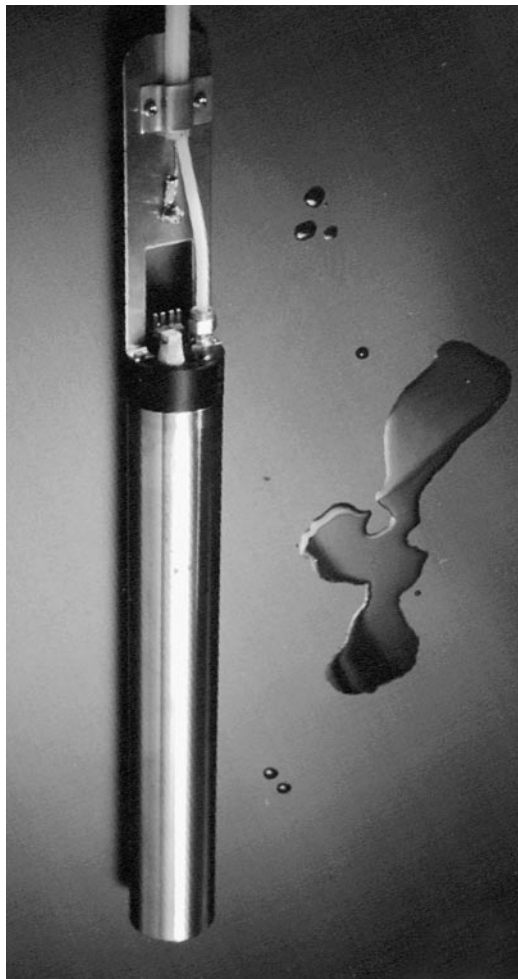


# Datataker 5W

IMMERSIBLE WATER - LEVEL LOGGER



The Datataker 5W (DT5W) is a single-channel, battery-powered data logger designed and manufactured specifically for recording the level of water in such places as the ocean, rivers, dams, tanks, irrigation channels and bore holes.

The waterproof stainless steel case is extremely rugged, and its tubular design makes it suitable for lowering into bore holes as small as 50mm diameter. A vent tube to the surface allows the logger to compensate automatically for variations in atmospheric pressure. DT5W vented cable (available separately) incorporates the vent tube and a stainless steel support cable in a single, tough, nylon sheath.

The DT5W is a "set-and-forget" instrument, capable of operating underwater for extended periods of time limited only by the life of its battery (alkaline battery 1 year, lithium battery 3 years). An external sealed stainless steel connector allows configuration and data transfer without opening the case (after retrieving and drying the logger).

The DT5W is controlled by an internal microprocessor and clock/calendar. At regular intervals (the sampling interval set by the user; minimum 1 second, maximum 18 hours), a highly-reliable and stable silicon sensor measures the differential pressure at the logger's inputs and the result is written to memory. The logger is calibrated to provide level readings directly in millimetres of pure water, and can be recalibrated if required using the DT5 software (see "Ordering"). Each reading is the height of the surface above the logger end-cap, in mm.

The logger's non-volatile memory retains data for 100 years, even when the battery is flat or disconnected. Log up to 8000 readings in low resolution mode (8-bit A/D conversion) or 4000 readings in high resolution mode (10-bit A/D conversion). Use memory in either capture mode (logging ceases when memory is full) or overwrite mode (new data overwrites oldest data when memory is full).

## Usage

There are three phases in the use of the DT5W:

1. Configuration — Connect the logger to an IBM® or compatible desktop, laptop or notebook computer running DT5 software. From the computer, set the logger's clock/calendar, resolution, memory mode, logging start date and time, sampling interval and battery installation date. Disconnect the computer.
2. Logging — Suspend the logger below the lowest level of water likely to be measured, with its vent tube secured above the surface. The DT5W will begin logging at the start date and time set.
3. Retrieval — Raise the logger, dry it, then re-connect it to the computer. Use the DT5 software to prepare the data for spreadsheet analysis, display it as a table or graph, or print it.

## Two Models

- The DT5W-10 can be used to a maximum depth of 10 metres, returning measurements with a resolution of 40mm in low res. mode or 10mm in high res. mode.
- The DT5W-20 can be used to a maximum depth of 20 metres, returning measurements with a resolution of 80mm in low res. mode or 20mm in high res. mode.

