WORKS WITH WELL

enLink Zone View

USER GUIDE

LoRaWAN Air Quality Sensor

synetica

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LoRaWAN Air Quality Sensor

Synetica's enLink Zone View continuously monitors key environmental factors in the workplace to provide useful and actionable data for both employees and building managers to help with the maintenance of healthy, favourable working conditions.

The enLink Zone View monitors a range of key environmental factors* including temperature, relative humidity, VOCs, CO_2, light level (LUX) and presence sensing, giving users the ability to track and measure critical environmental parameters across a variety of different businesses from office blocks to hospitals.

The enLink Zone View has earned the Works with WELL licence, from the International WELL Building Institute (IWBI). This recognition highlights the product's alignment with health-focused strategies defined in the WELL Building Standard—the world's leading benchmark for building health. The accreditation underscores Synetica's dedication to enhancing workplace environments through smart, responsive environmental monitoring.

enLink Zone View

- Detailed, accurate measurements
- Reads key air quality parameters
- E-paper user display
- Battery powered
- Built in sensors for:
  - Temperature (°C)
  - Relative Humidity (%RH)
  - Light levels (LUX)*
  - VOCs*
  - CO_2*
  - Presence / Occupancy*
- Stylish, discreet design
- Easy configuration via USB/downlink
- LoRa™ wireless, up to 16km range
- Real-time information
- Subscription-free, easy-to-analyse data

Features

- Multiple sensor options*
- Frequency range 863-870MHz*
- Frequency range 902-928MHz*
- Up to +16dBm Tx power
- Dimensions 85 x 85 x 25mm
- CE / FCC compliant
- RoHS compliant
- Made in the UK
- Battery Powered - 2 x AA Li-SOCl2 3.6V

**Optional extras / model dependent*

1. Introduction

The enLink Zone View by Synetica is a compact, battery-powered sensor designed to monitor environmental conditions that contribute to a healthy workplace. By continuously tracking key environmental conditions, it delivers actionable insights to both occupants and building operators.

Equipped with LoRaWAN long-range wireless connectivity, the device transmits real-time data locally and to the cloud, enabling prompt responses and remote access when necessary. When conditions become conducive to mould growth, the sensor triggers alerts, facilitating early intervention.

A discreet e-paper display shows live readings and air quality conditions. Through LoRaWAN downlink, building operators can remotely configure the device as required. Two onboard push buttons allow for user interaction, such as acknowledging alerts or adjusting settings.

Proudly designed and manufactured in the UK, the enLink Zone View offers a cost-effective, easily deployable, and customisable solution for managing indoor air quality.

2. Configuration

LoRa devices can be configured using Over The Air Activation (OTAA) or Activation By Personalization (ABP).

OTAA is the most secure way to connect a device to the LoRa network. In OTAA, the device performs a join-procedure with the network, during which a Dynamic Device Address (DevAddr) is assigned and security keys are negotiated with the device.

ABP allows you to set the DevAddr as well as the security keys in the module. This is simpler than OTAA as there is no join procedure, however, it is less secure than OTAA.

This guide will illustrate using OTAA as it is the most secure and flexible method. The OTAA configuration requires the following parameters to be correctly set:

- DevEUI: End-device Identifier. It is unique for every device and is set at device manufacture.
- AppEUI / JoinEUI*: Application Identifier. Used to identify the end application.
- AppKey: Application Key. Used to create the session keys.

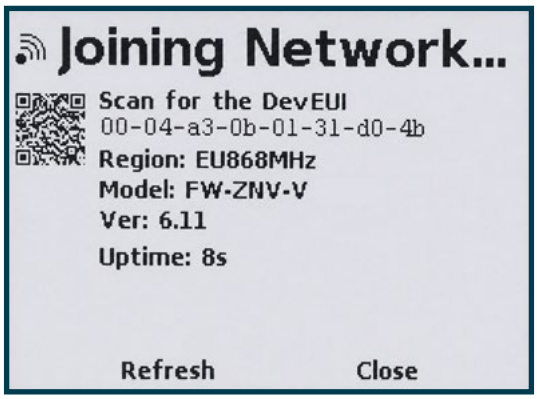
**Note: In LoRaWAN 1.1, AppEUI was renamed to JoinEUI.*

For many applications Synetica can supply Zone View units with the AppEUI and AppKey pre-configured, so providing the LoRa gateway has the matching values, the join process will happen automatically once the Zone View unit is in wireless range and switched on.

The DevEUI is always set at device manufacture and is unique. The device AppEUI and AppKey can easily be set via the USB connection if required and the process is detailed later in this document.

3. Join enLink Devices to the LoRa Network

enLink devices in wireless range and with the correct AppEUI and AppKey settings will automatically join the LoRa network when they are first powered up.



enLink Zone View Unit Label

The unique **DevEUI** is printed on all enLink devices and is also present in the QR code on the label and the e-paper display. The **DevEUI** can be used to identify the device once joined to the network.

4. Powering the Unit

The unit is powered by 2 x AA sized Lithium 3.6V batteries. See section 10 for details on suitable batteries.

Insert 2 x Lithium 3.6V batteries taking care to insert them the correct way around. Locate the plus (+) and minus (-) signs on the battery and use the plus (+) and minus (-) guides on AA battery holders to insert the batteries in the proper direction.

Be sure to insert the minus (-) end first and remove the plus (+) end first when replacing the batteries.

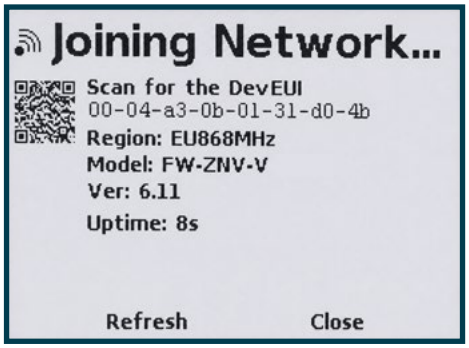
WARNING

Risk of injury or damage from explosion or fire.

Lithium batteries have very high energy capacity and a great degree of care should be exercised to ensure that all batteries are new, from the same manufacturer, installed the correct way around and are not in any way damaged. Refer to Section “20. Battery Installation / Replacement” on page 29 for more details.

Use 2 x AA Lithium 3.6V Batteries

When the batteries are correctly inserted, the unit will start up and attempt to join the LoRaWAN network.



Unit Joining the LoRaWAN Network

Once the unit has joined, it will display Joined in the bottom left of the screen for several seconds.

Unit Joined the LoRaWAN Network

5. Zone View Home Display Screens

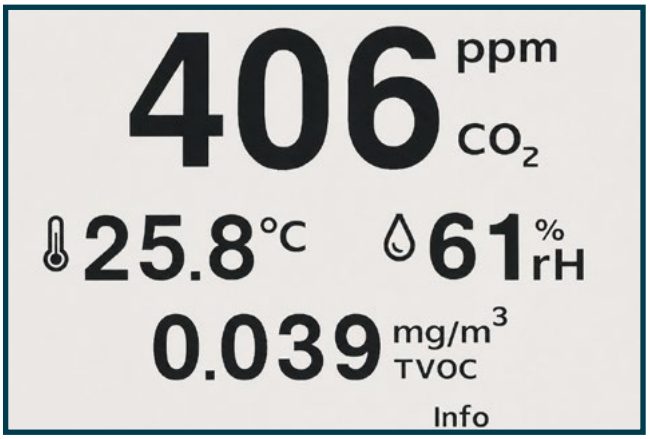
The Zone View Home can be configured to show a variety of screens depending on the environmental conditions and user button presses.

