cadmus

Quick Start Guide

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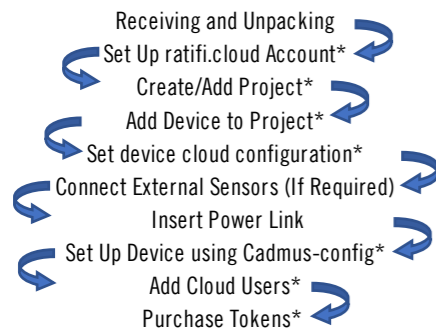Email: support@signatrol.com

1.1   Introduction

The Cadmus is a Cloud Based Data Logging and Alarm Monitoring system. The Cadmus Wi-Fi data loggers together with the high security Ratifi-Cloud, enables you to remotely monitor, from anywhere in the world, your temperature, relative humidity & switch status requirements in an infinite number of applications. Cadmus devices come in two basic forms, the CTX203 and the CTX213. All devices have an internal temperature sensor and the ability to add two external probes and an external door switch contact. The CTX213 has an additional internal RH sensor.

The system is essentially divided into three parts:

- Cadmus-Config, the Windows based configuration software to enable Cadmus devices to be configured and connected to the appropriate Wi-Fi access point.
- Cadmus, the generic name of the WI-FI enabled data logging devices and related primarily to the hardware.
- Ratifi, the cloud-based service that collects the data from one or more Cadmus devices, stores it in encrypted form, generates automatic alarm event messages and allows the user to view and display the data in numerical or graphical form and the status of any current alarms or events.

1.2   Installation

Installation guide

Receiving and Unpacking
Set Up ratifi.cloud Account*
Create/Add Project*
Add Device to Project*
Set device cloud configuration*
Connect External Sensors (If Required)
Insert Power Link
Set Up Device using Cadmus-config*
Add Cloud Users*
Purchase Tokens*

*- Available in Administrator Role.

To Begin using your Cadmus Data Logger:

- Set Up Rafifi.cloud account on:
  https://www.ratifi.cloud
- Download the latest Cadmus-Config Software version from the following link: http://www.ratifi.cloud/user-shared/cadmus-config.exe
- Download the Cadmus & Ratifi Operating Manual from the following link: https://www.ratifi.cloud/user-shared/Manual.pdf

1.2.1   Set Up Rafifi.cloud account

1.2.1.1 Go to URL: https://www.ratifi.cloud select "JOIN US" and follow the instruction on the screen.

1.2.1.2 Once the password has been set, Login to the administer section using your credentials and under "PROJECTS" enter the new project details in the form as shown below and press SAVE.

1.2.1.3 Once the project has been created, click on the Action button ⇥ on the project line. The "Add Devices" form will appear. Enter the serial number and device code from the registration card supplied with each Cadmus device into the boxes provided, and then select "SAVE".

1.2.1.4 Setup Device Configuration

Select the "DEVICE CONFIGURATION" from the left-hand menu (shown below).
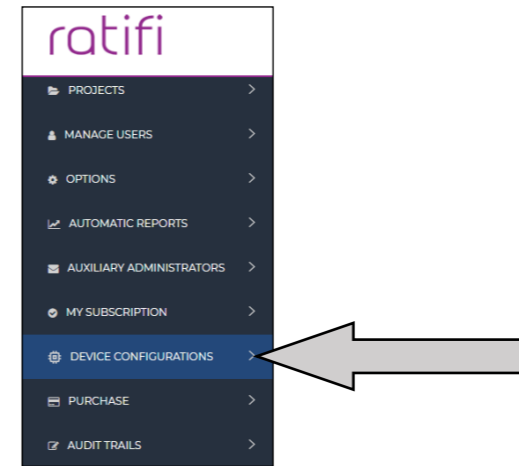
The list of current devices allocated to the project will display. Select "Edit" (as shown below).

Select from the pop-up how to configure your device

- SET DEVICE AS NEW - Load default settings into configuration wizard
- COPY FROM EXISTING DEVICE - Load settings from another device into configuration wizard. Only available if more than 1 device is present in the project.
- EDIT DEVICE - Load current settings into configuration wizard.

If you are configuring a new device select "SET THE DEVICE AS NEW".

1.2.1.5 Configuration Wizard.

The main tab contains parameters related to the general functionality of the Cadmus device.

Enable your device by switching ON/OFF switch in the main Tab and set your configuration as required.

ENABLE/DISABLE - Changes the state of the Cadmus device between ON = Active Monitoring State and OFF = NAP mode (device is sleeping)

In the next stage go to Channel Tab's to Enable and set Channel's configuration as your required.

