



DSCC Pancake Load Cell

Suitable for applications in weight and force measurement.

The DSCC series of pancake load cells are designed for force and load measurement applications and can operate in both tension and compression.

They are perfectly suited for material and component fatigue testing applications where a high accuracy, low-profile device is required and forces are applied axially. The DSCC's high frequency response makes it ideal for dynamic force and load measurement applications such as crash test walls.

The DSCC can be entirely customised to suit your specific application, with alternative threads, custom dimensions, counter-bored mounting holes, protection ratings of IP67 and IP68 submersible and higher capacities in excess of 5000kN possible.

For pricing, availability or further technical information about pancake load cells, contact us online at www.crane-electronics.com or get in touch via email at sales@crane-electronics.com.

Key Features

- High Frequency Response
- Low Deflection
- Excellent Rejection of Extraneous Forces
- Simple Installation
- Shunt Calibration Facility
- 3-Year Warranty

Technical Specification

Capacities:	0-5kN up to 0-1000kN
Output:	2mV/V
Accuracy:	<±0.05%/Rated Capacity
Construction:	Stainless Steel Low-profile Shear Design

Options

- Calibration/Reference grade versions to meet BS EN ISO 376
- Custom dimensions to match other manufacturers models
- Full range of mounting options inc. load buttons, spherical rod end bearings, mounting bases.
- Fatigue rated versions.
- Higher capacities
- Integral cable versions
- USB versions (via DSC-USB)
- Vacuum/Pressurised environments
- High/Low temperature versions
- Double bridge versions
- IP67 or IP68 Submersible protection rating versions
- Counter bored mounting holes
- Alternative threads
- TEDS (Transducer Electronic Data Sheet)
- TEDS allows 'Plug & Play' with TEDS enabled instrumentation.
- Single or Multi-Channel PC-based monitoring & data logging system
- Wireless version (via T24 instrumentation)

Applications

- Materials testing
- Component fatigue testing applications
- Dynamic force applications
- Crash test walls
- Calibration test rigs
- Load measurement applications










Specifications










Rated Capacity (RC)	kN	0-5, 0-10, 0-25, 0-50, 0-100, 0-200, 0-250, 0-300, 0-500, 0-750, 0-1000
Operating Modes	Tension/Compression / Tension & Compression	
Sensitivity (RO)	mV/V	2.0 (up to 200kN) / 2.7 nominal (250kN upwards)
Zero Balance/Offset	±%/Rated Output	<1.0
Output Symmetry (tension vs. compression)	%/Rated Load	<0.25 (0.8 typical on Ø155 250kN)
Non-Linearity	±%/Rated Output	<0.05 (<0.03 typical)
Hysteresis	±%/Rated Output	<0.05 (<0.03 typical)
Repeatability	±%/Rated Output	<0.05 (<0.03 typical)
Temperature Effect on Zero	±%/Rated Capacity/ °C	<0.005
Temperature Effect on Sensitivity	±%/Applied Load/ °C	<0.005
Effect of Eccentricity	%/Rated Output/25mm	<0.25 typical
Effect of Side Load	%	0.25 typical
Input Resistance	Ohms	700 nominal
Output Resistance	Ohms	700 nominal
Insulation Resistance	Megohms @ 50 Vdc	>5000
Excitation Voltage	Volts AC or DC	10 recommended (2-15 acceptable)
Operating Temperature Range	°C	-20 to +80
Compensated Temperature Range	°C	0 to +70
Storage Temperature Range	°C	-20 to +80
Safe Overload	% of Rated Capacity	150
Ultimate Overload	% of Rated Capacity	>250
Maximum Safe Side Load ** (Fx or Fy)	% of Rated Capacity	40
Maximum Safe Torque/Bending Moment	(Mx, My or Mz) **	See dimensions table
Deflection @ Rated Capacity	mm (nominal) at Rated Load	0.05 (>50kN) / 0.1 (100-250kN) / 0.13 (300-1000kN)
Fundamental Resonant Frequency*		See dimensions table
IP Rating (Environmental Protection)		IP65
Weight (excluding cable)		See dimensions table
Cable Length (as standard)	metres	3
Cable Type	Single Bridge Versions	6-Pin Amphenol Connector + Mating Cable Assembly (4-core screened cable, PUR sheath, Ø5)
	Dual Bridge Versions	8-Pin M12 x 1 Connector + Mating Cable Assembly, (8-core screened cable, PUR sheath, Ø^)
Construction		Stainless Steel
Resolution		1 part in 250,000 (with appropriate instrumentation)
Fatigue Life	Fully Reversed Cycles	Standard Versions: 30-50 million typical Fatigue-Rated Versions: 500 million Versions rated to 1 billion+ on request

*The resonant frequency is calculated with the body of the load cell attached to a large plate, ensuring that only the sensing element oscillates: This is vital to achieve the highest natural frequency and subsequent frequency response.

