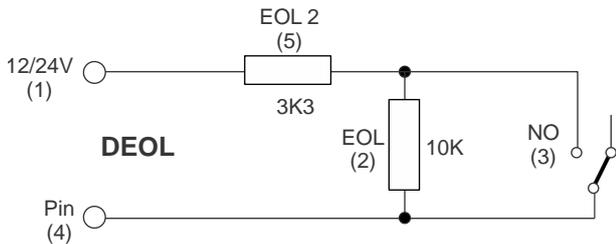
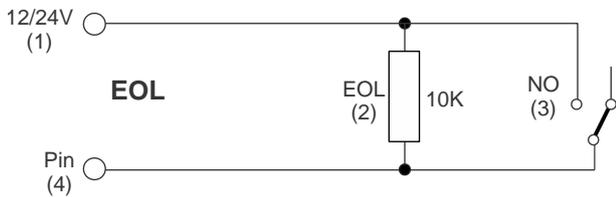
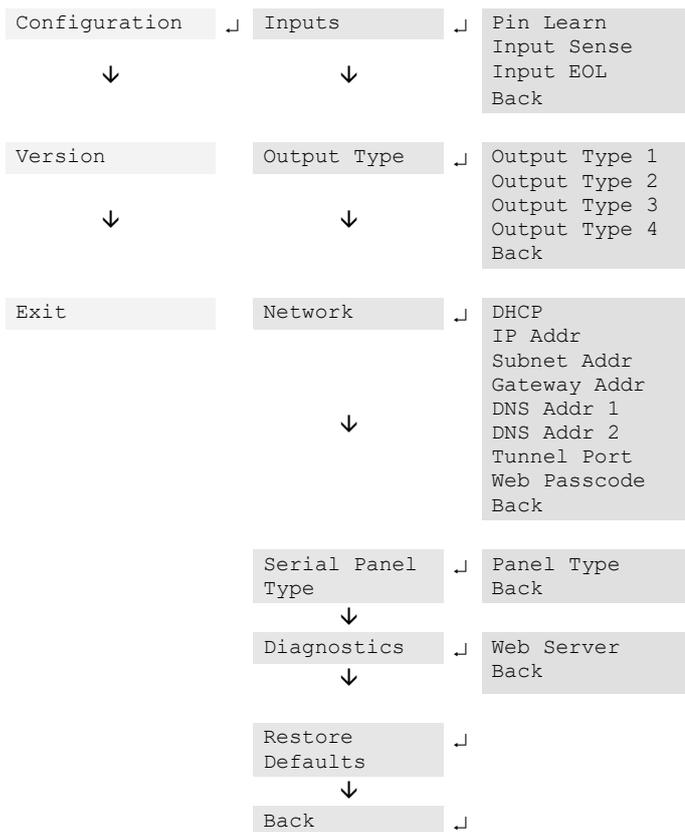


5



6



EN: Installation Sheet

Description

UC140/UC240 UltraSync Communicator is an alarm signalling unit for transmitting alarm signals from a customer's alarm panel to a Central Station (CS).

- UC140 is a single path signalling unit with the cellular 4G/2G communication. It is designed only for intrusion systems.
- UC240 is a dual path signalling unit, with the primary IP path and the cellular 4G/2G communication as the backup path. The UC240 is designed for use in both intrusion and fire alarm systems.

The unit communicates via UltraSync, and a valid UltraSync account must exist for the unit to communicate. The UltraSync account will have been populated with the serial number of the unit.

The communicator has 8 or 16 general purpose alarm inputs, and 2 or 3 outputs (depending on the variant), making it suitable for connection to most common alarm panels.

Figure 1: UC140 and UC240 layout

- | | |
|----------------------|------------------------|
| (1) Dial capture | (8) Ethernet connector |
| (2) Output relays | (9) LCD screen |
| (3) Ground | (10) Enter button |
| (4) Serial connector | (11) Down button |
| (5) Aerial antenna | (12) Alarm inputs |
| (6) Unit SID | (13) Power connection |
| (7) Up button | |

Mounting and wiring

Removal of cover

The top cover can be removed by gently releasing each of the 4 clips on the base of the unit by pushing the clips outward with a screwdriver blade. Regular access to the inside of the unit should not be required, although occasional access may be required to access the SIM card.

Mounting

The unit should be mounted inside a suitable robust enclosure, using the sticky mounting pads supplied.

For security installations the enclosure must meet or exceed the protection requirements of the particular security grade for the whole installation as per EN 50131-1.

For fire alarm panels the enclosure must meet the requirements of EN 54-21 7.3 (for example, IP30 or above). Enclosure requirements for the signalling unit are the same as for the fire alarm panel itself and must meet EN 54-2 and EN 54-21. The enclosure must restrict access to installer level 3. The enclosure must provide the facility to indicate the state of the fault and acknowledge outputs on the signalling unit. If the fire panel and the separate enclosure are some distance apart (i.e. not within line of sight) then the indications should be at the panel.

Caution: Mounting the signalling unit within fire alarm panel or fire alarm power supply enclosure might invalidate their compliance with EMC regulatory requirements.

The supplied aerial should be mounted vertically outside of the housing by removing the adhesive backing. The aerial must not be affixed to a metal surface such as the alarm panel enclosure as this can significantly degrade the EMC performance of the system.

The supplied aerial should be mounted vertically outside of the housing by removing the adhesive backing.

Connection terminals

The screw terminals for the alarm inputs are suitable for use with a standard 3 mm blade terminal screwdriver.

See Figure 1 for connections.

Power connection

See Figure 1, item 13.

The unit is designed to be connected to the auxiliary power output on an associated alarm panel, or separate powered enclosure. For use with intruder alarm panels the power supply must meet the requirements of EN 50131-6.

For use with Fire alarm panels the power supply must meet the requirements of EN 54-4 and the unit must be mounted in the same enclosure as the power supply from which it derives its power. Ensure the power source is sufficient to power all devices connected. See “Specifications” on page 14 for more information. The account at the Central Station (CS) should be put “on test” before power up, as signals will be sent following initialisation.

Alarm inputs

See Figure 1, item 12.

