D-CAN CANBus Digital Strain Gauge to Data Converter

TYPE: D-CAN

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 5x heavy industrial level
- Diagnostics LED
- Remote shunt calibration
- Very high stability
- Peak and trough recording
- Programmable dynamic filter
- Operating voltage (5.4 – 18Vdc)

Typical Applications

- Vessel weighing
- Performance Yacht rig monitoring
- Vehicle weighing
- Automotive force measurement

Description

The D-CAN is a high performance digital signal conditioner for the precision measurement of strain gauge based transducers, providing a CANBus output.

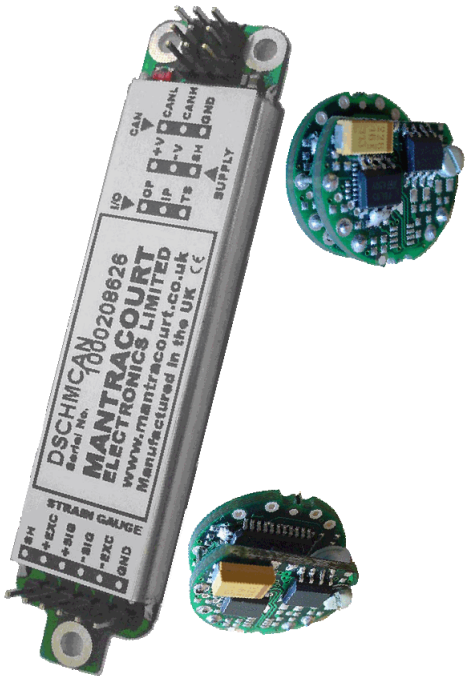
There are two product types available in the range; the DSC and DCELL. Both products offer a high speed CAN output.

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 of the product 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

Product	DLCH High Stability			DLCS Industrial Stability				
Description	Min	Typ	Max	Min	Typ	Max	Units	
Bridge Excitation	4.5	5	5.25	4.5	5	5.25	VDC	
Bridge Impedance	320	350	5000	320	350	5000	Ohms	
Sensor Impedance (18v supply)	320	350	5000	320	350	5000	Ohms	Δ
Sensor Impedance(12v supply)	120	350	5000	120	350	5000	Ohms	Δ
Bridge Sensitivity	-3		+3	-3		+3	mV/V	
Offset Temperature Stability	1		4	5		10	ppm/°C	
Gain Temperature Stability	3		5	30		50	ppm/°C	
Offset Stability with time	0.002		0.008	0.0035		0.016	%FR	
Gain Stability with time		30			300		ppmFR/1st year	
Non Linearity	0.0005		0.0025	0.0005		0.0025	%FR	
Internal Resolution		16 Million			16 Million		Counts/Divisions	
Resolution @ 1Hz (Noise Stable)		400,000			100,000		Counts/Divisions	
Resolution @ 10Hz (Noise Stable)		120,000			40,000		Counts/Divisions	
Resolution @ 100Hz (Noise Stable)		50,000			10,000		Counts/Divisions	
Resolution @ 500Hz (Noise Stable)		18,000			5,000		Counts/Divisions	

Optional	Min	Typ	Max	Min	Typ	Max	Units
Temp Measurement Resolution		0.1			0.1		°C
Temp Measurement Accuracy		1			1		°C

Notes: From original offset at any time. Stability over 100 seconds ΔSubject to supply voltage (see electrical specifications)

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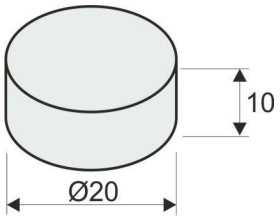
TYPE: D-Can

Product	DLCH High Stability			DLCS Industrial Stability			
Electrical	Min	Typ	Max	Min	Typ	Max	Units
Power Supply Voltage	5.4	12	18	5.4	12	18	Vdc
Power Supply Noise/Ripple		100			100		mVac pk-pk
Supply Current (350R Bridge)	45		60	45		60	mA
Power@10V Supply (350R Bridge)		350			350		mW
Excitation System		4 wire			4 wire		
Communications	Min	Typ	Max	Min	Typ	Max	Units
CAN bit Rate	10K		1M	10K		1M	Bits/second
Protocols	CANopen, MANTRACAN						
CE & Environmental							
Storage temperature	-40 to +85ºC						
Operating temperature	-40 to +85°C						
Relative humidity	95% maximum non-condensing						
European EMC Directive	2004/108/EC						
Low Voltage Directive	2006/95/EC						

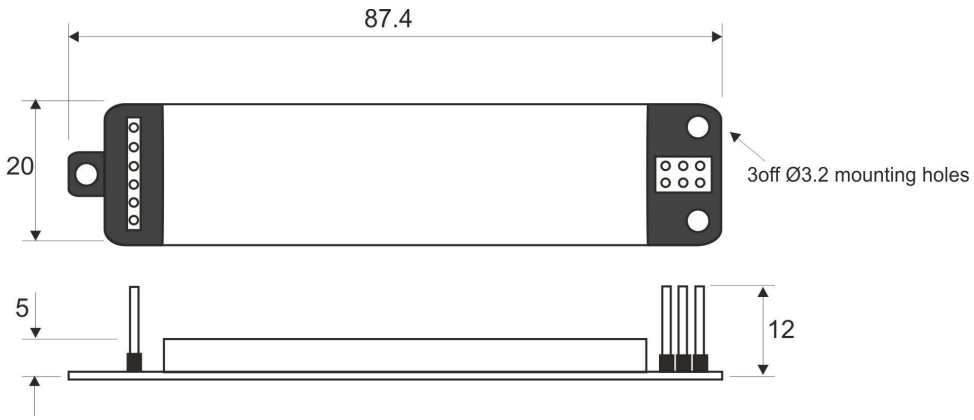
Mechanical Dimensions

All dimensions in millImeters

DCELL Version



DSC Version



Product Order Codes

DCell High Stability	Product Code
CANopen Protocol	DLCHCOP
MantraCAN Protocol	DLCHMCAN
DSC High Stability	**Product Code**
CAN open Protocol	DSCHCOP
MantraCAN Protocol	DSCHMCAN
DCell Industrial Stability	**Product Code**
CANopen Protocol	DLCSCOP
MantraCAN Protocol	DLCSMAN
DSC Industrial Stability	**Product Code**
CAN open Protocol	DSCCOP
MantraCAN Protocol	DSCMCAN

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

Issue date: 17/11/2011