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High-Performance Digital Load Cell Interface

FEATURES

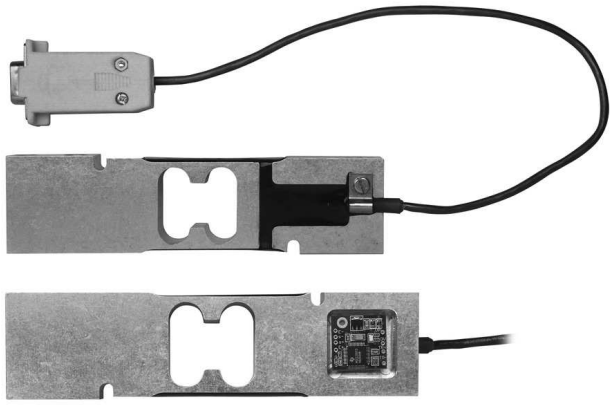
- Serial interface (RS-485)
- All settings made through the serial interface
- Simple calibration, test and setting via HyperTerminal programming, or via software
- Automatic unit conversion, zero tracking
- Gravity factor compensation
- Tare function
- Suitable for PC-base, µC, PLC application
- Weight result format: six digits, eight announciators
- Up to 64 nodes
- ESD protection up to 15 kV
- **Optional**
  - USB interface
  - Tilt sensor

APPLICATIONS

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

DESCRIPTION

The Model DLC08 is a high-performance, digital load cell interface for precision measurement of strain gage transducers. With DLC08 technology, any analog load cell can be converted to a fully functioning 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. The DLC08’s software is classified as “open architecture”, and provides instant access to all configuration and calibration parameters.

When paired with a DLC-08, a summing junction box can digitally interface with multiple load cell scales via the DLC08’s RS-485 serial bus.

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High-Performance Digital Load Cell Interface

SPECIFICATIONS					
PARAMETER	**SYMBOL**	**MIN**	**TYP**	**MAX**	**UNIT**
Bridge input					
Bridge excitation	V_{exc}	4.8	5.0	5.2	V
Bridge resistance	R_{LC}	315	350		Ω
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			Ω
Digital Bus – RS-485 protocol					
Baud rate			19,200		Bit/sec
Communication mode		Point-to-point or RS-485 multi-drop communication			
Built-in termination resistor			8,870		Ω
Cable length (with suitable Rt)				1,000	m
Performance					
Internal resolution			24		Bits
Noise (Ref to input, filter 4/4/4)				0.30	±µV RMS
Digital filters		3 filters, software selectable			
Nonlinearity (in Ts)			0.008	0.011	$\%F_S$
Sample rate	C_S		15		Hz
Zero stability (in Ts)			10	15	$\pm ppmF_S/°C$
Span stability (in Ts)			1.6	2.3	$\pm ppmF_S/°C$
Environmental conditions					
Specification temperature (Full performance)	T_S	-10	+20	+40	°C
Operating temperature		-40		+85	°C
Storage temperature		-40		+85	°C
Power supply – DC only					
Supply voltage	V_p	7.5	12	15	V
Supply current			32	45	mA
Maximum rating power supply (T ≤ 500 ms)				30	V
Reverse power protection				-60	V

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