

LOAD WASHERS

FOR MEASURING BOLT COMPRESSIONAL FORCES

STANDARD AND METRIC MODELS

Compression

0-200 lb to 0-200,000 lb
0-1000 to 0-200 kN

1 Newton = 0.2248 lb
1 daNewton = 10 Newtons
1 lb = 454 g
1 t = 1000 kgf = 2204 lb

LCWD/LCMWD Series



- ✓ 200 kN/200,000 lb Capacity
- ✓ Compact Design
- ✓ Spherical Washers Included
- ✓ Load Buttons Included
- ✓ Spherical Washers Recommended When Used with Bolts
- ✓ Load Button Recommended When Used as Compression Load Cell

SPECIFICATIONS

Excitation: 10 Vdc (15V maximum)

Output:

<500 lb/2kN: 1 mV/V nominal
≥500 lb/2kN: 2 mV/V nominal

Accuracy (Linearity, Hysteresis and Repeatability Combined):

≤10K lb/50 kN: ±0.5% BFSL
>10K lb/50 kN: ±0.75% BFSL

Zero Balance: ±4.0% FSO

Operating Temp Range:

-40 to 127°C (-40 to 260°F)

Compensated Temp Range:

16 to 71°C (60 to 160°F)

Thermal Effects:

Zero: ±0.018% FSO/°C

Span: ±0.018% FSO/°C

Safe Overload: 120% of capacity

Ultimate Overload: 200% of capacity

Bridge Resistance:

<50K lb/200 kN: 350 Ω min

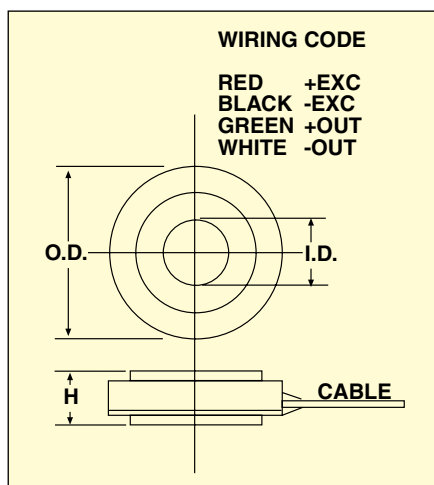
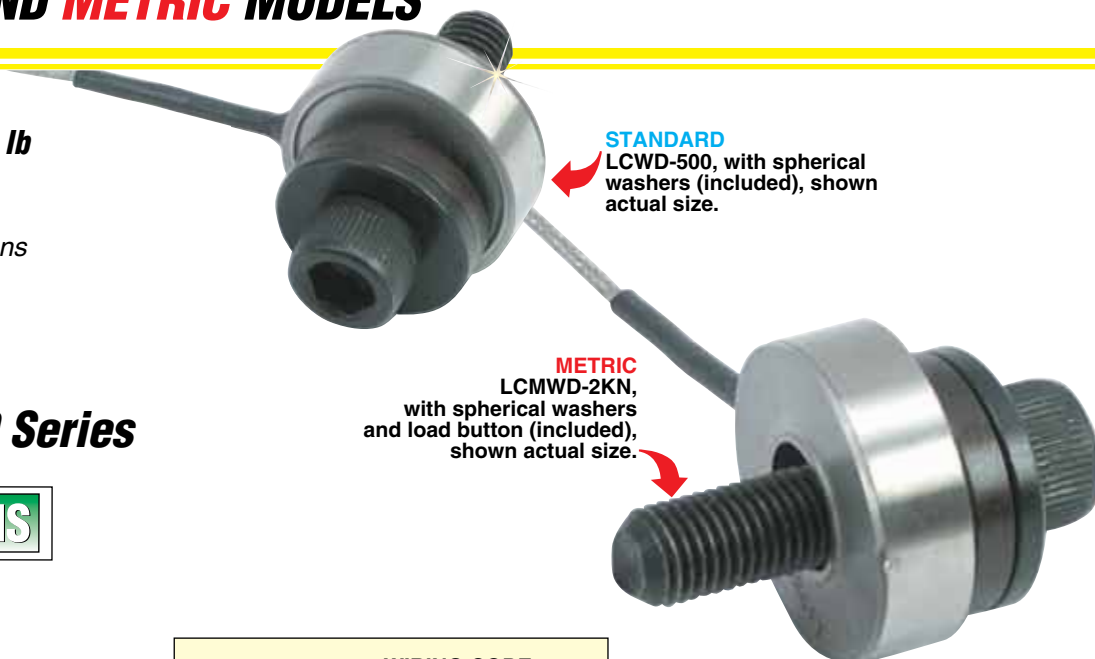
≥50K lb/200 kN: 700 Ω

Full Scale Deflection: 0.001" typical

Construction: Stainless steel

Electrical:

1.5 m (5') insulated shielded cable



Dimensions: mm (inch)

CAPACITY	ID	OD	H
≤10K lb (50 kN)	10.2 (0.40)	25 (1.0)	9.0 (0.35)
20K lb (100 kN)	12.7 (0.50)	30 (1.2)	10 (0.40)
50K lb (200 kN)	19.3 (0.76)	44 (1.75)	13 (0.50)
100K lb	25.7 (1.01)	57 (2.25)	18 (0.70)
200K lb	38.4 (1.51)	77 (3.00)	32 (1.25)

Caution

This unit is not field serviceable. Modifying and/or tampering will forfeit the warranty and may be dangerous. Use appropriate protective equipment and/or garments when testing or installing, including safety glasses.