Of the 16 alarm pin inputs, all behave as general purposes inputs with the following exceptions.

Pin 1 must be used for Fire alarm when ACK NAK outputs are used for Fire panels. The signalling unit, when configured, provides an acknowledge and not acknowledged indication via use of outputs 2 (Func) and 3 (Fire).

Pin 4 can have an RPS output associated with it. See “Output 2 (Func)” on page 5, RPS (not available for Fire configuration).

Pin 11 acts as an ATS input as per the requirements of the BSIA form 175 document. This applies only when output 1 is set to BSIA mode (not available when configured for Fire).

Pin 13 acts as an AC fail input and therefore has a default 7-minute delay before a pin 13 alarm is transmitted. It also has a 7-minute delay before a reset is sent. On presenting an alarm condition to pin 13, the units display will show the alarm immediately but 7 minutes of constant alarm condition needs to elapse before transmission. Similarly, restoring pin 13 will immediately remove pin 13 from the display, but 7 minutes of constant restore condition needs to elapse before transmission of pin 13 restore.

The 7-minute time delay can be configured through the web portal or app by typing a new value up to 99 (minutes) in the “Mains Fail delay” field. If the “Mains Fail delay” is set to 0, then pin 13 can be used as a general purpose alarm input (subject to CS acceptance).

Interconnection monitoring

Pins 1 to 16 can be set up for End of Line and Dual End of Line interconnection monitoring. The following modes are available:

- None: Alarm and Restore detection.
- EOL (Single End of Line mode): Alarm, Restore and Cut detection. See Figure 5, EOL, for connection diagram.
- DEOL (Dual End of Line mode): Alarm, Restore, Cut and Short detection. See Figure 5, DEOL, for connection diagram.

Figure 5: Input connection diagram

- | | |
|---------------------------|----------------------------|
| (1) To 12V or 24V supply | (4) To alarm input (pin) |
| (2) EOL, 10 kΩ resistor | (5) EOL 2, 3.3 kΩ resistor |
| (3) Normally open contact | |

The typical panel connections for panel with 2 inputs and unit with interconnection monitoring is shown in Figure 2. For this example, you need to configure inputs as following.

Ensure that the required pins have Dual EOL enabled in the configuration menu in the example pin 1 and pin 8 have been enabled for this.

- Output 1 = Single path fail
- Output 2 = Fire Nak
- Output 3 = Fire Ack (UC240 only)

Default input configuration

By default the, alarm inputs require a positive condition to be presented to send an alarm (default = positive applied). This can be changed using the Pin Learn button or through the configuration menu.

The default configuration is the following:

UC140	UC240	Description
—	1	Fire alarm. When programed Fire NAK and ACK outputs operate in conjunction with pin 1.
—	2	Fire Fault or Hold up alarm.
1	3	Intruder alarm.
2	4	Open / Close (Set / Unset). Func output can be set up as RPS in conjunction with pin 4.
3 to 4	5 to 10	General alarm.
—	11	ATS input (BSIA F175 mode). Can be reprogrammed as a normal alarm pin.
—	13	AC Fail alarm. Has a 7 minute delay which can be altered in programming.
7 to 8	14 to 16	General alarm.

Outputs

Relay outputs are provided on screw terminals at the top of the unit (see Figure 1, item 2).

Output 1 is Comms, output 2 is Func, and output 3 is Fire (UC240 only).

For fire alarm installations the indication of ‘acknowledgement of fire alarm’ and ‘SPT fault’ messages must be provided by the fire panel into which the SPT is mounted. System fault indications which are notified by the line fault output (output 1) must be latched by the fire panel as required by EN 54-21.

Default output configuration

Note: Default settings provide simple installations for PD6669 without reprogramming.

Output 1 (Comms)

Output 1 acts as the Communications fail output. The mode of operation can be selected through the configuration menu (see “Outputs menu” on page 7).

- 1: BSIA form 175 output (default setting). This allows the alarm panel to interrogate path faults as single path or dual path. By default the relay output will switch, following either path fail, once the relevant timer has expired (UC240 only).

If ATS input (pin 11) is toggled during the fail period, i.e. (panel interrogation) then Output 1 will either switch back to indicate a single path failure, or remain operated to indicate a dual path failure.

The unit also supports inverted mode BSIA175 operation by learning pin 11 to be positive removed.

- 2: Single path fault. Will operate when either path is in fault.
- 3: Dual path fault. The relay will operate when both the IP and Mobile path are in fault (only available in UC240).
- 4: IP Path fault. To be used in conjunction with Output 2 for the mobile path (only available in UC240). See “Output 2 (Func)” below.

Output 2 (Func)

Output 2 has a number of configuration options:

- 1: Dual path fault (default setting). Will operate when both paths are in fault (only available in UC240).
- 2: User control output. This can be switched on and off from the web portal or the app.
- 3: Mobile path fault output. In this case Output 1 is set as the IP path fault output, and Output 2 as the Mobile path fault output (only available in UC240).
- 4: RPS output for Pin 4. The output will operate when input pin 4 is triggered. It will return to normal when an acknowledge signal is returned from the CS. The output has a minimum operation time of 1 s.

When the acknowledgement is received in less than 1 second after pin 4 is triggered then the output will remain operational for 1 s.

- 5: Fire NAK output. When configured in this way Output 2 will activate after a pin 1 alarm is sent and no acknowledgement from the platform is received for 80 s (only available in UC240).

Output 3 (UC240 only)

- 1: User operated (default setting). This can be operated by the web portal or the application.
- 2: Fire ACK output. When configured in this way, output 3 will activate when an acknowledgment to a pin 1 alarm is received. It will deactivate when pin 1 resets.

Fire output settings

To ensure that the communicator can inform the fire alarm panel of status as per the requirements of EN 54, the outputs need to be configured as follows.

- Output 1: Comms. Single Path fail. Will operate when either signalling path fails.
- Output 2: FUNC. Fire Nak. Will operate after a pin 1 alarm is sent and no acknowledgement from the Central Station (CS) is received for 80 s.
- Output 3 (UC240 only): FIRE. Fire Ack. Will operate when an acknowledgment to a pin 1 alarm is received from the CS. It will return to normal when pin 1 is reset.

