

INTRINSICALLY SAFE LOW PROFILE LOAD CELLS FOR HAZARDOUS LOCATIONS

STANDARD AND METRIC MODELS

Tension or Compression
7.5 to 500,000 lb Capacities
5000 kg to 10,000 kg Metric Models

LCHD/LCMHD-IS Series



- ✓ FM Intrinsically Safe Rating Standard
- ✓ 4 to 20 mA Output
- ✓ 5-Point NIST Traceable Calibration Included
- ✓ 0.25% Interchangeability
- ✓ All Stainless Steel Construction for Harsh Industrial Environments
- ✓ Heavy-Duty Industrial Design
- ✓ Low Profile for Easy Installations



LCHD-7.5K1C2IS,
twist-lock
termination shown.



Please Note:
Not for export,
USA and Canada only

The LCHD Series intrinsically safe load cells are FM rated Intrinsically safe for use in Hazardous locations. They are available with 5 different electrical terminations: Three connector options and 2 cable options, one of which is a submersible waterproof cable. Standard models have an amplified 4 to 20 mA output for uni-directional applications and a 4-12-20 mA output for bi-directional applications.

SPECIFICATIONS

Excitation Voltage: 10 to 28 Vdc
Nonlinearity (%F.S.O.): 0.10
Hysteresis (%F.S.O.): 0.10
Repeatability (%F.S.O.): 0.05
Zero Balance: 4 mA +10%,
 -2% adjustable
Operating Temperature:
 -40 to 75°C (-40 to 167°F)
Compensated Temperature:
 16 to 71°C (60 to 160°F)

Temperature Effects:

Zero (%FSO/°F):
 ±0.005 (±0.009%FSO/°C)
Span (%Reading/°F):
 ±0.005 (±0.009%Reading/°C)

Safe Overload (% of Capacity): 150
Ultimate Overload (% of Capacity):
 300

Material: Stainless Steel 17-4

AGENCY APPROVALS

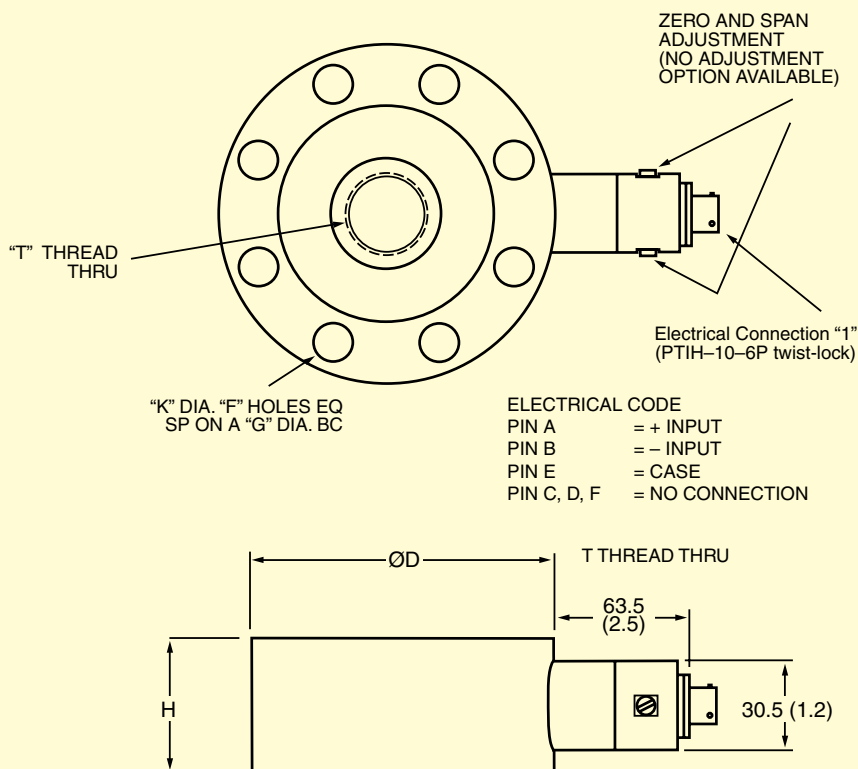
| TYPE | AGENCY | APPROVAL LISTINGS |
|---------------------------------------|--------|---|
| Intrinsically Safe (US and Canada) | FM | Hazardous (Classified) Location, Rated Intrinsically Safe, Securite Intrinsique Class I, II, III, Division 1 Gr A, B, C, D, E, F, G Class I, Zone 0 Aex ia IIC (US), Class I, Zone 0 Ex ia IIC (Canada), T4, Ta = -40 to 75°C |
| Non-Incendive | FM | FM Hazardous (Classified) Location, Rated Non-Incendive Class I Division 2 Groups A, B, C, D (US and Canada) T4, Ta = -40 to 75°C, Conduit electrical connections only |

INTRINSICALLY SAFE LOAD CELLS

Any cable or connector must meet the requirements of the environment where it is being installed. The safety engineer should specify the cables and connectors.

