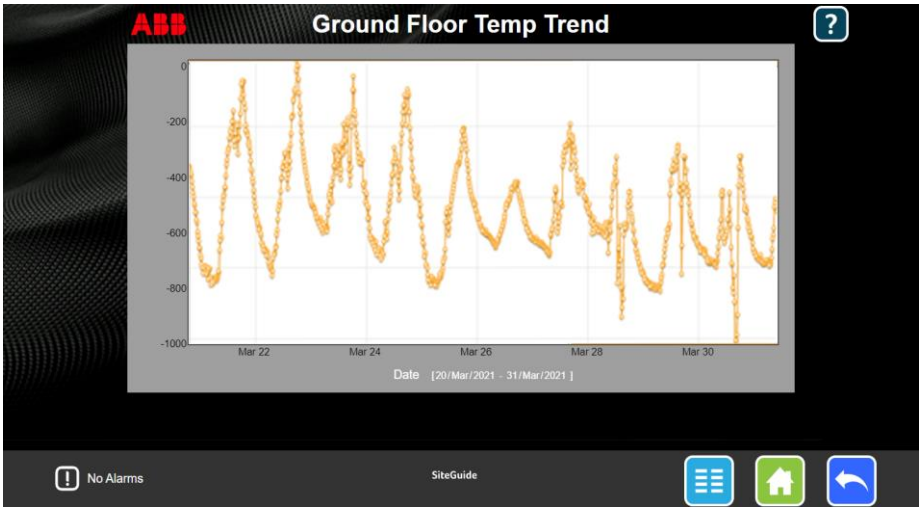
This display can be filtered to include any combination of Active Alarms, Inactive Alarms, or System Alarms by turning on or off the filter buttons on at the top of the screen.

If System Alarms are disabled in the keypad program, then System Alarms are not displayed in this list.

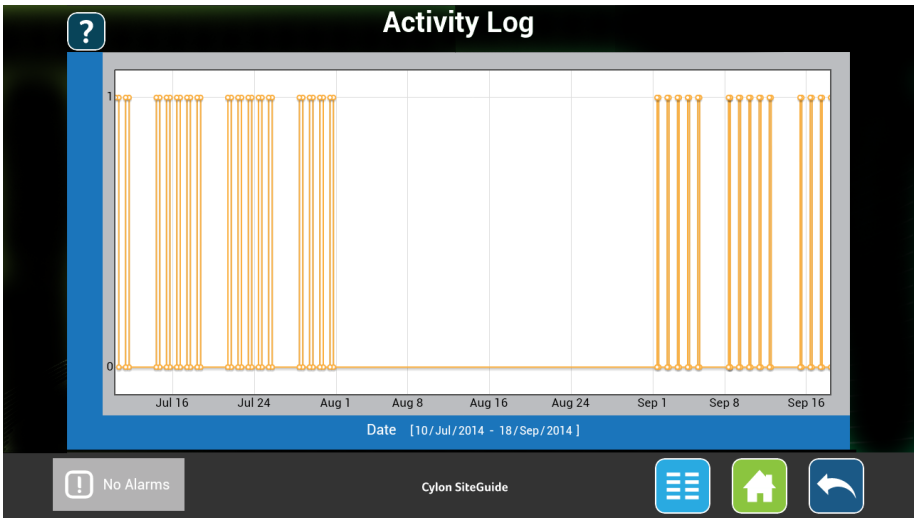
DATALOG SCREEN

The SiteGuide will display a datalog as a graphical trace:

e.g. Analog Datalog:



