TruTrack Data Logger

General Purpose Logger Model GP-HR mark 3

High Resolution (12 bit) Multi Purpose Datalogger.

The GP-HR is a small High Resolution (12 bit) multi purpose Datalogger housed in a rugged 19.05mm 304 stainless steel case, that can be configured to accept input from a wide variety of sources including:

- 4-20mA Probes
- Voltage (DC)
- Current (DC)
- Temperature Probes
- Wind Direction Sensors
- Wind Speed Probes
- Pressure Probes
- Flow Sensors
- Frequency
- Light Sensors
- Tipping Bucket Rain Gauges
- Leaf Wetness Sensor
- Solar Radiation Sensors
- Soil Water Tension Probes

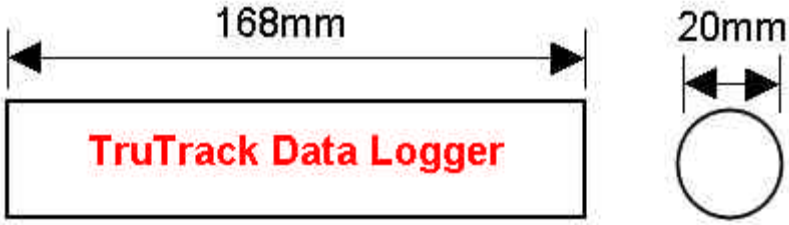
Logging can be configured to; start on time, immediate start, stop when full, loop around (over write oldest data).

Standard Probes:

Standard probes and sets of probes, ready for plugging into the logger. Other combinations available.

- Three 4~20mA inputs
- One temperature
- Two temperature
- Three temperature
- Separate temperature and humidity
- Combined temperature and humidity
- Separate temperature and pressure
- Combined temperature and pressure
- Separate temperature and light/solar energy
- Separate temperature and anemometer (wind speed)

GP-HR Dimensions:



Putting into service:

1. From the SWDL-HRC101 OmniLog software and Down Load cable kit, plug the Down Load cable into a spare serial port on your PC, and load the OmniLog software. The OmniLog has an excellent “Help”. This will need to be read to enable successful operation of the OmniLog Data Management Program and gain familiarisation of the many advanced features available.

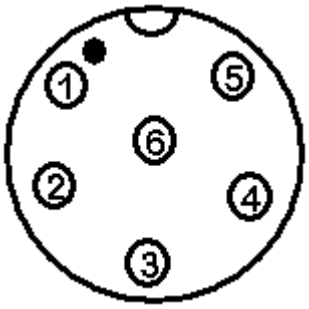
2. Connect the TruTrack Logger. Under healthy circumstances, a “Logger Control” screen will load. If the “Logger Control” screen does not load, click on the button labelled “Connect to a Logger for the first time”. The OmniLog will run a test on the serial ports and advise if the port the logger is connected to is not available, in which case, plug the logger into an available port. (Refer to “Help” for further assistance.)

3. On the “Logger Control” screen, click on “Channel and Probe Setup” button, and check the Battery Condition, plus other configurations if connecting to the pH-HR or mV-HR loggers.

Now click on the “Start Logger” tab for the final configurations, before putting the logger into service.

Specifications:

External Sensor Connector:	Type	6 pin Switchcraft Plig (EN3C6M)
		Weatherproof; IP66
	Pinout	1 Switched Reference voltage
		2 First Analog Input
		3 Second Analog Input
		4 Third Analog Input
		5 Fast Pulse Input
		6 Common Ground



Three Analog Channels:	To log any combination of	Temperature	Wind Direction
		Humidity	Soil Moisture Tension
		Pressure	Leaf Wetness
		Light	Voltage (DC)
		Solar Energy	Current (DC)

One Fast Pulse Digital Channel:	To log:	Rainfall	Wind Speed
		Counter (up to 65535)	Flow
		Frequency (up to 60kHz)	