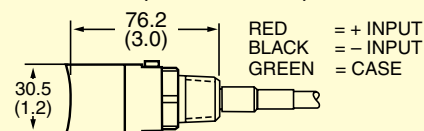
Dimensions: mm (inch)

Ø = diameter

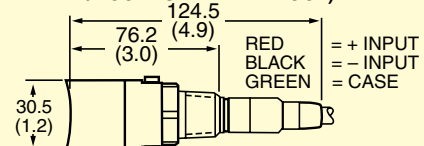


ELECTRICAL CONNECTION WITH WIRE/PIN CODE

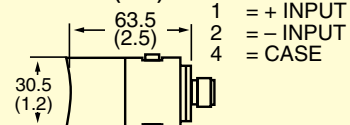
0 (CABLE/CONDUIT)



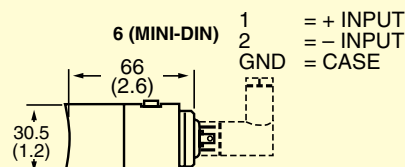
GW (CABLE BACKEND WITH 1/2 CONDUIT WATERPROOF)



5 (M12)



6 (MINI-DIN)



Mating DIN connector not included.

| CAPACITY (lbs) | D | H | K | G | F | T |
|------------------------------|-------------|------------|-----------|-------------|----|--------------|
| STANDARD MODEL (LCHD) | | | | | | |
| 7500 – 15,000 | 140 (5.50) | 46 (1.80) | 10 (0.40) | 115 (4.50) | 8 | 1-14UNS-2B |
| 20,000 – 50,000 | 152 (6.00) | 46 (1.80) | 13 (0.53) | 124 (4.88) | 8 | 1½-12UNF-2B |
| 75,000 – 100,000 | 229 (9.00) | 64 (2.50) | 17 (0.66) | 197 (7.75) | 12 | 2-12UN-2B |
| 150,000 – 200,000 | 279 (11.00) | 76 (3.00) | 20 (0.78) | 241 (9.50) | 12 | 2½-12UN-2B |
| 300,000 – 500,000 | 356 (14.00) | 108 (4.25) | 25 (1.00) | 298 (11.75) | 12 | 3½-8UN-2B |
| METRIC MODEL (LCMHD) | | | | | | |
| 5000 – 7500 | 140 (5.50) | 46 (1.80) | 10 (0.40) | 114 (4.50) | 8 | M24 x 2.0-6H |
| 10,000 | 152 (6.00) | 46 (1.80) | 13 (0.53) | 124 (4.88) | 12 | M36 x 2.0-6H |

INTRINSICALLY SAFE STANDARD MODELS

To Order

| CALIBRATED CAPACITY | | MODEL NO. | COMPATIBLE METER | LOAD BUTTON | ROD END |
|------------------------------------|-------------|--------------------------|-------------------------|-------------|----------|
| lb | kg (Ref) | | | | |
| INTRINSICALLY SAFE STANDARD MODELS | | | | | |
| 7500 | 3403 kgf | LCHD-7.5K [*] [**] [***] | DP41-E, DP25B-E, DPI8 | LBC-100 | REC-100M |
| 10,000 | 4537 kgf | LCHD-10K [*] [**] [***] | DP41-E, DP25B-E, DPI8 | LBC-100 | REC-100M |
| 15,000 | 6806 kgf | LCHD-15K [*] [**] [***] | DP41-E, 6-digit display | LBC-100 | REC-100M |
| 20,000 | 9074 kgf | LCHD-20K [*] [**] [***] | DP41-E, 6-digit display | LBC-112 | REC-112M |
| 30,000 | 13,612 kgf | LCHD-30K [*] [**] [***] | DP41-E, 6-digit display | LBC-112 | REC-112M |
| 50,000 | 22,686 kgf | LCHD-50K [*] [**] [***] | DP41-E, 6-digit display | LBC-112 | REC-112M |
| 75,000 | 34,029 kgf | LCHD-75K [*] [**] [***] | DP41-E, 6-digit display | — | — |
| 100,000 | 45,372 kgf | LCHD-100K [*] [**] [***] | DP41-E, 6-digit display | — | — |
| 150,000 | 68,058 kgf | LCHD-150K [*] [**] [***] | DP41-E, 6-digit display | — | — |
| 200,000 | 90,744 kgf | LCHD-200K [*] [**] [***] | DP41-E, 6-digit display | — | — |
| 300,000 | 136,116 kgf | LCHD-300K [*] [**] [***] | DP41-E, 6-digit display | — | — |
| 400,000 | 181,488 kgf | LCHD-400K [*] [**] [***] | DP41-E, 6-digit display | — | — |
| 500,000 | 226,860 kgf | LCHD-500K [*] [**] [***] | DP41-E, 6-digit display | — | — |

All models come complete with 5-point NIST traceable calibration certificate.