e.g. Digital datalog



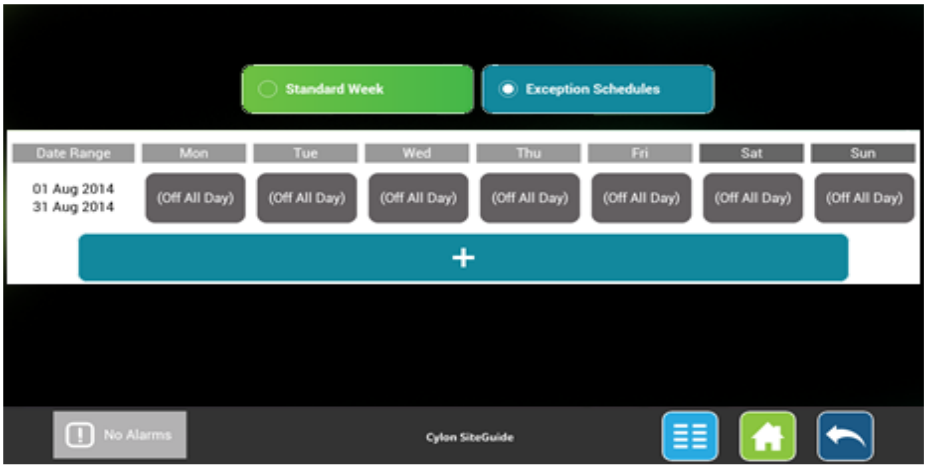
Note: Both triggered and interval-based time-stamped Datalogs are supported.

COMMS CONTROLLER SCHEDULE

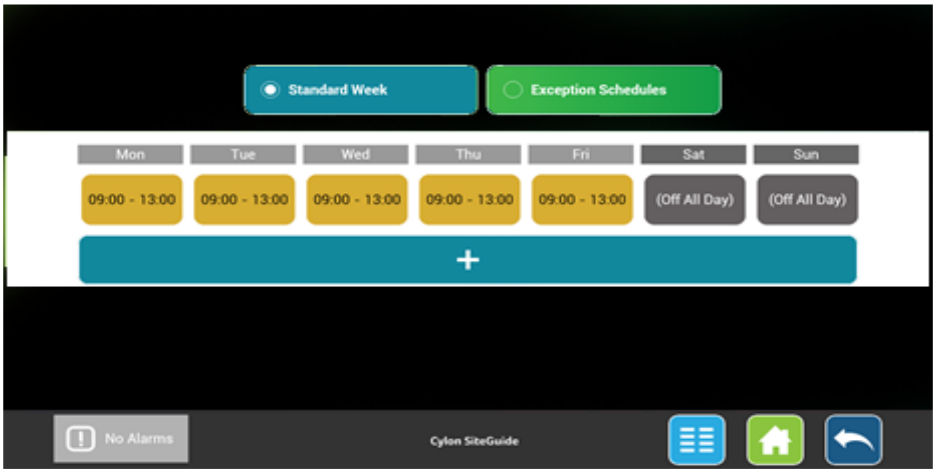
The Comms Controller Time Schedule screen (accessed from a menu item) shows the contents of the Comms Controller Schedule specified by the menu item.

A Comms Controller Time Schedule consists of the following elements:

1. **Exceptions**: Exceptions apply on a specific range of dates (e.g. holidays). Each weekday within an Exception can only have a single on/off time pair.



2. **The Standard Week**: The Standard Week on/off times apply on days where no Exception applies (typical day to day schedule). Each day of the Standard Week can have multiple on/off time pairs. The Standard week does not have a date range:



HOW TO OPEN A SCHEDULE FOR EDITING

Click on the menu item that refers to the schedule.

