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WES

WES3 Interface Manual

ramtech
Orama group

Contents

Technical Data

Device Parameters

Dimensions (in) HxWxD:	9.25 x 6.33 x 2.28 (excl. Antenna 3.18inch and USB 0.59 inch)
Weight:	3.09 lbs
Operating temperature:	-13°F to +158°F

Supply Parameters

Operating voltage range:	4.4-6.4V from internal battery
Current consumption:	120µA average
Battery type:	Alkaline primary cells, 23Ah

RF Parameters

Operating frequency:	916.5 MHz
Transmit power:	25mW max
Duty cycle:	<1%

WES3 Interface Range

Introduction

The WES3 Interface range extends the functionality of the WES3 system by enabling a wide range of third-party devices and systems to be connected directly to a WES3 network. Connections can be inbound (ie a third-party device signaling in to the WES3 network), outbound (where the WES3 network can trigger a connected device), or a combination of both.

The range of WES3 Interface devices allow the function of a WES3 network to be highly customized to suit specific use cases and site requirements.

WES3 Standard Interface

The WES3 Standard Interface can be used either to i) trigger a site-wide alarm on the WES network when a connected third-party device is activated, or ii) trigger a connected third-party device when the WES3 network alarm is activated. Typcial uses include connection to fire alarm panels, access control systems and off-site communication devices (autodiallers).

WES3 Water Interface

The WES3 Water Interface enables water detection devices such as detection cables, to be connected to a WES network, providing automatic 24/7 monitoring and raise a notification in the event of water being detected. The same WES Interface can be configured to also trigger a connected third-party device, such as a shut-off valve.

WES3 Medical Interface

The WES3 Medical Interface is used to trigger a third-party medical alert device, such as an autodialler, when a Medical Alert is raised on a WES3 Call Point. This allows site teams to respond immediately to first aid incidents and medical emergencies, even in locations where cellular signal is not available.

WES3 Maintenance Interface

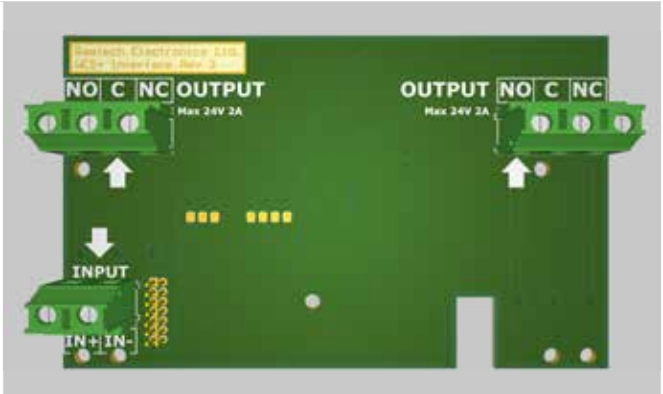
The WES3 Maintenance Interface provides maintenance and service teams with notifications whenever a system fault is raised on the WES3 network. This could be a low battery warning, an external tamper fault, or a network signal strength alert. The Maintenance Interface is typically used to trigger an autodialler or pager notification where cellular-dependent systems are not viable.

General Installation

INPUT / OUTPUT CONNECTIONS

The Interface has two auxiliary relay outputs and one auxiliary input. These allow the WES3 system to be expanded to interact with external devices.

Connections to third-party devices (both inbound and outbound) are unmonitored. Where remote monitoring is required, such as the connection of automatic or manual fire detection devices and active fire protection systems such as sprinklers, gas suppression systems etc. additional measures may be required.

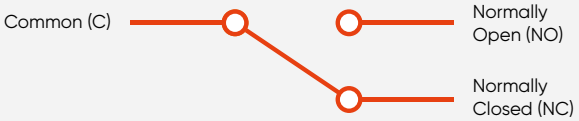


Cable disconnection or damage could result in the alarm not activating when required without any fault or warning indication. The cable length of connected devices must be no more than 2m length.

Output

The outputs are rated for 24V at up to 2A maximum.

When NOT in Alarm



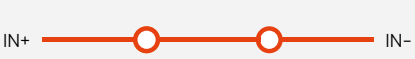
When in Alarm

Input

The input requires a "volt free" contact from a relay and should not be connected to power.

