

Hydrostatic Water Depth Monitoring

Hydrostatic Water Depth Measurement

Unidata offers two water depth instruments: the 8007WDP Digital Water Level Recorder and the 6542 Hydrostatic Water Depth and Temperature Probe. Both use the hydrostatic pressure of water to measure water depths in various environments.

The two instruments differ in that the 8007WDP has an inbuilt micrologger while the 6542B must be connected to a data logger on the surface. In addition, the 8007WDP is more accurate. Both instruments measure water temperature.

Typically the 8007WDP is used for measuring water level in boreholes while the 6542B is ideal for monitoring drainage levels, bore depth and river height. In water studies where more than water depth and temperature are required the 6542B may be more suitable since other instruments can be connected to the data logger on the surface.

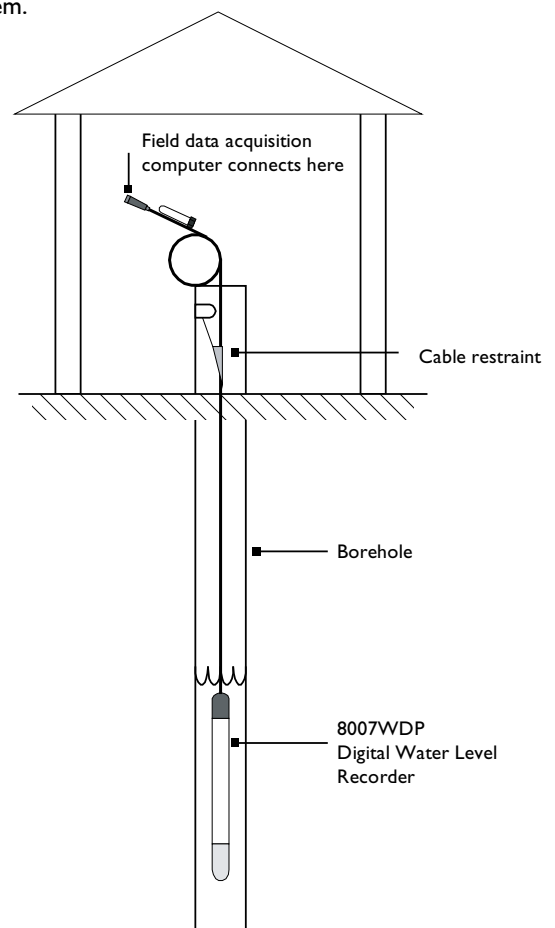
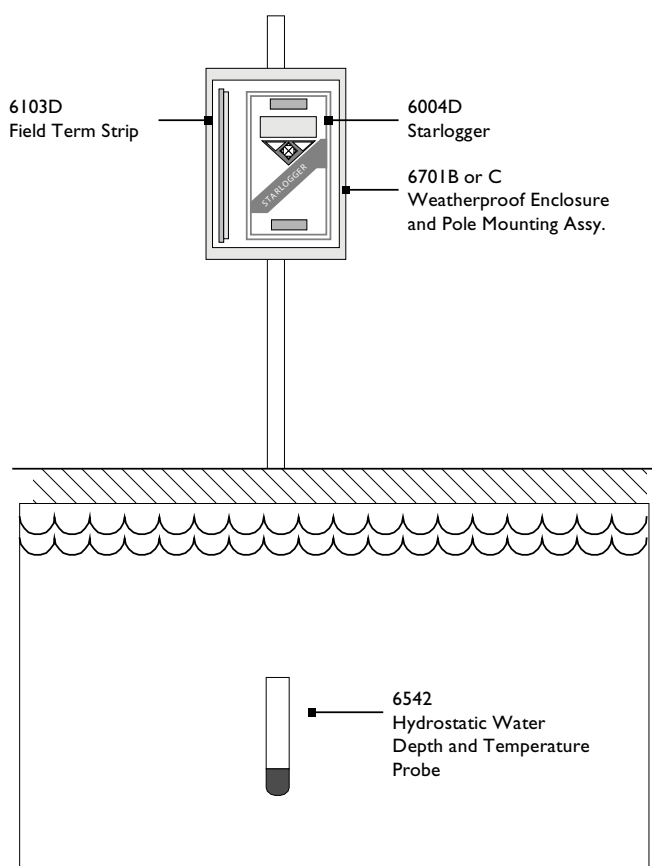
The 8007WDP can measure water depths of 5m to 20m in standard ranges. It includes a fully programmable 128k micrologger and lithium battery and can operate continuously for five years without service or recalibration. The 6542B provides accurate long term measurements of water depth from 0 to 20 metres.