## Features

- Rugged, waterproof case (IP68, NEMA 12)
- Easy-to-use sealed communications connector
- Electronic systems encapsulated to protected from water entry if the vent tube is damaged or immersed
- No operator controls (all settings are initialised from the computer)
- Two data storage modes — capture or overwrite
- Internal clock/calendar controls log start time and date (delayed start) and sampling interval
- Sampling intervals from one reading every second to one every 18 hours

## Applications

The DT5W is suitable for agricultural, environmental, scientific, industrial, marine, mining and public utility applications. For example:

- logging ground water levels adjacent to open cut mines

Technical Specifications



DATA ELECTRONICS  
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TOTAL QUALITY COMMITMENT

- logging ground water levels in salination studies
- logging water levels in sumps
- logging river heights and ocean tides
- logging fluid pressures in wet or corrosive environments

### Operating Ranges and Resolution

MODEL	WATER DEPTH RANGE (MM)	RESOLUTION (mm H <sub>2</sub> O)	
		LOW RES.	HIGH RES.
DT5W-10	0 to 10,000	40	10
DT5W-20	0 to 20,000	80	20

#### • Analog to digital conversion:

- Low resolution 8-bit
- High resolution 10-bit

### Memory

- Two data storage modes:
  - Capture mode logging ceases when memory is full
  - Overwrite mode new data overwrites oldest data when memory is full
- Capacity:
  - Low resolution 8000 records
  - High resolution 4000 records

### Timing Functions

- Logging start date/time can be preset up to 6 months ahead
- Start time and date: 1 second resolution
- Sampling interval: 1 second to 18 hours between recordings, 1 second resolution
- Clock is crystal-regulated to within 2 minutes/month

### Mechanical

- Case:
  - Welded stainless steel tube (IP68, NEMA 12)
  - 327mm long x 44.5mm diameter
- Weight 1.4kg
- Operating Temperature:
  - Alkaline battery 0 to +50°C
  - Lithium battery -10 to +60°C

### Power

- 9V PP3/1604 battery
- Typical battery life:
  - Alkaline battery 1 year
  - Lithium battery 3 years
- Low voltage warning is available in software
- Battery installation date can be recorded in logger
- Supplied with alkaline battery DT5-AB

### Communications (RS-232)

- Sealed stainless steel connector allows connection to the computer at any time without opening the case (for configuring the DT5W, and transferring data to computer)
- All communication with the logger is via the computer's parallel printer interface
- Typical download time less than 1 minute
- Software and/or cable to be purchased separately (see "Ordering")

### Software

- User-friendly menu-driven interface
- Outputs:
  - Date- & time-stamped listings of data (level: mm of water)
  - Data summary
  - ASCII files for importing into spreadsheets, word processors and data analysis packages
- Functions:
  - Communicate with logger
  - Check logger configuration
  - Download logger data to file
  - Set up logger for new run
    - Set logger's clock/calendar
    - Set resolution (low or high)
    - Set memory mode (Capture or Overwrite)
    - Setting sampling interval
    - Set date and time for start of logging (delayed start)
  - Monitor logger recording
  - Set battery installation date
- Data files and reports
  - View data table
    - Display data on screen
    - Print 3-column data
    - Print 5-column data
  - View data summary
  - View data graph (scalable, printable)
  - Create spreadsheet file (for additional data analysis, including multi-trace comparisons)
- Software and/or cable to be purchased separately (see "Ordering")

### Computer Requirements

- IBM® or compatible desktop, laptop or notebook computer
- DOS 2.1 or higher
- Minimum RAM 512KB
- 1 360KB floppy drive
- 1 printer port
- Hercules, CGA, EGA or VGA display

### Ordering

Datataker 5W logger, 0 to 10 metre range	DT5W-10
Datataker 5W logger, 0 to 20 metre range	DT5W-20
Alkaline battery (9V PP3)	DT5-AB
Lithium battery (9V PP3)	DT5-LB
DT5 software and cable	DT5-CS
DT5 software only	DT5-S
DT5 cable only	DT5-C
Vented cable (per metre)	DT5-VC

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<http://www.esis.com.au>

Esis Pty. Ltd.

Sydney, Australia

Phone 02 9416 8032  
Fax 02 9416 1202