Alarm NOT Triggered

Alarm Triggered



WES3 Standard Interface

The WES3 Standard Interface unit allows you to connect your WES3 network with a host of other building managements and emergency systems on site including access control systems, lifts and emergency lighting. The WES3 Standard Interface is suited to a wide range of projects, be it a new build through to extensive refurbishment projects. The Interface is capable of communicating with most commonly used technologies in existing buildings, construction projects and site cabins.

Use cases:

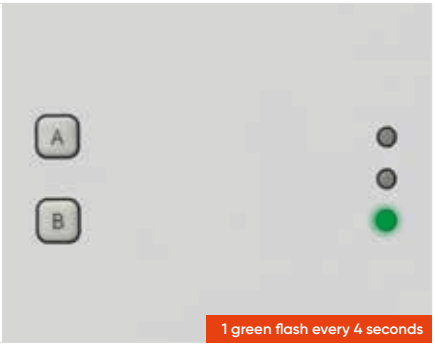
- CCTV cameras
- Access control turnstiles and barriers
- Auto dialers
- Security monitoring systems
- AOV (Automatic Opening Vent) systems
- Sprinkler systems
- BMS (Building Management Systems)
- Temporary stand pipe flow switches

LED Indications

WES3 Standard Interface

Green LED

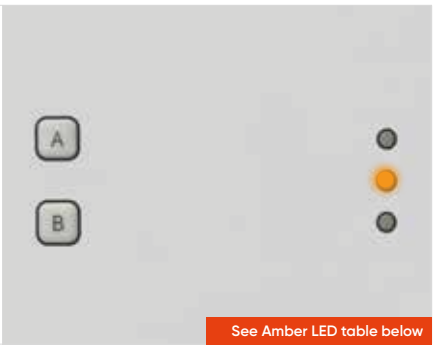
Active units with no faults will flash their green LED once every 4 seconds to indicate that the unit is operational.



Amber LED

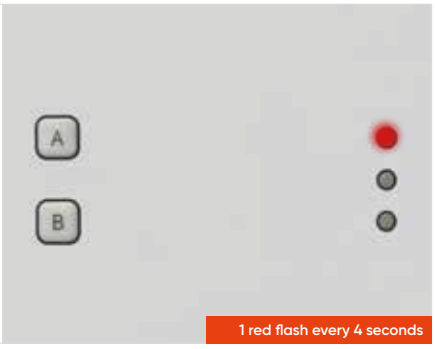
Each WES3 unit monitors itself for a number of faults. These are indicated via the amber LED, which will flash in grouped patterns with longer than usual gaps in between them.

Units displaying one of these patterns require further investigation and should not be relied upon as part of the fire alarm and detection system until the fault has been corrected. Use the chart at the bottom of this page to determine the nature of the issue.



Red LED

The red LED indicator will flash every 4 seconds when the unit has been triggered.



Amber LED Flash Sequence

Group Flash 1 - Low Battery	☀	☀
Group Flash 2 - Low Signal	☀ ☀	☀ ☀
Group Flash 3 - Unpaired / No Signal	☀ ☀ ☀	☀ ☀ ☀
Group Flash 4 - Tamper	☀ ☀ ☀ ☀	☀ ☀ ☀ ☀
Group Flash 5 - Unit Latched	☀ ☀ ☀ ☀ ☀	☀ ☀ ☀ ☀ ☀

WES3 Water Interface

The WES3 Water Interface in combination with a water detection sensor is designed to trigger if water is detected along the sensor length (zone).

The input triggers a water alert on the WES3 Connect base station and an immediate notification in (where used) the REACT cloud and mobile application. For further details on the REACT application, visit www.ramtechglobal.com.

Note: The WES3 Water Interface is not a fire alarm device.

Use cases:

- Water detection in storerooms/basements/facilities wherever water leakage may occur
- Leaky pipe or tracing detection (cable wrapped along the pipe)
- Protection against floods or groundwater
- Detection of water leaks in drip tray.

Water detection tape and cable features:

- Detects liquid along the entire length of the sensing cable
- Easy to lay, wrap, install and secure
- Polarised cables for easy installation
- Re-deployable from one location to another
- Extendable with connectors, sleeves or crimps. Maximum length 164ft.

Associated products:

- Water Detection Tape

  Textured woven polyester tape with parallel uninsulated copper wires
  Band width: 0.7 inches
  Available lengths: 82ft or 164ft reel.