Channel 1 – Internal Temperature
Channel 2 – Internal Relative Humidity (CTX-213 only)
Channel 3 and 4 – External Temperatures, Pt1000 series
Channel 5 and 6 – Discrete Input

Note: Battery life depends on both the store rate and the upload rate. Our recommended settlings are 10 Minute Store Rate & 60 Minute Upload Rate and with these settings, battery life is 24 Months. Setting intervals shorter than this will reduce the life. Consult the main manual for further details.

For more detail refer to the full manual.

1.2.2   Installing Cadmus-Config software

The Cadmus device requires the Cadmus-Config application to carry out basic configuration required to connect the device to the Wi-Fi network.

Computer Requirements: PC with Microsoft Windows 7 or higher operating system. Cadmus Config can be downloaded from the following link: http://www.ratifi.cloud/user-shared/cadmus-config.exe

Run the downloaded installer and follow on-screen instructions to complete installation.

## 1.3   USB Configuration via Cadmus-Config

Before connecting Cadmus to the computer open the device enclosure and setup Cadmus power source.

For more detail refer to the full manual.

1.3.1   Setup Cadmus device Power Source.

The unit arrives with the batteries pre-installed and power off (Jumper link fitted in PARK position).
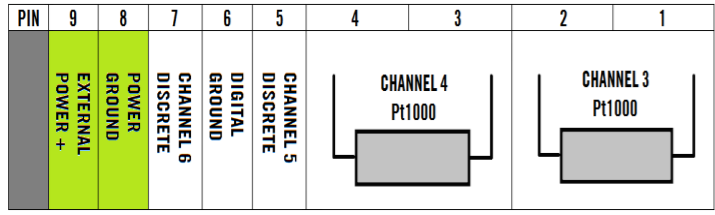
Moving the jumper link from the PARK position to J9 will select the required power source.
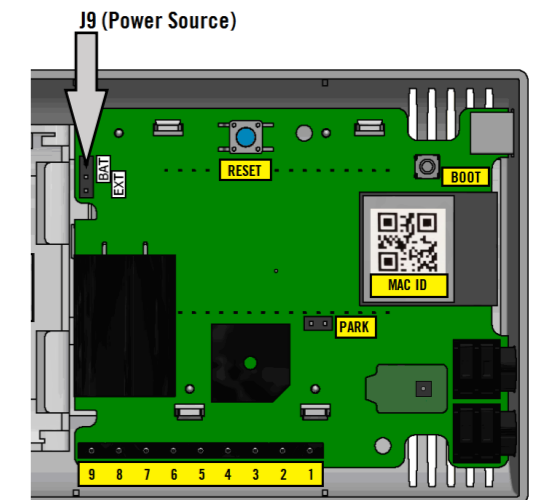
| J9 (Power Source)	Operation
BAT	Device powered by internal batteries
EXT	Device power by external dc power source

Connection via enclosure base terminal strip.
Pin 8 = Supply Ground
Pin 9 = Supply +, 9 to 24Vdc (2.5 Watt Max)

It is normal for the device to show the "Err rtCn" if the device is powered down for more than 30 minutes, as the device requires an accurate real time clock to operate. Cadmus-Config will set the clock during device configuration.

1.3.2 Connecting your device to the computer

Using USB B cable (not included) connect Cadmus to your PC,
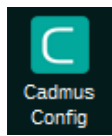
Launch Cadmus-Config software and select "Connect" to make the USB connection active.

1.3.3 Configuring Cadmus Security and Device Pin.

All Cadmus devices can be protected using a 6-digit pin code. To make use of the pin security you must first enable the security feature in Cadmus-Config.

For more details refer to the full manual.

1.3.4 Wi-Fi Connection

1.3.4.1 Settings Tab

Before Wi-Fi Set up go to Settings Tab which contains groups of parameters which can be configured based on your locale. These settings should be checked before configuring your Wi-Fi network. Amend your Wi-Fi settings and the click "Set Wi-Fi Settings".

1.3.4.2 Preparing Wi-Fi Connection

Select the Wi-Fi Connection Wizard tab, and then select "Next" (bottom right). The device will initiate a network scan. Once the network scan has completed, Cadmus-Config will display a list of available access points.

The Cadmus device supports the following connection methods.

- Open
- WEP
- WPA or WPA2 Personal
- WPA2 Enterprise

Using Personal Networks, you will only need the following:

- SSID (name of your Wi-Fi network).
- Your network KEY.

WPA2-Enterprise networks can be complex to set up, please consult you IT department before installation.