When the unit is first powered on, the Splash Screen above shows, followed by the main status screen below.

Main Status Screen

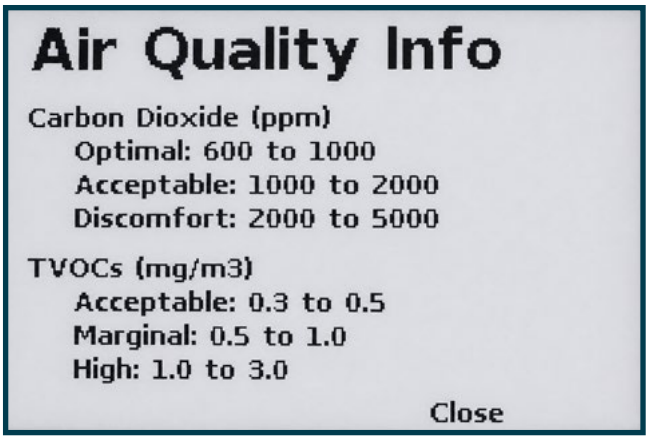
6. Status Display Screens

The Status Screen shows the current temperature, relative humidity, CO_2 and VOC levels.



Status Screen

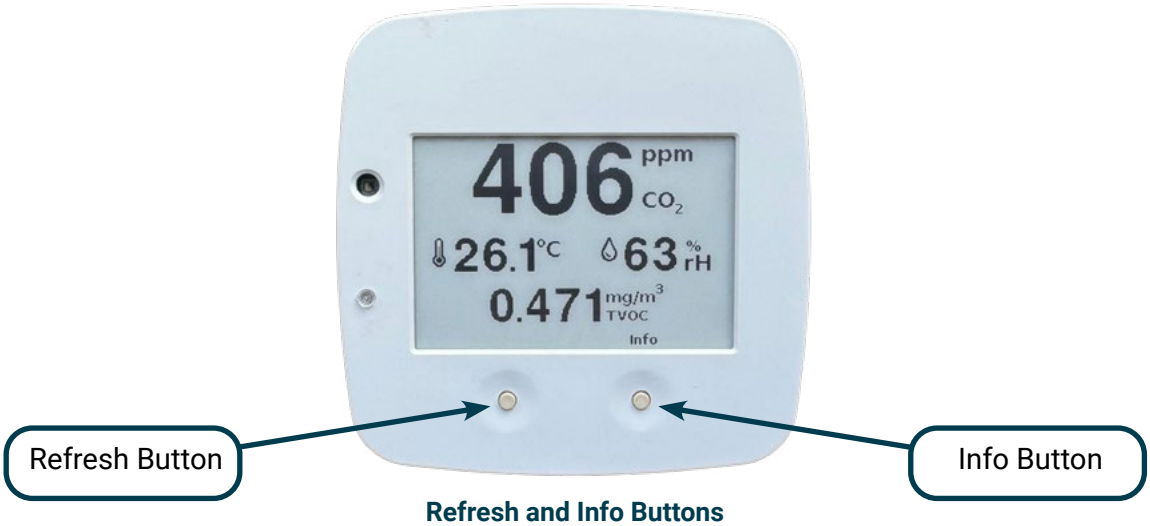
The Info button displays information regarding the Air Quality readings and how to interpret the values:



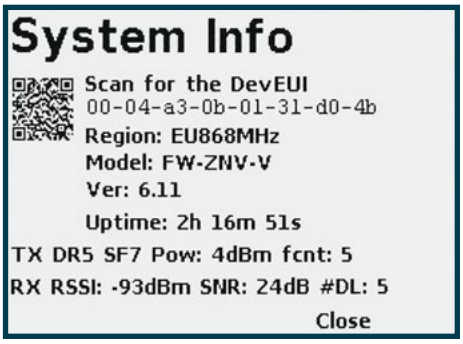
Air Quality Info Screen

7. Button Long Press Functions

A long press (2 seconds +) of the Info button shows the System info screen.

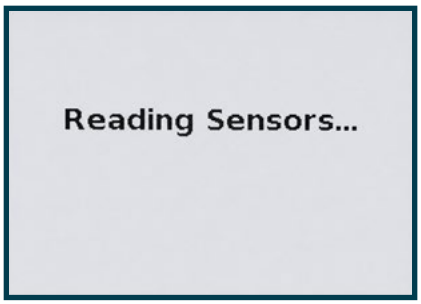


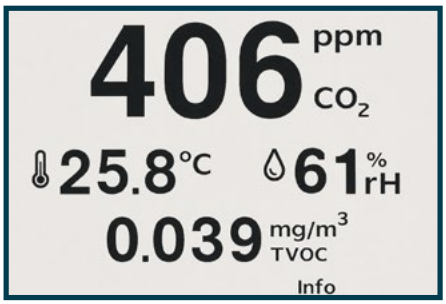
Refresh and Info Buttons



System Info Screen

A long press (2 seconds +) of the Refresh button refreshes the e-paper display removing any display ghosting and performs a read of the sensors. The sensor data is then transmitted via LoRaWAN. The red LED situated behind the vent will blink while the transmission is in progress.





Refreshed Status Screen

8. Setting / Changing the enLink LoRa Keys

For some applications, Synetica can supply Zone View units with the LoRa **AppEUI** and **AppKey** parameters pre-configured to your requirements, whereby if the LoRa gateway has matching keys the join process will happen automatically once the enLink unit is in wireless range and powered on.

The DevEUI is always set at device manufacture and is unique. The device **AppEUI** and **AppKey** can easily be set via the USB connection as detailed below.

Once the cover is removed, connect a micro USB cable to the enLink unit. The device will attach to a COM port on your PC.

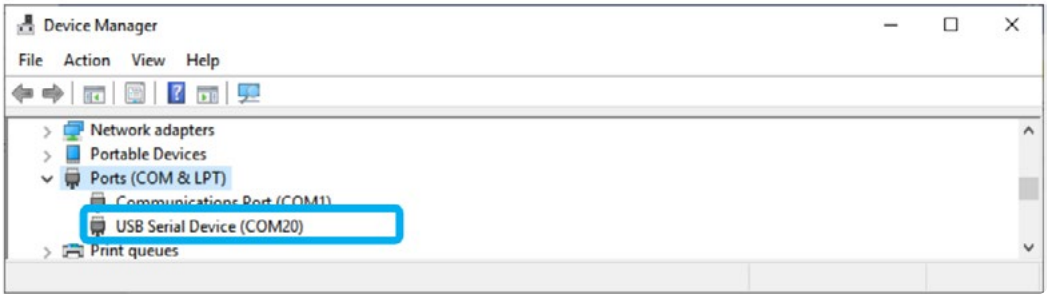
Configuration
USB Port

Configuration USB Port

Using a terminal program (e.g. Teraterm https://github.com/TeraTermProject/teraterm/releases) connect to the COM Port used by the enLink device.

See Synetica document “Configuring enLink Devices Using Serial Terminal Applications” for more details including using PuTTY and serial applications that will operate on Apple and Linux computers.

