# DSCUSB

**mantracourt**

## 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 USAB 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:**
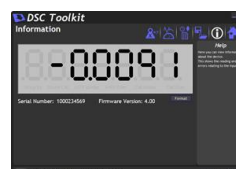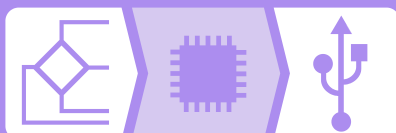  Allows correction for non-linear sensors
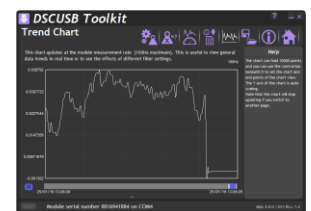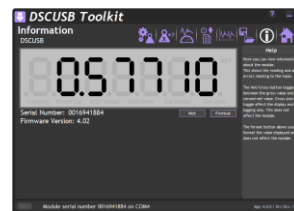
### Accessories



**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.<br><br>74.5 x 51 x 20mm including connector. |

## Mechanical
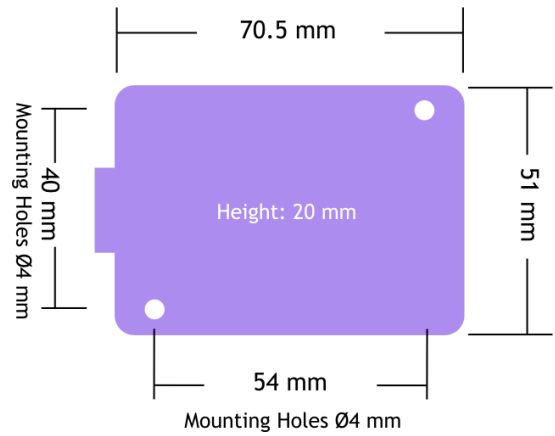


## Electrical
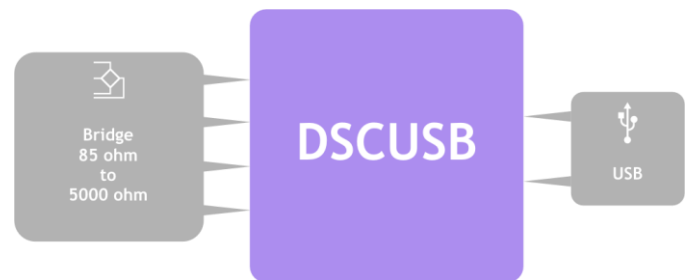


## Order Codes

**DSCUSB**
USB Strain Module

**DSCUSBOEM**
USB Strain Module OEM

**DSCUSBOEM1**
USB Strain Module OEM with Connectors

**DTEMP**
Digital Temperature Sensor Module

**D4**
Din Rail Mounting Kit

Manual Reference: 517-933 & 517-934