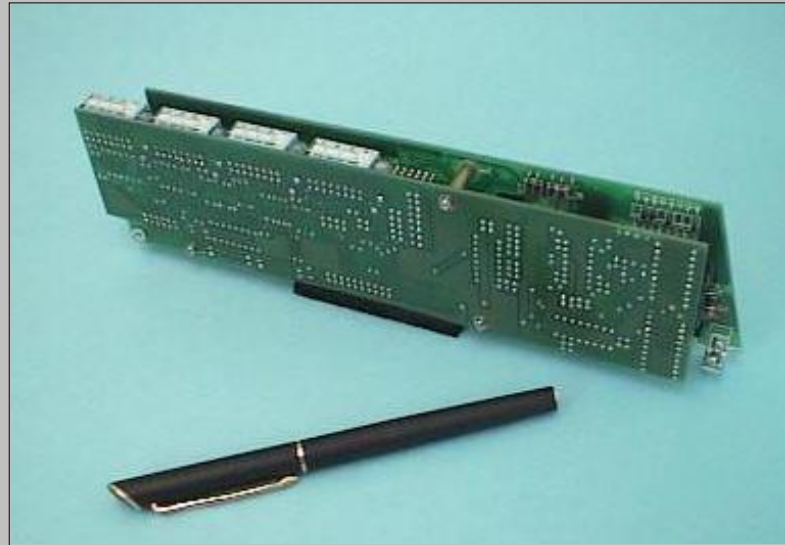


# HyperLogger HLIM-1 Analog Input Module

## Features...

- 4 Universal Analog Inputs accept thermocouples, voltage and/or current.
- Plug and Play compatibility with HyperLogger data logging system
- Encoded module ID for automatic identification
- Time and temperature stable precision trimmed mil-spec references
- Full differential, bipolar inputs



## Overview...

The HLIM-1 HyperLogger family Interface Module provides the signal conditioning for interfacing thermocouple, DC Voltage and DC currents directly to the HyperLogger System Base. The module provides four input channels that can be individually programmed for six thermocouple types, a multitude of DC voltages and DC currents. The module utilizes differential inputs feeding into a low-noise, precision instrumentation amplifier. On board time and temperature stable references are used for self-calibration sequences as specified by the User in the HyperLogger program.

Integral precision front end dividers allow for bipolar inputs ranging from mV to 30Vdc full scale... all without the User hassle of adding external divider circuitry. Additionally, for current measurements, a precision 100 ohm resistor is included... allowing for direct measurement of currents up to 25mA. 4-20mA inputs are simply configured... and all current inputs are fuse over-current protected.

The HLIM-1 simply secures into the HyperLogger backplane within the System Base.. and can be added in the field by the User. The module installation and hardware configuration is automatically detected via the HyperLogger and communicated to the HyperWare software during the programming process. Range selection, input types, etc are then software selected.

All modules are calibrated, 100% performance and accuracy tested before shipping.. assuring Users of a consistent high quality product.

# Applications...

- **Thermocouple Based Temperature Measurement** - thermocouple temperature sensors can be directly connected to the HyperLogger via the HLIM-1 module. All amplification, filtering, cold junction compensation and conversion to temperature units is then handled behind the scenes with minimal User setup requirements.
- **Sampling Amplified Sensor Outputs** - many sensor manufacturers can provide their sensors with amplified outputs... for example outputting a signal of 0 to 10Vdc which corresponds to a sensed pressure of 0 to 500 PSI. This signal can be directly interfaced to the HyperLogger system via the HLIM-1 in the Medium or Hi Voltage Input Range. Scaling of the sensed signal (eg Vdc) to Engineering units (eg PSIG) is simply handled through the data logger program developed within the HyperWare software and downloaded to the data logger's memory for execution.
- **Sampling Un-Amplified Sensor Outputs** - with the programmable gain, extreme resolution and accuracy of the HyperLogger system equipped with the HLIM-1 module, even un-amplified signals (eg load cell outputs) can be input to the HyperLogger for sampling, processing and eventual storage to memory.
- **Process Transmitter logging** - the ubiquitous 4-20mA process signal which can represent PSI, RPM, Level, temperature, pH, etc can be directly handled by the HLIM-1 module. Engineering units conversion is readily handled by the program in the data logger.

# Technical Specifications...

## ANALOG INPUT CHANNELS:

4 individually programmable channels of the following analog signal input. Any combination of the following types/ranges can be configured with the HLIM-1

## Thermocouple

Type:	J, K, E, T, R, S
Accuracy:	+/- 0.2 to 1.0 C depending on range and type (+/-5C for R and S type)
Cold Junction Compensation (CJC) Range:	-10 to 60C
CJC Accuracy	+/-0.5C

## DC Voltage

Full Scale Ranges:	+/- 20mV, +/-40mV, +/-50mV, +/- 60mV, +/-100mV, +/-200mV, +/-1V, +/-2V, +/-5V, +/-10V, +/-30V
Accuracy:	+/-0.3% F.S.(Low Range), +/- 0.5% F.S. (Med & Hi Ranges)

Common Mode Range:	3.5 VDC, Full Differential Input
Input Resistance:	>2.5M for 5, 10, and 30VDC; >10M for all other ranges

## DC Current

Full Scale Ranges:	+/-200uA, +/-400uA, +/-500uA, +/-1mA, +/-2mA, +/-11mA, +/-22mA
Accuracy:	+/- 0.3% F.S.
Input Resistance:	100 ohms (all current ranges)

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