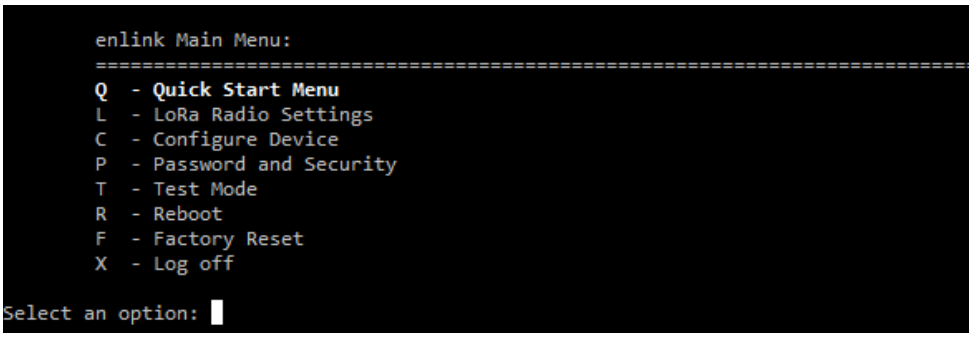
To verify which COM port is being used, check the Windows™ **Device Manager** (in Windows - click the start button, type **Device Manager** into the search box and click **Device Manager** on the menu.) Expand the **Ports (Com & LPT)** menu as shown below.



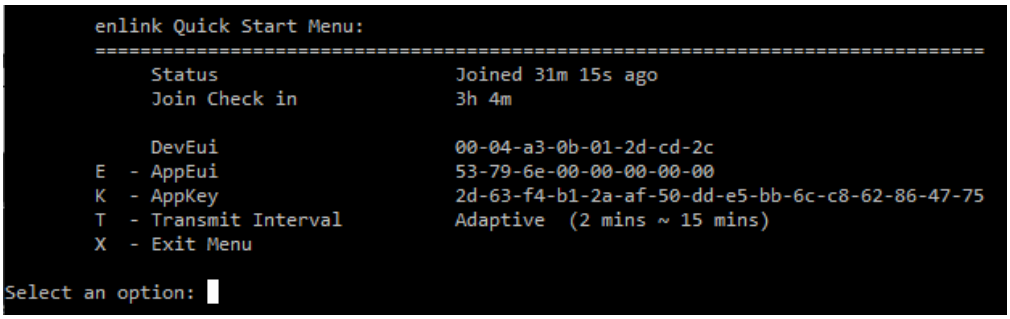
In your terminal program press the **Enter** key. An enLink summary screen will appear as shown below. The default password is the last four digits of the displayed **DevEUI**, in the screen below this is cd2c.

enLink Logon Screen

The screen below will show with the enLink Main Menu options. Enter **Q** to enter the **Quick Start Menu.**

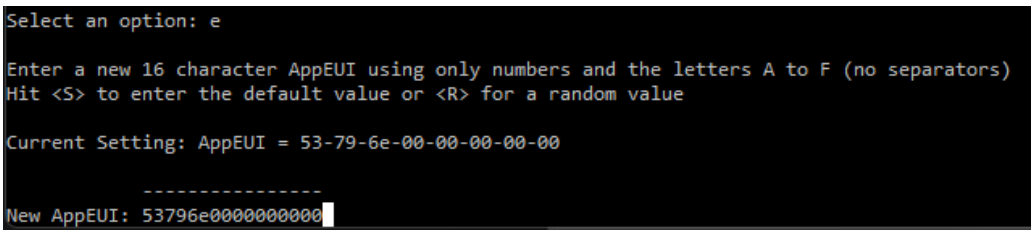


The **Quick Start Menu** contains only the parameters that normally need to be configured to setup the device and join the LoRa network. From the Quick Start Menu you can change the **AppEUI** and **AppKey.**



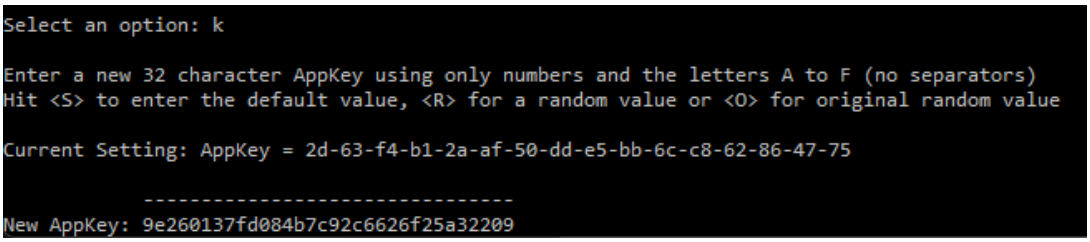
Quick Start Settings Menu

From the **Quick Start Settings Menu,** access the **AppEUI** setting by entering **E.** Enter the 16 character **AppEUI** using numbers and letters A to F. Do not include spaces or any other characters. Pressing **S** will enter the default **AppEUI** which you can then edit. Press **Enter** when the key is correctly entered to return to the **Quick Start Settings Menu.**



AppEUI Setting

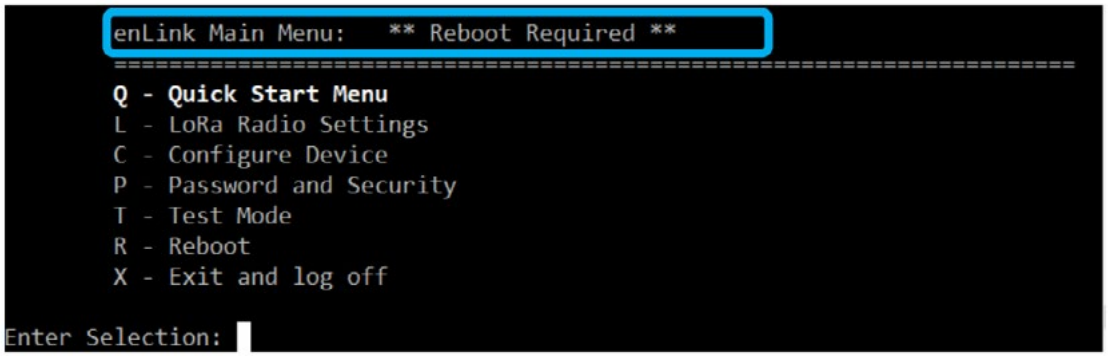
From the **Quick Start Settings Menu** access the AppKey setting by entering **K**. Enter the 32 character **Appkey** using numbers and letters A to F. Do not include spaces or any other characters. Pressing **S** will enter the default **AppKey** which you can then edit. Press **Enter** when the key is correctly entered to return to the **Quick Start Settings Menu**.



AppKey Setting

Press **X** from the **Quick Start Settings Menu** to return to the **enLink Main Menu**.

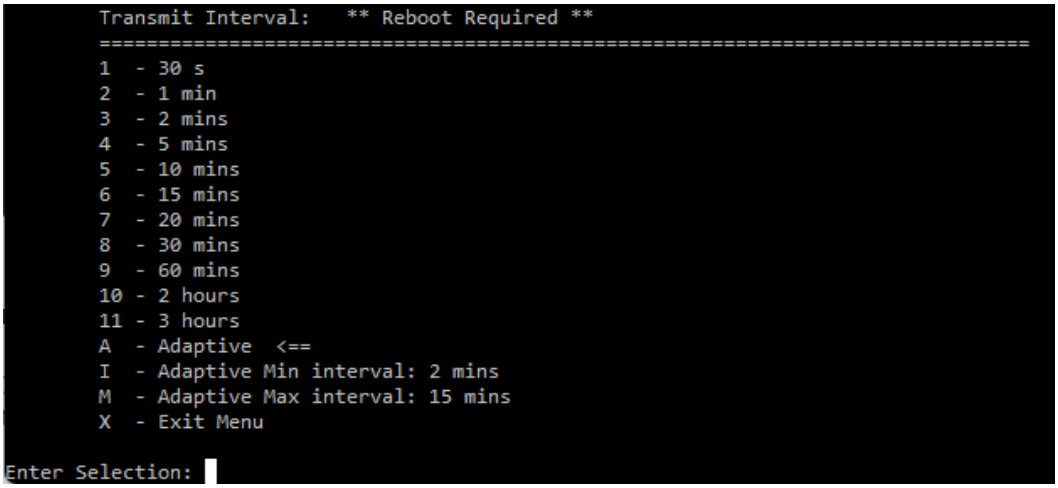
The header will show **** Reboot Required **** as shown below. The new key settings will not take effect until the enLink device is restarted. Enter **R** to reboot followed by **OK.** The device will restart with the entered **AppEUI** and **AppKey** and attempt to join the LoRa network.



