



Description

The USB Strain Gage Module (DSCUSB) is a compact, high performance strain gage digital signal conditioner module with USB connectivity. It is aimed at applications which require high measurement accuracy, resolution, and repeatability. The module and sensor are powered by the host USB and will appear as a virtual COM port.

It is ideal for a single sensor application. However, multiple sensors may be connected using a suitable USB hub. The IP50 rated ABS plastic enclosure may be mounted in several ways. DIN rail mounting is available (part# D4).

Software tools are included for quick and convenient interfacing with the device for testing, configuration, calibration, datalogging, and recording. A standard Windows DLL is provided for creating custom applications.

Contact Strainert for assistance with mounting options, systems integration, or software development.

Product Features & Benefits

- Simple USB 'Plug and Measure' device connects directly to a PC.
- Free Toolkit software for simple configuration.
- Ability to communicate to multiple sensors.
- 200 samples per second at 18 bits noise free resolution.
- Allows for correction of non-linear sensors.
- Powered from USB port.
- ASCII protocol.

Applications

- Desktop settings
- Test & Measurement
- R & D
- Laboratory

Order Codes

- DSCUSB – USB Strain Gage Module, with connectors and enclosure.
- D4 – DIN rail mounting kit

Specifications

Bridge measurement	4 wire
Bridge excitation voltage	4.5 to 5.25 VDC (5 VDC typical)
Bridge resistance	80 to 5000 Ohms
Sensitivity	-3 to +3 mV/V (2.5 mV/V typical)
Sensitivity - Version A	-4.5 to +4.5 mV/V
Stability with Temperature, Offset	1 to 4 ppm/°C (0.6 to 2.2 ppm/°F)
Stability with Temperature, Gain	3 to 5 ppm/°C (1.7 to 2.8 ppm/°F)
Stability with Time, Offset (ppm/F.R.)	90 (max., 20 typical)
Stability with Time, Gain (ppm/F.R.)	30 (max., first year)
Non-linearity before linearization	25 ppm/F.R. (max., 5 ppm/F.R. typical)
Internal resolution	16 million counts/division
Resolution at 1Hz (noise stable) over 100s	200,000 counts/divisions
Resolution at 10Hz (noise stable) over 100s	120,000 counts/divisions
Resolution at 100Hz (noise stable) over 100s	50,000 counts/divisions
Signal filtering	Dynamic recursive type - user programmable
Power supply voltage (USB)	4.25 to 5.5 VDC (5 VDC typical)
Power supply current (USB) (350 Ohm bridge)	68 mA to 75 mA, max.
Data transmission rate	115,200 bps
USB cable length	5 Meters (16 feet), max.
Temperature range, Operating	-40 to +85°C (-40 to +185°F)
Temperature range, Storage	-40 to +85°C (-40 to +185°F)
Humidity	0 to 95% RH