For Enterprise Network refer to the full manual.

Once you have selected your access point select next button and continues over the Network Settings. The application will now transfer all the new settings to the device and test the Wi-Fi connection. The whole process takes approximately 30 seconds.
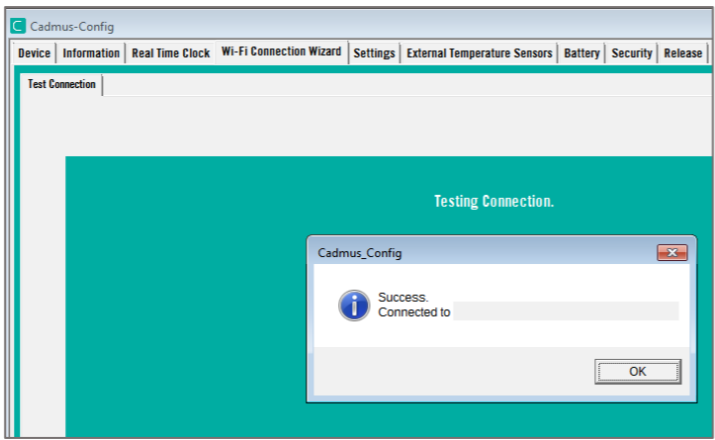
Your device is now connected to the Wi-Fi network, please close Cadmus -Config.

1.4 Device and Cloud interaction

Once the device has been successfully setup with a valid Wi-Fi configuration. The device will be in either of the following states.

- NAP (Sleep)
- Monitoring (Active)

The initial cloud configuration is created in section 1.2.1.4. The cloud will be waiting for the device to connect. Once the connection is made the cloud configuration will be downloaded to the device. On receipt of the configuration the device will re-boot. If device configuration is set to enable the device, the device will change to Monitoring (Active) state. If the configuration is set to disable the device, the device will change to NAP (Sleep) state.

When in NAP state the device will not monitor or store any data. The device will attempt to connect to the cloud once every 90 minutes to check if a new configuration packet it available. This mode will extend battery life when the device is not required. In this state the display will indicate "nAP"

When in Monitor state the device will sample all enabled channels every 60 seconds. Data will be stored to memory based on the "Store Rate". The device will upload to the cloud based on the "Upload Rate". If alarms have been enabled, when a sensor alarm changes state this is over-ride the current settings and upload immediately.

1.5 Ratifi Credits

When adding a new device to Ratifi, the cloud will automatically credit the project with 1 credit. The project requires 1 credit per device / Month to operate. Credits are decremented on the 1st of each new month, based on the number of devices available to the project.

The credit balance for each project can be found in the administer login. Select the required project and go to "MY SUBSCRIPTION". The screen will give information on the current number of devices on the project and the total number of credits available.

Credits can be purchased in one of two ways.

- Instant purchase using Credit or Debit Card via a PayPal Portal.
- Raise a purchase order, which will be manually invoiced. This method will not be instant, please allow 2~3 working days for the credits to appear.

1.6 Base Connections

1.6.1 Connecting Pt1000 temperature sensors.

Channels 3 and 4 are designed for 2-wire Pt1000 sensors. These sensors can be purchased directly from Signatrol Ltd. There are two connection methods for Pt1000 sensors show below. Pt1000 sensor are non-polarised and be connected either way around. If a sensor is disconnected or becomes open-circuit the channel will indicate +400°C (+752°F), if a sensor becomes short-circuit the channel will indicate -200°C (-328°F). Sensors should be connected via the Jack or the Terminal strip, but not to both at the same time on the same channel. Otherwise incorrect readings will be obtained.

1.6.1.1 Connection via 3.5mm jack plugs.
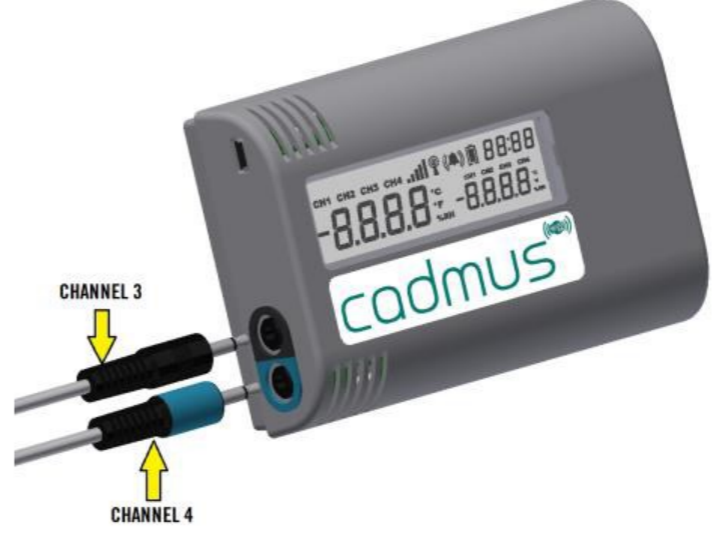
1.6.1.2 Connection via enclosure base terminal strip.

