

iRIS 220 Wireless Datalogger - Specification



iRIS 220 DATALOGGER

The iRIS 220 is a fully-featured datalogger with an onboard GPRS or CDMA modem, providing a complete logging and remote monitoring solution in a single package. The logging software can be customised to suit a variety of specific applications and it can be connected to a wide range of instrumentation. In addition to its cellular modem, the iRIS 220 has an external RS232 port which allows it to be connected directly to a laptop, PC, intelligent instruments and data radios.



PHYSICAL DESCRIPTION

2 x Digital Inputs	Non-isolated (have high speed counter function)
2 x Digital Outputs	Non-isolated (open-drain sinking)
2 x Analogue Inputs	Non-isolated (12-bit, range selectable up to 0-5V)

I/O connections are made via a removable terminal block.

Power supply for the iRIS 220 is an external 12V supply (e.g. battery). A high efficiency switch-mode regulator supplies all other onboard requirements. The battery and charger voltage are monitored internally and are available to be logged, displayed or alarmed. The onboard charger unit can be used to charge the external supply battery via a direct connection to a solar panel or other suitable source (15 – 30VDC).

Onboard temperature measurement is also provided. This can also be read and logged as a scaled -10.0°C to +70.0°C range.

Full **Real Time Y2K compliant Clock / Calendar**. This is backed up with an on-board lithium battery to prevent loss of operation if the main battery is disconnected. The clock is software trimmable to achieve high accuracy.

Pluggable screw terminals provide the connection points for the iRIS 220 I/O and power supply. An external DB9M connector is used for the RS232 communication port.

The **cellular aerial** can be part of the iRIS 220 unit, or alternatively an external high gain aerial can be connected via a standard BNC fitting.

LED Indicators. A tri-colour status LED is fitted, showing iRIS 220 status. A range of conditions can be displayed through the use of this innovative display choice. Eight other LED indicators are fitted on the internal PCB allowing diagnostics of I/O and communications

Physical Size. 172 x 100 x 25mm (excluding aerial) - all I/O connections are accessed on a connector fitted through the front of the case. Four keyholes are provided to facilitate easy mounting.

Enclosure. The case is constructed from lightweight powder coated aluminium. This provides mechanical strength and EMF shielding and incorporates 4 x M4 mounting holes.

Processing "Core". The processing core consists of a high performance 100MHz micro-controller, integral real time clock, static RAM and 4MB flash memory for program and data storage.

PSU. The power supply circuit features two switch-mode voltage regulators as well as a precision analogue reference.

Configuration. The iRIS 220 is configured using standard terminal software such as HyperTerminal™. No special software is required as all menus and configuration settings are generated and displayed directly by the datalogger itself. Configuration can be carried out locally via the RS232 connection or remotely using the cellular modem in exactly the same manner.

Cellular Modem. The iRIS 220 includes either a high performance GSM/GPRS or CDMA modem. This enables high-speed data transfer virtually on demand. Extensive software options have been included to make the connection scenarios very flexible and to minimise data traffic. Logged data can be retrieved from the logger in a variety of ways including SMS text, CSD dial-up and GPRS/CDMA data. Data unloads can be scheduled, triggered by alarm conditions or input criteria, and solicited by a remote device (e.g. computer running iLink or HydroTel™ 2000).

RS232. One DTE configured RS232 communication port is provided for interfacing with laptops or suitably equipped serial data radios or external equipment.

Digital Inputs. The two digital inputs operate with either a clean contact activation to 0V or a 5 to 12V DC signal.

Digital Outputs. The two digital outputs are configured as open-drain sinking to 0V. Max voltage 30V.

Analogue Inputs. The two analogue inputs are 12-bit resolution. The input range is 0-5V max, with protection to 30V d.c.

BASIC SPECIFICATIONS

- **SIZE:** 170mm x 100mm x 25mm (W x H x D)
- **MASS:** 360 g
- **POWER SUPPLY:** External 12V battery or regulated supply. Integral charger accepts 15-30V dc. Over-voltage and reverse polarity protected with self-resetting fusing. A solar panel can be directly connected.
- **I/O ISOLATION:** None
- **COMMUNICATIONS:**
 1. Non-isolated RS232 at 300 - 38400 bps (default 9600bps), DTE configuration (DB9M connector).
 2. Dual band GSM/GPRS or CDMA modem (Class 10 GPRS)
- **ENVIRONMENTAL:**

Operating: -10°C - +70°C.
Storage: -10°C - +85°C