**TYPE: D-CAN**

A United Kingdom company

# D-CAN CANBus Digital Strain Gauge to Data Converter


## Features

- Simple mounting using M2 screw
- Connections via plated through holes
- Low profile to fit in very small apertures
- Baud rates to 230k
- High speed to 500 readings/sec
- ±15KV ESD protected
- Real mV/V calibration
- Noise immunity 5 x heavy industrial level
- Diagnostics LED
- Peak and trough recording

## Typical Applications

- Vessel weighing
- Performance yachting monitoring
- Vehicle weighing
- Automotive force measurement
- Crane Load Monitoring

## Description

The D-CAN is a high performance digital signal conditioner for the precision measurement of strain gauge based transducers, providing a CANBus output. There are two types available in the range; the DSC and DCELL. Both products offer a high speed CAN output.

The DCELL PCB is designed to fit inside the majority of sensors, providing a 'digital' load cell with the benefit of very high stability and an RS485 output. Including the D-CAN into load cell based products enables the building of very high accuracy load cells, using the built in linearization and temperature compensation facilities. For applications where it is not possible to fit the DCELL within the transducer, there is an in line housing available (model ILE).

For the DSC version, there is the DSJ1, which is a junction box 'docking station' sealed to IP65 for the simple installation of a single DSC or a 4-way version, the DSJ4.

## Specification

| DLCH High Stability | Min | Typ | Max |
|---|---|---|---|
| Bridge excitation (Ohms) | 4.5 | 5 | 5.25 |
| Bridge impedance (Ohms) | 320 | 350 | 5000 |
| Sensor impedance: 18V supply (Ohms) * | 320 | 350 | 5000 |
| Sensor impedance: 12V supply (Ohms) * | 120 | 350 | 5000 |
| Bridge sensitivity (mV/V) | -3 | | +3 |
| Offset temperature stability (ppm/°C) | | 1 | 4 |
| Gain temperature stability (ppm/°C) | | 3 | 5 |
| Offset stability with time (%FR) | | 0.002 | 0.008 |
| Gain stability with time (ppmFR/1st year) | | 30 | 30 |
| Non linearity (%FR) | | 0.0005 | 0.0025 |
| Internal Resolution (counts/divisions) | | 16 million | |
| Resolution @ 1Hz (noise stable) | | 200,000 | |
| Resolution @ 10Hz (noise stable) | | 120,000 | |
| Resolution @ 100Hz (noise stable) | | 50,000 | |
| Resolution @ 500Hz (noise stable) | | 18,000 | |

| DLCS Industrial Stability | Min | Typ | Max |
|---|---|---|---|
| Bridge excitation (Ohms) | 4.5 | 5 | 5.25 |
| Bridge impedance (Ohms) | 320 | 350 | 5000 |
| Sensor impedance: 18V supply (Ohms) * | 320 | 350 | 5000 |
| Sensor impedance: 12V supply (Ohms) * | 120 | 350 | 5000 |
| Bridge sensitivity (mV/V) | -3 | | +3 |
| Offset temperature stability (ppm/°C) | | 5 | 10 |
| Gain temperature stability (ppm/°C) | | 30 | 50 |
| Offset stability with time (%FR) | | 0.0035 | 0.016 |
| Gain stability with time (ppmFR/1st year) | | | 300 |
| Non linearity (%FR) | | 0.0005 | 0.0025 |
| Internal Resolution (counts/divisions) | | 16 million | |
| Resolution @ 1Hz (noise stable) | | 66,000 | |
| Resolution @ 10Hz (noise stable) | | 40,000 | |
| Resolution @ 100Hz (noise stable) | | 10,000 | |
| Resolution @ 500Hz (noise stable) | | 5,000 | |

* Subject to supply voltage (see electrical specifications)

## Available Options

- Temperature Measurement Resolution (0.1°C) & Temperature Measurement Accuracy (1°C)

LCM SYSTEMS
Solutions in Load Cell Technology

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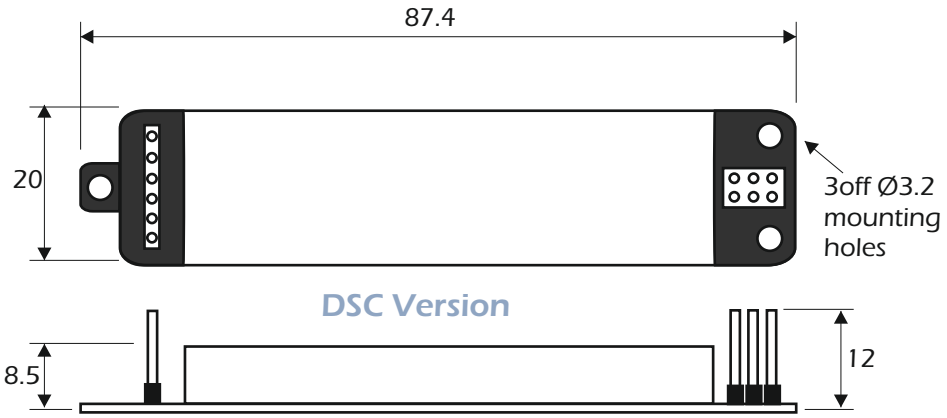
## Specification (continued)

| | |
|---|---|
| Power supply voltage (Vdc) | 5.6 to 18 (12 typical) |
| Power supply noise/ripple (mVac pk-pk) | 100 |
| Supply current - 350R Bridge (mA) | 45 to 60 |
| Power @ 10V supply - 350R bridge (mW) | 350 |
| Excitation system | 4 wire |
| CAN bit rate (bits/second) | 10K to 1M |
| Protocols | MantraCAN |
| Storage temperature | -40 to +85°C |
| Operating temperature | -40 to +85°C |
| Relative humidity | 95% maximum non-condensing |
| European EMC Directive | 2004/108/EC |
| Low Voltage Directive | 2006/95/EC |

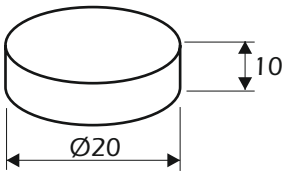
## Dimensions




### DSC Version




### DCELL Version




All dimensions are in mm

## Product Order Codes

| | | |
|---|---|---|
| **DCell High Stability** | MantraCAN Protocol | DLCHMCAN |
| **DSC High Stability** | MantraCAN Protocol | DSCHMCAN |
| **DCell Industrial Stability** | MantraCAN Protocol | DLCSMAN |
| **DSC Industrial Stability** | MantraCAN Protocol | DSCMCAN |

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