

## Features

- Capacities 5tf – 20tf.
- Accuracy  $\pm 0.023\%$ .
- IP68 rating.

## Applications

- Lifting devices.
- Hanging scales.
- Static or dynamic testing.



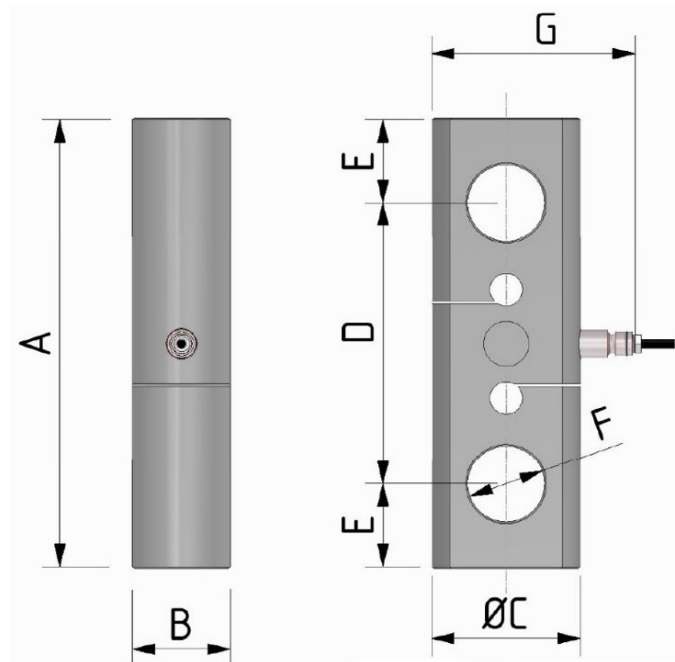
## Description

The T-TL-T20 is a load cell designed for the measurement of static or dynamic loads in tension. Offering high mechanical resistance, the T20 is produced from stainless steel with a fully laser welded finish for IP68 protection. The T20 is ideal for cranes and other lifting applications.

## Typical Specification

| PARAMETER   | VALUE  | UNITS                                       |
|---|--|---|
| Capacities Range <i>(Emax)</i>                                | 5, 7.5, 10, 15, 20                                 | tf  |
| Combined Error  | $\leq 0.023$                                       | $\pm\%$ of Rated Output                     |
| Non-Repeatability   | $\leq 0.014$                                       | $\pm\%$ of Rated Output                     |
| Zero Return <small>OVER 30 MINUTES</small>                    | $\leq 0.030$                                       | $\pm\%$ of Applied Load                     |
| Creep at Nominal Load <small>OVER 30 MINUTES</small>          | $\leq 0.024$                                       | $\pm\%$ of Applied Load                     |
| Creep at Nominal Load <small>OVER 20 &amp; 30 MINUTES</small> | $\leq 0.011$                                       | $\pm\%$ of Applied Load                     |
| Temperature Effect <small>ON ZERO</small>                     | $\leq 0.028$                                       | $\pm\%$ of Rated Output/ $^{\circ}\text{C}$ |
| Temperature Effect <small>ON OUTPUT</small>                   | $\leq 0.008$                                       | $\pm\%$ of Rated Output/ $^{\circ}\text{C}$ |
| Rated Output  | 2  | mV/V  |
| Sensitivity Tolerance   | $\leq 0.1$   | $\pm\%$ of Rated Output                     |
| Input Impedance   | $420 \pm 20$                                       | $\Omega$                                    |
| Output Impedance  | $350 \pm 2$  | $\Omega$                                    |
| Insulation Resistance   | $> 5$  | G $\Omega$                                  |
| Zero Balance  | $\leq 1$   | $\pm\%$ of Rated Output                     |
| Excitation <small>RECOMMENDED</small>                         | 10   | Volts AC or DC                              |
| Excitation <small>NOMINAL</small>                             | 1-15   | Volts AC or DC                              |
| Excitation <small>MAXIMUM</small>                             | 18   | Volts AC or DC                              |
| Mechanical Limit <small>SERVICE LOAD</small>                  | 120  | % of Rated Output                           |
| Mechanical Limit <small>SAFE OVERLOAD</small>                 | 150  | % of Rated Output                           |
| Mechanical Limit <small>ULTIMATE OVERLOAD</small>             | $> 300$  | % of Rated Output                           |
| Mechanical Limit <small>MAX. TRANSVERSE LOAD</small>          | 200  | % of Rated Output                           |
| Mechanical Limit <small>MAX. DYNAMIC LOAD</small>             | 50   | % of Rated Output                           |
| Displacement at Nominal Load                                  | $\sim 0.3$   | mm  |
| Temperature Range <small>OPERATING</small>                    | -20 to +70   | $^{\circ}\text{C}$                          |
| Temperature Range <small>STORAGE</small>                      | -20 to +80   | $^{\circ}\text{C}$                          |
| Cable Length  | 5  | m   |
| Sensor Construction Material                                  | Stainless Steel                                    | -   |
| Environmental Protection                                      | IP68 <small>(100 HOURS AT 1M WATER COLUMN)</small> | -   |
| Weight  | $\sim 4.4$ $\sim 7$                                | KG  |