HOW TO VIEW STANDARD OR EXCEPTION TIMES FOR THE SELECTED SCHEDULE

To view the current schedule's Standard Week or Exceptions, click the relevant button at the top of the Schedule screen:

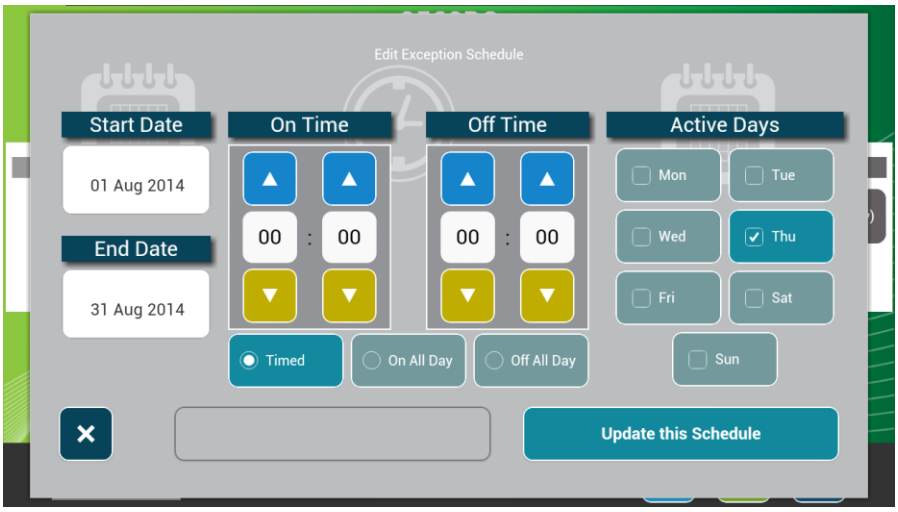
HOW TO EDIT ONE OR MORE ON/OFF TIME PAIRS

Touching an on/off pair in the Comms Schedule display - either on the Standard Week or the Exception List page – will open the on/off time pair editor

Standard Week

Exception

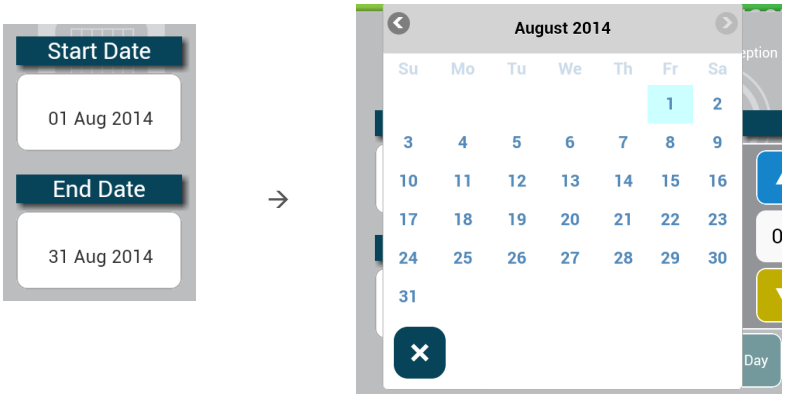
The Exception editor includes a date range section:



Date Range

On/off time pairs within a Standard Week do not have a Time Period associated with them.

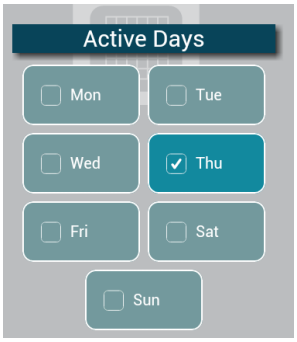
An exception must operate within a limited time period of one or more days. Separate date pickers are provided to specify the start and end of this period:



The End Date must not be before the Start Date.

Active Days

The times specified in this editor will apply only on weekdays selected in the Active Days picker:



If a date range applies (i.e. an Exception) and the range is less than a week, then only weekdays within that range can be selected

