

Miniature Button Load Cell | CDFM3

Tiny, Accurate and Robust Compression Measuring only 12mm in Height!



AT A GLANCE

- Capacities: 0-100N up to 0-20kN
- Output: 2mV/V nominal (1.5mV/V on 0-100N)
- Environmental Protection: IP65
- Accuracy: $< \pm 0.5\%$ /RC
- Integral Load Button
- **Very Compact** – At $\varnothing 30\text{mm} \times 12\text{mm}$ height it easily fits into the smallest of spaces.
- **Save on Installation Time** – Ideal for retrofitting into existing designs.
- **Optimum Performance Guaranteed** – From its integral load button
- **Let us do the hard work for you** – The CDFM3 can be supplied with our wide range of instrumentation.

DESCRIPTION

The CDFM3 miniature button load cell is designed for compression measurement applications where there is little space available for transducer mounting.

With capacities from 0-100N up to 0-20kN available in a load cell measuring just 30mm in diameter and 12mm in overall height, the CDFM3 is the second smallest button load cell that we offer. If you need load cell that is smaller still, the CDF miniature button load cell is available in capacities from 0-500N up to 0-2000N and measures 15mm diameter and 8mm in height.

The CDFM3 miniature button load cell is ideal for retro-fitment into industrial machines and process systems for monitoring and control purposes, or for incorporation into new machine designs.

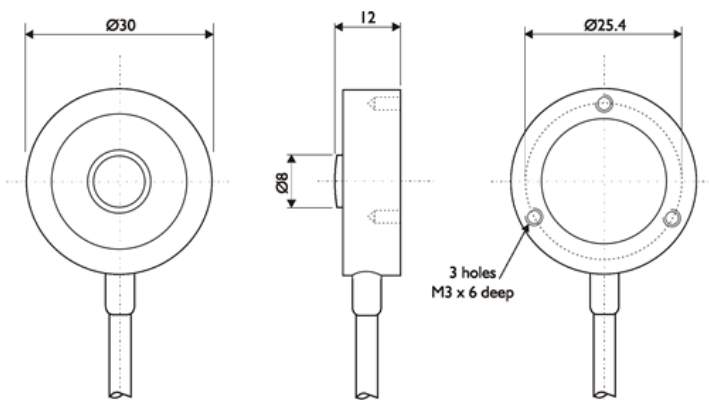
For pricing or any further information, please contact Omni Instruments Ltd.

TECHNICAL SPECIFICATIONS

Rated Capacity (RC)	N	0-100, 0-250, 0-500, 0-1000, 0-2000, 0-5000, 0-10k, 0-20k
Operating Modes	Compression Only	
Sensitivity (RO)	mV/V	2 nominal (1.5 nominal on 100N)
Zero Balance/Offset	±%/Rated Output	<0.5
Non-Linearity	±%/Rated Output (BFSL)	<0.5
Hysteresis	%/Rated Output	<0.25
Repeatability	%/Rated Output	<0.2 typical
Temperature Effect on Zero	±%/Rated Output/ °C	<0.030
Thermal Sensitivity	F.R.O/Degrees C	<0.005%
Input Resistance	Ohms	375 typical
Output Resistance	Ohms	350 typical
Insulation Resistance	Megohms	>2000
Excitation Voltage	Volts AC or DC	10 recommended (2-15 acceptable)
Operating Temperature Range	°C	-20 to +70
Compensated Temperature Range	°C	+20 to +70
Storage Temperature Range	°C	-40 to +70
Safe Overload	% of Rated Capacity	125
Ultimate Overload	% of Rated Capacity	150
Deflection @ Rated Capacity		0.07 (100N) to 0.02 (20kN) typical (depending on capacity)
Fundamental Resonant Frequency*	kHz	4 (100N) to 50 (20kN) *
IP Rating (Environmental Protection)		IP65
Weight	grams	50 (excluding cable)
Fatigue Life		10 ⁸ cycles typical (10 ⁹ cycles on fatigue-rated version)
Cable Length (as standard)	metres	2
Electrical Connections		Integral Screened Cable
Cable Type		4-core screened, PVC sheath via cable gland
Construction Material		Stainless Steel, Nickel-Plated Brass, NBR, PVC
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.

Product Dimensions (mm)



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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

ORDERING CODES & OPTIONS

Core Product	Capacity (inc Engineering Units)	Cable Length (m)	Specials Code	Example Result
CDFM3	100N	002	000	CDFM3-100N-002-000
CDFM3	250N	002	000	CDFM3-250N-002-000
CDFM3	500N	002	000	CDFM3-500N-002-000
CDFM3	1000N	002	000	CDFM3-1000N-002-000
CDFM3	2000N	002	000	CDFM3-2000N-002-000
CDFM3	5000N	002	000	CDFM3-5000N-002-000
CDFM3	10kN	002	000	CDFM3-10kN-002-000
CDFM3	20kN	002	000	CDFM3-20kN-002-000

RELATED PRODUCTS



Load Cell Digital Indicator | High Accuracy | Intuitive4-L
Highly configurable, modular construction



Load Cell Amplifier | Load Cell Signal Conditioner | SGA
Inputs from 0.06mV/V



USB Load Cell Interface | DSCUSB
100 Readings/Second max.



Miniature Load Cell Amplifier | In-Cell Amplifier | ICA



Handheld Load Cell Indicator | Digital Display | TR150



Large Digit Load Cell Display



T24 Wireless Telemetry

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