- Water Detection Cable

  PVC coated two core twisted pair with stainless steel elements
  Diameter: 0.14 inches
  Available lengths: 6.5ft, 16.4ft, 32.8ft, 50ft, 82ft or 328ft reel (cut to length on site).

WES3 Water Interface

Water Detection Cable

Water Detection Tape

WES3 Water Interface

Installation Recommendations

Prepare the area:

- Identify possible sources of risk or leakage (e.g. pipe penetrations, HVAC equipment, pumps, storage vessels)
- Identify any particular areas that need to be protected (e.g. high risk, high value areas)
- Verify the area the cable will be installed in and ensure sufficient length of cable has been supplied
- Clean the area where the cable will be installed of dirt, debris or obstructions.

Installation:

- Open the WES3 Water Interface unit by removing the outer body screws
- Run the cable through the bottom grommets and connect to the input terminals
- Turn on the interface and pair into the WES network. Refer to the WES3 Installation and Operation Manual for reference
- Position the Water Detection Tape appropriately so that it provides the most appropriate level of detection
- It is imperative the Water Detection Tape is protected from sharp or metallic objects to prevent false activation
- It is recommended that the cable is securely fixed using suitable fixings, available from Ramtech Electronics
- If the Water Detection Tape is installed between pipe insulation and the surrounding casing, it is recommended that a thicker tape (1.2 to 1.6 inches) is fitted over the band
- If the Water Detection Tape is to be glued against the floor, it is recommended that Casco 3831, S9 Super glue is used
- If the area is heavy with condensation, it may be required to "raise" the tape or cable above the surface to be monitored using 0.1181 inch tape or similar. This will prevent false activation of the sensor.

Testing:

Once installed, the system can be tested by placing a wet cloth over the tape or cable to simulate a water leak. The WES3 Water Interface will change state and trigger an alert on the WES Connect base station and (where used) the REACT mobile application. To ensure the device is in the correct state to deploy refer to the LED Indication information below.

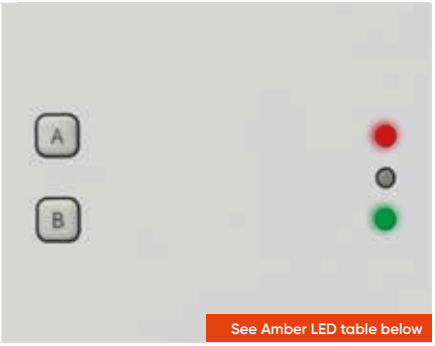
Note: The system should be tested to ensure the level of sensitivity is appropriate prior to commissioning.

LED Indications

WES3 Water Interface

Red & Green LED

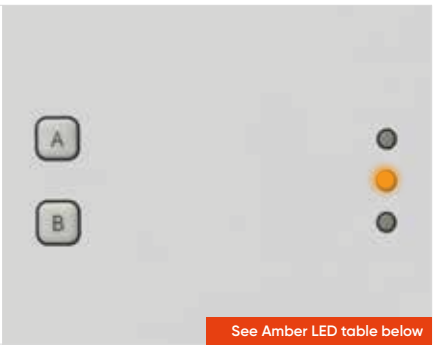
Note that the LED indications on the Water Interface differ from those on other Interface units. In the default state, the green LED blinks three times, followed by one blink from the red LED. In case of a water even the red LED blinks three times, followed by one blink from the green LED.



See Amber LED table below

Amber LED

Each WES3 unit monitors itself for a number of faults. These are indicated via the amber LED, which will flash in grouped patterns with longer than usual gaps in between them. Units displaying one of these patterns require further investigation and should not be relied upon as part of the fire alarm and detection system until the fault has been corrected. Use the chart at the bottom of this page to determine the nature of the issue.