Note: Ranges over 300,000 lb are calibrated at 300,000 lb.

Ordering Example: LCHD-100K0BC2IS, 100,000 lb capacity, bidirectional, with PVC cable and FMIS approvals.

[*] ELECTRICAL TERMINATIONS

| TERMINATIONS | SUFFIX |
|-----------------------------|--------|
| 4.6 m (15') PVC cable | 0 |
| PTIH-10-6P twist-lock | 1 |
| M12 4-pin | 5 |
| mini-DIN | 6 |
| 3 m (10') submersible cable | GW |

TENSION PLATES

| MODEL NO. | DESCRIPTION |
|------------|--|
| LCHD-TP200 | Tension plate, 5 to 25 lb ranges |
| LCHD-TP225 | Tension plate, 50 to 1000 lb ranges |
| LCHD-TP263 | Tension plate, 2000 to 5000 lb ranges |
| LCHD-TP450 | Tension plate, 7500 to 15,000 lb ranges |
| LCHD-TP488 | Tension plate, 20,000 to 50,000 lb ranges |
| LCHD-TP775 | Tension plate, 75,000 to 100,000 lb ranges |

[**] OUTPUT OPTIONS

| INTRINSICALLY SAFE AMPLIFIERS | SUFFIX |
|---|--------|
| FM Intrinsically Safe 4 to 20 mA Output (calibrated 0 to full scale in tension) | C2IS |
| FM Intrinsically Safe 4-12-20 mA Output [calibrated (-)full scale to (+)full scale] Bidirectional | BC2IS |

[***] FINAL SUFFIX OPTIONS

| DESCRIPTION | SUFFIX |
|-------------------------------------|--------|
| Potentiometers Standard (No Suffix) | |
| No Potentiometers | NP |

INTRINSICALLY SAFE METRIC MODELS

| To Order | | | | |
|----------------------------------|----------|---------------------------|-------------------------|-------------|
| CALIBRATED CAPACITY | | MODEL NO. | COMPATIBLE METER | LOAD BUTTON |
| kg | lb (Ref) | | | |
| INTRINSICALLY SAFE METRIC MODELS | | | | |
| 5000 | 11,023 | LCMHD-5K [*] [**] [***] | DP41-E, DP25B-E, DPi8 | MLBC-M24 |
| 7500 | 16,535 | LCMHD-7.5K [*] [**] [***] | DP41-E, DP25B-E, DPi8 | MLBC-M24 |
| 10,000 | 22,046 | LCMHD-10K [*] [**] [***] | DP41-E, 6-digit display | MLBC-M36 |

All models come complete with 5-point NIST traceable calibration certificate.

Note: Ranges over 300,000 lb are calibrated at 300,000 lb.

Ordering Example: LCMHD-5K1C2IS, 5000 kg capacity load cell.

[*] ELECTRICAL TERMINATIONS

| TERMINATIONS | SUFFIX |
|--|--------|
| 2 m (6.6') PVC cable with ½ NPT conduit† | 0 |
| PTIH-10-6P twist-lock mating connector PT06F10-6S (sold separately) | 1 |
| M12 4-pin | 5 |
| mini-DIN | 6 |
| 3 m (10') submersible cable | GW |

† Other cable lengths are available; please contact Factors for price and availability

[**] OUTPUT OPTIONS

| INTRINSICALLY SAFE AMPLIFIERS | SUFFIX |
|---|--------|
| FM Intrinsically Safe 4 to 20 mA Output (calibrated 0 to full scale in tension) | C2IS |
| FM Intrinsically Safe 4-12-20 mA Output [calibrated (-)full scale to (+)full scale] | BC2IS |

[***] FINAL SUFFIX OPTIONS

| DESCRIPTION | SUFFIX |
|-------------------------------------|--------|
| Potentiometers Standard (No Suffix) | |
| No Potentiometers | NP |

| To Order | |
|----------------|---|
| TENSION PLATES | |
| MODEL NO. | DESCRIPTION |
| LCMHD-TP450 | Tension plate, 7500 to 15,000 lb ranges |
| LCMHD-TP488 | Tension plate, 20,000 to 50,000 lb ranges |