



USB Strain Module



Introduction

The DSCUSB is a compact, high performance strain gauge digital signal conditioner with USB connectivity aimed at applications which require high-accuracy measurement and repeatability.

A rugged and compact ABS IP50 enclosure makes the device suitable for all environments. Simply by plugging the device into a PC, data can be extracted from most strain gauge bridge input sensors and acquired by software which allows data manipulation removing the need for amplifiers, filters & multimeters. No additional power supply is required.

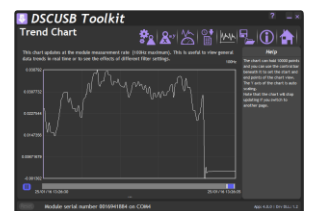
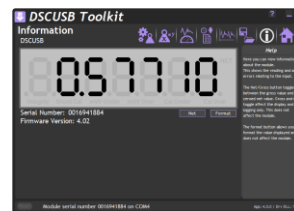
The Toolkit is designed for connection to a single DSCUSB, however with the use of a suitable USB hub LOG24 can connect to multiple DSCUSB modules. Available in ASCII protocol, offering higher resolution and lower temperature drift.

Simply by plugging the device into a PC, data can be extracted from a sensor to the DSCUSB for a wide range of systems. This is achieved using the Toolkit software, which has been developed in-house by our design engineers to provide configuration, calibration, data review and recording.

This free-standing module is fitted with 9-way 'D' type socket for connection to the strain bridge or load cell while a micro USB socket allows connection to a PC and does not require external power. A DIN rail mounting option is also available.

Product Features & Benefits

- **Quick Setup:**
Simple USB 'Plug and Measure' device connects to a PC directly, allowing quick setup
- **High Stability & Superior Performance:**
200 samples per second at 18 bits noise free resolution providing accurate measurement. Ideal for Test & Measurement, R&D and laboratory environments
- **Connect to Multiple Devices:**
Ability to communicate to multiple sensors
- **Free Toolkit Software:**
Easy connection to Toolkit software for simple configuration
- **Multipoint Linearisation:**
Allows correction for non-linear sensors



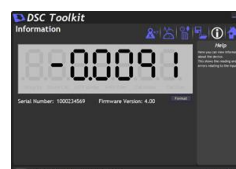
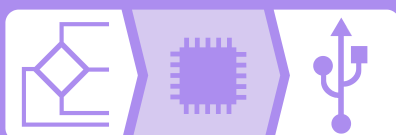
Accessories



DSCUSBOEM
PCB version of the DSCUSB
Available with added mounting holes



DSCUSBOEM1
The new PCB version with connectors and a 9 way D type slot and micro USB



Free DSCUSB Toolkit Software
Calibrate and configures the DSCUSB



Free LOG24 Software
View and log up to 24 channels

Specifications

| Parameter | |
|--|------------------------|
| Strain Gauge Measurement | 4 Wire |
| Strain Gauge Excitation Voltage | 5 V dc |
| Strain Gauge Drive Capability | 85 Ohms |
| Strain Gauge Sensitivity | 3 mV/V |
| Offset Temperature Stability | 4 ppm / °C |
| Gain Temperature Stability | 5 ppm / °C |
| Non Linearity before Linearization | 25 ppm of FR |
| Internal Resolution | 16 Million Counts/divs |
| Resolution @ 1Hz readings (Noise stable) over 100s | 200,000 Counts/divs |
| Resolution @ 10Hz readings (Noise stable) over 100s | 120,000 Counts/divs |
| Resolution @ 100Hz readings (Noise stable) over 100s | 50,000 Counts/divs |

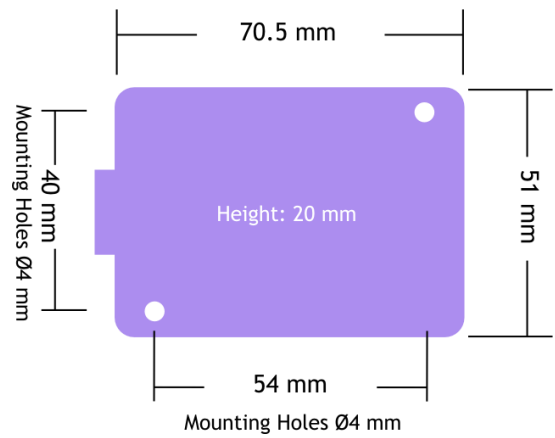
| Electrical | |
|---------------------------------------|--------|
| Power Supply Voltage (USB) | 5 V dc |
| Power Supply Current (350 Ohm Bridge) | 68 mA |

| Data Transmission | |
|-----------------------------|--------------|
| Maximum Output Cable Length | 5 m |
| Data Transmission Rate | 115.200 kbps |

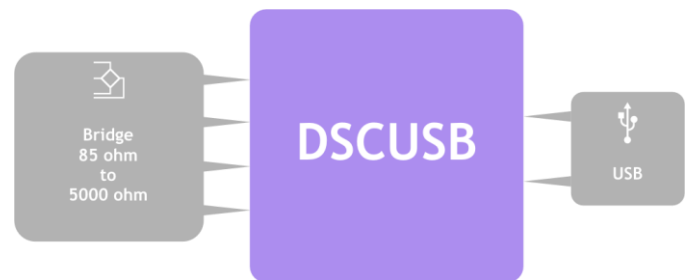
| Environmental | |
|-----------------------------|---------------|
| Operating temperature range | -40 to +85 °C |
| Storage temperature range | -40 to +85 °C |
| Maximum Humidity | 95% RH |
| Protection | IP50 |

| Dimensions | |
|---------------|--|
| Cased Version | 70.5 x 51 x 20mm excluding 9-way 'D' type socket connector. |
| | 74.5 x 51 x 20mm including connector. |

Mechanical



Electrical



Order Codes

DCSUSB

USB Strain Module

DCSUSBOEM

USB Strain Module OEM

DCSUSBOEM1

USB Strain Module OEM with Connectors

DTEMP

Digital Temperature Sensor Module

D4

Din Rail Mounting Kit

Manual Reference: 517-933 & 517-934