

# “PANCAKE” STYLE, HIGH-ACCURACY, LOW-PROFILE LOAD CELLS

## STANDARD AND METRIC MODELS

**Tension/Compression**  
50 lb to 750,000 lb, 25 kgf to 10,000 kgf

### LC402/LCM402 Series LC412/LCM412 Series



- ✓ Industrial Weighing
- ✓ All Stainless Steel for Harsh Industrial Applications
- ✓ 0.25% Interchangeability for Multiple Load Cell Applications
- ✓ 5 Point NIST Traceable Calibration Included



LC412/LCM412 units with twist-lock connector.

LC412-3K shown actual size.

### SPECIFICATIONS

**Excitation:** 10 Vdc (15 Vdc maximum)

**Output:** 3 mV/V  $\pm$ 0.25%

**5-Point Calibration:**

0%, 50%, 100%, 50%, 0% in compression.

Units ordered with optional tension plate calibrated in tension.

**Linearity:** 0.10% FSO

**Hysteresis:** 0.10% FSO

**Repeatability:** 0.05% FSO

**Zero Balance:**  $\pm$ 1% FSO

**Operating Temperature Range:**

LC402/LCM402: -54 to 121°C

(-65 to 250°F)

LC412/LCM412: -54 to 127°C

(-65 to 260°F)

**Compensated Temperature Range:**

16 to 71°C (60 to 160°F)

**Protection Class:** IP65

**Thermal Effects:**

**Zero:** 0.0045% FSO/°C

**Span:** 0.0045% FSO/°C

**Safe Overload:** 150% of capacity

**Ultimate Overload:** 300% of capacity

for ranges  $\leq$ 400,000 lb;

200% of capacity for ranges >400,000 lb

**Bridge Resistance:** 350  $\pm$ 10  $\Omega$

**Full Scale Deflection:** 0.025 to

0.075 mm (0.001 to 0.003") typical

**Construction:** 17-4 PH stainless steel

**Electrical Connection:**

LC402/LCM402: 4.8 m (15')

4-conductor shielded PVC cable

LC412/LCM412: DT02H-10-6P

connector (or equivalent)

### POPULAR OPTIONS

**(Additional Cost)**

0 to 5 Vdc Output: ( $\geq$ 5000 kg) “-5V”

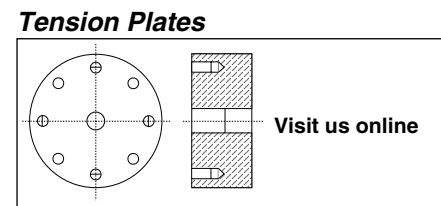
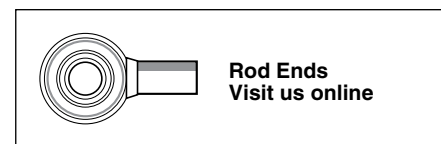
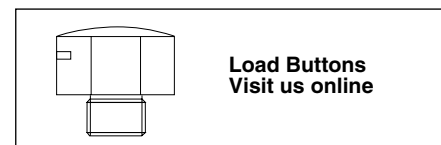
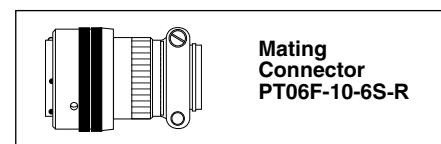
Overload Stops: “-OL”

Dual Bridge: “-DUAL”

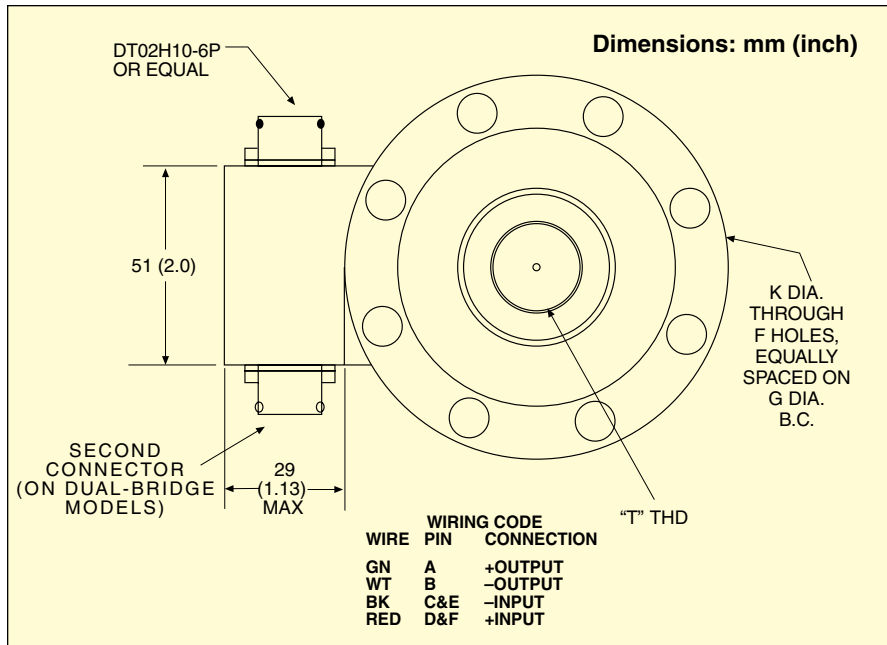
Extended Temperature Range:

