



# DIGITAL LOAD CELL

DLC08



## High-Performance Digital Load Cell Interface

### FEATURES

- Serial interface (RS-485)
- All settings made through the serial interface
- Simple calibration, test and setting via HyperTerminal programming
- Automatic unit conversion, zero tracking
- Gravity factor compensation
- Tare function
- Suitable for PC-base,  $\mu$ C, PLC application
- Weight result format: six digits, eight annunciators
- Up to 64 nodes
- ESD protection up to 15 kV

### APPLICATIONS

- OEM machinery
- Load cell digitizers
- Inventory and level control

### OPTIONS

- USB interface
- Tilt sensor



## Digital Load Cell Interface

The Model DLC08 is a high-performance, digital load cell interface for precision measurement of strain gage transducers. With DLC08 technology, any Vishay Transducers analog load cell can be converted to a full-function digital load cell. The interface circuit board can either be embedded in the load cell (space permitting), or installed in a 9 pin “D” type connector at the load cell cable end.

Simple RS-485 wiring connects the DLC08 to any PC, PLC, or DCS device. All calibration and operating procedures are fully documented on the accompanying installation CD ROM. Open architecture DLC08 software provides instant access to all configuration and calibration parameters.

DLC08-enabled summing junction boxes offer digital interfacing for multiple load cell scales.

Parameter	Symbol	Min.	Typ.	Max.	Units
<b>Bridge Input</b>					
Bridge Excitation	$V_{exc}$	4.8	5.0	5.2	V
Bridge Resistance	$R_{LC}$	315	350	–	$\Omega$
Full Scale Input Sensitive	$F_S$				
PGA = 1				3.50	mV/V
PGA = 2				1.85	mV/V
PGA = 4				0.90	mV/V
PGA = 8				0.45	mV/V
Common Mode Voltage		1.50	2.50	3.50	V
Input Impedance		$10^9$			$\Omega$
<b>Digital Bus — RS-485 Protocol Defined by Vishay</b>					
Baud Rate			19,200		Bit/sec
Communication Mode		Point-to-point or RS-485 multi-drop communication			
Built-in Termination Resistor			8,870		$\Omega$
Cable Length (with Suitable Rt)				1,000	m
<b>Performance</b>					
Internal Resolution			24		Bits
Noise (Ref to Input, Filter 4/4/4)				0.30	$\pm\mu\text{V rms}$
Digital Filters		3 filters, software selectable			
Nonlinearity (in $T_s$ )			0.008	0.011	$\%F_S$
Sample Rate	$C_s$		15		Hz
Zero Stability (in $T_s$ )			10	15	$\pm\text{ppm}F_S/^\circ\text{C}$
Span Stability (in $T_s$ )			1.6	2.3	$\pm\text{ppm}F_S/^\circ\text{C}$
<b>Environmental Conditions</b>					
Specification Temperature (Full Performance)	$T_s$	–10	+20	+40	$^\circ\text{C}$
Operating Temperature		–40		+85	$^\circ\text{C}$
Storage Temperature		–40		+85	$^\circ\text{C}$
<b>Power Supply — DC Only</b>					
Supply Voltage	$V_p$	7.5	12	15	V
Supply Current			32	45	mA
Maximum Rating Power Supply ( $T \leq 500$ mS)				30	V
Reverse Power Protection				–60	V

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