**Extraneous load ratings (Fx, Fy, Mx, My, Mz) are based on application of only one at any time in addition to force in the primary measurement axis (Fz). Contact our engineering department if multi extraneous loads will occur simultaneously.

Wiring Diagram

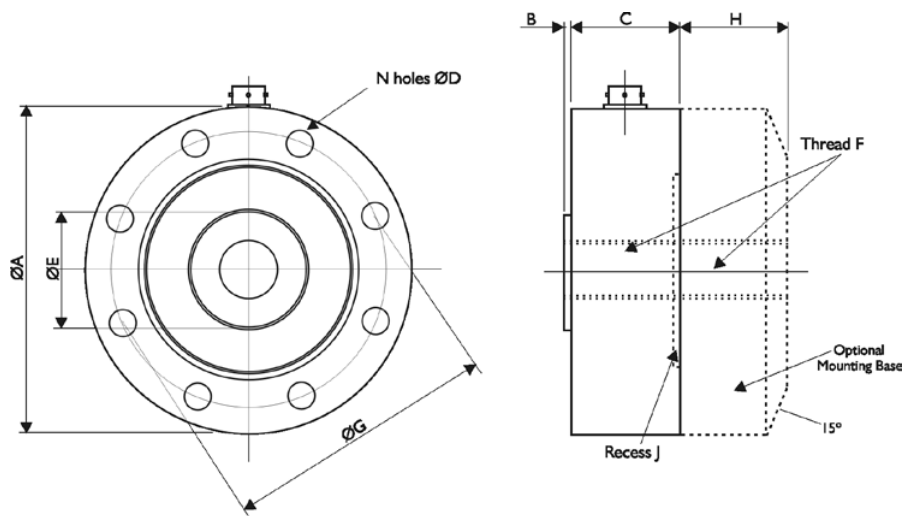
SINGLE BRIDGE VERSION		
Wire		Designation
	Red	+ve excitation
	Blue	-ve excitation
	Green	+ve signal (compression)
	Yellow	-ve signal
	Screen	To ground - not connected to load cell body

DUAL BRIDGE VERSION		
Wire		Designation
	Red	+ve excitation (bridge A)
	Blue	-ve excitation (bridge A)
	Green	+ve signal (compression) (bridge A)
	Yellow	-ve signal (bridge A)
	Brown	+ve excitation (bridge B)
	White	-ve excitation (bridge B)
	Pink	+ve signal (compression) (bridge B)
	Grey	-ve signal (compression)
	Screen	To ground - not connected to load cell body

Dimensions (mm)

CORE PRODUCT REF	CAPACITY (kN)	ØA (Size)	B	C	ØD	ØE	Thread F	ØG	N holes	H	J	Deflection at RC (mm nominal)	Resonant Frequency (kHz)	Extraneous Load Limit (Mx, My or Mz) (Nm)	Weight (kg no base)	Weight (kg with base)
DSCC	0-5, 0-10, 0-25, 0-50	107	2	33	8.5	33	M20 x 2.5	90	8	35	2	0.05	5kN=3.5	30	1.5	3.7
													10kN=4.5	60		
													25kN=6.5	150		
													50kN=7.2	300		
DSCC	0-100, 0-200, 0-250	155	3	45	11	60	M36 x 2	130	12	45	2	0.10	100kN=6.5	845	3.9	9.1
													200kN=7.8	1690		
													250kN=8.7	2000		
DSCC8	0-250, 0-300, 0-500	202	2	52	12.2	95.5	M56x4	165	16	50	2	0.10	250kN=9	1500	11	24
													300kN=9.3	1800		
													500kN=10	3000		
DSCC	0-300, 0-500, 0-750, 0-1000	278	6	78	17	118	M64 x 6*	230	16	84	4	0.13	300kN=8.7	2030	25.5	65
													500kN=8.9	3390		
													1000kN=9.0	6780		

*If you require rod end bearings please request an M64 x 4 thread. Note that the maximum rated safe static load on this size rod end is 689kN.



Locations

UK - Watling Drive, Hinckley, Leicestershire LE10 3EY, UK
 USA - 1260 11th Street West, Milan, Illinois 61264, USA
 Germany - Im Rank 5, 73655 Plüderhausen, Germany