See Amber LED table below

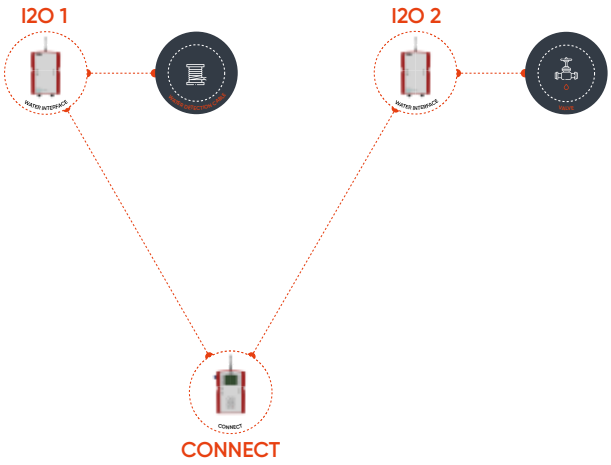
Note: Clearing the Water alert from the WES3 system will need to be performed on the WES3 Connect unit by selecting the 'WTR' alert on the Warnings screen, pressing the green tick box on the keypad, then pressing the arrow next to Yes to confirm.

The access code is required to clear the alert. The default PIN number is 1234. This can be changed on site - refer to the WES3 Installation and Operation Manual.

Amber LED Flash Sequence		
Group Flash 1 - Low Battery	☀	☀
Group Flash 2 - Low Signal	☀ ☀	☀ ☀
Group Flash 3 - Unpaired / No Signal	☀ ☀ ☀	☀ ☀ ☀
Group Flash 4 - Tamper	☀ ☀ ☀ ☀	☀ ☀ ☀ ☀
Group Flash 5 - Unit Latched	☀ ☀ ☀ ☀ ☀	☀ ☀ ☀ ☀ ☀

Typical Scenarios

WES3 Water Interface



Scenario One

I20 1 has a WES Water Cable Sensor fitted to the input of the device. This is configured to monitor the pipework in a plant room while refurbishment work takes place. This is located a couple of hundred metres away from the main shut-off valve. Nothing is attached to the output.

I20 2 is deployed next to the shut-off valve. Nothing is attached to the input but the output is connected to the shut-off valve. In this scenario the water is detected by I20 2 which triggers the input and raises a "WTR" alert on the WES3 network.

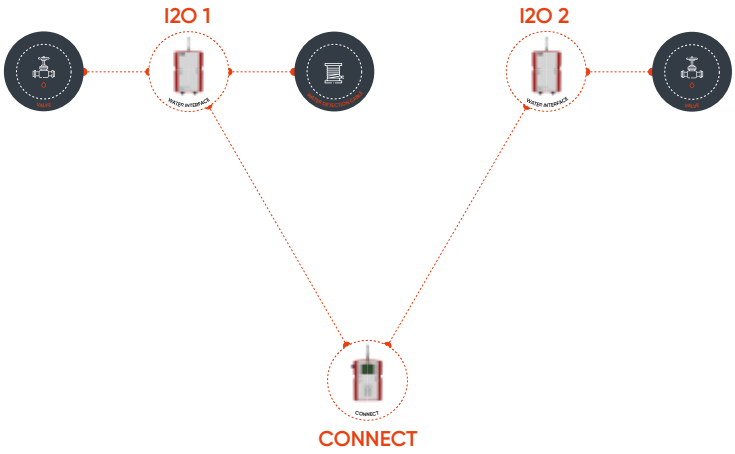
This triggers the output on all Water I20's (in this instance I20 2 only. This then shuts off the valve via I20 2. A "WTR" alert is triggered on the WES3 Connect and (where used) the REACT cloud and mobile application.

