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Convertor DCELL



Convertor DCELL Producator: LCM Systems DCELL In-Cell Digital Strain Gauge to Data Converter

Descriere

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

The DCELL is a high performance digital signal conditioner for the precision measurement of strain gauge based transducers.

The Micro Miniature 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.

LCM Systems offer the DCELL as a standalone product or built into most of our load cell based products. Including the DCELL into load cell based product enables the building of very high accuracy load cells, using the built in linearization and temperature compensation facilities.

LCM Systems can also supply PC based software packages, specially written to interface with DCELL based load cells and pressure transducers. Please contact our technical department to discuss your requirements.

For applications where it is not possible to fit the DCELL within the transducer, there is an in line housing available (Model ILE).

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	ppm of FR/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

Product

DLCH High Stability

DLCS Industrial Stability

Optional			
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 Subject to supply voltage (see electrical specifications)		

Optional

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		

Electrical

Communications							
	Min	Typ	Max	Min	Typ	Max	Units
RS485 Data Rate	2400		230k	2400		230k	Baud
Protocols	ASCII, MANTRABUS II, Modbus RTU						

Communications

CE & Environmental	
Storage temperature	-40 to +85ºC
Operating temperature	-40 to +85°C
Relative humidity	95% maximum non-condensing
Safety/Low Voltage Directive	73/23/EEC amended by 93/68/EEC BS EN 61010-1:2001, IEC 1010-1-1990
EMC Directive	89/336/EECBasic Standard BS EN 61326:1998
EMC Emissions	BS EN 55011:1998
EMC Immunity	BS EN 61000-42:1995BS EN 61000-4-3:2002 BS EN 61000-4-3:2002 BS EN 61000-4-4:2004 BS EN 61000-4-11:2004

CE & Environmental