Output 1 will be operated in the normal state. This ensures that, in the unlikely event of a total failure of the unit, the fire panel will still detect a state change on its fault input.

The NAK and ACK relay operate in the following mode:

Condition	Relay Terminal	Fire ACK
Power Off	Output 3	C <-> NC
Not in ACK (idle)	Output 3	C <-> NO
ACK	Output 3	C <-> NC

Condition	Relay Terminal	Fire NACK
Power Off	Output 2	C <-> NC
Not in NAK (idle)	Output 2	C <-> NO
NAK (no ack for 80 seconds)	Output 2	C <-> NC

Basic Arm/Disarm Wiring

UC140/UC240 can be used to:

- Remotely arm a panel through keyswitch control
- Check alarm panel status

See Figure 4 for a wiring diagram example.

An operator or user can remotely control output 2 (Func), causing it to be active or passive (for example, to arm the panel). The output must be configured for user control output. See “Output 2 (Func)” above for details.

The panel can short input 2 (UC140) or input 4 (US240) to ground to indicate change of state (for example, armed or disarmed). The indicated state is configured by the operator.

Dial capture

See Figure 1, item 1.

The dial capture (Dial Cap) terminals enable interfacing with an alarm panel digital communicator. The alarm panel can then send SIA, CID or Fast Format messages through the unit to the Central Station.

The dial capture pins present a ‘phone line’ to the panels on board digital communicator.

Connect the alarm panel’s digital communicator line connections to the terminals marked Dial Cap on the unit. The terminals are not polarity conscious.

The dial capture board will auto detect the panel protocol as events are sent from the alarm panel. SIA, CID or FF.

If there are any issues you can easily spot them by connecting a test phone, or listening device to the Dial Capture inputs. The dial capture pins with a test phone connected and line seized (as if making a phone call) will provide a continuous tone (dialling tone). The dial capture pins will also have a voltage of 45 V.

Dial capture can also be used for upload download UDL allowing remote access with some types of alarm panel.

Serial Connection

See Figure 1, item 4.

The serial data connection labelled TX, RX, B and A is configurable for RS485 or RS232 connection depending on the panel. This is done in the configuration menu. These ports allow serial alarm panel connection.

It is recommended that good quality screened cable (Belden type, CAT5e or equivalent) is used in all wiring of this type to avoid interference on the panel’s data bus. Depending on the panel type, additional termination resistor may be required.

Please contact your Carrier representative for the latest information on panel compatibility for Upload Download and enhanced format signalling via serial connections.

Aerial connection

See Figure 1, item 5.

Connect the supplied aerial to the MMCX connector on the top right of the unit. The aerial should be placed in a vertical position that receives the best wireless coverage. Carry out a survey to establish the best location. See also “Signal strength” below.

Programming

The unit is supplied pre-configured with factory default values. For most installations no changes to the configuration are required.

The unit can either be configured by using the on-board configuration menu driven by the buttons, or through the UltraSync+ application, web server, or UltraSync Portal. Some configurations are only available through the application or the UltraSync Portal.

Pin learn

For speed of installation a single button press pin learn is available.

When ready press and hold the Down button (Figure 1, item 7) for 3 s, “Notice- Done!” is displayed when finished.

Unit initialisation

The unit will immediately attempt to connect to the UltraSync platform over the configured paths. See “Specifications” on page 14 for power up time.

Status display

The unit clearly displays its status on the OLED.

In its normal working state, the unit will cycle its display.

Path: IP Registered	IP Path and if registered with the platform.
Path: Mobile Registered	Mobile Path and if registered with the platform.
Signal Strength 4G [■] [-103]	Network type and signal strength in dBm and indicator bars. See “Signal strength” below.
Service Grade DP3	Service Grade.

The performance category can only be determined by the unit while in contact with the platform. The unit will not show the performance category until at least one path is registered and the profile can be retrieved from the platform.

Alarms GPI Alarm
3

Alarms Battery
Low Battery

Pin status: Any outstanding alarm pins are shown.

The unit may also show “low battery” if the supply voltage is below the supply threshold.

Signal strength

Indicator	Strength	Value	
		2G	4G
[X]	No signal	<-90 dBm	<-120 dBm
[■]	Poor	-90 to -85 dBm	-120 to -110 dBm
[■ ■]	Good	-85 to -80 dBm	-110 to -100 dBm
[■ ■ ■]	Very good	-80 to -75 dBm	-100 to -90 dBm
[■ ■ ■ ■]	Excellent	>-75 dBm	>-90 dBm

X or 1 bar: Try to improve the signal by moving the unit, aerial or using an external or high gain aerial.

Path Status

The state of the communication paths is indicated by the OLED display, both the IP and mobile path have the following possible path status:

- Up No Reg: Path is up but not registered with the platform
- Registered: Has contacted the platform and successfully registered
- Alarm/Ack: Alarm is being transmitted and awaiting Ack
- Down: The path has lost connectivity to the platform and is trying to reconnect

Configuration menu

See Figure 5 for the Configuration menu map.

Press and hold Enter button (Figure 1, item 10) for 3 s to enter the configuration menu.

The unit will then display Configuration.

Configuration
↵

Menu navigation

Press Enter button to:

- Enter the displayed menu
- Edit the displayed value
Edit mode is indicated by an asterisk “*” next to the menu title.
- Proceed to the next digit
- Save the changed value

Press Up (item 7) and Down (item 11) buttons to:

- Go to previous or next menu
- Change the edited value

Press and hold Enter button for 5 s to save changes.

Press and hold Down button for 5 s to cancel changes and return to the selected menu.

Press and hold Up button for 5 s to cancel changes and exit the configuration menu.

Inputs menu

Pin Learn

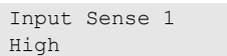
All pins to be used should be wired in and all the pins should be in the non-alarm state. No tampers should be active (if wired in) and pin 4 (open/close) should represent the system being set/closed.

The polarity of pins can be learnt by pressing and holding the Down button for 5 s. The display will show "Notice- Done!"

