

THE USB2250 DATA ACQUISITION SYSTEM



The USB2250 Data Acquisition System provides 16 sensor inputs in any mix or combination with easy to use data logging and optional graphing software. .NET API's and LabVIEW vi's are also available for easy integration with your current setup.

Thermocouples, RTDs, strain gages, LVDTs, potentiometers, VR sensors and low-level DC voltages are wired directly to the USB terminals in any mix or combination of single-ended or differential input types. All required excitation, amplification and linearization is provided by the USB2250. No additional equipment is required.

The USB2250 features 10 input ranges from 20 mV to 10.24 V full scale all with 16 bits of resolution, programmable channel-by-channel. An innovative dual-conversion scheme provides outstanding zero offset correction for low-level measurements.

The USB2250 provides polynomial linearization for thermocouples and RTD's. Scale and offset factors can be applied to all inputs. The USB2250 produces a floating-point value for all readings, directly in engineering units.

- 16-bit resolution, 100 KHz conversion rate
- 16 input channels, sensor excitation provided
- Auto-Zero capability for better accuracy
- Accepts any combination of sensor inputs
Thermocouples, RTD's, Strain Gages, LVDT's
VR Sensors, Potentiometers, DC Volts
- On-board TC, RTD linearization
- Separate TC reference temperature sensor channel provided
- Data Logging and Configuration software included.
- .NET API and LabVIEW vi's available

Chan No.	Log Name	Tag ID	Current Date	Units	Sensor Type	Range	Scale Factor	Offset	Channel No.	Units
1	V	148571	0/30000	deg F	TC (Std. Junction Temp)	-0.1 to 0.1	1.0	0.0	1	deg F
2	V	148571	0/30000	deg C	AC Sensor Variable Potentiometer	-0.40 to 0.40	1.0	0.0	2	deg C
3	V	148571	0/30000	deg C	AC Sensor Variable Potentiometer	-0.40 to 0.40	1.0	0.0	3	deg C
4	V	148571	0/30000	deg C	AC Sensor Variable Potentiometer	-0.40 to 0.40	1.0	0.0	4	deg C
5	V	148571	0/30000	deg C	AC Sensor Variable Potentiometer	-0.40 to 0.40	1.0	0.0	5	deg C
6	V	148571	0/30000	deg C	AC Sensor Variable Potentiometer	-0.40 to 0.40	1.0	0.0	6	deg C
7	V	148571	0/30000	deg C	AC Sensor Variable Potentiometer	-0.40 to 0.40	1.0	0.0	7	deg C
8	V	148571	0/30000	deg C	AC Sensor Variable Potentiometer	-0.40 to 0.40	1.0	0.0	8	deg C
9	V	148571	0/30000	deg C	AC Sensor Variable Potentiometer	-0.40 to 0.40	1.0	0.0	9	deg C
10	V								10	Unlabeled
11	V								11	Unlabeled
12	V								12	Unlabeled
13	V								13	Unlabeled
14	V								14	Unlabeled
15	V								15	Unlabeled
16	V								16	Unlabeled
17	V								17	Unlabeled
18	V								18	Unlabeled
19	V								19	Unlabeled
20	V								20	Unlabeled
21	V								21	Unlabeled
22	V								22	Unlabeled
23	V								23	Unlabeled

Configuration Display Window - Easy Sense 2250



USB2250 Specifications

Available I/O:

16 single ended inputs which can be paired as differential inputs in any combination.

I/O Connections:

Analog input terminal block with screw terminal connections.

Environmental:

0 +55C, 95% RH, non-condensing

Power Required:

External 100-240 VAC, 50-60 Hz.
Power adapter is provided.

Thermocouples:

Type J, K, E, T, & S, linearized in C.
Typical resolution 0.05C.

RTD:

Pt 391, Pt 392, Pt385 alpha, linearized
-200 to +850C. 2, 3, or 4-wire configurations.
Excitation from internal current source
supplied. Typical resolution, 0.05C

Strain Gages:

Up to 9 120 Ohm full bridge gages at 5 Vdc
excitation or 8 350 Ohm (or greater) gages at
5 Vdc or 10 Vdc, selectable excitation. Partial
bridges completed to terminal block. Precision
excitation to 350mA @ 5 V and 300mA @ 10V
provided.

LVDT/RVDT/VR:

4 mv/V to 2.6 V/V in 10 binary ranges.
2.5 VAC @ 5 KHz sine wave excitation provided.

Voltages:

± 20 mv to ± 10.24 Vdc FS single-ended or
differential inputs in 10 binary ranges.

Resistances:

20 Ohms to 150K Ohms, full scale.

Sensor Excitation:

Internal +5 Vdc to +10 Vdc for strain gages,
(0.35 A maximum), current source for RTD's,
1.0 mA nominal per channel @ 5 Vdc. 2.5 VAC
@ 5 KHz sine wave carrier for LVDT and
VR sensors



Easy Sense 2250

Input Protection:

Over-voltage to ± 25 Vpk (power off), or
 ± 40 Vpk (power on). Typical static discharge
4 KV is survived.

Common Mode:

± 10 V

Crosstalk:

-115 db or better

Resolution:

16 bits

Averaging:

Programmable rolling average for each channel.

Data Acquisition Rate:

100,000 readings per second, spread over
active inputs

System Accuracy:

Total system error 0.02% FS. Range temperature
coefficient typically 50 ppm/C. Offset zero temperature
coefficient typically 0.15 uV/C.

Dimensions:

USB2250 Box : 10" x 6" x 1.5"
Cable : 36"
Terminal Block : 6.25" x 3.5" x 0.25"