-45 to 93°C (-50 to 200°F) “-TC1”

-45 to 163°C (-50 to 325°F) “-TC2”



# "PANCAKE" STYLE, HIGH-ACCURACY, LOW-PROFILE LOAD CELLS STANDARD AND METRIC MODELS



## STANDARD LOAD BUTTONS

| MODEL      | THREAD   |
|------------|----------|
| LBC-038    | 3/8-24   |
| LBC-012    | 1/2-20   |
| LBC-034    | 3/4-16   |
| LBC-100    | 1-14     |
| LBC-112    | 1 1/2-12 |
| LBC-200-12 | 2-12     |

\* Consult Engineering.

## METRIC LOAD BUTTONS

| MODEL NO. | THREAD     |
|-----------|------------|
| MLBC-M10  | M10 x 1.5  |
| MLBC-M12  | M12 x 1.75 |
| MLBC-M20  | M20 x 1.5  |
| MLBC-M24  | M24 x 2.0  |

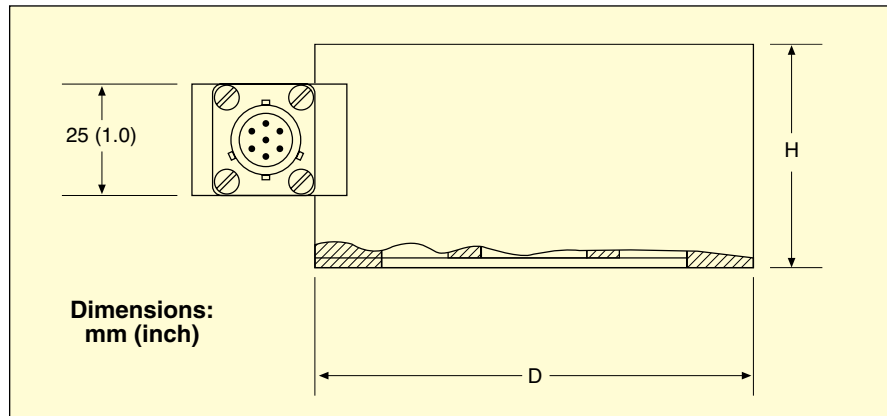
## STANDARD MALE ROD ENDS

| MODEL NO. | THREAD UNF-3A |
|-----------|---------------|
| REC-038M  | 3/8-24        |
| REC-012M  | 1/2-20        |
| REC-034M  | 3/4-16        |
| REC-100M  | 1-14          |
| REC-112M  | 1 1/2-12      |

## METRIC MALE ROD ENDS

| MODEL NO. | THREAD     |
|-----------|------------|
| MREC-M10M | M10 x 1.5  |
| MREC-M12M | M12 x 1.75 |
| MREC-M20M | M20 x 1.5  |
| MREC-M24M | M24 x 2.0  |

Visit us online for load button and rod end dimensions



Dimensions: mm (inch)