Reboot Required Notification

9. Setting / Changing the Transmit Interval

Access the Transmit Interval setting by entering **T** from the quick start menu.



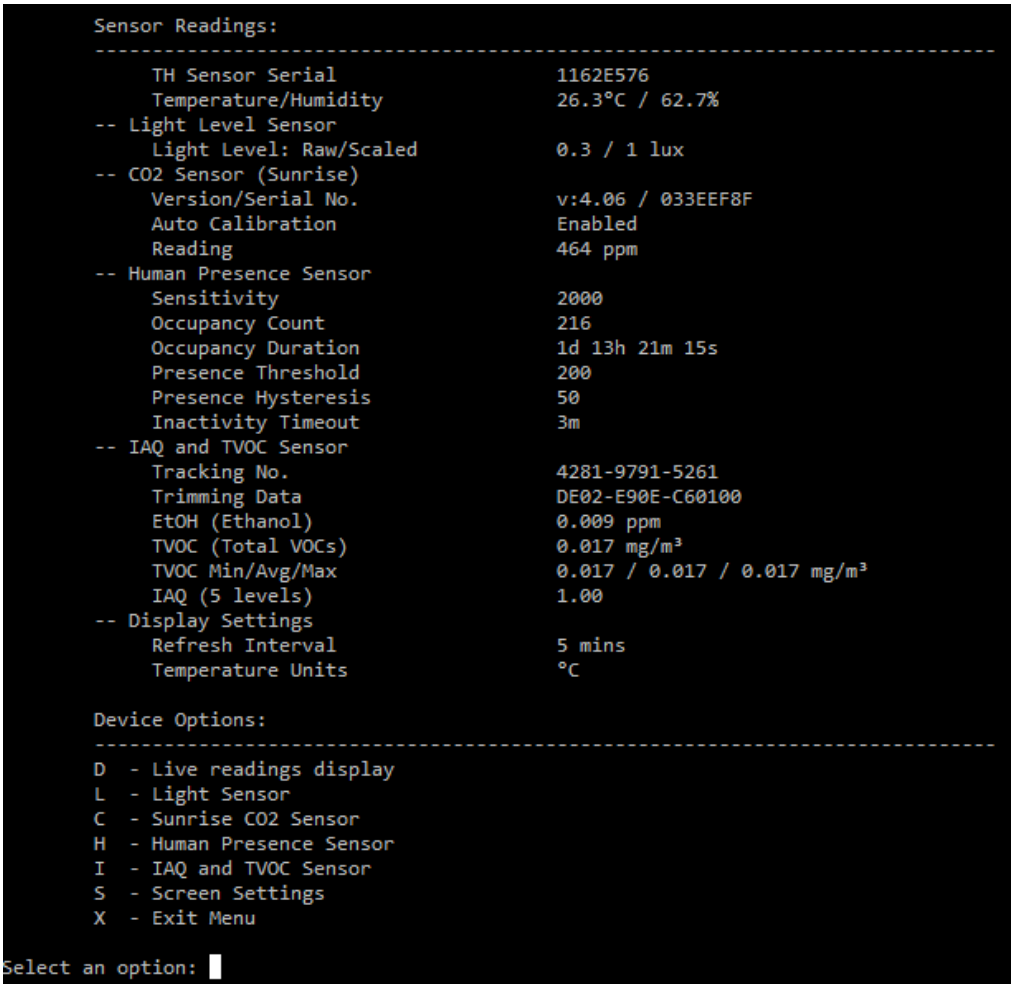
Select a fixed transmit interval from the menu options. The Transmission Interval may also be changed by using a LoRaWAN downlink message.

See: https://github.com/synetica/enlink-decoder?tab=readme-ov-file#downlink-message-index-tables for more details and example downlink messages.

Press **Enter** when the interval is correctly set to return to the **Quick Start Settings Menu.**

10. Configuration Menu

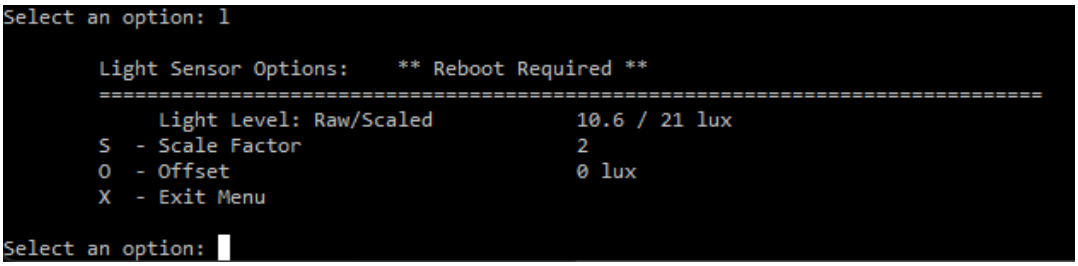
The Zone View Configuration Menu allows you to view current sensor readings and also to change various functions of their behaviour such as calibration data. To enter the Configure Device Menu press **C** from the **Main Menu.** A screen similar to the one below will show. The exact parameters shown will vary according to the model and sensors fitted.



Configuration Screen

11. Light Level (LUX) Sensor Configuration

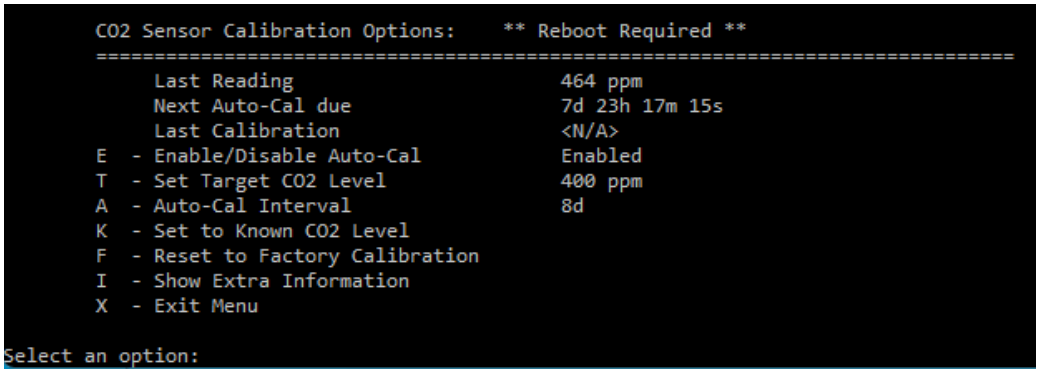
To view and set LUX sensor scaling and offset information, enter **L** and the screen below will show.



From this menu, you can adjust the LUX sensor's scaling factor and offset values to calibrate the LUX readings according to the installation environment.

12. CO_2 Sensor Auto Calibration Configuration

To view and set CO_2 sensor calibration information, enter **C** and the screen below will show.



Please see the table below for information on each menu item.

