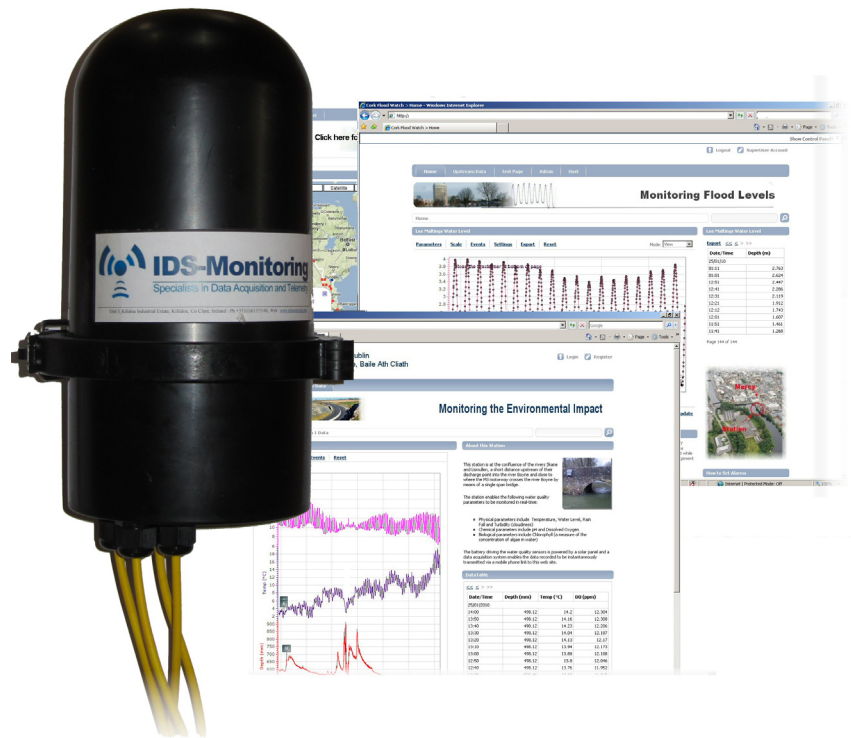


Powerful, Reliable, Data Acquisition System for real-time data delivery - Ideal for applications like flood monitoring, water quality applications, aquaculture, harbour management, research, energy industry and more

IDS DataPOD

real-time data acquisition in harsh environments



Features

Rugged IP67 enclosure.

Input options include :

- 8 x Analog channels of which 4 are user-configurable for either 4-20mA, 0-5Vdc or 0-20Vdc inputs
- 3 x RS232 ports for Instruments
- 1 x RS485 ports for Instruments
- 1 x High frequency pulse counting channel
- Option for 1 SDI-12 input

16 MB of flash memory allowing you store up to 250,000 data records.

Data acquisition rate of up to 1 Hz (1 reading per second)

Ultra-low power consumption

Integrated power control for instruments and other peripherals. Will run on power supplies ranging from 6V to 32VDC

GSM/GPRS Telemetry with options for Iridium Satellite and ISM band Radio (UHF/VHF)

Option for integrated GPS

Clock synchronisation off GPRS network or GPS if installed

Easily configured with IDS Monitoring Logger Configuration software (Windows) or can be configured using terminal software. No Programming skill required to setup powerful sampling routines

Integrated Alarm Functions

The DataPOD can be configured remotely

Includes easy-to-setup adaptive sampling where the logger changes its behaviour depending on its environment.

The DataPOD is IDS DataLink enabled allowing easy data display and management on the Web.

General Description

The IDS DataPOD is a compact data acquisition system with integrated power pack in a tough IP67 enclosure for deployment in harsh environments. There are a number of model options for the DataPOD allowing the user choose input types, telemetry and peripherals such as integrated GPS. Users can easily configure powerful sampling routines without the need for programming and the DataPOD includes alarm functions, adaptive sampling, power control for instruments and peripherals. The normal DataPOD system can sample at 1Hz and has enough flash memory to store up to 250,000 readings. The system can deliver data in real-time to the web and can be configured remotely (model dependant).

Inputs / Outputs

The inputs available on the DataPOD depend on the model ordered and can include the following :

There are up to **eight (8) analog channels**. Four of these have flexible input ranges that are configured with the setup application for either 0-5Vdc, 4-20mA or 0-20Vdc as required. The remaining four analog channels are 0-5Vdc inputs but can be configured otherwise with the use of a shunt resistor installed in the connector. The analog channels in the standard DataPOD can sample at 1Hz although custom drivers can be implemented for faster reading.

There are **three(3) RS232** inputs available for instruments. There is a fourth RS232 available for a console interface but which also can be used for additional telemetry as required.

There is one (1) RS485 serial channel

One of the RS232 channels can be used for SDI-12 input.

There is one(1) high frequency switch closure pulse input and one low frequency switch closure pulse input.

There are three(3) switched battery power outputs for powering instruments or peripherals



IDS-Monitoring
Specialists in Data Acquisition and Telemetry

Data Storage

The DataPOD has 16MB of non-volatile memory for storing data. Depending on the number and type of instrument configuration will store over 250,000 readings with metadata in a csv table structure. This provides significant storage and for example if sampling at once every five minutes this would equate to more than two years of data storage. An SD-memory card is optional.

Configuring the DataPOD

The core of the DataPOD configuration consists of a series of up to 10 sampling routines (instructions sets) which are easily configured using MS Windows based IDS Logger Config Software (sample screen grab opposite). Each sampling routine can operate as a stand-alone configuration or can be linked to develop quite sophisticated sampling behaviour. Each routine specifies what instruments are to be sampled, the timing of this sampling, what to do with the instrument readings, when and how to transmit these data and if the system should react to measured values by issuing alarms or adapting sampling behaviour. The LoggerConfig application is also used to configure important background settings such as calibration data, telemetry settings, alarm messages and more.

