



CDF Subminiature Button Load Cell

Key Features:

- Capacities 500N to 2000N
- Sealed to IP65
- Only 15mm in Diameter and 8mm in Height
- Integral Load Button
- Output 1.5mV/V nominal
- Accuracy $<\pm 0.5\%/RC$
- Robust Construction
- 3 Year Warranty



For the measurement of compressive forces when space is limited.

The CDF subminiature button load cells are designed for the measurement of compressive forces where space is a limiting factor. Its compact size means it can be fitted in the smallest of spaces and is often retrofitted. It is suited for both force measurement and weighing applications alike. It is used in many industrial process measurement applications for monitoring and control purposes.

The CDF is the smallest button load cell we offer 15mm in diameter and 8mm in height. For measuring higher or lower forces please see our CDFM3 miniature button load cell available in capacities from 0-100N up to 0-20kN.

The CDF series of load cells can be supplied with a range of our transducer instrumentation such as digital indicators, signal conditioners, digitisers or telemetry systems and can be supplied calibrated as a complete system, please speak to our technical sales team.

Options:

- Full Range of Mounting Options Available
- Special Sizes Available on Request
- Other Ranges Available on Request
- Different Temperature Compensation Ranges Available
- Shunt Calibration Facility
- High Temperature Versions
- Vacuum Application Versions
- USB Versions (via DSC-USB)
- Single or Multi-Channel PC-Based Monitoring & Data Logging System
- TEDS (Transducer Electronic data Sheet)
- TEDS Allows Plug & Play with TEDS Enabled Instrumentation
- Wireless Version (via T24 instrumentation)

Applications:

- Force Measurement
- Weighing Applications
- Industrial Process Measurement Applications
- Research & Development Applications
- Press Force Monitoring

For pricing or any further information, please contact Omni Instruments Ltd.

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Specification:

Rated Capacity (RC)	N	0-500, 0-1000, 0-2000
Operating Modes	Compression Only	
Sensitivity (RO)	mV/V	1.5 nominal
Zero Balance/Offset	±%/Rated Output	<1.0
Non-Linearity	±%/Rated Output	<0.50
Hysteresis	%/Rated Output	<0.50
Repeatability	%/Rated Output	<0.25
Temperature Effect on Zero	±%/Rated Output/ °C	<0.030
Temperature Effect on Sensitivity	±%/Applied Load/ °C	<0.005
Input Resistance	Ohms	375 typical
Output Resistance	Ohms	350 typical
Insulation Resistance	Megohms	>5000 @ 50Vdc
Excitation Voltage	Volts AC or DC	5 recommended (2-5 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	125
Ultimate Overload	% of Rated Capacity	150
Deflection @ Rated Capacity	mm	<0.01 nominal
Fundamental Resonant Frequency*	kHz	>10
IP Rating (Environmental Protection)		IP65
Weight	grams	10
Fatigue Life		10 ⁸ cycles typical (10 ⁹ cycles on fatigue-rated version)
Cable Length (as standard)	metres	2
Cable Type		4-core screened, PVC, Ø3 typical via cable tube
Construction Materials		Stainless Steel
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.

Wiring Diagram:

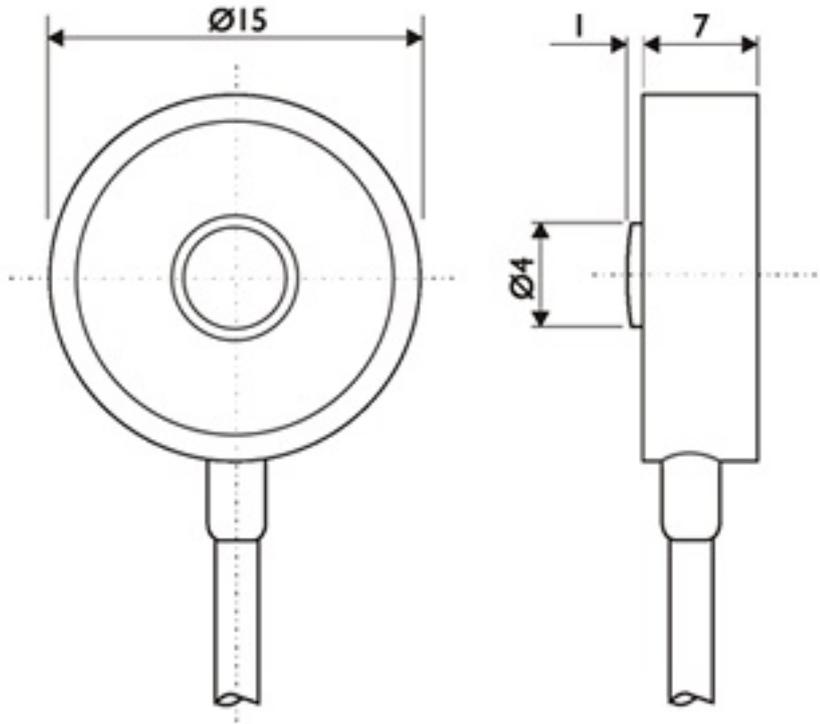
Wire	Designation
 Red	+ve excitation
 Blue	-ve excitation
 Green	+ve signal
 Yellow	-ve signal
 Screen	To ground - not connected to load cell body

Whilst every effort has been made to ensure the accuracy of this specification, we cannot accept responsibility for damage, injury, loss or expense from errors or omissions. In the interest of technical improvement, this specification may be altered without notice.

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Dimensions (mm):



For higher or lower measuring ranges look at our CDFM3 which is available in capacities from 0-100N up to 0-20kN

Ordering Codes:

Core Product	Capacity (inc Engineering Units)	Cable Length (m)	Specials Code	Example Result
CDF	500N	002	000	CDF-500N-002-000
CDF	1000N	002	000	CDF-1000N-002-000
CDF	2000N	002	000	CDF-2000N-002-000

Associated Products:



[TR150 Handheld Indicator](#)



[T24 Wireless Telemetry Range](#)



[ICA Miniature Strain Gauge Amplifier](#)



[DSC-USB USB Signal Digitiser](#)

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