16-bit RS-232/Analog Signal Conditioner
Part Number: 1-6200-012

Operating Specifications[1]

Communications	RS-232
Analog Output	0 V DC to 5 V DC
Analog Input Resolution	16 bits
Analog Output Resolution	16 bits
Operating Range	0% to 100% of sensor range
Supply Voltage	7 V DC to 16 V DC
Supply Current	20 mA @ 7 V DC
Operating Temperature	-40 °C to 85 °C
Storage Temperature	-40 °C to 125 °C
Sensors Controlled	1 or 2
Axes of Measurement	1 or 2
Temperature Sensor Range	-40 °C to 125 °C

Dimensions

Housing	None
Electrical Connections	8 Pin, 0.1” spacing
Weight	20 grams
Length	45 mm (1.77”)
Width	45 mm (1.77”)
Height	12 mm (0.46”)
Hole Center	38 mm (1.50”)

RS-232 Commands

‘X’	X axis output (0 to 65535)
‘Y’	Y axis output (0 to 65535)
‘T’	Temperature output (0 to 1023)
‘S’	Output X, Y, temperature at set intervals
‘R’	Stop timed interval output
‘1’ to ‘5’	Delay (in seconds) for set intervals

Electrical Connections

J1 Pin 1	RS-232 ground
J1 Pin 2	Analog output ground
J1 Pin 3	Supply voltage (+)
J1 Pin 4	Supply voltage (-)
J1 Pin 5	RS-232 receive (in)
J1 Pin 6	X axis analog out
J1 Pin 7	Y axis analog out
J1 Pin 8	RS-232 transmit (out)
L1 and L2	Single axis sensor connections

Certifications and Ratings

- None (PCB sub-assembly)

Description

The 1-6200-012 RS-232/analog 16-bit signal conditioner can be used with any Fredericks single axis electrolytic tilt sensor. This signal conditioner can be connected to 1 or 2 single axis tilt sensors to provide dual axis position measurement over the sensors’ range.

Fredericks 0703-1602-99 mid-range and 0703-0711-99 narrow range sensors can be mounted directly to the PCB for a complete inclinometer solution. The 16-bit ADC input and 16-bit DAC output resolution allow this signal conditioner to provide exceptional accuracy in a variety of applications.

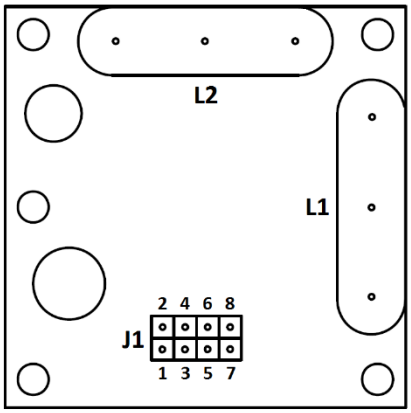
A detailed list of compatible sensors can be found on page 2 in the Related Products section.

Applications

- Geotechnical and structural monitoring
- Laser leveling
- Machine tool leveling
- Rail track monitoring
- Satellite positioning

View a full list of applications on The Fredericks Company website at www.frederickscompany.com.

Pin Diagram



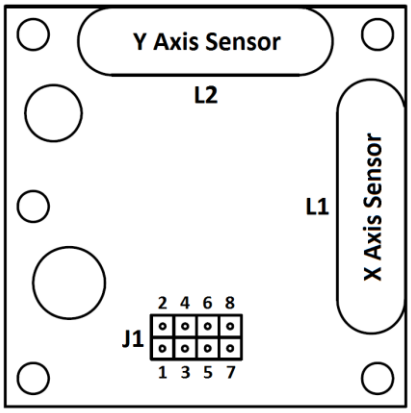
Benefits

- Very low power consumption
- Extremely long life
- Minimal drift over lifetime compared to MEMS devices
- Excellent resolution and repeatability
- Superior performance in extreme temperatures and environments
- Excellent customer support
- Manufactured in the United States of America

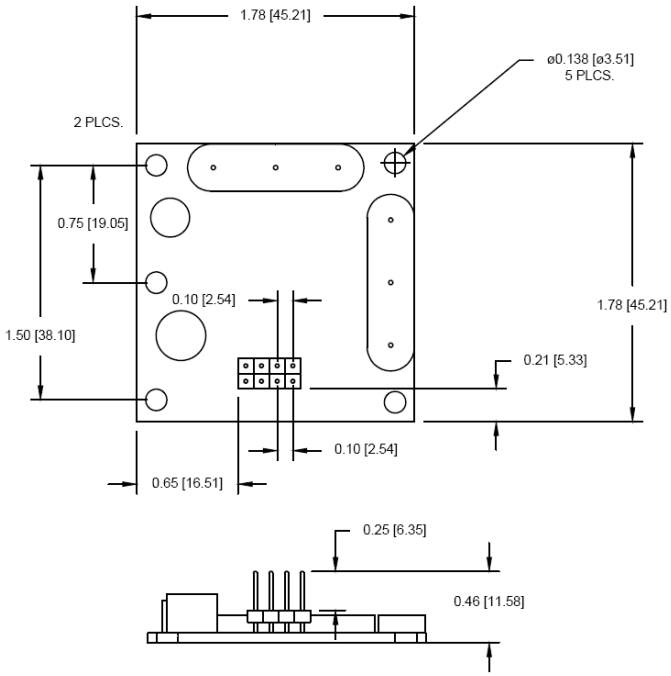
[1] See The Fredericks Company website for a list of term definitions.

16-bit RS-232/Analog Signal Conditioner
Part Number: 1-6200-012

Direction of Measurement



Dimensional Drawings



RS-232 Settings

Baud Rate	9600
Data Bits	8
Parity	None
Stop Bits	1

Related Products

Single Axis Electrolytic Sensors - Metal, PCB Mountable	
0703-0711-99	±3˚ range, ±0.001˚ repeatability
0703-1602-99	±25˚ range, ±0.005˚ repeatability
Single Axis Electrolytic Sensors - Glass, Not PCB Mountable	
0737-0101-99	±10˚ range, ±0.0006˚ repeatability
0737-1203-99	±0.5˚ range, ±0.0001˚ repeatability
0711-0763-99	±1˚ range, ±0.0008˚ repeatability
0711-0768-99	±3˚ range, ±0.0008˚ repeatability
Single Axis Electrolytic Sensors - Glass Encapsulated	
0719-3705-99	±10˚ range, ±0.0006˚ repeatability
0719-3703-99	±0.5˚ range, ±0.0001˚ repeatability
0719-1137-99	±1˚ range, ±0.0008˚ repeatability
0719-1143-99	±3˚ range, ±0.0008˚ repeatability

Contact Us

The Fredericks Company
2400 Philmont Avenue
Huntingdon Valley, PA 19006
tel: +1 215 947 2500
fax: +1 215 947 7464
email: sales@frederickscompany.com
web: www.frederickscompany.com