Menu Item	Description Details
Last/Minimum Reading	Shows the last CO_2 value read and the minimum CO_2 value read since the last auto calibration.
Next Auto-Cal due	Shows when the next auto-calibration routine will occur
Last Auto-Cal result	Shows the value of the last auto calibration result. Used internally by the sensor.
Calibration Success	This shows the total number of successful auto calibrations since the device was powered up.
Out-of-bounds Ignored	Shows the number of times that auto calibration did not run due to the Out Of Bounds setting.
E - Enable/Disable Auto-Cal	Enables or disables the auto calibration routine.
T - Set Target CO_2 Level	This is the known CO_2 corresponding to the minimum value the sensor has read since power-up or last calibration. It is normally 'fresh air' or the lowest level when the building is unoccupied overnight or at weekends. Typically this is 400 ~ 450 ppm.
K - Set to Known CO_2 Level	This will re-calibrate the zero point of the sensor to a known gas concentration. The sensor should be placed in this gas concentration and allowed to stabilise. This command runs in the background and will take 8 to 10 seconds to complete. As an example, fresh air is typically around 400 ~ 450 ppm.
F- Reset to Factory Calibration	This resets the sensor to the factory calibration settings.
R - Regular Interval	This is the standard calibration interval, it is set to 8 days by default to accommodate a week long period where the minimum sensed CO_2 level should have fallen to background levels..
A-Show Advanced Information	Shows more advanced sensor information, such as, temperature, total reads, calibration target/ period, calibration success/fail and error count.

Many of the above parameters can also be set via LoRaWAN downlink message. See https://github.com/synetica/enlink-decoder?tab=readme-ov-file#carbon-dioxide-sensor-downlinks for more details.

The CO_2 sensor needs to be exposed to fresh, clean air periodically for the auto calibration to be successful. Most occupied areas are unoccupied for some time during a week-long period, typically at night, or at the weekend and therefore the auto calibration runs every 8 days by default. Background CO_2 levels are typically around 400-450 ppm, if the background CO_2 level is known to be a different value then this can be set in the “Set Target CO_2 Level” parameter

If a unit is placed in an area where the CO_2 level may not fall below a certain level, e.g. 450ppm, during the calibration interval then the “Out-of-bounds check” parameter can be set so that the auto calibration routine does not run. As an example, if an area is continuously occupied for a long period and the minimum CO_2 reading does not fall below, say 450ppm, then it is undesirable to run the auto-calibration routine based on a target of 400ppm. In this case, if the “Set Target CO_2 Level” is set to 400ppm and the “Out-of-bounds check” value is set to +/-50 ppm then the auto-calibration routine will not run unless the minimum read value falls below 451ppm in the interval.

13. CO_2 Monitoring

Measuring CO_2 levels can serve as a good indicator of the indoor air quality. CO_2 concentrations within a building are often used to indicate whether adequate fresh air is being supplied to the space. Indoor CO_2 concentration is directly proportional to the number of people in a building and the ability of the ventilation system to dilute the CO_2 generated by occupants.

Moderate to high levels of carbon dioxide can cause headaches and fatigue, and higher concentrations can produce nausea, dizziness, and vomiting. Elevated levels of CO_2 can also affect performance and productivity. In one study 3 out of 24 employees cognitive scores were 50% lower when the participants were exposed to 1,400ppm of CO_2 compared with 550ppm during a working day.

CO2 concentration	Remarks / Effect
400ppm	Normal CO_2 concentration in outdoor ambient air
400-1,000ppm	Concentrations typical of occupied indoor spaces with good ventilation
1,000-2,000ppm	Complaints of drowsiness and poor air
2,000-5,000 ppm	Headaches, sleepiness and stagnant, stale, stuffy air. Lack of concentration, loss of attention, increased heart rate and slight nausea may also be present
5,000ppm +	Workplace exposure limit (as 8-hour TWA)

14. Presence/ Occupancy Sensor Operation

The presence/ occupancy sensor incorporated within some variants of the Zone View can be used to indicate occupancy status within an area.

The implementation incorporates two incrementing counters PIR_COUNT and PIR_OCC_TIME to represent the occupied/unoccupied historical profile.

The sensor has a concept of an 'inactivity timeout'. This is set to 3 minutes (by default).

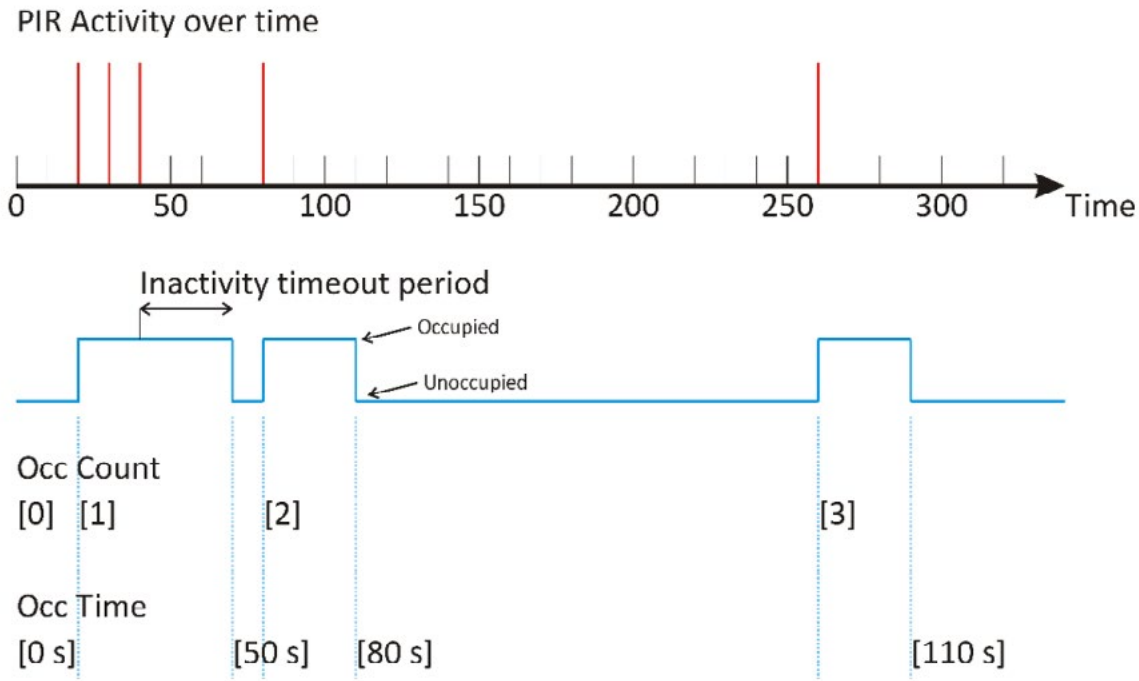
When the sensor detects movement (possibly multiple times) the internal occupancy state changes to the 'occupied' state. If the sensor does not detect any movement for a period of 3 minutes the internal state changes to 'unoccupied' (see diagram below).