Communications / Telemetry

The standard model DataPOD is delivered with integrated GSM/GPRS telemetry. This will allow data to be transmitted either by SMS, directly into an FTP server or as message packets to a listening IP address and port number.

Optional communications modules allow the DataPOD operate using Iridium Satellite (Short Burst Data) and/or ISM band radio at 433 or 868 Mhz.

The DataPOD is designed to deliver data reliably and overcomes problems that can occur in third party telemetry networks. If data fails to transmit because a receiving server is temporarily offline then the system will automatically redirect communication to a secondary destination specified by the system administrator at the time of deployment. If no alternate is configured or is also temporarily inaccessible then data is queued until the service is restored.

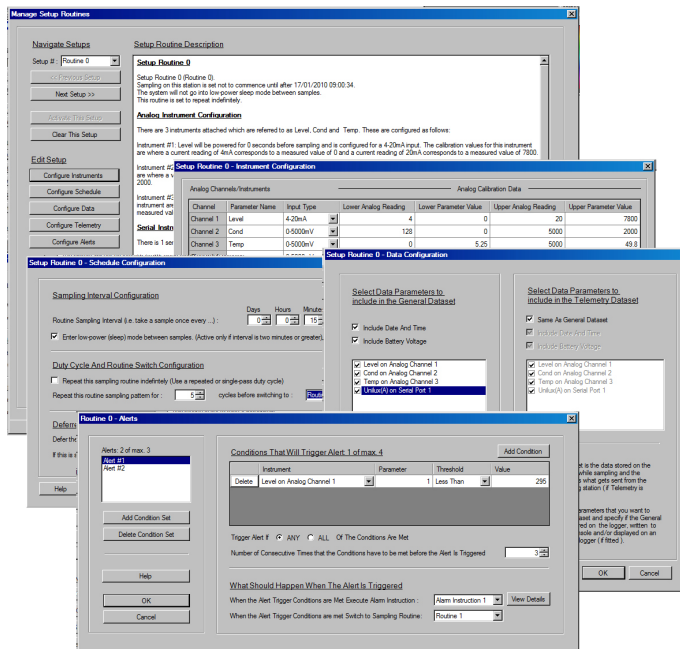
In addition to transmitting data from the loggers the telemetry module is also used to achieve remote configuration and also to synchronise the system clock as required.

Enclosure

The DataPOD enclosures are made of a non-corrosive, high performance polyolefin material. The enclosures are IP67 rated and can be deployed in the harshest of environments including exposed sites at sea or even buried underground.

The enclosure sizes vary depending on the model and have a diameter of either 105mm or 181mm and a height of 291mm (standard) or 416mm.

There is also a selection of mounting accessories available from IDS Monitoring. These include pole, wall or manhole mounting brackets.



Data Delivery to the Users

Data is stored on the DataPOD in a relatively verbose comma separated table format that can be easily read using any terminal software (like HyperTerminal) or using the IDS LoggerConfig software. This verbose record structure is customisable by the user but normally includes date and time of sample, station ID from where the data was collected, battery power at the time of reading and then the parameter list from the instruments ordered by name and value.

If data is sent using telemetry there are two options – it can be sent in a format that is similar to that stored on the logger and is written to ASCII files on the receiving base station for subsequent processing. Alternatively it can be transmitted to IDS DataLink which is a managed web application that displays data online on a web browser or mobile device in a controlled manner. The DataLink system allows the station owner view data in real-time, control who sees what data when, can set alarms, undertake



automatic quality control on the data and has other maintenance and data management functions (See Data-Link Datasheet for more).

Power Supply

The DataPOD is powered with a 6-32 Vdc power supply either from battery or with mains adapter. The DataPOD itself has very low power consumption with less than 15µA being used between taking samples. Depending on the instruments attached, the sampling regime and the telemetry regime a DataPOD can be configured to sample for up to one year from battery without recharging. Battery pack options range in size from 2.6Ah to 14 Ah depending on the application. Larger non-integrated battery packs can easily be added and IDS Monitoring can also supply the IDS Solar pack which will keep the instruments and DataPOD powered for many years.

Compatible Sensors

The DataPOD has been designed so that it is versatile and can be configured to work with a very wide variety of sensors. A selection of such sensors (by application) includes :

Water and other liquid levels : The DataPOD is used to measure water level for tides, rivers, lakes, reservoirs, and tanks using pressure transducers, ultrasonic level sensors, and bubbler systems. The DataPOD has been interfaced with sensors from Tyco Environmental, Druck, OTT Hydrometry, Siemens, Valeport and others.

Water Quality Sensors : including pH, dissolved oxygen, conductivity, turbidity, fluorescence, temperature, irradiance, in-situ nutrient analysers and more. The DataPOD has been interfaced with instruments from Tyco Environmental, Chelsea Instruments, Wetlabs, Seabird, Global Water, Systea, Seapoint, ZebraTech and many others.

Weather Stations : these can include barometric pressure sensors, RH and temperature, rainfall and anemometers. The DataPOD has been interfaced with instruments from RM Young, Vaisala, Gill and others.

Other areas of application for the DataPOD include air quality, soil monitoring, noise monitoring and more.

IDS Monitoring is happy to supply a range of the above sensors and deliver complete turnkey solutions but are equally happy to work with clients who already have sourced their sensors independently.

Also please visit our website to see our other related innovative and cost-effective products and solutions.

Warranty and Maintenance

The DataPOD is covered by a 12 month return to base warranty against fault parts and workmanship. Each DataPOD also comes with 6 months of free telephone technical support.