

TYPE: D-CAN



D-CAN CANBus Digital Strain Gauge to Data Converter

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.

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

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	

Typical Applications

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

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)

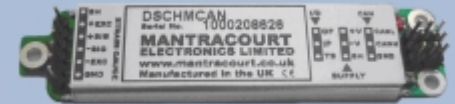
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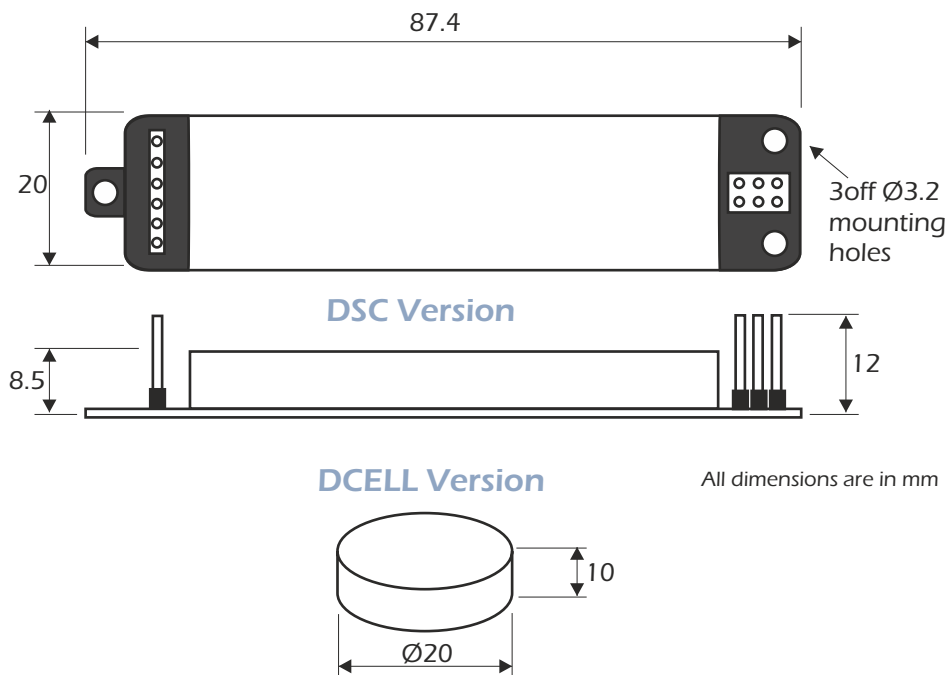
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Specification (continued)

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



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

Due to continual product development, LCM Systems Ltd reserves the right to alter product specifications without prior notice.