The sensor has two LoRa wireless data parameters associated with the operation:

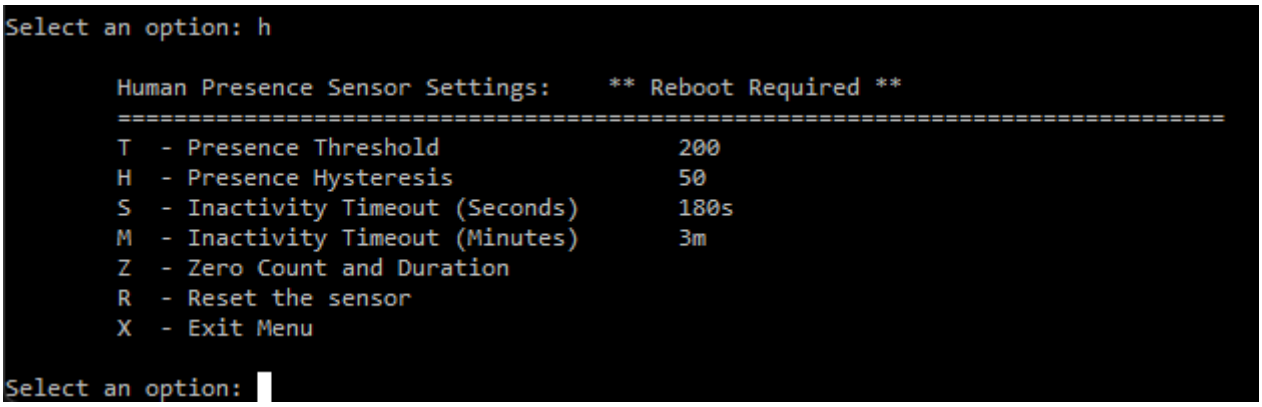
- PIR_COUNT – the number of changes from the 'unoccupied' state to the 'occupied' state. This is reported in the data packet as Type 0x13 (Detection Count)

- PIR_OCC_TIME – the total time period spent in the 'occupied' state in seconds. This is reported in the data packet as Type 0x14 (Total Occupied Time).

Each counter is implemented as a 32 bit number so the maximum PIR_COUNT is 4,294,967,295 and the PIR_OCC_TIME is over 49 thousand days. The counters are stored in non-volatile memory but can be reset via the configuration menu.



To view and set the Occupancy / Presence sensor settings, enter **H** and the screen below will show.



Menu Item	Description Details
Presence Threshold	Ensure the sensor Field of View is clear when changing these settings. Enter the Presence threshold for the sensor (0 to 32767)
Presence Hysteresis	Ensure the sensor Field of View is clear when changing these settings. Enter the Presence hysteresis for the sensor (0 to 255)
Inactivity Timeout (Seconds)	The occupancy sensor inactivity timeout value in seconds
Inactivity Timeout (Minutes)	The occupancy sensor inactivity timeout value in minutes
Zero Count and Duration	Zeros the Detection Count and Occupied Duration
Reset the Sensor	Ensure the sensor Field of View is clear when resetting the sensor. This will reset the presence detection algorithms.

Occupancy data transmission interval

Depending on the Zone View settings the PIR_COUNT and PIR_OCC_TIME messages will be sent at a fixed time interval or when the status changes (within constraints of the regulatory wireless duty cycle).

In some applications it is useful to receive a wireless notification when the Occupancy state changes without waiting for the fixed transmit interval. This is known as “Adaptive Transmission Interval”.

When set to a fixed time interval the unit will send a wireless message containing the Occupancy status at the set Transmit Interval.

When set to “Adaptive” transmit interval the unit will send a wireless message containing the occupancy status when the status changes with the following constraints:

- The message will be transmitted immediately providing at least the time in the **Adaptive Min Interval** has passed. So, for example if the **Adaptive Min Interval** is set to 5 mins then if the last message was sent 4 minutes ago transmission will be delayed until the 5 minutes have passed. This prevents messages being sent more frequently than the **Adaptive Min Interval** setting.

- If the Occupancy state does not change then a wireless message will be sent at the **Adaptive Max Interval**. This in effect acts as a heartbeat message.

Please note that LoRa operates in unlicensed radio spectrum and therefore each device must obey regulatory duty cycle regulations. If messages are sent too frequently then the device will delay transmission to comply with the duty cycle limits.

The transmission interval is configured from within the **Quick Start Menu** of the Zone View unit (note that this setting is only present in models incorporating the Occupancy sensor). To configure the transmit interval, follow the steps below:

- Connect a micro-USB cable to the enLink unit. The device will attach to a COM port on your PC. Refer to section “8. Setting / Changing the enLink LoRa Keys” on page 10 for details on connecting to the USB menu.

From the **Main Menu,** enter **Q** to enter the **Quick Start Menu.**

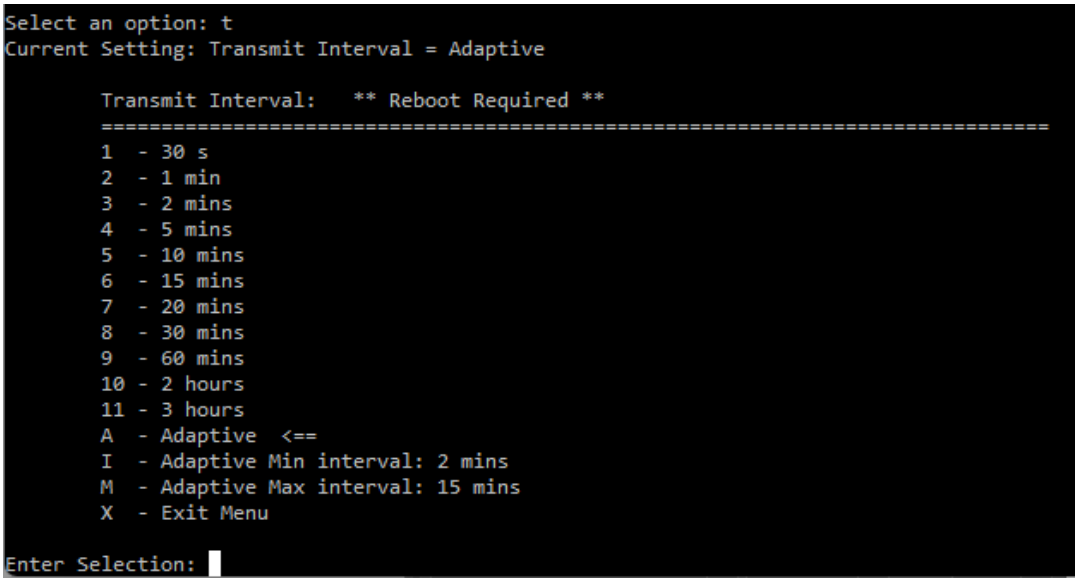
```
enlink Quick Start Menu:    ** Reboot Required **
================================================================================
     Status                     Joined 21h 57m 47s ago
     Join Check in              1h 18m 36s

     DevEui                     00-04-a3-0b-01-2d-cd-2c
E  - AppEui                     53-79-6e-00-00-00-00-00
K  - AppKey                     2d-63-f4-b1-2a-af-50-dd-e5-bb-6c-c8-62-86-47-75
T  - Transmit Interval          Adaptive  (2 mins ~ 15 mins)
X  - Exit Menu

Select an option:
```

Quick Start Settings Menu

Access the **Transmit Interval** setting by entering **T**.



To select a fixed transmit interval select the required interval from the menu options.

To select **Adaptive Transmit Interval** select the **A** option and then change the settings for the **Adaptive Min Interval** and **Adaptive Max Interval** as required.