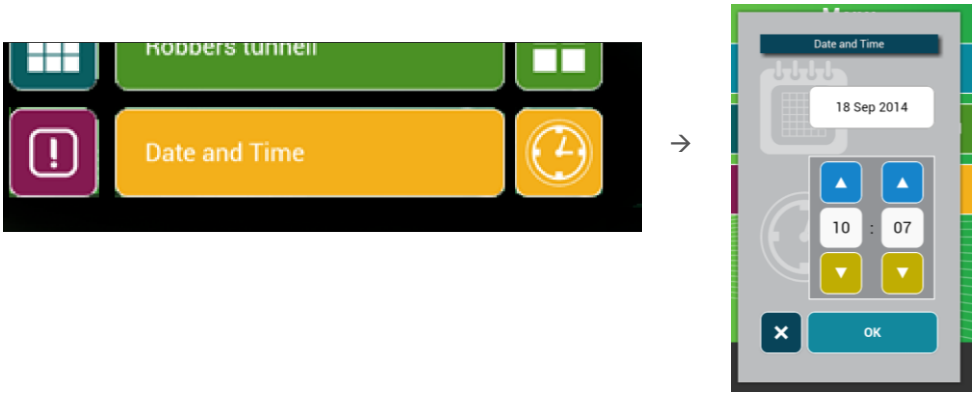
Schedule activity within a day

The active times for the schedule on the selected days can be specified in 3 ways:

- **On All day**: the schedule will be active from `00:00` to `24:00` on each of the specified days.
- **Off all day**: the schedule will be inactive from `00:00` to `24:00` on each of the specified days.
- **Timed**: the schedule will be active between the specified On Time and Off Time.
    - There are separate spinners for the hours and minutes of both the On Time and the Off Time.
    - The Off Time must not be earlier than the On Time.

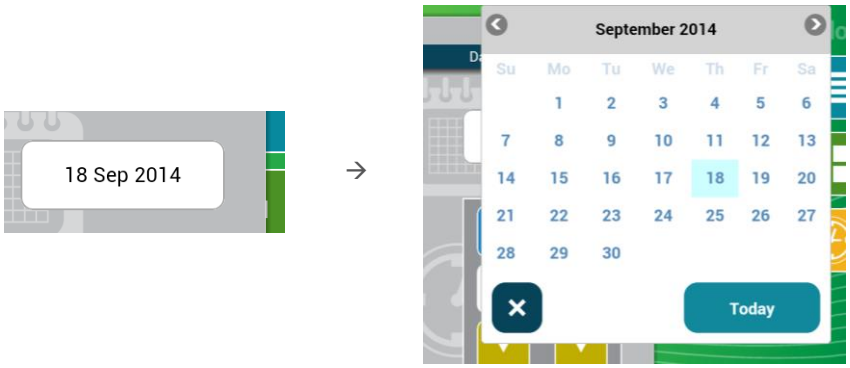
DATE&TIME

You can edit the Time and Date of the Comms Controller by clicking on the Date and Time item in the Main Menu, if it has been enabled in the keypad program:



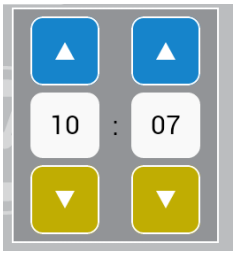
How to change the Controller date

Touch the date input to open a date picker



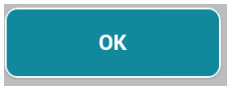
How to set the Controller time

There separate spinners for setting the Hour and the Minutes:



How to apply the selected time and date

To set the Controller's time and date to match the chosen values, touch the

OK button 

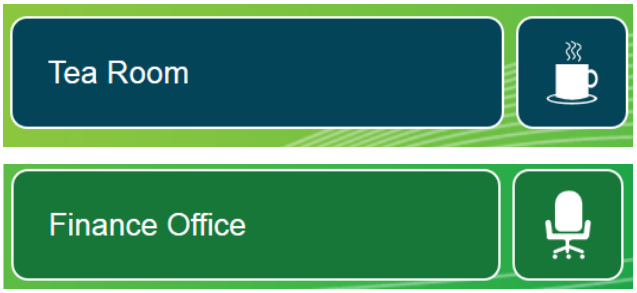
To leave the Controller's time and date unchanged, click the Cancel button 

