Models 4572-485, 4573-485 & 4575-485 Bridgesensors

Features

- RS485 Output
- 15 Bit Resolution
- 10V Bridge Excitation Supply Capable of Driving 4 Load Cells
- Rugged Epoxy Encapsulated Design with Screw Terminals for Easy Hookup
- Basic Software Program Supplied with Unit for Calibration and Data Logging
- Up to 64 addresses
- AC Powered

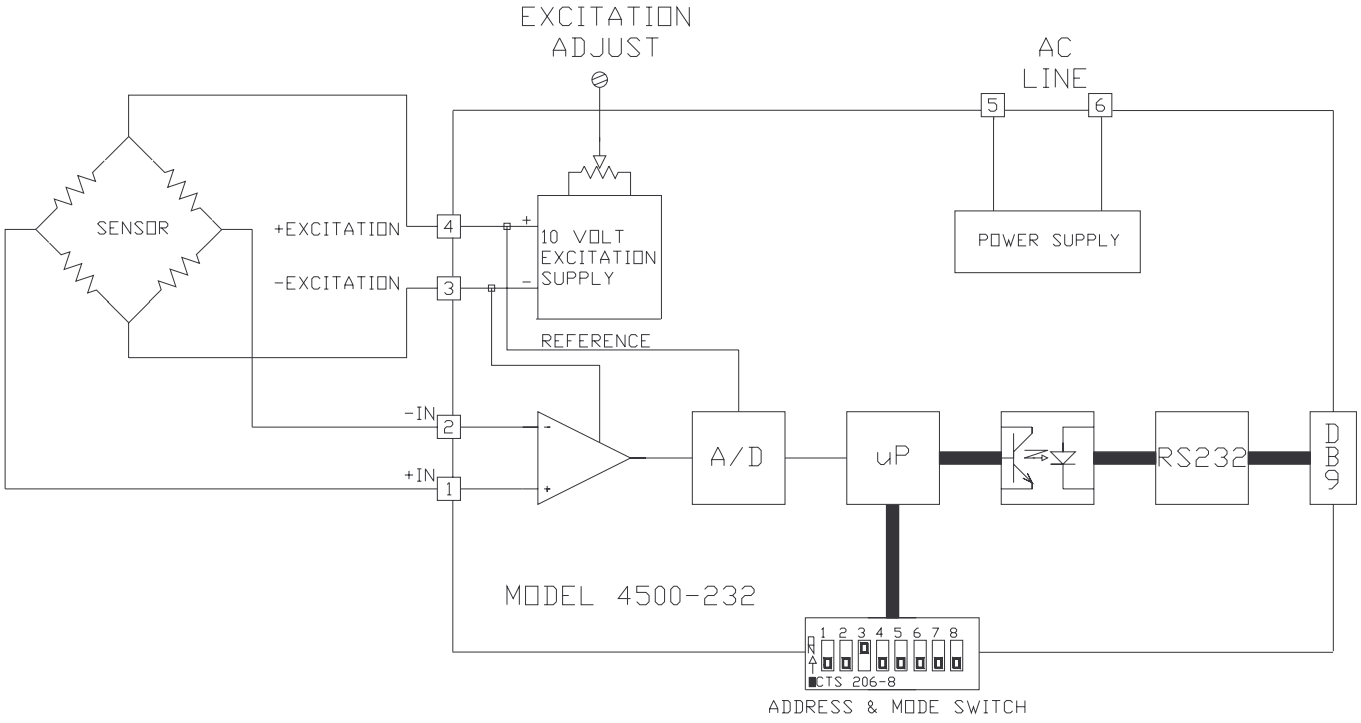
Applications

- Weighing with Load Cells
- Low Frequency Strain Measurements
- Can Be Used with All Types of Low Output Sensors

Description

The Models 4572-485, 4573-485, and 4575-485 are self contained, AC powered strain gage to RS485 computer interface modules. Each model contains a precision differential instrumentation amplifier, A/D converter, microprocessor and a highly regulated bridge excitation source. Each unit is completely encapsulated for use in rugged environments.

Model 4500-485 Block Diagram



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Specifications
AC Powered Bridgesensors - RS485 Interface

Input	4572-232	4573-232	4575-232
Voltage, Full Scale	±25 mV	±30 mV	+50 mV
Resistance, Differential	> 100 megohm		
Current	100 pA		
Common Mode Voltage	0 to +5 Volts		
Analog to Digital Conversion			
Ratiometric w/r Bridge Excitation Single Channel Input			
Resolution	1 part in 41,000		
Conversion Rate	5 times / second		
Linearity - Referred to Input	±0.01% of Full Scale		
Temperature Coefficient (0 to 55°C) Zero Drift - Typical	±0.75 V / °C		
Span - Typical	±0.005% / °C		
Bridge Excitation Supply	+10 Volts		
Adjustment Range	±3%		
Load Current	120 mA Maximum		
Load Regulation	1 mV Typical		
Temperature Coefficient	±0.006% / °C Typical		
Isolation			
Analog & Microprocessor Common to Line	500 Volts RMS		
Analog & Microprocessor Common to Serial Output	500 Volts RMS		
Power Requirements	115 VAC ±10V Volts 50/60 Hz 6 VA (230 VAC ±20V Available) Note: Specify input voltage when ordering, i.e. 4572-232-115		

A/D Conversion

The A/D converter is ratiometric with respect to the bridge excitation supply. The 15 bit A/D provides 0.0024% resolution and is linear to 0.01% up to 10% over range input.