Internal Temperature:	Sensor Type	Thermister
	Linear accuracy over range	±0.3ºC (0ºC to 70ºC)
	Repeatability	±0.1ºC
	Long term stability	±0.1ºC

Logger:	Working Temperature	-30ºC to +70ºC
	Storage Temperature	-30ºC to +70ºC
	Sampling Rate	1 second minimum, 10 hours maximum; in 1 second intervals
	Storage capacity	64,000 8 bit samples; 32,000 12 bit samples
	Alarms	Two independent Alarms
		Triggered on any combination of six user configurable Alarm Conditions
		One alarm can be configured to dial a PocketPager
		Alarms can be visually checked using the OmniLog Software
	Start modes	Start immediately
		Start on date/time
	Stop modes	Stop when memory is full
		Stop on date/time
		Loop around (continues logging)
	Logging modes	Each channel can be set to log any combination of:
		- Point readings
		- Average reading
		- Maximum reading
		- Minimum reading
	Battery	Factory Replaceable
		One ½AA 3.6V lithium cell; One to Five year life
		The data is retained in the case of battery failure
		Battery Status Monitor in OmniLog software
	Download time	35 seconds for Full Logger
	Case material	304 Stainless tube
	Screw on end cap	Plated brass
	Weight	110g
	Size	20mm diameter X 168 mm long

Three Analogue Channels:

The three analog channels have identical characteristics. Each channel can operate in two modes, Absolute and Ratiometric. The mode of operation is determined by the probe type selected for that channel. The probe type is selected using the Channel and Probe Setup Tab of the Logger Control Screen in the Omnilog Software. Using this software, a different Probe can be selected for each Channel. Temperature (Thermister) , Pressure and Humidity probes are typically Ratiometric. Voltage and current inputs are Absolute.

Maximum readable input voltage in Ratiometric mode	3.6 Volts Nominal (see note)
Maximum readable input voltage in Absolute mode	2.048Volts
Maximum voltage input without damaging logger	5 Volts
Maximum current to be drawn by the combination of all three probes	5mA
Input Leakage Current	0.1uA

Note:The maximum readable voltage in ratiometric mode should be derived from the logger supply (Pin 1) and will therefore decrease over the life of the battery to a minimum of 2.7 Volts.

One Fast Pulse Digital Channel:

The fast pulse input can be used in two modes, Counter or Frequency.
Counter mode is used for functions such as rainfall. Frequency Mode is used for wind speed or flow sensors. The mode of operation is determined by the probe type selected for that channel. The probe type is selected using the Channel and Probe Setup Tab of the Logger Control screen in the Omnilog Software.

Maximum Count Per Logging Period	65535
Maximum Frequency with logging period set to 1sec	60kHz
Preferred Switch Input Type	Normally Open
Preferred Digital Input Type	Normally High
Minimum High Period	1uSec
Mininum Low Period	1uSec
Input Impedence	470 kOhm
Prefered voltage input	3.6 Volts
Maximum voltage input	5.0 Volts

Standard Probe Sets:

- 1 External Temperature
- 2 External Temperature
- 3 External Temperature
- Humidity & Temperature Probe
- Humidity & Temperature Probe with additional Temperature Probe
- Pressure & TemperatureProbe
- Pressure & Temperature Probe with additional Temperature Probe
- Light / Solar EnergyProbe
- Light / Solar EnergyProbe with additional Temperature Probe
- Tipping bucket rain Gauge Adaptor
- Tipping bucket rain Gauge Adaptor with additional Temperature Probe
- Wind Speed Anemometer
- Wind Speed Anemometer with Temperature Probe
- Leaf Wetness Probe
- Leaf Wetness Probe with additional Temperature Probe
- Breakout Adapter
- 1 input 0 to 20mA adapter (can be used with 4 to 20mA sensors)
- 2 input 0 to 20mA adapter (can be used with 4 to 20mA sensors)
- 3 input 0 to 20mA adapter (can be used with 4 to 20mA sensors)
- 3 input voltage Divider