

# iRIS 120 Datalogger



The iRIS 120 has been designed and constructed for portable, outdoor use. It is distinguished by being fully waterproof, self-powered and compact whilst still featuring an LCD screen and touchpad. It can be connected to a wide variety of sensors, featuring two analogue (0-5V, 0-20mA) inputs, two digital inputs and a single digital output.

Communication with the device is via its RS232 port, which can be connected directly to a PC or laptop. The iRIS 120 serves out its own menu via an RS232 terminal session, allowing all configuration to be performed with any standard terminal software such as HyperTerminal®.

## PHYSICAL DESCRIPTION

**2 x Digital Inputs** Non-isolated (with high speed counter function)  
**1 x Digital Outputs** Non-isolated (open-drain sinking)  
**2 x Analogue Inputs** Non-isolated (12-bit, range 0-5V)

**Power supply.** The iRIS 120 has an internal 3.6V lithium battery, with a nominal life expectancy of 2 – 4 years depending on operating modes. To extend the battery life, power is drawn from the host device (e.g. PC) if an RS232 terminal session is active. In addition, it is possible to connect an external 5-15V DC supply, in which case the internal battery is disconnected.

**Full Real Time Clock / Calendar.** The clock is software trimmable to optimise accuracy. Accurate to +/-20 secs month with leap year recognition.

**I/O Connection.** A 1m flying lead with dressed wires provides the connection points for the iRIS 120 I/O and power supply. A DB9M connector is used for the RS232 communications port.

**LED Indicators.** Four LED's are provided on the iRIS 120 to the left of the LCD and these are visible through the casing. A blue status LED provides a visual indication of touch pad operation and scan status. Three orange LED's provide feedback for the digital I/O when external power is connected.

**Physical Size.** The unit fits comfortably in the palm of a hand and is small enough to fit inside the housing of most raingauges and many other sensors such as ultrasonic level sensors.

**Enclosure.** The iRIS 120 is encapsulated in a high-performance resin specifically designed for protecting and waterproofing sensitive electronic devices. This provides a cost-effective, lightweight, resilient and waterproof casing whilst maintaining a compact footprint and physical size.

**Logging Memory.** Non-volatile 2MB flash storage of up to 250,000 time/date stamped data points. Circular buffer mode (oldest data is overwritten when the buffer is full).



## RS232

One DTE configured RS232 communication port is provided for interfacing with laptops or other external equipment.

## Digital Inputs

Two digital inputs operating with either a clean contact activation to 0V or a 5 to 30V DC signal. Maximum input frequency is 5kHz.

## Digital Output

One digital output configured as open-drain pull-down sinking to 0V (max 300mA @ 30V)

## Analogue Inputs

Two 12 bit uni-polar analogue inputs. Range 0-5000mV. Input impedance approx 100kΩ. Referenced to 0V common. External resistor is required for current input.

## BASIC SPECIFICATIONS

- **SIZE:** 61mm x 76mm x 26mm (2.4in x 3.0in x 1.0in) (W x H x D)
- **MASS:** 160g (5.6oz) including cable.
- **POWER SUPPLY:** Internal 3.6V lithium battery (2200 mA/hr). Optional external supply voltage of 5-15VDC can be connected in place of internal battery. Over-voltage and reverse polarity protected with self-resetting fusing.
- **I/O ISOLATION:** None
- **COMMUNICATIONS:** Non-isolated RS232 at 38,400bps, DTE configuration (DB9M connector).
- **NON-VOLATILE STORAGE:** 2MB flash memory (262,144 samples). Typical site with 2 parameters logged every 15 minutes will give 3.7 years of storage before data overwrite occurs.
- **ENVIRONMENTAL:**  
Operating: -10°C - +70°C.  
Storage: -20°C - +85°C  
Enclosure sealed to IP67

Specification correct at time of press. iQuest (NZ) Ltd reserves the right to alter the specification without notice.

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