| CAPACITY               | D DIA.     | H HEIGHT   | F  | G           | K            | T          | WEIGHT kg (lb) |
|------------------------|------------|------------|----|-------------|--------------|------------|----------------|
| <b>STANDARD MODELS</b> |            |            |    |             |              |            |                |
| 50 to 300 lb           | 76 (3.00)  | 38 (1.50)  | 8  | 57 (2.25)   | 6.7 (0.266)  | 3/8-24     | 1.1 (2.5)      |
| 500 to 3K lb           | 89 (3.50)  | 38 (1.50)  | 8  | 73 (2.875)  | 6.7 (0.266)  | 1/2-20     | 1.4 (3)        |
| 5000 to 10K lb         | 95 (3.75)  | 38 (1.50)  | 8  | 83 (3.25)   | 6.7 (0.266)  | 3/4-16     | 2.3 (5)        |
| 15K to 25K lb          | 102 (4.00) | 51 (2.00)  | 8  | 89 (3.50)   | 10.3 (0.406) | 1-14       | 3.4 (7.5)      |
| 30K to 50K lb          | 178 (7.00) | 76 (3.00)  | 8  | 143 (5.625) | 13.5 (0.531) | 1 1/2-12   | 15 (33)        |
| 75K lb                 | 203 (8.00) | 89 (3.50)  | 8  | 171 (6.750) | 16.7 (0.656) | 1 3/4-12   | 23 (50)        |
| 100K lb                | 241 (9.50) | 102 (4.00) | 8  | 203 (8.00)  | 19.8 (0.781) | 2-12       | 37 (81)        |
| 150K to 200K lb        | 279 (11.0) | 102 (4.00) | 12 | 235 (9.25)  | 26 (1.030)   | 2 1/2-12   | 46 (102)       |
| 300K to 400K lb        | 279 (11.0) | 102 (4.00) | 12 | 235 (9.25)  | 26 (1.030)   | 3-12       | 46 (102)       |
| 500K lb                | 305 (12.0) | 102 (4.00) | 12 | 280 (10.25) | 29 (1.156)   | 3 1/2-8    | 52 (115)       |
| 750K lb                | 330 (13.0) | 114 (4.50) | 12 | 279 (11.00) | 33 (1.281)   | 4-8        | 61 (135)       |
| <b>METRIC MODELS</b>   |            |            |    |             |              |            |                |
| 25 to 100 kgf          | 76 (3.00)  | 38 (1.50)  | 8  | 57 (2.25)   | 6.7 (0.266)  | M10 x 1.5  | 1.1 (2.5)      |
| 250 to 1500 kgf        | 89 (3.50)  | 38 (1.50)  | 8  | 73 (2.875)  | 6.7 (0.266)  | M12 x 1.75 | 1.4 (3)        |
| 2.5K to 5K kgf         | 95 (3.75)  | 38 (1.50)  | 8  | 83 (3.25)   | 6.7 (0.266)  | M20 x 1.5  | 2.3 (5)        |
| 7.5K to 10K kgf        | 102 (4.00) | 51 (2.00)  | 8  | 89 (3.50)   | 10.3 (0.406) | M24 x 2.0  | 3.4 (7.5)      |

# HIGH-ACCURACY, LOW-PROFILE LOAD CELLS

## STANDARD MODELS

| To Order |         |            |            |                         | TENSION BASE PLATE |
|----------|---------|------------|------------|-------------------------|--------------------|
| CAPACITY |         | MODEL NO.  |            | COMPATIBLE METERS*      | MODEL NO.          |
| lb       | kgf     | CABLE      | CONNECTOR  |                         |                    |
| 50       | 23      | LC402-50   | LC412-50   | DPiS, DP41-S, DP25B-S   | LC412-TP225        |
| 100      | 45      | LC402-100  | LC412-100  | DPiS, DP41-S, DP25B-S   | LC412-TP225        |
| 250      | 114     | LC402-250  | LC412-250  | DPiS, DP41-S, DP25B-S   | LC412-TP225        |
| 500      | 227     | LC402-500  | LC412-500  | DPiS, DP41-S, DP25B-S   | LC412-TP288        |
| 1000     | 455     | LC402-1K   | LC412-1K   | DPiS, DP41-S, DP25B-S   | LC412-TP288        |
| 2000     | 909     | LC402-2K   | LC412-2K   | DPiS, DP41-S, DP25B-S   | LC412-TP288        |
| 3000     | 1361    | LC402-3K   | LC412-3K   | DPiS, DP41-S, DP25B-S   | LC412-TP288        |
| 5000     | 2269    | LC402-5K   | LC412-5K   | DPiS, DP41-S, DP25B-S   | LC412-TP325        |
| 10,000   | 4537    | LC402-10K  | LC412-10K  | DPiS, DP41-S, DP25B-S   | LC412-TP325        |
| 15,000   | 6806    | LC402-15K  | LC412-15K  | DPiS, DP41-S, DP25B-S** | LC412-TP350        |
| 20,000   | 9074    | LC402-20K  | LC412-20K  | DPiS, DP41-S, DP25B-S** | LC412-TP350        |
| 25,000   | 11,343  | LC402-25K  | LC412-25K  | DPiS, DP41-S, DP25B-S** | LC412-TP350        |
| 50,000   | 22,686  | LC402-50K  | LC412-50K  | DPiS, DP41-S, DP25B-S** | LC412-TP563        |
| 75,000   | 34,029  | LC402-75K  | LC412-75K  | DPiS, DP41-S, DP25B-S** | LC412-TP675        |
| 100,000  | 45,372  | LC402-100K | LC412-100K | DPiS, DP41-S, DP25B-S** | LC412-TP800        |
| 200,000  | 90,744  | LC402-200K | LC412-200K | DPiS, DP41-S, DP25B-S** | LC412-TP925        |
| 300,000  | 136,116 | LC402-300K | LC412-300K | DPiS, DP41-S, DP25B-S** | LC412-TP925-3      |
| 400,000  | 181,488 | LC402-400K | LC412-400K | DPiS, DP41-S, DP25B-S** | LC412-TP925-3      |
| 500,000  | 226,860 | LC402-500K | LC412-500K | DPiS, DP41-S, DP25B-S** | LC412-TP1025       |
| 750,000  | 340,290 | LC402-750K | LC412-750K | DPiS, DP41-S, DP25B-S** | LC412-TP1100       |