With adaptive transmit interval set, when a change of Occupancy status occurs a wireless message is sent immediately, however messages will not be sent more frequently than the **Adaptive Min Interval.**

The **Adaptive Max Interval** acts like a heartbeat, so if no change of PIR state occurs then a message is sent at the **Adaptive Max Interval.**

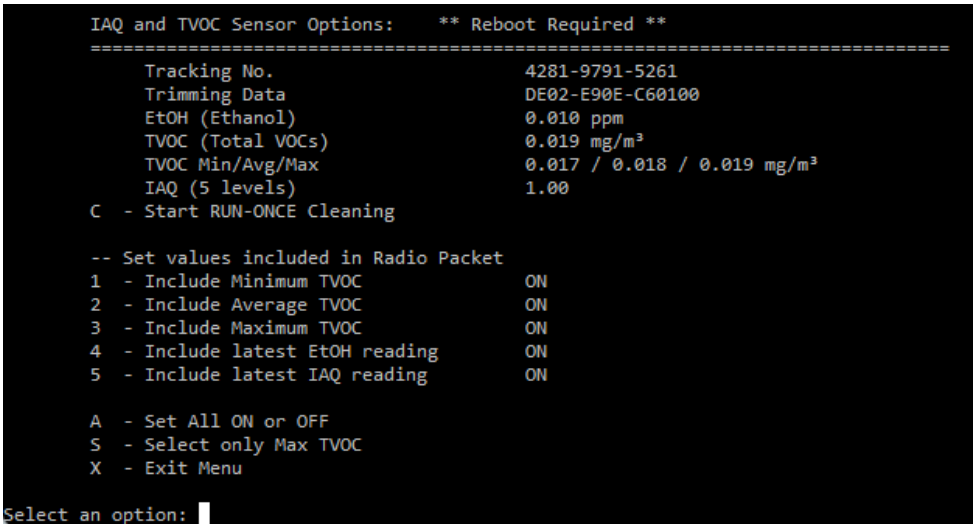
Press **Enter** when the key is correctly entered to return to the **Quick Start Settings Menu.**

The Transmission Interval may also be changed by using a LoRaWAN downlink message.

See "https://github.com/synetica/enlink-decoder?tab=readme-ov-file#downlink-message-index-tables" for more details and example downlink messages.

15. VOC Sensor Configuration

To view and set the VOC sensor configuration, enter **I** from the Configuration menu and the screen below will show.



The VOC configuration settings allow you to select which VOC sensor values are included in the LoRa data packet. By default, all parameters are transmitted, these can be turned off to reduce the amount of information transmitted or to avoid sending data which is not required by the application. All parameters can be toggled on or off from the menu.

The above parameters can also be set via LoRaWAN downlink message.

See https://github.com/synetica/enlink-decoder?tab=readme-ov-file#voc-sensor-downlinks for more details.

Menu Item	Description Details
Include Minimum TVOC **Include Average TVOC** **Include Maximum TVOC**	The VOC sensor can provide the Minimum, Average aMaximum VOC readings in the measurement period. Each of these can be individually included or excluded from the data packet.
Include latest EtOH reading	EtOH refers to the concentration of Ethanol gas concentration estimate.
Include latest IAQ reading	The VOC sensor provides an Indoor Air Quality (IAQ) index, which is a numerical value representing the overall quality of the indoor air. This index is calculated based on the concentrations of volatile organic compounds (VOCs) detected by the sensor, along with other environmental factors such as temperature, humidity, and pressure. The IAQ index ranges from 0 to 500, with lower values indicating better air quality and higher values indicating poorer air quality. Here's a general interpretation of the IAQ index values: 0-50: Excellent air quality 51-100: Good air quality 101-150: Lightly polluted (acceptable) 151-200: Moderately polluted (somewhat unhealthy) 201-300: Heavily polluted (unhealthy) 301-500: Severely polluted (very unhealthy to hazardous)

16. VOC Monitoring

In both indoor and outdoor environments, poor air quality can greatly impact our health and well-being. Volatile Organic Compounds (VOCs) concentration in an indoor space is a key indicator for air pollution measurement

Official air quality monitoring stations provide only consolidated or averaged data for the outdoor environment without the corresponding indoor air data. They do not generate personalised information.

The Zone View can incorporate a highly sensitive VOC sensor for air pollution measurement. Gases that can be detected by the VOC sensor include: Volatile Organic Compounds (VOCs) from paints (such as formaldehyde), lacquers, paint strippers, cleaning supplies, furnishings, office equipment, glues, adhesives and alcohol.

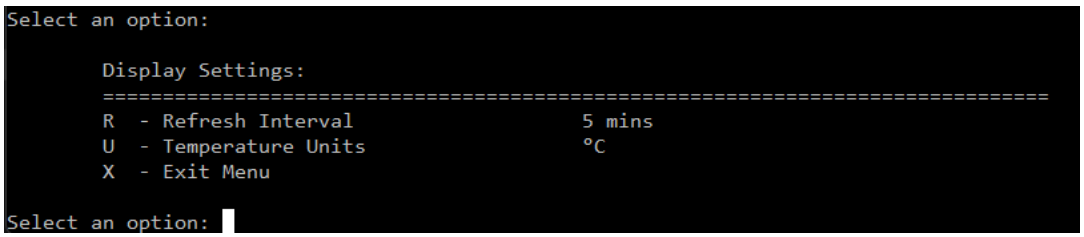
The table below illustrates the IAQ Index parameter with a description of the air quality, its impact and suggested action for that level / banding. The unit also outputs a bVOC parameter which is the total VOCs expressed as a parts per million (PPM) value instead of an index (see section 16 below for more details).

IAQ Index	Air Quality	Impact (long-term exposure)	Suggested action
0 – 50	Excellent	Pure air; best for wellbeing	No measures needed
51 – 100	Good	No irritation or impact on wellbeing	No measures needed
101 – 150	Lightly polluted	Reduction of wellbeing possible	Ventilation suggested
151 – 200	Moderately polluted	More significant irritation possible	Increase ventilation with clean air
201 – 250[1]	Heavily polluted	Exposition might lead to effects like headache depending on type of VOC	Optimise ventilation
251 – 350	Severely polluted	More severe health issue possible if harmful VOC present	Contamination should be identified if level is reached even without the presence of people; maximise ventilation and reduce attendance
> 351	Extremely polluted	Headaches, additional neurotoxic effects possible	Contamination needs to be identified; avoid presence in room and maximise ventilation

Indoor air quality (IAQ) classification and colour coding [1]

17. E-paper Display Configuration

To view and set E-paper Display settings, enter **S** from the Configure Device menu and the screen below will show.



From this menu, you can adjust the refresh interval of the screen and the displayed temperature units, °C or °F.

Refresh Interval

Enter **R** to set the display Refresh Interval. The default is 5 minutes and it can be set to a value between 5 and 30 minutes)

The above parameter can also be set via a LoRaWAN downlink message.

See https://github.com/synetica/enlink-decoder#zone-view-e-paper-display-downlinks for more details.

Example Setting:

To set the display refresh interval to 10 minutes: A5 02 43 0A

Temperature Units

Enter **U** to set the Temperature Units as °C or °F.

The above parameter can also be set via a LoRaWAN downlink message.

See https://github.com/synetica/enlink-decoder#zone-view-e-paper-display-downlinks for more details.