Input sense

The polarity of the pins can manually be configured by the installer. This is additional to the "Input sense" function described above.

1. Access the configuration menu by holding Enter button for 3 seconds.
2. Press Enter, Enter, Down. The display will show Input Sense.
3. Press the Enter button again to enter the Input Sense menu. Pin 1 and status will be shown.



```
Input Sense 1
High
```

4. Use the Down button to step through the pins.
5. Once the desired Pin is reached, press the Enter button to edit. "*" will be displayed.
6. Use Down or Up button to change to High (positive applied) or Low (positive removed).
7. Once selected, hold the Enter button down till "Notice-Saved!" is displayed.

Inputs EOL

The alarm inputs (pins) can be set to the following modes:

- None: Alarm and Restore.
- EOL (Single End of Line mode): Alarm, Restore and Cut
- DEOL (Dual End of Line mode): Alarm, Restore, Cut and Short.

Outputs menu

The three relay out puts can be configured as follows:

1. Output type 1 (Comms)

- BSIA 175 Mode: Operates when either path is in fault but in conjunction with Pin 11 ATS allows the panel to interrogate the device to determine a single or dual path fault (default)

- Single path fault: Operates when either path is in fault

- Dual path fault: Operates when both paths are in fault (only available in UC240)

- IP path fault: Operates when the IP Path is in fault (only available in UC240)

2. Output type 2 (Func)

- Dual path fault: Operates when both paths are in fault (default) (only available in UC240)

- User: Allow the relay to be operated remotely via the app or portal (default)

- Mobile path fault: Operates when the mobile path is in fault

- RPS: Return path signal operates in conjunction with pin 4

- Fire Nak: Fire pin not acknowledged. Operates in conjunction with Pin 1

3. Output type 3 (Fire) (only available in UC240):

- User: Allow the relay to be operated remotely via the app or portal

- Fire Ack: Fire pin acknowledged. Operates in conjunction with Pin 1 (default)

Network menu

The programming options under the network sub menu are:

- DHCP: Allows the unit to be changed between dynamic (DHCP client) or Static mode. Default setting is dynamic (DHCP enabled).

The Ethernet port will attempt to obtain an IP address from a DHCP server on the LAN.

- IP address: Shows current IP address but can also be configured for a static IP address
- Subnet mask address: Shows current subnet address but can also be configured for a customer subnet address
- Gateway address: Shows current gateway address but can also be configured for a customer gateway address
- DNS Address 1, DNS Address 2: Can be configured to use specific DNS servers
- Tunnel Port: 443 (default) or 10443
- Web passcode: Used in conjunction with Installer and Customer apps

Static IP Address, Subnet mask and Gateway address

If the unit is to be connected to a LAN that requires the unit to have a static IP address (i.e. no DHCP server on the LAN) then this can be configured as follows after setting DHCP to Disabled.

1. Go to Network > ETH IP Addr menu, and press Enter to edit.



```
ETH IP Addr *
000.000.000.000
```

2. Press Up and Down button until the correct number is selected.
3. Press Enter button to save the digit and move to the next one.
4. Repeat for all digits.
5. Press and hold Enter to save.
6. Repeat for Network > ETH Subnet Addr and Network > ETH GW Addr.

DNS Addr 1

Required to convert host names that are used to contact the server.

DNS Addr 2

Alternative DNS addresses, for example, 8.8.8.8 or 1.1.1.1.

Tunnel Port

The alternative tunnel port can be selected by accessing the Tunnel Port menu under network

- 443 (default)
- 10443

When used in IP mode, the unit will attempt to establish a connection to the UltraSync servers by signalling on IP Port 443. For most LANs this will function correctly, but on some advanced LAN configurations the network manager may not allow outgoing access on port 443 but 10443 may have outgoing access. Where this is the case then the unit can be configured to use the alternative port 10443. The UltraSync servers are set to accept both ports and so no changes are required other than on the unit's configuration.

Web Passcode

This code is used to set up both the installer and customer app, it can be changed from its default.

Diagnostics menu

Web server (only available in UC240)

To allow access to program the unit via a laptop, the web server needs to be set to Enabled. Access to the web server is then allowed.

See also "Web Server" below.

Restore defaults menu

The Restore defaults option on the menu can be used to set the unit back to factory default.

Web Server

You need to plug in your laptop and login to the device.

Open your web browser and surf to <http://192.168.222.222>.

The default user is *installer*, and the default password is *9713*.

The unit has a static IP address of 192.168.222.222 for the duration that the web console is enabled. To access the Web Server a PC and device needs to be connected to the same LAN network. If an Ethernet switch is used to allow connectivity between device and a laptop, then the units will still be able to communicate with the platform over the IP path.

If you plug the cable direct from the PC to the unit, the unit will be unable to communicate across the IP path. A comms fault on the IP path will therefore be signalled to CS after the normal time out (normally 3 minutes for DP3, 30 mins for DP2). The Comms output will also operate after the time out (normally 4/30 mins) indicating single path fail. This is considered normal. The Mobile path will still function while the web server is enabled i.e. the unit respond to incoming polls over mobile.

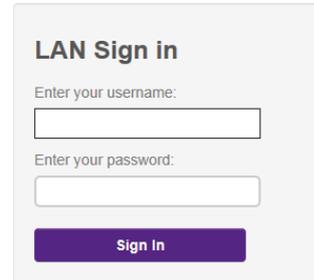
- Web Server will automatically exit after 20 minutes.
- Web Server can be disabled at any time by the installer.
- Web server will revert to disabled if the unit is restarted.

- To access the Web Server a PC needs to be connected to the Ethernet port.
- Configure the PC to have a static IP address within the range 192.168.222.xxx.

For example, set the PC to have the following static details:

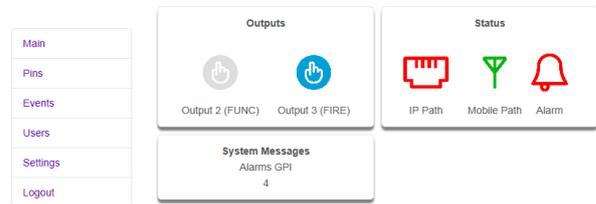
- IP address 192.168.222.10
- Subnet mask 255.255.255.0
- Gateway 192.168.222.222.

