

HL-1 HyperLogger™ System Base

Description and Specifications

HYPERLOGGER™ DATA LOGGING SYSTEM

A HyperLogger™ portable data logging system consists of the HyperLogger System Base, an assortment of User specified plug-in Interface Modules, the HyperWare™ Windows™ based software, and any additional User specified accessories.

The HyperWare software is provided with the HyperLogger System Base and is described in detail on a separate data sheet. Interface Modules and accessories are User specified at the time of purchase and are described in detail on a separate data sheet.

HYPERLOGGER SYSTEM BASE

The HyperLogger System Base is a latching, weatherproof enclosure containing the system microprocessor, data storage memory, Analog to Digital converter, liquid crystal display, batteries, input/output terminal strip connector and six interface ports that accommodate a variety of HyperLogger Interface Modules and accessories.

PROGRAMMING...

The System Base is programmed for operation via the provided Windows based HyperWare software. Simple to complex programming is readily implemented by developing the program visually on the PC by dragging and dropping icons and interconnections, then transferring the program (via RS-232, Ethernet or modem) to the HyperLogger memory before deployment. Alarming, conditional logging, algebraic data manipulation, statistical calculations, time integral and non-linear polynomial calculations, and a multitude of other functions are all well within the capability of the HyperNet visual programming software.

MODULAR I/O...

Six interface ports, providing up to 48 analog and/or digital channels are accessible by removing two thumbscrews and lifting the hinged HyperLogger front panel. Each port can accept Interface Modules ranging from four channel 'Universal' Interface Modules (software configurable for 6 thermocouple types, 15 ranges of VDC or ADC) to a family of other modules for frequency, event, RTD, thermistor, counter I/O as well as modules for removable PCMCIA Data

Memory modules, 14.4 Kbaud modem modules and more...

Analog Interface Modules with full differential inputs, software programmable gain and configuration, included front-end completion circuitry and rugged suppression protection circuitry insure reliable accurate signal conditioning. The innovative Cal-Check™ self-calibration feature has been enhanced within the HyperLogger to include User programmable self-calibration cycles for both Interface Modules and the System Base Analog to Digital Converter. Precision trimmed, temperature stabilized references insure accurate Cal-Check performance over time and temperature.

POWER REQUIREMENTS...

Designed for demanding portable, plant floor, and long-term remote site data collection applications, the HyperLogger incorporates low power CMOS circuitry and extensive energy conserving circuit designs. The HyperLogger will run for up to 6 weeks from its six internal alkaline D-cells. The D-cells are readily accessible in a lid mounted battery holder providing for quick and easy field replacement. For longer term logging applications, low-voltage external power can be directly connected to the System Base (also see the HL-200 for PV powered applications). In the event of external power failure, the HyperLogger will automatically transfer to the internal batteries providing uninterrupted logging.

USER INTERFACE...

The HyperLogger front panel includes User control buttons for Enable, Stop, System Status display, Power, and Output Alarm Relay override. Additionally, a two line liquid crystal display is provided for real-time data display of actual and calculated input signal readings as well as providing detailed system status reporting ranging from battery state of charge to current mode of operation to display of User programmed alarm messages. Front panel LEDs can be User programmed for status and alarming applications.

SYSTEM BASE I/O...

Included in each System Base is a General Purpose Digital Input (providing a User programmed Event or Counter input), two alarm relay outputs, three TTL level digital alarm outputs, and a Cold Junction Compensation sensor for thermocouple measurements or use as a separate thermistor or resistance input channel.

WIRING...

Input and Output wiring is uniquely handled through the use of a Terminal Strip Adapter (TSA) board which allows for mass connection and disconnection of wiring, while maintaining the integrity of the sealed enclosure. Through the use of the TSA, a HyperLogger can be quickly disconnected from its associated I/O wiring harness, moved to another site and reconnected to a new set of I/O wiring...all without the hassles

of discrete wiring connections and requisite wire marking.

The HyperLogger System Base includes *one HLIM-1 four channel input module*, and HyperWare™ software (which includes HyperPlot™, HyperNet™, HyperTrack™, and HyperComm™), Users manual, RS-232 cable, serial port cable adapters (DB-9 and DB-25), batteries, 120VAC adapter, liquid-tight wiring fittings, screwdriver and Quick Reference Cards.

OPERATIONAL SPECIFICATIONS; SYSTEM BASE

DATA STORAGE MEMORY:

Redundant battery backed up SRAM. Apx 40,000 samples internal, up to 600,000 samples with optional PCMCIA removable memory card (see HLIM-5 data sheet).

DATA MEMORY BACKUP:

Lithium cell, 1 year @ 25C

MEMORY UTILIZATION:

User programmable; Stop when Full or Rotary (FIFO) memory

A/D CONVERTER:

12 bit plus sign (13 bit) SAR converter. Programmable first-order filtering and 50/60 Hz noise rejection options.

A/D CONVERTER ACCURACY:

+/- 0.1% RDG + 1 bit

SAMPLING THROUGHPUT RATE:

150+ Samples per Second (analog input to memory); rate is dependent on number and type of channels and programmed signal processing

INTERFACE MODULE PORTS:

6 ports. For plug-in Interface Modules and special function modules (modem, PCMCIA).

DIGITAL PORT:

Integral General Purpose Digital Input channel. User programmable for Event or high-speed Counter applications. Contact closure or driven input.

OUTPUTS:

2 low-voltage N/O relays; 500mA rated: S/W controlled

3 Digital (0/5 Vdc), Current Ltd., Software controlled

5Vdc regulated output, 125 mA current limited

DISPLAY:

Two line, 16 character per line LCD. For System Status and User programmable event driven messages.

CLOCK:

Date and Time, 24 hour, battery backed up.

GLITCH RECOVERY:

Hardware watchdog reset followed by software restart of last operation.

POWER CONSUMPTION:

9 VDC nominal. Apx 3mA between readings; apx 50 mA during readings; provided by 6 internal D-cells.

EXTERNAL POWER (optional):

Terminal strip connection for external power source. Accepts 9-16 VDC, 10-20 VAC from any semi-regulated external source (120VAC wall adapter is included with HyperLogger). Transzorb protected.

ENVIRONMENTAL / MECHANICAL SPECIFICATIONS

OPERATING TEMPERATURE:

-10 to 60C (14 to 140 F). Contact factory for extended temperature applications.

STORAGE TEMPERATURE:

-30 to 70C (-22 to 158 F)

RELATIVE HUMIDITY:

90% non-condensing

ENCLOSURE:

Gasketed rain-proof plastic, supplied with liquid-tight wiring fittings and I/O Wiring Plate (NEMA 4x Equip)

DIMENSIONS / WEIGHT:

10.5"W x 14"H x 6.5"D 10lbs with batteries

SHOCK AND VIBRATION:

The HyperLogger will withstand the shock and vibration conditions encountered in normal commercial shipping and handling.

ORDERING INFORMATION:

Specify HL-1 and desired Interface Modules and accessories. System Base (HL-1) is supplied with HyperWare software, HLIM-1 four channel input module, RS-232 cables, DB-9 and DB-25 RS-232 adapters, batteries, 120VAC/12VDC wall power adapter, wiring fittings, and manual.

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