Transducer Excitation

The bridge excitation is provided by an AC powered, regulated, low noise power supply. The excitation voltage is factory set to 10.00V and is adjustable ±3% by means of a molded in potentiometer. Precisely setting the excitation to 10.00V at the bridge is not necessary due to the ratiometric A/D. If the unit is used without the built in excitation supply driving the bridge the low side of the external power supply must be connected to pin 3.

Software

The 4500.BAS basic program is provided with each unit and allows the user to custom program each application. Each unit may be set up in a “Test Mode” to perform internal diagnostic tests to assist in setting up a complete system. After the system is up and running correctly, the unit may be programmed to deliver continuous data streams or to send data only on command from the host computer. Up to 64 addresses are possible with the 4572-485, 4573-485 or 4575-485.

Setup Procedure

Each unit is shipped with a step by step users manual that covers the setup procedure and walks the user through the 4500.BAS program. In the event that there are any questions, CALEX applications engineers are available to assist you on our toll free number.

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RS485 Protocol

Terminal Block

Terminal 1 = Common
Terminal 2 = +RX *Data Received by 457X*
Terminal 3 = -RX
Terminal 4 = +TX *Data Transmitted by 457X*
Terminal 5 = -TX
Terminal 6 = +RX
Terminal 7 = -RX
Terminal 8 = +TX
Terminal 9 = -TX

Baud Rate = 4800

Parity = None

Data Bits = 8

Stop Bits = 1

ASCII code

Message Structure:

To request a measurement - 5 characters

1st - "T" = Alpha command character

2nd thru 4th - unit address - 3 ASCII decimal digits 000 to 063

5th - CR terminator = 0DH

Returned data - Sign, 5 digits, CR and LF

Test Modes:

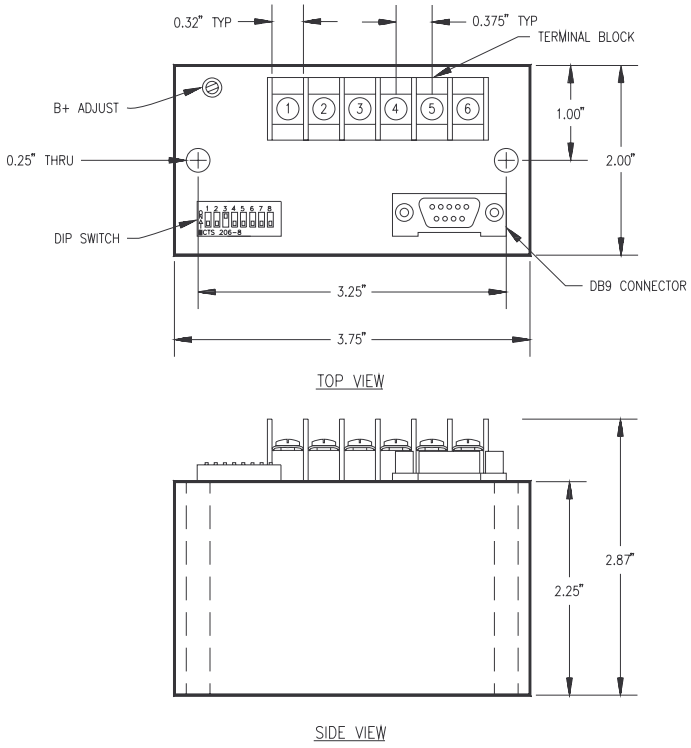
Test Mode 1 - Same as returned data above

Test Mode 3 - Unit sends a 37 character string.

The last two characters are a CR LF.

- "Mode 3: Version 941101
address: 01" CR LF

Mechanical Specifications



Address Switches Table						
SW	**1**	**2**	**3**	**4**	**5**	**6**
ON	0	0	0	0	0	0
OFF	1	2	4	8	16	32

Mode Selection Table			
SW 7	**SW 8**	**Mode**	**Description**
ON	ON	0	OPERATE MODE
OFF	ON	1	TEST MODE
OFF	OFF	3	TEST MODE

Terminal Strip Assignments	
Screw Terminal	**Function**
1	+ INPUT
2	- INPUT
3	- EXCITATION
4	+ EXCITATION
5	AC
6	AC

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