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

DPiS suitable for one direction measurement only. \* Visit us online for compatible meters. \*\* 4-digit meter.

To order dual-bridge models, add suffix “-DUAL” to the model number. Consult sales for price and availability.

**Note:** Models >300,000 lb are calibrated at 300,000 lb. Full scale calibration above 300,000 lb within ±1% available; add suffix “-FS” to the model number and consult Sales for price and delivery.

**Ordering Examples:** LC412-10K-DUAL, dual-bridge 10,000 lb capacity connector-style load cell.

PT06F10-6S-R, mating connector, 2 required (sold separately), LC412-TP325, optional tension plate.

LC412-20K-5V, 20,000 lb capacity connector-style load cell with optional 0 to 5 Vdc output, PT06F10-6S-R, mating connector (sold separately), LC412-TP350, optional tension plate.

## METRIC MODELS

| CAPACITY |        | MODEL NO.   |             | COMPATIBLE METERS*        | TENSION BASE PLATE |
|----------|--------|-------------|-------------|---------------------------|--------------------|
| kgf      | lb     | CABLE       | CONNECTOR   |                           | MODEL NO.          |
| 25       | 55     | LCM402-25   | LCM412-25   | DP41-B, DP41-S, DP25B-S   | LCM412-TP225       |
| 50       | 110    | LCM402-50   | LCM412-50   | DP41-B, DP41-S, DP25B-S   | LCM412-TP225       |
| 100      | 220    | LCM402-100  | LCM412-100  | DP41-B, DP41-S, DP25B-S   | LCM412-TP225       |
| 250      | 551    | LCM402-250  | LCM412-250  | DP41-B, DP41-S, DP25B-S   | LCM412-TP288       |
| 500      | 1102   | LCM402-500  | LCM412-500  | DP41-B, DP41-S, DP25B-S   | LCM412-TP288       |
| 1000     | 2205   | LCM402-1K   | LCM412-1K   | DP41-B, DP41-S, DP25B-S   | LCM412-TP288       |
| 1500     | 3307   | LCM402-1.5K | LCM412-1.5K | DP41-B, DP41-S, DP25B-S   | LCM412-TP288       |
| 2500     | 5512   | LCM402-2.5K | LCM412-2.5K | DP41-B, DP41-S, DP25B-S   | LCM412-TP325       |
| 5000     | 11,023 | LCM402-5K   | LCM412-5K   | DP41-B, DP41-S, DP25B-S   | LCM412-TP325       |
| 7500     | 16,535 | LCM402-7.5K | LCM412-7.5K | DP41-B, DP41-S, DP25B-S   | LCM412-TP350       |
| 10,000   | 22,046 | LCM402-10K  | LCM412-10K  | DP41-B, DP41-S, DP25B-S** | LCM412-TP350       |

## ACCESSORIES

| MODEL NO.      | DESCRIPTION   |
|----------------|---|
| PT06F10-6S-R   | Mating connector for LC412/LCM412 load cells                                |
| CA-6PC24-3-015 | Cable assembly with twist-lock connector for LC412/LCM412 series load cells |

Comes complete with 5-point NIST-traceable calibration and 59 kΩ shunt data. \* Visit us online for compatible meters. \*\* 4-digit meter.

To order dual-bridge models, add suffix “-DUAL” to model number. Consult sales for price and availability.

**Ordering Examples:** LCM412-10K-DUAL, dual-bridge 10,000 kgf capacity connector-style load cell.

PT06F10-6S-R, mating connector, 2 required (sold separately). LCM412-TP350, optional tension plate, LCM402-100, 100 kgf capacity cable-style load cell, LCM412-TP225, optional tension plate.