Both instruments are housed in rugged stainless steel casings, but because it houses a battery and micrologger, the 8007WDP is substantially larger. Both units use cables with a vent tube for barometric compensation and a Kevlar™ support member for longitudinal stability. The 8007WDP is supplied with a device that secures the cable to the borehole casing whereas with the 6542B, you must provide the means of securing the cable.

You can download data from these instruments via the RS-232 port of a computer or, with the addition of some type of power supply such as a solar panel, battery, and regulator, you can install a telemetry system.

Key Features

- Rugged stainless steel construction.
- Digital telemetry interface.
- Compatible with STARLOGGER.
- Excellent linearity and long-term stability.
- Wide temperature range.
- Cost effective.



8007WDP Specifications**Operating Range:**

5, 10, and 20 metres of water.

Resolution: 0.1% full scale.**Accuracy:** $\pm 0.1\%$ of full scale.**Long-term stability:**

0.1% of full scale/year.

Repeatability: 0.05%.**Overpressure:** 1.4 to 3 times full scale (varies with range).**Operating Temp:** 0 °C to 50 °C.**Battery Power:**

Internal, 2 x C Lithium cells.

Operating Life:

5 years (at 1 hour measurement interval).

Pressure Sensor:

Piezo-resistive silicon strain gauge bonded to 316 stainless steel diaphragm.

Diameter: 40mm diameter**Length:** 600mm long.**Weight:** 2.1kg.**Data Logger:**

Fully programmable STARLOG MicroLogger.

Auxillary Communication:

RS-232 and SDI-12, Data modem and GSM/CDMA support.

6542B Specifications**Operating Range:**

1, 2, 5, 10 and 20 metres of water.

Resolution: 0.1% of full scale.**Accuracy:** $\pm 0.5\%$ of full scale.**Overpressure:** 200% of rated depth.**Operating Temp:** 0 °C to 60 °C.**Output Signal:**Analogue, 0.2-2.55VDC for depth. 3k Ω thermistor for temperature.**Diameter:** 25mm.**Length:** 130mm.**8007WDP System options**

6526LCD	LCD Display Unit	●
6701S	Weatherproof Enclosure for Starflow	●
6701S/LCD	Weatherproof Enclosure for Starflow with LCD	●
6507A/B/C	Thermistor Temperature Probe – Red/Yellow/Violet.	●
6703A	Steel Enclosure	●
6703B	Steel Enclosure, Mounting Plate and Cable Glands	●
6904F	Solar Recharge System – 5W	●
6907C	12V, 12Ah Sealed Lead Acid Battery	●
6807E	CDMA Modem	●
6807C	GSM Modem	●

6542B System options

6507A/B/C	Thermistor Temperature Probe – Red/Yellow/Violet.	●
6703A	Steel Enclosure	●
6703B	Steel Enclosure	●
6904F	Solar Recharge System – 5W	●
6907C	12V, 12Ah Sealed Lead Acid Battery	●
6807C	GSM Modem	●

8007WDP System components

8007WDP	Water Depth Probe 5m, 10m and 20m. – 005, 010, 020	●
---------	---	---

Example 6542 System components

6542B/ABCDE	1m, 2m, 5m, 10m and 20m Hydrostatic Water Depth Probe	●
6004-21	6004D Starlogger with 512k, keyboard, display and alkaline battery pack	●
6103D	Starlogger termination strip	●
6103C	Mounting frame	●
6701B	Weatherproof enclosure and pole mounting assembly	●