## Outline Dimensions in millimetres



If the dimensions or specification do not suit, PCM has an in-house design team that should be able to satisfy your requirements.

| CAPACITY (tf) | ORDERING CODE | A   | B  | ØC | D   | E  | F <sup>(1)</sup> | G   |
|---------------|---------------|-----|----|----|-----|----|------------------|-----|
| 5             | CT205TC25     | 200 | 45 | 76 | 130 | 35 | 33               | 103 |
| 7.5           | CT207T5C25    |     |    |    |     |    |                  |     |
| 10            | CT2010TC25    |     |    |    |     |    |                  |     |
| 15            | CT2015TC25    | 250 | 54 | 82 | 156 | 47 | 42.5             | 109 |
| 20            | CT2020TC25    |     |    |    |     |    |                  |     |


<sup>(1)</sup> Connection holes for standard shackles.

## Accessories

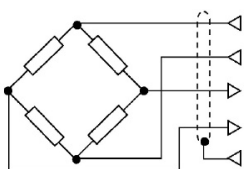
| CAPACITY (tf) | DESCRIPTION <sup>(2)</sup> | ORDERING CODE        |
|---------------|----------------------------|----------------------|
| 5             | 15tf Rated Shackle         | Crosby G209A-1017604 |
| 7.5           |                            |                      |
| 10            |                            |                      |
| 15            | 21tf Rated Shackle         | G209A-1017648        |
| 20            |                            |                      |

<sup>(2)</sup> Shackles are safety coefficient 5. The T20 load cell has a mechanical factor of safety of 3:1.

## Connector Options

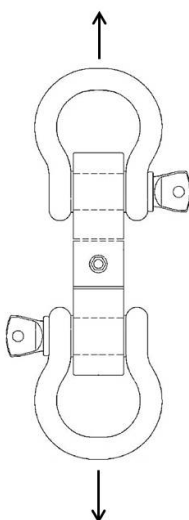
|   | ORDERING CODE          | DESCRIPTION   |
|---|------------------------|---|
|  | CONNM12MF + CONNM12FV5 | Direct M12 output connector. Female 5 poles straight M12x1 connector complete with 3m PVC shielded cable. |

## Wiring Details

|   | OUTPUT      | CABLE                 | M12 OPTION |
|---|-------------|-----------------------|------------|
|  | EXCITATION+ | RED                   | 1          |
|   | EXCITATION- | BLACK                 | 3          |
|   | OUTPUT+     | WHITE                 | 2          |
|   | OUTPUT-     | YELLOW                | 4          |
|   | -----       | SHIELD <sup>(3)</sup> | 5          |

<sup>(3)</sup> Shield connected to the body of the transducer.

## Loading Mode



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