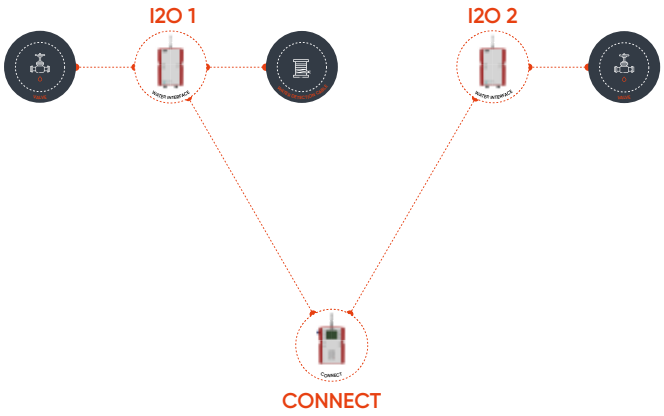
Scenario Two

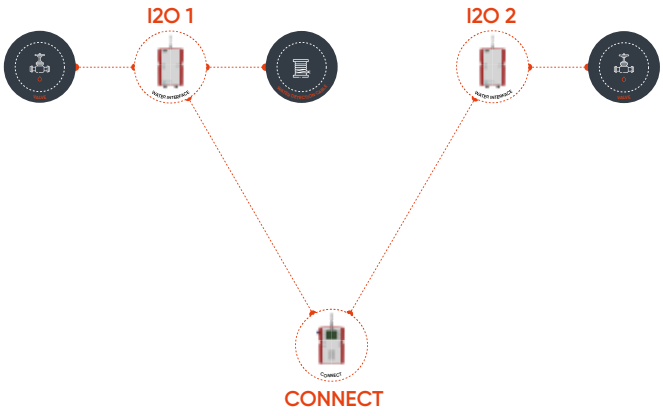
I20 1 has a WES Water Cable Sensor fitted to the input of the device. The shut-off valve in this case is co-located within the plant room so the output from I20 1 is connected directly to this, i.e. both the input and output are connected.

I20 2 is deployed next to an adjacent shut-off valve. Nothing is attached to the input, the output is connected to the shut-off valve. In this scenario the water is detected by I20 1 which triggers the input and raises a "WTR" alert on the WES3 network.

This triggers the output on all Water I20's (in this instance I20 2 and also the valve connected to I20 1. Both valves are therefore shut off. A "WTR" alarm is triggered on the WES3 Connect and (where used) the REACT cloud and mobile application.







Scenario Three

Two separate zones - I20 1 has a WES Water Cable Sensor fitted to the input of the device. The shut-off valve in this case is co-located within the plant room so the output from I20 1 is connected to directly to this, i.e. both input and output are connected. I20 2 is deployed next to an adjacent shut-off valve. Nothing is attached to the input but the output is connected to the shut-off valve.

In this scenario the water is detected by 120 1 which triggers the input and raises a "WTR" alert on the WES3 network. This triggers the output on all Water I20's (in this instance I20 2 and also its own valve at 120 1). Both valves are therefore shut off. A "WTR" alarm is triggered at the WES3 Connect and (where used) the REACT cloud and mobile application.

WES3 Medical Interface

The WES3 Medical Interface unit provides a simple method of notification whenever a medical alert is raised from a call point on a WES3 network. The device is typically used in installations where offsite notification via REACT is not available, e.g. areas where cellular signal is unavailable.

In the event of a medical alert being raised from a WES3 call point, the output of the WES3 Medical Interface will be activated, and can be used to trigger any third-party device such as a local audio-visual signal, or a hard-wired autodialler.

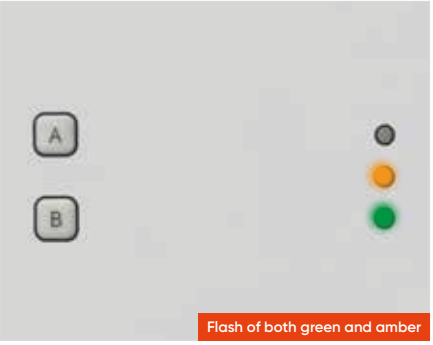
Note: The WES3 Medical Interface unit is not a fire alarm device.

LED Indications

WES3 Medical Interface

Green LED

Active units with no faults will flash a slow periodic flash of both amber and green LED to indicate that the unit is operational and “unlatched”.



Flash of both green and amber

Amber LED

Each WES3 unit monitors itself for a number of faults. These are indicated via the amber LED, which will flash in grouped patterns with longer than usual gaps in between them.

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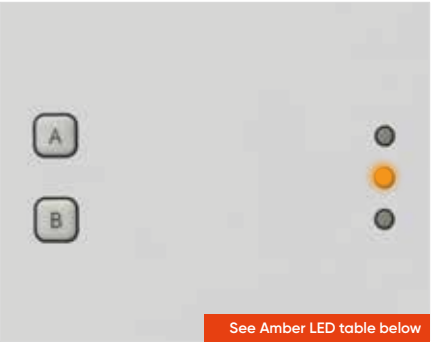
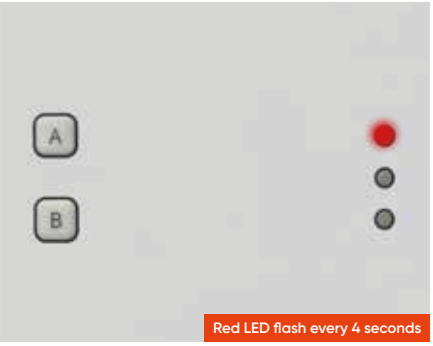


See Amber LED table below

Red LED

The red LED will flash every 4 seconds when the unit has been triggered.