Logging in



Log in with the default username = installer, password = 9713.

Main Status Display



When you first login you are presented with the main status page, you can return to this page at any time by clicking Main on the menu bar.

The status page shows the User operated outputs. Output 2 (Func), which can be renamed in the settings menu, can be operated by clicking on the interactive icon if output 2 (FUNC) is set up as USER. When operated, the interactive icon turns orange from blue, and back to blue when pressed again. Output 3 (Fire) can be operated in the same way when Output 3 (Fire) is set to USER. If the Output Icon is grey it means that the Output is not set up as User operated.

In the example above Output 2 is not configured to be user operated. Output 3 is configured.

Status

These icons show the status of the signalling paths and if there are any outstanding alarms. Green for the signalling path icons indicates signalling paths are successfully connected to the platform. Red indicates that a path is down.

In the example above LAN is red, (showing down), as we have connected the laptop into the Ethernet port – therefore the connection to the customers network is unplugged and the IP connection is in the down state.

The bell icon is Red in the example above as we have a Pin 4 alarm, shown in the system messages box, which you would expect to see as the system will be open.

If no pin inputs are in alarm the bell icon will be green.

System messages

The system messages box will scroll through the key messages:

- Battery: Will indicate if supply is low.
- Alarms GPI cut or short: Any pin inputs that are in the cut or short state (EOL or DEOL).
- Alarms GPI: Any pin inputs in alarm.
- Signal strength: Signal strength in dBm and the name of the mobile network operator. See also “Signal strength” on page 6.

The menu bar on the left hand side can take you to any of the menu options described below.

Should you need to make any changes in the following menu options click on save. This will save your changes to the unit.

Pins menu

Pin	Status
Pin 1	Short
Pin 2	OK
Pin 3	OK
Pin 4	Alarm
Pin 5	OK
Pin 6	OK
Pin 7	OK
Pin 8	Cut
Pin 9	OK
Pin 10	OK
Pin 11	OK
Pin 12	OK
Pin 13	OK
Pin 14	OK
Pin 15	OK
Pin 16	OK

Pins shows the Name (if changed) and status of each of the pin alarms. OK with green dot shows the pin is not in alarm and Alarm with the red dot if in alarm. It will also show if a pin is in a cut or short state, with a blue dot and cut or short.

Events menu

Time	Event	Type
2018-11-11 15:23:51	Tamper Alarm	Event
2018-11-11 15:23:51	GPI Alarm	Event
2018-11-11 15:23:51	Config Change	Event
2018-11-11 15:20:42	Access	Event

The menu shows most recent events. If you click on the drop down you are able to filter the events by type – for example, Alarms, System, Configuration or Connection.

Users menu

Configure Users

Buttons: Add, Edit, Delete, Save

Edit an Existing User: installer (1)

User Name: installer

PIN: ****

Type: Master Installer

This menu allows you to set up additional installer and end customer app access to the unit and change log in pin numbers.

Settings menu

Settings Selector

Dropdown: Details

Buttons: Up, Down, Save

Device Details:

- Serial Number
- Ethernet MAC Address
- Firmware Version
- Hardware Version
- Bootloader Version
- Web Pages Version
- Menu Strings Version
- Device Region

The settings menu has sub menus to be able to program the unit. The first screen gives you details of the device including MAC address and firmware version. Use the down button to step to the first sub menu option or use the drop down to access the sub menus.

Settings: Status

Settings Selector

Dropdown: Status

Buttons: Up, Down, Save

UltraSync

Status: Online

IP Path: Online

Mobile Path: Online

IP Path: Connected

IP Media: Ethernet

Mobile Path: Mobile Path

The status sub menu shows the status of the IP path. It is offline and disconnected in the example shown above as we have the laptop plugged into the Ethernet port. It also shows the mobile path status, if it is using 2G or 4G, the signal strength, which SIM and operator.

Settings: Network

Settings Selector

Dropdown: Network

Buttons: Up, Down, Save

Ethernet

Method: DHCP

Tunnel Port: 843, 10443

Remote Access

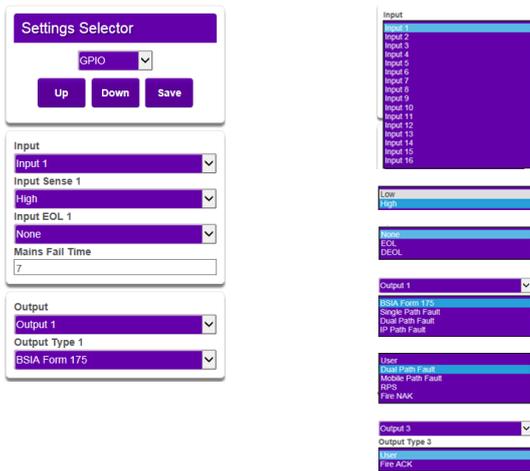
Web Access Passcode: 65790246

This menu allows you to change from DHCP to static and to alter the Web Access Passcode. To change to static click on the drop Down button which will then show DHCP and Static. Click on static. Additional boxes will be displayed allowing you to add in the static IP, Subnet mask and Gateway addresses.



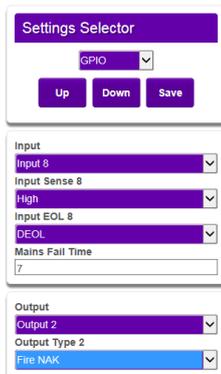
Make your changes and then click the save button. Program success will be displayed.

Settings: GPIO



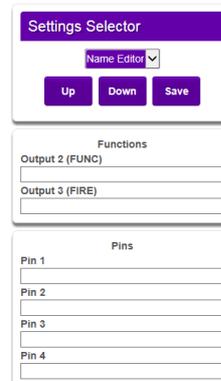
In this menu, by using the drop down buttons on each section, you can change any of the pin input status from High (positive removed) to Low (positive removed). You can set up either end of line (EOL) or dual end of line (DEOL) for each pin as required. Mains fail time for pin 13 can be adjusted. If set to Zero, pin 13 becomes a normal alarm pin. Each of the 3 outputs can be configured as described earlier in this guide.