Channel 3 should be connected to pins 1 & 2.
Channel 4 should be connected to pins 3 & 4.
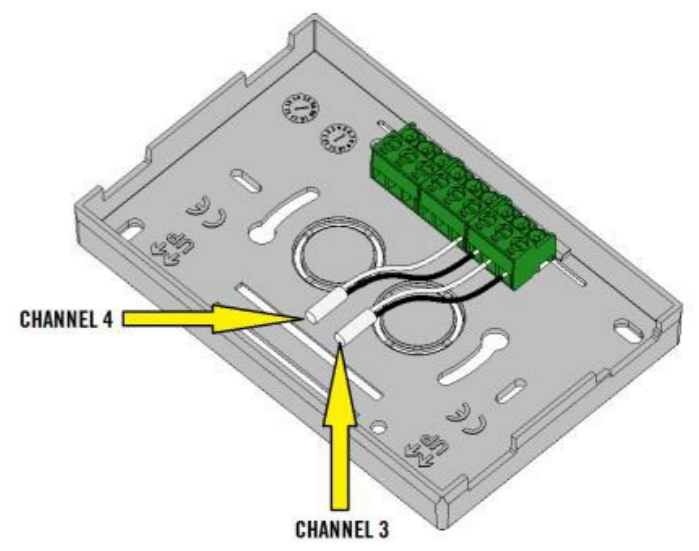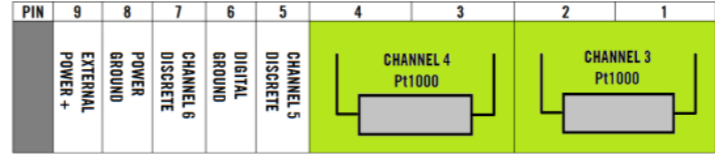
1.6.2 Connecting external digital output to discrete channels.

Channels 5 and 6 are designed for external voltage signals and dry contacts. Please refer to the hardware specification for voltage specifications. Both channels are capable of measuring counts or logic levels.
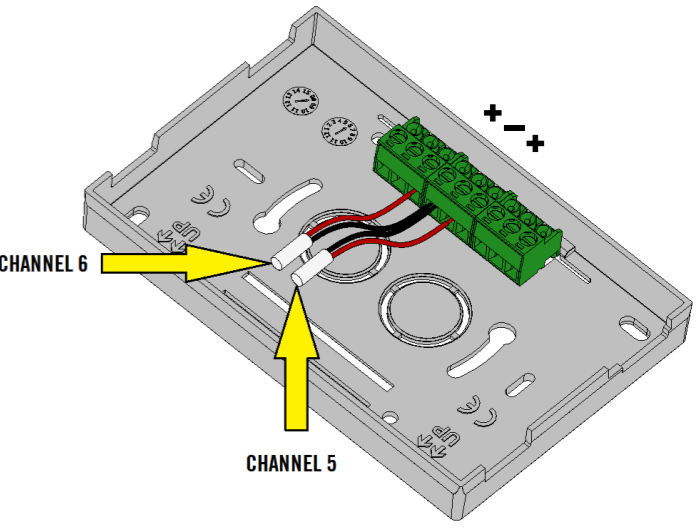
Connection via enclosure base terminal strip.

Channel 5 should be connected as follows:
Pin 5 = Signal positive. (35Vdc max) (1kHz max)
Pin 6 = Signal Ground
Channel 6 should be connected as follows:
Pin 7 = Signal positive. (35Vdc max) (1kHz max)
Pin 6 = Signal Ground

Signal ground (Pin 6) is common to both channels.
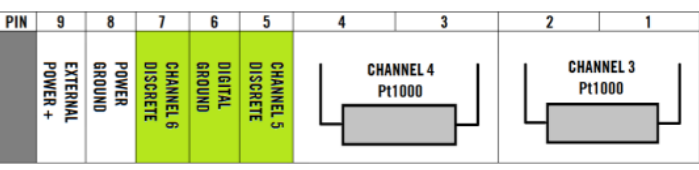
Additional certifications available in the full manual.