Red LED flash every 4 seconds

Note: Clearing the medical alert from the WES3 system will need to be performed on the WES3 Connect unit by selecting the ‘MED’ alert on the Warnings screen, pressing the green tick box on the keypad, then pressing the arrow next to Yes to confirm.

The access code is required to clear the alert. The access code is required to clear the alert. The default PIN number is 1234. This can be changed on site - refer to the WES3 Installation and Operation Manual.

Amber LED Flash Sequence

Group Flash 1 - Low Battery	☀	☀
Group Flash 2 - Low Signal	☀ ☀	☀ ☀
Group Flash 3 - Unpaired / No Signal	☀ ☀ ☀	☀ ☀ ☀
Group Flash 4 - Tamper	☀ ☀ ☀ ☀	☀ ☀ ☀ ☀
Group Flash 5 - Unit Latched	☀ ☀ ☀ ☀ ☀	☀ ☀ ☀ ☀ ☀

WES3 Maintenance Interface

The WES3 Maintenance Interface unit will detect any maintenance issues from any unit in the WES3 network and raise an alert as soon as the fault/issue is detected. The alert activates the output of the unit, and can trigger connected devices such as an autodialler, monitoring system or Building Management System (BMS).

These alerts include:

- Internal tamper
- Detector tamper
- Back tamper
- No radio
- Low radio
- Low battery
- Flat battery

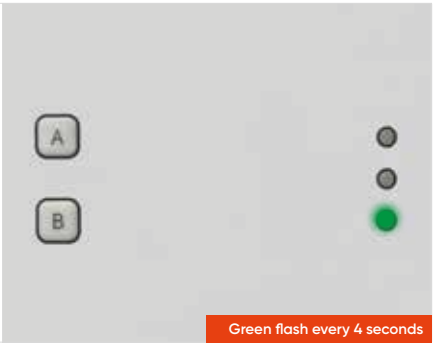
Note: The WES3 Maintenance Interface is not a fire alarm device.

LED Indications

WES3 Maintenance Interface

Green LED

Active units with no faults will flash their green LED once every 4 seconds to indicate that the unit is operational.



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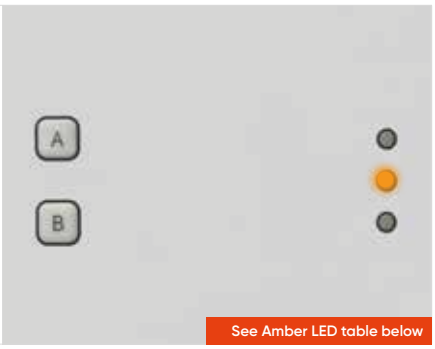
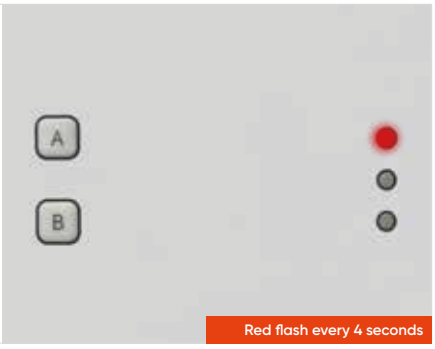


Red LED

The red LED will flash every 4 seconds when the unit has been triggered.



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Amber LED Flash Sequence

Group Flash 1 - Low Battery	☀	☀
Group Flash 2 - Low Signal	☀ ☀	☀ ☀
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Group Flash 4 - Tamper	☀ ☀ ☀ ☀	☀ ☀ ☀ ☀
Group Flash 5 - Unit Latched	☀ ☀ ☀ ☀ ☀	☀ ☀ ☀ ☀ ☀

FCC Grant Of Equipment Authorization:

2AHNOW2CTRLMK2 & 2AHNOW2-RDO-9X

Contact Us

Ramtech Customer Support

Technical advice is available over the phone by contacting Ramtech Customer Support and site visits can be arranged if required, subject to availability.

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