SITEGUIDE MENU ICONS

MENU LAYOUT

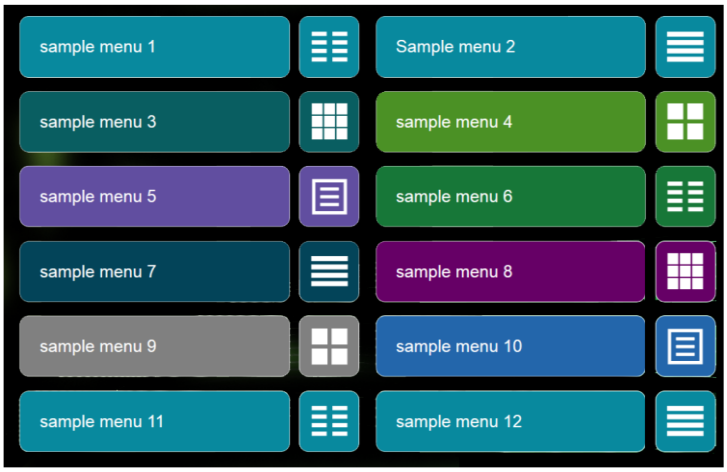
SiteGuide V2.2 displays each menu as a description block and an icon.

If the description contains a term that refers to one of the preconfigured icons recognized by SiteGuide V2.2 (see *Preconfigured Icon list* below), that icon will be displayed.



If not, the icon displayed will be selected in sequence from a number of generic icons (see *Generic Icons* below).

GENERIC ICONS



PRECONFIGURED ICON LIST

Here is a list of the terms that are recognized, and the icon that will be displayed for each:

1 cafe	2 tea	3 coffee	4 time schedule	5 schedule
6 outside temperature	7 temperature	8 datalog	9 kitchen	10 dining
11 lunch	12 office	13 meeting	14 classroom	15 boiler
16 plant	17 thermostat	18 AC control	19 Air Con	20 gas
21 water tap	22 electricity	23 weather	24 lights	25 lighting
26 fan	27 HVAC	28 ventilation	29 AHU	30 meter
31 energy	32 CO2	33 heat	34 cool	35 air quality
36 security	37 cctv	38 lux level	39 humidity	40 pump
41 toilet	42 bathroom	43 lift	44 window	45 blinds
46 lock	47 key	48 underfloor heating	49 solar panel	50 exterior lights
51 computer	52 alarm	53 fire alarm	54 hot water storage	55 pir
56 water	57 swimming	58 recycled water	59 waste	60 library
61 light switch	62 wall plug	63 socket	64 fridge freezer	

If a menu description contains more than one of the recognized terms, then the longest match will be used. For example “Site Office Temperature” will match “temperature”, but “Site Outside Temperature will match “outside temperature”.

Here are some illustrations of how this matching behaves with different mixes of recognized terms:

Menu Description text	Matched term	Icon
meeting office schedule	"schedule"	
meeting office temperature time schedule	"time schedule"	
meeting office temperature schedule	"temperature"	
meeting office outside temperature schedule	“outside temperature”	
meeting office outside temperature time schedule	“outside temperature”	
meeting time schedule office outside temperature	“outside temperature”	

4 ASPECT® HTML Interface

The **eXplore** unit can display an **ASPECT® HTML5** interface:

The **ASPECT® HTML5** interface is generated by **ASPECT®-Studio** See Cylon Manual *MAN0129 ASPECT-Studio* help for full details.

ABB CYLON CONTROLS

Clonshaugh Business & Technology Park
Clonshaugh
Dublin 17
Ireland

Tel.: +353 1 245 0500
Fax: +353 1 245 0501
Email: info@cylon.com

ABB CYLON CONTROLS

ONE TECHNOLOGY LANE
EXPORT,
PA 15632

Tel.: +1 724 733-2000
Fax: +1 724 327-6124

WWW.CYLON.COM