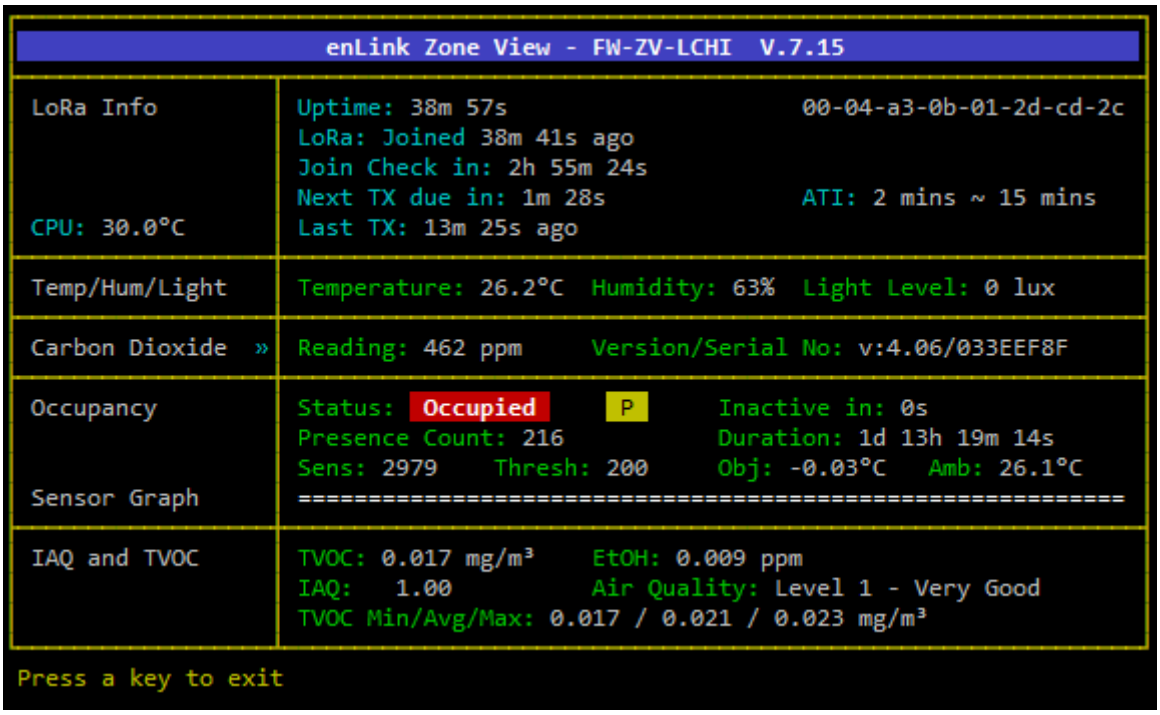
Example Settings:

To set the Temperature Units to °C: A5 02 45 00

To set the Temperature Units to °F: A5 02 45 01

18. Live Menu

Zone View incorporates a live data screen which shows all readings and device status for easy data validation. To enter the Live status screen, from the **Main Menu** enter **C** for Configure Device followed by **D** for Live readings display. A screen similar to the one below will show. The sensors will vary according to the enLink Zone View model and the installed sensors.



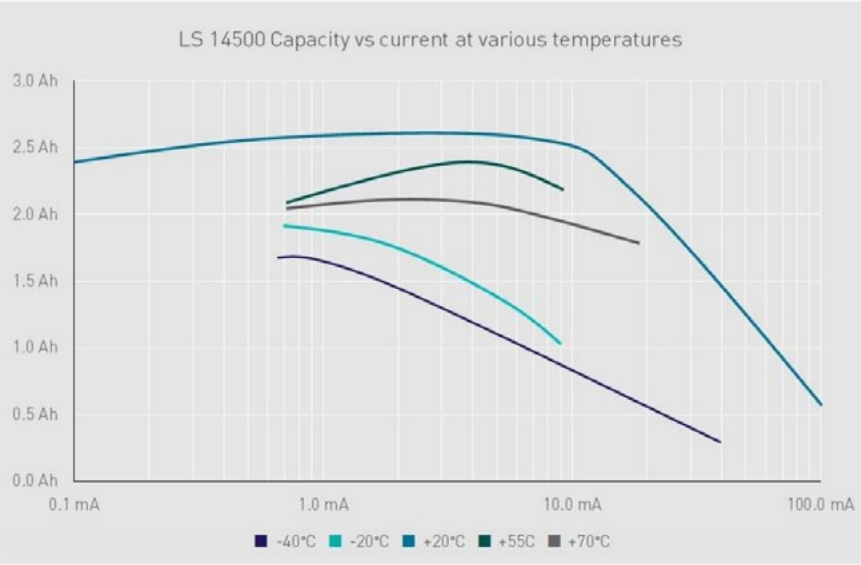
Live Display

19. Power Considerations

The Zone View is powered with 2 x 3.6V lithium-thionyl chloride (Li-SOCl2) AA sized batteries.

The unit can be specified with many environmental sensor options including NDIR CO_2 sensor, VOC sensor and Thermal MOS occupancy sensor. These sensors consume considerable power while actively sensing and therefore, to prolong battery life, the sampling interval should be set to the longest period practical for the application. Sampling / transmission intervals of less than 30 minutes place strain on the batteries, limiting their capacity and should be avoided when operating on battery power. If more frequent sampling is required then external power should be applied to the unit.

Battery capacity is dependent on ambient temperatures and this should be considered when estimating battery life. Low temperatures slow down electrochemical reactions significantly and increase the internal resistance of the batteries. High temperatures increase the battery self-discharge. The chart below illustrates the effect of temperature on the available battery capacity.



Battery capacity vs current at various temperatures for SAFT LS14500 batteries

Battery life is also highly dependent on the LoRa spreading factor used. Higher spreading factors result in longer active times for the radio transceivers and shorter battery life. Positioning devices in closer proximity to a gateway will generally result in lower spreading factors, shorter time on air and much lower transmit power.

20. Battery Installation / Replacement

enLink Zone View devices use 2 x SAFT LS14500 or EVE ER14505 AA size 3.6 Volt Lithium Thionyl Chloride (Li-SOCl2 batteries (non-rechargeable) or direct equivalent.

No other batteries are approved for use in the device.

Lithium Thionyl Chloride batteries have very high energy capacity and must be used and handled with care observing the guidance below.

WARNING!

Risk of death or serious injury from explosion or fire

- Keep out of sight and reach of children.
- Fire, explosion and burn hazard - do not recharge, short circuit, crush, disassemble, incinerate.
- Due to the high terminal voltage (3.6V), they are not suitable as direct replacements for other battery technologies in the same can sizes.
- When not in use the Batteries must be stored in a non-hazardous area.
- Do not change batteries in an explosive gas atmosphere.
- When installing batteries, do not snag the battery terminal on the clip or the battery may be damaged. Do not apply excessive force.
- Do not drop. Dropping the battery may cause damage. If a battery is dropped, do not install the dropped battery into the unit
- Dispose of dropped battery promptly per local regulations or per the battery manufacturer's recommendations.

Guidance

- Always install the batteries correctly as per instructions taking great care to observe the battery polarity.
- Ensure that the contact points are clean and conductive.
- All batteries must be the same model from the same manufacturer.
- Do not mix old and new batteries or batteries from different manufacturers.
- Do not heat or attempt to recharge the battery.
- Do not dispose of in a fire.
- Only install approved batteries: SAFT LS14500 or EVE ER14505 Lithium-thionyl chloride AA battery 3.6 volt, or direct equivalent.

Safe Disposal

- Please recycle responsibly, a wide range of schemes are available.
- Do not dispose of in normal waste or in a fire.

21. LoRaWAN Payload Decoder

The latest LoRaWAN payload decoders and guides are available on the Synetica GitHub repository:

https://github.com/synetica/enlink-decoder

A live payload decoder which allows you to paste LoRa payloads in Hexadecimal or Base 64 and see the correctly decoded results can be found at the link below:

https://synetica.github.io/enlink-decoder/

22. Technical Support

For technical assistance, please visit the downloads section of our web site at www.synetica.net or email us at support@synetica.net

About us

Synetica was established in 2008 with the simple idea to revolutionise air quality monitoring, energy usage and remote asset monitoring. Our global customer base relies on our expertise to help them reduce emissions and clean up the air they breathe by allowing them to monitor their energy usage and key environmental parameters via the touch of a button.

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