



Virtual **HERMIT**[®] Aquifer Testing Kit

Streamline your next groundwater characterization event by renting the Virtual HERMIT Aquifer Testing Kit from In-Situ[®] Rentals. Use the kit to conduct step-drawdown and constant-rate pump tests and see results in real time.

The kit contains Virtual HERMIT software for PC, an eight-port Rugged TROLL[®] Net Hub, up to eight Level TROLL[®] 700 instruments, one RuggedReader[®] handheld PC to download data from difficult-to-access sites, and a USB or RS232 TROLL[®] Com communications device.

Simplifies Testing

- Monitors an entire well field with one system – You can connect up to 16 Level TROLL 700 instruments to each “HERMIT” (designated in the software) when connecting two or more Rugged TROLL Net Hubs. A limitless number of “HERMITs” can be associated with each aquifer test.
- Simultaneously configures, starts, displays, or stops all connected Level TROLL 700 instruments.
- Allows data downloads while a test is running.

Reduces Field Time

- Captures pump and recovery data on the same log without reprogramming. Steps a logarithmic log as the test progresses.
- Displays real-time data – You can quickly adjust aquifer test protocols or identify problems.
- Minimizes data processing – You can export one time-synchronized data log for all deployed Level TROLL 700s.

Manages Unique Situations

- Allows you to disconnect your laptop PC, Rugged TROLL Net Hub, and cables during the aquifer recovery phase. Level TROLL 700 instruments continue to collect data while they are locked safely inside the well caps.
- Runs tests where cable lengths required to connect the observation wells are prohibitive or where physical barriers prevent instrument networking into a laptop.

Applications

- Characterization of aquifers, aquitards, and flow system boundaries
- Environmental assessments of contaminated sites and groundwater development and dewatering projects

Virtual HERMIT® Aquifer Testing Kit

Virtual HERMIT Software

- Maximum 16 Level TROLL® 700 instruments per “HERMIT” (when connecting 2 or more Rugged TROLL® Net Hubs)
- All instruments within a “HERMIT” must be running the same log type.
- Must configure logs with Virtual HERMIT software.
- Level TROLL 700 data logs are compatible with Win-Situ® 5, Win-Situ® Mobile, Win-Situ® Sync, and Baro Merge™ software.
- Minimum system requirements: 400 MHz Pentium® II processor, 128 Mb RAM, 100 Mb free disk space, Internet Explorer® 6.01 or higher, Windows® 2000 Professional SP4 or higher, or Windows XP Professional SP2 or higher, or Windows Vista SP1 or higher, CD-ROM drive, and a serial communications port.

Rugged TROLL® Net Hub

The low-power Rugged TROLL Net Hub can network up to eight Level TROLL 700 instruments from In-Situ® Rentals.

- Field-ready case with eight bulkhead connectors
- Compatible with RuggedCable® system — Available in either Tefzel® or polyurethane with titanium twist-lock connectors
- Does not support integrated BaroTROLL® instrument

Enclosure	NEMA 4X/IP-67
Operational temperature	-40° to 60° C (-40° to 140° F), 95% relative humidity
Storage temperature	-40° to 85° C (-40° to 158° F), 95% relative humidity, non-condensing
Dimensions	33 x 12.1 x 26 cm (13 x 4.75 x 10.25 in) (WxHxD)
Weight	2.32 kg (5.1 lbs)
Power requirements	9-36 VDC (refer to instrument documentation for cable length and voltage limitations)
Current draw	20 µA sleep mode (without instrument load); 60 mA wake mode (without instrument load)
Battery life	70 hours continuous life for two 9V batteries



Specifications are subject to change without notice. Delrin is a registered trademark of E.I. du Pont de Nemours.

Level TROLL® 700 Instrument

General	Level TROLL 700
Temperature ranges	Operational: -20-80° C (-4-176° F) Storage: -40-80° C (-40-176° F) Calibrated: -5-50° C (23-122° F)
Diameter	0.72 in (1.83 cm)
Length	8.5 in (21.6 cm)
Weight	0.43 lb (197 g)
Materials	Titanium body; Delrin® nose cone
Output options	Modbus/RS485, SDI-12, 4-20 mA
Internal battery	3.6V lithium
Battery life	5 years or 2M readings ¹
External power	8-36 VDC
Memory	4.0 MB
Data records²	260,000
Data logs	50
Fastest logging rate	4 per second
Fastest output rate	Modbus & SDI-12: 2 per second 4-20 mA update rate: 2 per second
Log types	Linear, Fast Linear, Linear Average, Event, Step Linear, True Logarithmic
Sensor Type/Material	Piezoresistive; titanium
Range	<i>Non-vented</i> 30 psia: 35 ft (10.5 m) 100 psia: 200 ft (60 m) 300 psia: 650 ft (200 m) 1000 psia: 2274 ft (693.1 m) <i>Vented</i> 5 psig: 11.54 ft (3.517 m) 15 psig: 34.61 ft (10.55 m) 30 psig: 69.21 ft (21.10 m) 100 psig: 230.7 ft (70.32 m) 300 psig: 692.1 ft (211.0 m) 500 psig: 1154 ft (351.7 m)
Burst pressure	Maximum 2x range; burst 3x range
Accuracy @ 15° C	±0.05% FS
Accuracy (FS)	±0.1% FS ³
Resolution	±0.005% FS or better
Units of measure	Pressure: psi, kPa, bar, mbar, mmHg, inHg, cmH ₂ O, inH ₂ O Level: mm, cm, m, in, ft
Temperature Sensor	Silicon
Range	Calibrated: 0-50° C (32-122° F)
Accuracy & Resolution	±0.1° C; 0.01° C or better

¹ Battery life guaranteed when used within the factory-calibrated temperature range.

² 1 record = date/time plus 2 parameters polled or logged (no wrapping) from device within the factory-calibrated temperature range.

³ Across factory-calibrated temperature range.