

# HID 124

## Digital HI Cell Data Logger

### Features

- Low cost four channel datalogger
- Power HID cells and writes data directly to USB flash drive
- Four channels enabling simultaneous monitoring of four digital (RS232) sensors
- Easy to use quick connect terminals
- Internal rechargeable SLA battery
- External DC charger to power HID's and charge
- Compact size ideal for field installation
- Output data format to suit isotropic analysis program
- Easy download of data and input into stress programs

DIGITAL HI CELL DATA LOGGER



### Applications

- Triaxial (3D) Stress Determination
- Tunnelling & underground excavation industry
- Coal and Hard Rock mining
- Rock Stress Monitoring for coal & metalliferous mining
- Rock and concrete stress monitoring in civil projects such as tunnels, dams or bridges
- Better use of existing monitoring systems
- Collect 3D or triaxial stress data
- Monitor stress condition, microseismic events
- Monitor long-term stress
- Monitor problem areas of closure
- Fault movement, temperature & strain

The HID logger is a convenient low cost, battery powered device designed for reliable and unattended monitoring of Digital Hollow Inclusion Cells (HID's). Although suitable for both overcoring and long term monitoring applications, the logger is particularly suited to long term monitoring of stress sensors. HID's are mostly used in metalliferous mines, coal mines, dams, tunnel and underground storage projects. The logger can be mounted and left to record automatically. The logger is configured using a standard terminal or our Microstrain Tab running our custom HID Display software.

The data logger storage is typically 8GB but only limited by the flash drive capacity. Data files are output in Comma Separated Value CSV files that are compatible with excel and more importantly match the format of our isotropic analysis program. The user simply imports data by copying logger files into the analysis program for quick, convenient and no fuss calculation.

## Specifications

Number of Channels	4Ch (4 x RS232 sensors)
Temperature operation	10-45°C
Power Source	12VDC, 9AH SLA rechargeable battery
Power connector	External charger 2 pin, screw secured
Dimensions (w x d x h)	24cm x 16cm x 9cm
Weight	1kg
Data storage	Up to 16GBFlash drive
Data storage format	CSV (compatible with excel)
Battery charger	220V
Variable rates sampling	User selectable command
Nulling	Selectable command
Terminal	DB9 Connects to external terminal 38400,8,N,1

## Operating Principle

The HI or HID Cell consists of an array of strain gauges that are encapsulated in the wall of a hollow pipe with known Elastic Modulus. The cell is epoxy grouted into a borehole and monitored for strain response during over coring or left permanently installed for measuring relative stress over time. Long term stress change monitoring is possible with the HID Cell and is best suited to monitoring compressive or tensile stress changes in the long term. The standard HID Cell has twelve strain gauges and is suitable for measuring both isotropic and anisotropic rock. Once the sensor is glued in place the user simply plugs the HID sensor directly into the HID124 logger via the four wires +12V, GND, TX & Rx. The logger sampling parameters are easily set through a terminal emulator or our Micro strain Tab running our custom HID display software. When used in conjunction with the isotropic analysis program, stress monitoring or calculation has never been more accessible. The logger provides a convenient well integrated solution for data collection eliminating any need for signal conditioning or complex system integration.