STANDARD MODELS

To Order					
CAPACITY		MODEL NO.	COMPATIBLE METERS**	SPHERICAL WASHERS†	
lb	N			MODEL	ID mm (inch)
200	890	LCWD-200	DP41-S, DP25B-S, DPiS	SPW-2	8.7 (0.34)
500	2224	LCWD-500	DP41-S, DP25B-S, DPiS	SPW-2	8.7 (0.34)
1000	4448	LCWD-1K	DP41-S, DP25B-S, DPiS	SPW-2	8.7 (0.34)
2000	8897	LCWD-2K	DP41-S, DP25B-S, DPiS	SPW-2	8.7 (0.34)
5000	22,242	LCWD-5K	DP41-S, DP25B-S, DPiS	SPW-2	8.7 (0.34)
10,000	44,484	LCWD-10K	DP41-S, DP25B-S*, DPiS*	SPW-2	8.7 (0.34)
20,000	88,968	LCWD-20K	DP41-S, DP25B-S*, DPiS*	SPW-3	10 (0.41)
50,000	222,420	LCWD-50K	DP41-S, DP25B-S*, DPiS*	SPW-5	17 (0.66)
100,000	444,840	LCWD-100K	DP41-S, DP25B-S*, DPiS*	SPW-7	24 (0.94)
200,000	889,680	LCWD-200K	DP41-S, DP25B-S*, DPiS*	SPW-10	33 (1.31)

Comes complete with 4-point NIST-traceable calibration and 59 kΩ shunt data.

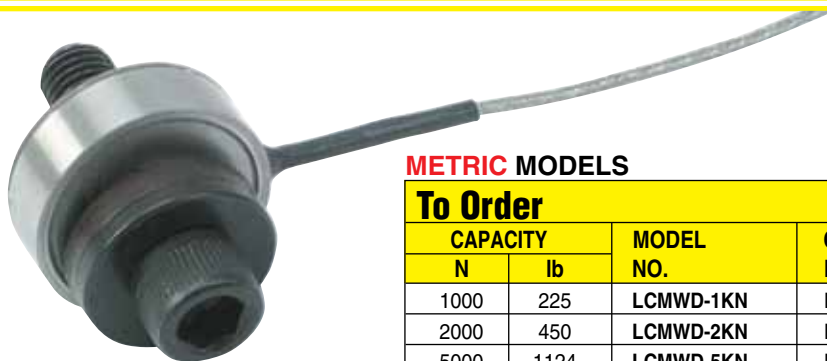
* 4-digit meter. ** Visit us online for compatible meters.

† One set of spherical washers and one set of load buttons supplied with each load cell.

Ordering Examples: LCWD-500, 500 lb capacity load washer supplied with 2 load buttons and a set of spherical washers.

LCWD-100K, 100,000 lb capacity load washer supplied with 2 load buttons and set of spherical washers.

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METRIC
LCMWD-1KN, with spherical washers (included), shown actual size.

METRIC MODELS

To Order					
CAPACITY		MODEL NO.	COMPATIBLE METERS	SPHERICAL WASHERS†	
N	lb			MODEL	ID
1000	225	LCMWD-1KN	DPiS, DP41-S, DP25B-S	SPW-2	8.7 (0.34)
2000	450	LCMWD-2KN	DPiS, DP41-S, DP25B-S	SPW-2	8.7 (0.34)
5000	1124	LCMWD-5KN	DPiS, DP41-S, DP25B-S	SPW-2	8.7 (0.34)
10,000	2248	LCMWD-10KN	DPiS*, DP41-S, DP25B-S*	SPW-2	8.7 (0.34)
20,000	4496	LCMWD-20KN	DPiS*, DP41-S, DP25B-S*	SPW-2	8.7 (0.34)
50,000	11,240	LCMWD-50KN	DPiS*, DP41-S, DP25B-S*	SPW-2	8.7 (0.34)
100,000	22,481	LCMWD-100KN	DPiS*, DP41-S, DP25B-S*	SPW-3	10 (0.41)
200,000	44,962	LCMWD-200KN	DPiS*, DP41-S, DP25B-S*	SPW-5	17 (0.66)

Comes complete with 5-point NIST-traceable calibration and 59 kΩ shunt data.

* 4-digit meter. ** Visit us online for compatible meters.

† One set of spherical washers and one set of load buttons supplied with each load cell.

Ordering Examples: LCMWD-10KN, 10 kN capacity load washer supplied with 2 load buttons and a set of spherical washers.

LCMWD-200KN, 200 kN capacity load washer supplied with 2 load buttons and a set of spherical washers.

STRAIN GAGE/BRIDGE TRANSDUCER-SIGNAL CONDITIONERS

iDRX-ST



The iDRN-ST and iDRX-ST signal conditioners provide highly accurate, stable, isolated measurement for strain gage transducers such as load cells, torque transducers, non-amplified pressure transducers, and other bridge based transducers. Both models can accept signals from 30 to 100 mV full scale and provide 10 Vdc reference voltage which may be used for transducer excitation.

- ✓ Unipolar/Bipolar 30 mV to 100 mV
- ✓ 13-Bit Resolution
- ✓ 10 Vdc Excitation
- ✓ 0.2% FS Accuracy
- ✓ 1800 Vdc Isolation
- ✓ 250 Vac/1 Min Input Overvoltage Protection
- ✓ Free Setup and Configuration Software

To Order	
MODEL NO.	DESCRIPTION
iDRX-ST	Digital signal conditioner for strain gages and bridge transducers with RS485 output
iDRN-ST	Signal conditioner for strain gages and bridge transducers with analog output
-FS	Factory setup and scaling

Comes complete with operator's manual.

Ordering Example: iDRX-ST, digital signal conditioner for strain gages and bridge transducers with RS485 output, CAT-285, bi-directional RS232-RS485 converter for iDRX series.

For iDRN/iDRX accessories and power supplies, please visit us online.