In the example below, we show pin 8 as Active High, with DEOL monitoring. Output 2 is set to operate as a Fire NAK output (operates if an acknowledgement on a pin 1 alarm is not received within 80 seconds).



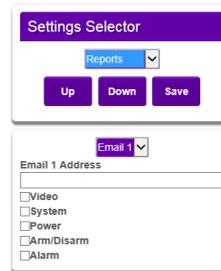
Make all the changes to the pin inputs and outputs then click the save button to store your changes in the unit. Program success will be displayed.

Settings: Name Editor



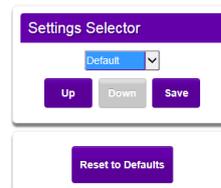
It is possible to add names to the pin inputs. This will then show up on the customer app and notifications. You can choose a description for the USER relay outputs. Click save when you have entered all the information.

Settings: Reports



This allows you to set up a number of email addresses that could receive emails on the various options, for example, Alarms and System messages.

Settings: Defaults



The above restores the unit to factory settings by clicking Reset to Defaults.

Logout

Clicking Logout will take you back to the sign in screen.

Should the web server enablement time out you will not be able to save changes. You will need to re enable the Web Server through the programming buttons.

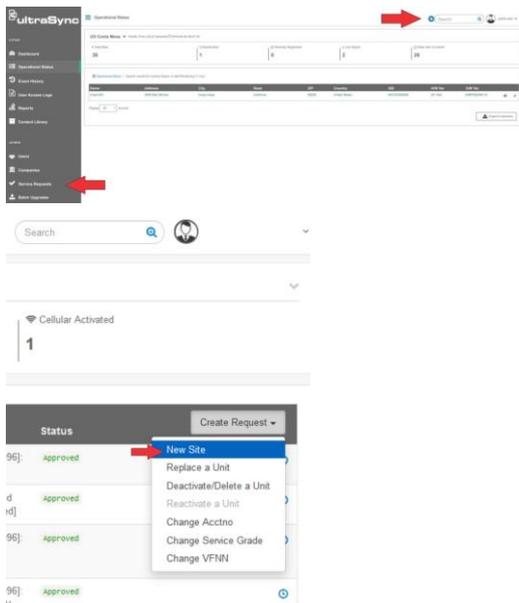
Activating the device in the UltraSync service

To activate the communicator in UltraSync, login to the UltraSync webportal on <https://ultrasync-webportal.ultraconnect.com/login> using a dealer manager account, and create a new site.

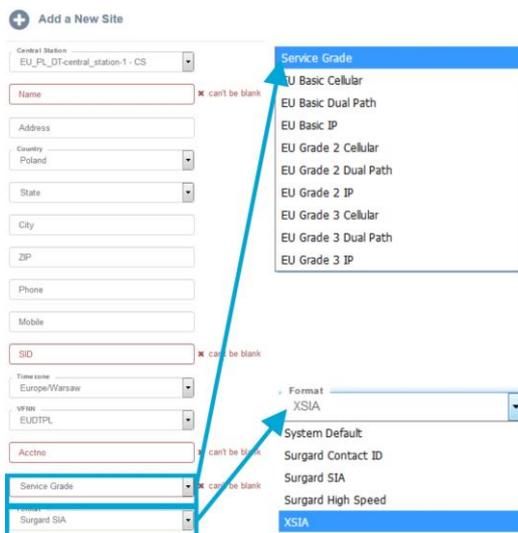
There are two locations where you can create a new service "New Site".

- Click the New Site button  on the Operational Status page.

- Go to Admin > Service Requests, click Create Request button, and then select New Site.



This will open the “Add a New Site” form.



There are the following fields:

- Central Station [1]: Select your Central Station from the drop-down menu. If account is not going to be professionally monitored, select Self Monitoring as your Central Station.
- Name [1]: Enter your customer’s name here.
- Address: Enter your customer’s address here.
- Country: Select the Country your customer is in from the drop-down list.
- State: Select the State your customer is in from the drop-down list. The state list will automatically be populated with the appropriate list based on the Country selected.
- City: Enter your customer’s city here.
- Zip: Enter your customer’s zip code here.
- Phone: Enter your customer’s phone number here.
- Mobile: Enter your customer’s mobile number here.

- SID [1]: Enter serial ID number of the communicator. This uniquely identifies the communicator. The SID is printed on the unit (see Figure 1, item 6).
- Timezone: Select appropriate time zone from the drop-down list.
- VFNN: Select the VFNN, assigned to you from your Central Station, from the drop-down list.
- Acctno [1]: Enter Account Number assigned to you by your Central Station.
- Service Grade [1]: Select appropriate Service Grade from the drop-down list.
- Format: This should only be changed if instructed by your central station. Otherwise it should be left as “System Default”. This setting allows signals to be sent using different formats. If selected incorrectly signals will not be acknowledged by your central station.

[1] Denotes mandatory fields.

Panel upload/download and Enhanced format signalling (SIA/CID)

Remote access to the alarm panel can be achieved using the UltraSync facility. Additional panel set up information is also available for enhanced format signalling. Contact your UltraSync representative for further details.

Alarm List

Table 1: Alarms signals as delivered to your CS

Description	Pin	CID (zone)
Inputs 1 to 16	1 to 16	323 (901-16)
Low Battery	985	302 (999)
Unit power up / reboot	984	305 (995)
Panel dial fail	983	314 (999)
Software changed	979	304 (999)
Panel message error	958	311 (997)
Panel Connection (RS485)	n/a	356 (997)
BSIA 175 Test	n/a	354 (998/999)
Inputs 1-16 cut alarm	n/a	325 (901-16)
Inputs 1-16 Short Alarm	n/a	324 (901-16)
IP Path	1023	351 (999)
Mobile Path	1022	351 (998)
Total Comms Fault	n/a	350 (999)

IMPORTANT NOTE: If intending to use dial capture or serial for sending alarms, please confirm beforehand with your CS that their automation software is capable of differentiating correctly between pin alarms (UltraSync Platform generated alarms) and alarm panel generated zone alarms.

