The force in torque management

Donut Load Cells

Compact, smooth through-hole design load cells

- Capacities: 0-12.5kN up to 0-540kN
- Output: 1.5mV/V nominal
- Environmental Protection: IP66
- Accuracy: <±1.5%/RC typical
- Custom-Sized Versions Available

- **Low Height & Compact** – To easily fit where space is limited.
- **Optimum Performance Guaranteed** – Its high-frequency response captures transient measurement fast.
- **Long-Life and Low Maintenance** – With its rugged stainless steel construction.
- **Adapt It For Your Application** – With our customisation service.
- **Submersible Versions Available** – Perfect for marine and offshore applications.

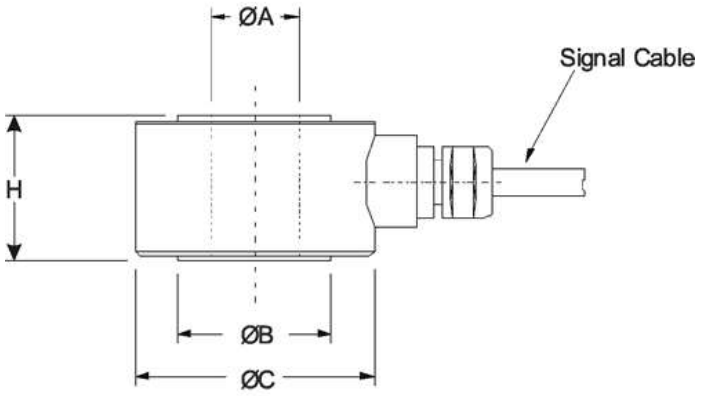
Technical Specification

Rated Capacity (RC)	**kN**	**0-12.5, 0-25, 0-35, 0-50, 0-100, 0-160, 0-200, 0-250, 0-300, 0-360, 0-540**
Operating Modes	Compression Only	
Sensitivity Range	mV/V	1.5mV/V nominal (see note below)
Zero Balance/Offset	±%/Rated Output	<5
Non-Linearity	±%/Rated Output	<1.5 typical / 5 worst-case
Hysteresis	±%/Rated Output	<1.5 typical / 5 worst-case
Repeatability	±%/Rated Output	<±1% for identical mounting position, <±10% for altered mounting position (see note below)
Temperature Effect on Zero	±%/Rated Output/˚C	<0.030
Temperature Effect on Sensitivity	±%/Rated Output/˚C	<0.030
Input Resistance	Ohms (nominal)	375 (750 for capacities above 40kN)
Output Resistance	Ohms (nominal)	350 (700 for capacities above 40kN)
Insulation Resistance	Megohms	>5000 @ 50Vdc
Excitation Voltage	Volts AC or DC	10 recommended (2-15 acceptable)
Operating Temperature Range	˚C	-20 to +70
Compensated Temperature Range	˚C	+10 to +60
Storage Temperature Range	˚C	-20 to +70
Safe Overload	% of Rated Capacity	150
Ultimate Overload	% of Rated Capacity	300
Deflection @ Rated Capacity		See dimension table
Fundamental Resonant Frequency*		See dimension table
IP Rating (Environmental Protection)		IP66
Weight (excluding cable)		See dimension table
Fatigue Life		10^8 cycles typical (10^9 cycles on fatigue-rated version)
Cable Length (as standard)	metres	2
Cable Type		4 core + screen, PVC sheath via cable gland
Construction Material		Stainless Steel
Max Resolution		1 part in 250,000 (with appropriate instrumentation)

*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.

Note: The sensitivity range stated above is dependent on the selected mounting position. If the mounting position is maintained during operation, then the CCG will be repeatable and linear within the parameters specified above. If the mounting position is altered, then the sensitivity range may change by up to ±10%, as may repeatability.

Weights & Dimensions



Model	Capacity (kN)	ØA	ØB	ØC	H	Deflection	Resonant Frequency (kHz) @ Zero Load	Weight (kg)
CCG	12.5	6.1	10.4	25	12	0.01	25	0.05
CCG	25	8.2	14	25	12	0.01	33	0.06
CCG	35	10.2	17.7	32	12	0.01	31	0.1
CCG	50	12.2	21.3	38	15	0.02	21	0.2
CCG	100	16.3	29	48	20	0.025	19	0.3
CCG	160	20.3	36.3	50	20	0.025	24	0.3
CCG	200	22.3	40.4	55	25	0.03	20	0.4
CCG	250	24.3	43.5	60	25	0.03	20	0.5
CCG	300	27.3	49.6	63	25	0.03	22	0.5
CCG	360	30.5	54.9	76	30	0.035	17	0.9
CCG	540	36.5	65.5	88	50	0.06	10	2.0

All dimensions are in mm

Wiring Details

Wire	Designation
Red	+ve excitation
Blue	-ve excitation
Green	+ve signal
Yellow	-ve signal
Screen	To ground – not connected to load cell body

For pricing, availability or further technical information about the Load Cell range, please contact us online at www.crane-electronics.com or alternatively, email us at sales@crane-electronics.com.

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