# ALARM SERVICES LTD

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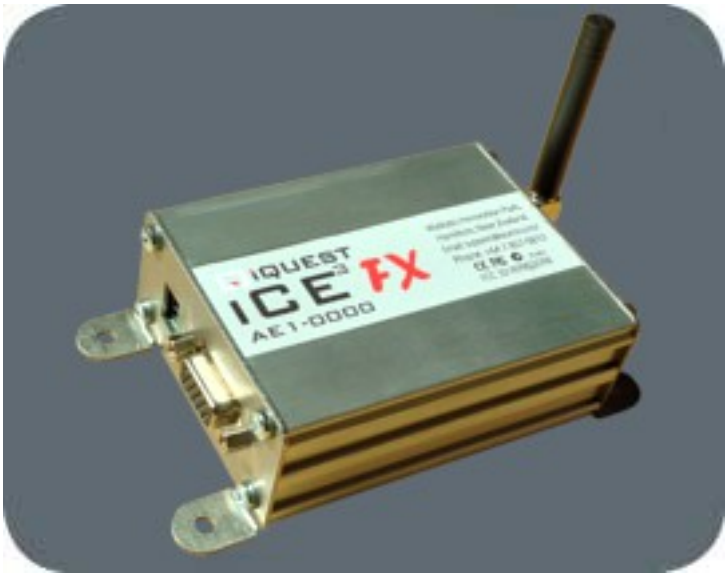


## iCE3 FX
## Wireless Circuit Extender (IP Capable)

The iCE3 FX has been designed and constructed as a compact, intelligent unit to provide IP connectivity to a wide range of equipment fitted with an RS232 port. It can manage on-demand or scheduled connections on both public/dynamic or private/static IP networks.

The iCE3 FX differs from a standard type wireless modem as it offers additional intelligent features. It has the ability to autonomously manage the tasks to give IP communications capability to almost any R
S232 equipped device that is not equipped with its own IP functionality.
For dynamic IP scenarios, the iCE3 FX initiates a TCP or UDP socket connection and sends an identification call-in to a suitably equipped base station such as HydroTel™ or the iQuest Global Data Network. The base system captures the iCE3 FX's dynamic IP address, switches to the native protocol for the target device and the iCE3 FX becomes transparent allowing native communication through the TCP socket or via UDP.

The iCE3 FX can also perform standalone datalogging. It features a digital and an analog input (0-5V range) for small stand-alone applications. When in this mode it can be configured to deliver the data to up to two separate FTP hosts in a simple CSV file format. **iCE3 FX**

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## Features

- Intelligent communications scheduling and link management.
- Local IP connection request via an AT command from host device.
- Remote IP connection request via SMS command.
- Gateway (store and forward) communications for use with iQuest devices. E.g. to link a wireless IP network to a radio network.
- Digital input and analogue input with integral datalogging function.
- SMS text back (current sensor values).
- FTP transfer of logged data in CSV format (in standalone mode).
- Over The Air software and firmware upgrades.
- Optional GPS Logging and Clock Sync

## GENERAL DESCRIPTION

### *Power Supply*

The normal power supply for the iCE3 FX is an external dc supply, typically obtained from a 12V rechargeable SLA battery. A high efficiency switch-mode regulator supplies all on-board requirements.

### *Real Time Clock / Calendar*.

An internal real-time clock is provided to control the call-in schedule (if used). This can be set via a computer through the RS232 port, or via the IP network from a HydroTel™ base station. This is automatically synchronised to the wireless network's time reference if this is available.

### *LED Indicators*

A blue LED indicates the iCE3 FX general status. A range of conditions may be determined through this LED. Different flash sequences show the unit and communication status. A red LED shows when the digital input is active.

### *Connectors*

A high-density DB15F connector is used for the RS232 communications port. The power supply connects via a polarised four pin latched connector. The two hardware inputs are also accessed on the connector. The antenna connects via an industry standard SMA type connector.

### *Antenna*

A small "stubby" type antenna may be attached directly to the unit or alternatively, an external higher gain antenna can be connected via a coaxial cable and SMA connector.

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### *Enclosure*
The case is constructed from extruded aluminium alloy with stainless steel end plates with mounting feet. The SIM card is contained in a small slide-in holder on the front of the unit.

### *RS232 Port*
One DCE configured RS232 communication port is provided for interfacing with the host device. Specialised cables are available that cater for devices requiring customised handshaking control.

### *Wireless 3G Modem*
The iCE3 FX includes a high performance wireless modem. This is a multi-band device that will operate on most 3G and also legacy 2G (GSM) or 2.5G (Edge) networks around the world.
This modem enables high-speed data transfer virtually on demand. Configuration options have been included to make the connection scenarios very flexible and also to minimise data traffic.

### *GPS*
As an optional add-on (hardware and software) the modem can be configured to log GPS position (longitude, latitude and altitude) and synchronise the device clock from GPS time.

## PHYSICAL I/O SPECIFICATION

### *Digital Input*
One digital input operating with either clean contact activation to 0V or a 5 to 30V DC signal. Maximum input frequency is 5 kHz in frequency mode. External debounce components may be required for applications with long cables and/or in electrically noisy environments.

### *Analogue Input*
One 12-bit uni-polar analogue input is included. Range 0-5V. Input impedance 103kΩ. Referenced to 0V common. For current mode, an external current sink resistor (typically 250ohms) is required.

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## BASIC SPECIFICATION

**SIZE:** 82mm x 63mm x 30mm (3.2in x 2.48in x 1.18in) (LxWxH) excluding mounting feet

**MASS:** 184g (6.49oz)

**POWER SUPPLY:** External 5V – 32V dc supply. Over-voltage and reverse polarity protected with self-resetting fuse.

**POWER CONSUMPTION:** Average 12mA @ 13.8V in idle mode, 4.5mA in full power save mode. Average 50mA @ 13.8V when on-line. Actual current consumption is dependent on the modem state and relative signal strength (transmit power required). The modem power mode may be scheduled to optimise the power budget.

## COMMUNICATIONS:

- Non-isolated DCE RS232 at 1200 – 38400 bps (default 38400 bps)
- Wireless modem. IP support includes TCP Client, TCP Server, UDP, FTP.

**DATA STORAGE:** 8MB flash memory. A typical site with 2 parameters logged every 15 minutes plus battery voltage logged hourly will give almost 10 years of storage before data overwrite occurs.

## ENVIRONMENTAL:

**Operating:** -10ºC to +70ºC (14 ºF to +158 ºF).
**Storage:** -10ºC to +85ºC (14 ºF to +185 ºF)