IP Specifications (only available in UC240)

Data usage / requirements

IP polling is every 30 seconds. A poll and response results in 288 total bytes transferred (including IP headers). A small number of alarms will also typically be generated per day and

these result in 296 bytes transferred. Overall this generates approximately 800 Kb per day, per site.

Traffic Direction

UC140/240 establishes an outgoing TCP connection from your network to the UltraSync platform. Once this outgoing TCP connection has been established, traffic over that connection is 2 way.

Additional Protocols

Only TCP is required from your network.

Port Forwarding

No ports need to be forwarded in the incoming direction. The outgoing TCP connection connects to port 443 or 10443 on the UltraSync network, so you would need to allow outgoing access to port 443 or 10443 if you block that by default.

NAT

NAT is not required.

4G/2G Requirements

You do not need to route mobile traffic. The mobile connection from the communicator through to the UltraSync platform and on to the CS is entirely independent of your network.

DHCP and Static Addressing

The communicators can be configured as either DHCP clients or with specific static IP addresses on your internal network as you prefer.

DNS Server

The device uses host names for establishing connection to the servers, so DNS addresses are required.

Checking Cellular Coverage

The OpenSignal app is a commonly used tool for checking cellular coverage. It may assist installers in identifying a suitable location for UC140/UC240.

The device supplier does not warrant or support this app.

1. Download and install OpenSignal app on your smart phone.
2. Open the app.
3. Click to view the coverage map.
4. Set the app to the same carrier and 2G/4G network.
5. Enter the address of the site or browse the map.

If the signal level is poor in the area, this indicates you may need to install an external high gain antenna to provide a good signal.

Tips

- Signal level is affected by environmental conditions such as weather, and factors beyond the control of the equipment supplier.
- Signal level is dynamic and constantly changes. The signal level reported by UC140/UC240 is only for that specific moment. Wait a few minutes before checking

signal level again if you have repositioned the unit or the antenna.

- UltraSync Portal displays a historical signal level graph which may be useful to identify signal trend at a site. For example, a history of good signal level followed by a recent sharp drop may indicate a cellular network issue or physical interference in the area.
- The signal level displayed on the UltraSync Portal may not match the value displayed on UC140/UC240 due to the different measurement times.

Check Reporting Paths

UltraSync is a cloud-based service that allows remote management and remote access to an UC140/UC240 system if enabled.

1. Wait 5 min after powering up to allow all paths to connect and register on to the respective networks.
2. Log in to the Web Server.
3. Click Settings.
4. Select Status in the drop-down menu.
5. Check Ethernet path is connected:
 - UltraSync Status: Online
 - IP Path: Online
 - IP Status: Connected
 - IP Media: EthernetIf it does not:
 - Check cable connections.
 - Check router settings allow Internet access to LAN devices.
6. Check Cellular Path is connected:
 - UltraSync Status: Online
 - Mobile Path: Online
 - Signal Strength: -85 to -80 dBm for 2G, or -110 to -100 dBm for 4G.If it does not:
 - Check Technology displays "Connected". This may take up to 5 min from power on.
 - Check Signal level is at better than -85 dBm for 2G, or -110 dBm for 4G.
 - Check supplied SIM card is correctly inserted into SIM1 slot.
 - Check antennas are connected, move antennas to a higher location, or install a high gain antenna.
 - Contact your service provider to check the SIM card is active and data is enabled.
 - Contact your service provider to check UC140/UC240 has been provisioned and is enabled for reporting.

Web Error Messages

Various error messages may appear in the UC140/UC240 Web Server.

Read Write errors and results

- “Write Access Denied”: Changes cannot be saved, check you have permission or contact your installer.
- “Nothing displayed can be Saved”: No changes are possible on this screen.
- “Program Success!”: Changes have been saved.
- “Name Saved”: Changes have been saved.

Data Entry Errors

- “Data must only contain the following characters”
- “Date must be of the form YYYY–MM–DD.”
- “Day must be from 1 to 31”
- “Data entry must only contain the numbers 0–9 and A–F”
- “Data entry must only contain the numbers 0–9”
- “Data must be a number from X to Y”
- “Improper Time Value”
- “must be 4 to 8 digits
- “You must enter a user number between 1 and 1048575”
- “PIN digits must be between 0 and 9”
- “PIN must be 4–8 digits from 0–9”
- “Data must not contain the following characters []”

Reporting Codes

CID Code	CID Zone	SIA Alarm	SIA Restore	Description
137	999	TA	TR	Tamper
301	999	AT	AR	Control panel mains fail
302	999	YT	YR	Low system battery
304	999	YF	YF	New firmware loaded
305	995	YW	YW	System reset
306	999	LB	LB	Panel programming
309	999	TS	TE	Alarm panel battery test
311	999	YT	YR	Battery missing/faulty
314	999	YP	YQ	Communication trouble / Panel dial fail
323	9xx	BA	BR	Alarm (xx is zone 01-16)
324	9xx	BB	BU	Short circuit (xx is zone 01-16)
325	9xx	BT	BJ	Open circuit (xx is zone 01-16)
351	999	YC	YK	Telco 1 fault wireline fault
351	998	YC	YK	Telco 1 fault wireless fault
354	999	TX	TE	BSIA175 wireline test
354	998	TX	TE	BSIA175 wireless test
356	997	YC	YK	Loss of central polling
356	999			Reserved
601	997	TX	TE	Manual trigger test report

EN 50136 Compliance

Access to the configuration options by an installer must be authorised by a level 2 user. e.g. site owner. For the UltraSync alarm transmission equipment, compliance is achieved at

installation by requiring a one-time authorisation agreed as part of a service level agreement. It's recommended the signed authorisation is retained with the 'as fitted' documentation.

An example authorisation form is provided in “Appendix 1: Example Authorisation Form” on page 15.

To comply with EN 50136-2 Clause 5.2 Access levels, the default PIN must be changed and set to a minimum of 6-digits. You can change the access PINs in the USER settings. This applies for all types of access to the device.

Communications Path Monitoring

The UC140 UltraSync Communicator unit is a wireless single path, roaming SIM, alarm signalling unit for transmitting alarm signals from a customer's alarm panel, via the Carrier UltraSync network to an Central Monitoring Centre (CMS) using pass-through mode of operation. The unit has a roaming SIM with 4G/2G mobile technology and must be activated via the UltraSync Webportal before it will communicate. Once connected to the platform the unit uses a poll and response check to determine path status. Path fail alarm is platform generated if the unit failed to respond in the required period.

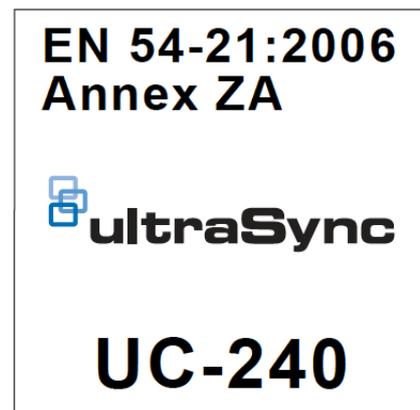
The UC240 UltraSync Communicator unit is a dual path alarm signalling units for transmitting alarm signals from a customer's alarm panel, via the Carrier UltraSync network, to an Central Monitoring Centre (CMS) using pass-through mode of operation. The unit uses IP as its primary path with dual SIM 4G/2G mobile technology as the backup path. It is designed for use in both Security and Fire systems.

The unit must be activated on the Carrier UltraSync network using the UltraSync Webportal before it will communicate. Once connected to the platform the unit uses a poll and response check to determine path status. When the primary path fails the secondary path will take up the polling and reporting parameters of the primary path.

Individual path fails are transmitted over the remaining path. Dual path failure is platform generated if the unit failed to respond in the required period.

Fire labelling for EN 54-21 (UC240 only)

The following EN 54 label is included as part of the UC240 carton. In accordance with the requirements of clause 8 of EN 54-21 this label must be applied during installation to the outside of the enclosure.



Specifications

	UC140	UC240
Power supply	9 to 30 VDC	
Current consumption		
Maximum loading	85 mA at 12 V, 185 mA at 24 V	85 mA at 12 V, 185 mA at 24 V
Normal operation (including relays and dial capture operated)	45 mA at 12 V, 100 mA at 24 V	45 mA at 12 V, 100 mA at 24 V
Power up time	IP: 120 s, 4G/2G: 120 s	
Alarm inputs	8 general purpose inputs -0.5 to 30 V	16 general purpose inputs -0.5 to 30 V
Alarm threshold	High >2.0 V, low <1.3 V	
Outputs	2X CO relay (Comms, Func) Max. rating 1 A at 30 VDC	3X CO relay (Comms, Func, Fire) Max. rating 1 A at 30 VDC
RS232 port	Remote panel access (UDL) and signalling to intruder panels	
RS485 port	Remote panel access (UDL) and signalling to intruder panels	
Configuration	Using on board configuration buttons, web portal or App	
IP protocol and ports	—	TCP, 443 or 10443
Information Security	AES256 Encryption	
Wireless module	2G/4G	
Frequency band	703–748 MHz (B28) 832–862 MHz (B20) 880–915 MHz (B8, E-GSM 900) 1710–1785 MHz (B3, DCS 1800) 1920–1980 MHz (B1)	
Maximum power output:		
703–748 MHz, 832–862 MHz, 1920–1980 MHz	Class 3bis (23 dBm)	
1710–1785 MHz	Class 1 (30 dBm)	
880–915 MHz	Class 4 (35 dBm)	
Dimensions	95 x 67 x 17 mm	
Weight	73 g	85 g

Regulatory information

Manufacturer	PLACED ON THE MARKET BY: Carrier Fire & Security B.V. Kelvinstraat 7, 6003 DH Weert, Netherlands
Product warnings and disclaimers	THESE PRODUCTS ARE INTENDED FOR SALE TO AND INSTALLATION BY QUALIFIED PROFESSIONALS. CARRIER FIRE & SECURITY CANNOT PROVIDE ANY ASSURANCE THAT ANY PERSON OR ENTITY BUYING ITS PRODUCTS, INCLUDING ANY "AUTHORIZED DEALER" OR "AUTHORIZED RESELLER", IS PROPERLY TRAINED OR EXPERIENCED TO CORRECTLY INSTALL FIRE AND SECURITY RELATED PRODUCTS. For more information on warranty disclaimers and product safety information, please check https://firesecurityproducts.com/policy/product-warning/ or scan the QR code.



Certification
UC240:



2831-CPR-X0013
(2022)

EN 54-21:2006 Annex ZA
Alarm transmission and fault warning routing equipment for fire alarm systems installed in buildings.



EN 50136-2:2013
EN 50131-10:2014
Cert Nr. 1673a

EN 50130-5
Environmental class II

EN 50136-2:2013, EN 50131-10:2014
UC140 is suitable for use in systems installed to conform EN 50136-2:2013 and EN 50131-10:2014 at Grade 2 (SP2)

UC240 is suitable for use in systems installed to conform EN 50136-2:2013 and EN 50131-10:2014 at Grade 2 and Grade 3 (DP3)

Carrier Fire & Security hereby declares that this device is in compliance with the applicable requirements and provisions of all applicable rules and regulations, including but not limited to the Directive 2014/53/EU. For more information see: firesecurityproducts.com

REACH

Product may contain substances that are also Candidate List substances in a concentration above 0.1% w/w, per the most recently published Candidate List found at ECHA Web site.
Safe use information can be found at <https://firesecurityproducts.com/en/content/intrusion-intro>



2012/19/EU (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: recyclethis.info

USER OR BYSTANDER EME PROXIMITY LIMITATION

The distance between the antenna and any user or bystander must be greater than 20 cm.

Contact information

firesecurityproducts.com or www.aritech.com

Appendix 1: Example Authorisation Form

For the purpose of on-going maintenance and configuration

Company name

Authorises

Installer company name

For Remote access to UltraSync communicators

Serial No. (number)	
Installed at: (premises address)	
Date	Signature

