



#### Main features

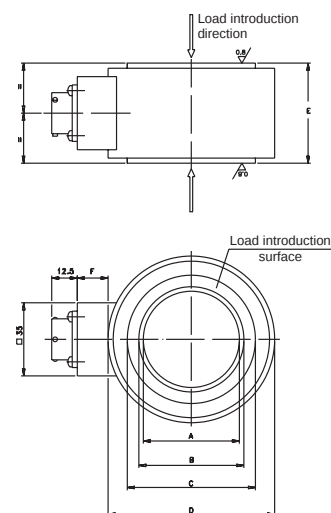
- Range of measurement: from 100 to 3000 kN
- Accuracy class: 0,5%
- Elastic element in stainless steel
- Corrosion resistant
- Internally generated calibration signal
- Grade of protection: IP65 (DIN 40050)

The CT series force transducers, have been specially designed for use in polymer processing in applications where it is required to measure the reaction force produced by the extrusion pressure on the gearbox along the axis of the screw. They measure a force whose value is indicative of the extrusion pressure over the area of the screw. The CT series force transducers can also be used in all other applications where it is required to measure the forces on shafts or columns and in any application where the geometry demands a toroidal form load cell.

#### TECHNICAL DATA

|                                                             |                                                       |
|-------------------------------------------------------------|-------------------------------------------------------|
| Accuracy                                                    | 0,5%                                                  |
| Nominal full scale load (Ln)                                | 100...3000 kN                                         |
| Nominal output at FSO                                       | 2mV/V                                                 |
| Output tolerance at Ln                                      | <± 1% FSO                                             |
| Combined errors: Non linearity<br>Hysteresis, Repeatability | < ± 0,5% FSO                                          |
| Creep (after 30 min. at Ln)                                 | < ± 0,06% FSO                                         |
| Zero load out of balance signal                             | < ± 1% FSO                                            |
| Calibration signal *                                        | 80%FSO ± 1%                                           |
| Thermal drift in compensated range                          | Sensitivity<br>Zero<br>Calibration                    |
|                                                             | < ± 0,02% FSO°C<br>< ± 0,02% FSO°C<br>< ± 0,02% FSO°C |
| Nominal input resistance                                    | 700 Ohm                                               |
| Isolation resistance                                        | > 10 GOhm                                             |
| Nominal supply voltage                                      | 10 V                                                  |
| Maximum supply voltage                                      | 15 V                                                  |
| Compensated temperature range                               | -20...+50°C                                           |
| Maximum temperature range                                   | -20...+60°C                                           |
| Storage temperature range                                   | -30...+80°C                                           |
| Permitted static load                                       | 130% Ln                                               |
| Maximum applicable load                                     | 150% Ln                                               |
| Rupture load                                                | > 300% Ln                                             |
| Maximum static lateral load                                 | 40% Ln                                                |
| Maximum elastic deformation at Ln                           | < 0,1 mm                                              |
| Grade of protection (DIN40050)                              | IP65                                                  |
| Electr. connections: Connector                              | VPT02A10-6PT2                                         |
| Elastic element material                                    | Stainless steel                                       |
| Case material                                               | Anodize aluminium                                     |
| * The exact value is indicated on the instrument nameplate. |                                                       |

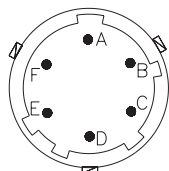
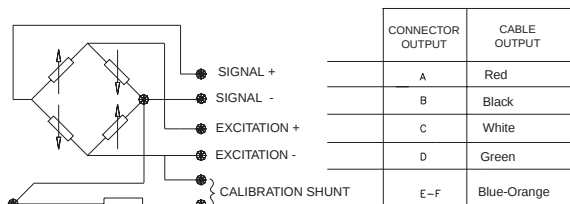
#### MECHANICAL DIMENSIONS



Dimensions mm. (± 0,1)

| mod. | Ln (kN) | A   | B     | C     | D   | E  | F  |
|------|---------|-----|-------|-------|-----|----|----|
| CTA  | 100     | 46  | 54,2  | 57,8  | 80  | 45 | 15 |
|      | 200     |     | 52,6  | 59,7  |     |    |    |
|      | 300     |     | 50,7  | 61,4  |     |    |    |
| CTB  | 200     | 70  | 76,2  | 81,3  | 101 | 45 | 45 |
|      | 300     |     | 74,9  | 82,5  |     |    |    |
|      | 500     |     | 72,2  | 84,9  |     |    |    |
| CTC  | 750     | 94  | 72    | 84,7  | 140 | 60 | 45 |
|      | 500     |     | 102,8 | 112,1 |     |    |    |
|      | 750     |     | 100,2 | 114,2 |     |    |    |
| CTD  | 1000    | 110 | 97,9  | 116,5 | 196 | 60 | 80 |
|      | 1500    |     | 95,3  | 118,6 |     |    |    |
|      | 1500    |     | 124,1 | 146,2 |     |    |    |
|      | 2000    |     | 120,1 | 149,6 |     |    |    |
|      | 2500    |     | 115,8 | 152,9 |     |    |    |
|      | 3000    |     | 111,4 | 156   |     |    |    |

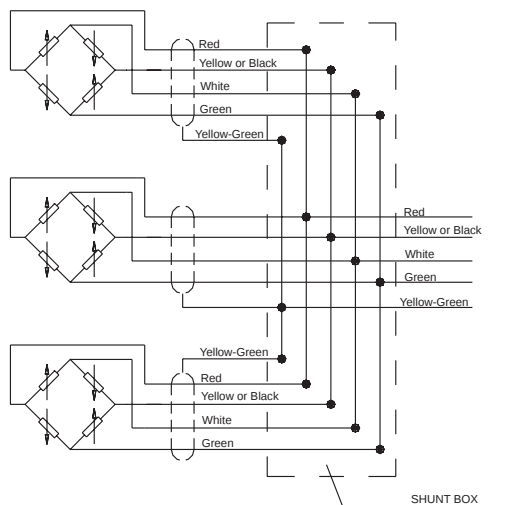
## ELECTRICAL CONNECTIONS



CONNECTOR  
VPT02A10-6PT2

If the transducer is supplied complete with prewired connection cable, the colour code is that indicated in the table.

### Cells connected in parallel



In systems that use several cells, the parallel connection automatically sums the loads on each individual cell. Using this method of measurement, the maximum load will be the sum of the loads on the individual cells and the sensitivity will be the average value of these cells. It is important that the user ensures that no cell is stressed beyond its maximum rating under any load condition.

## CONVERSION TABLE

| Kg    | N     | Lb    |
|-------|-------|-------|
| 1     | 9.807 | 2.205 |
| 0.102 | 1     | 0.225 |
| 0.454 | 4.448 | 1     |

## OPTIONAL ACCESSORIES

### Connectors

Female cable connector  
Grade of protection IP65

**CON300**

6-pin connector with 8m (25ft) cable  
6-pin connector with 15m (50ft) cable  
6-pin connector with 25m (75ft) cable  
6-pin connector with 30m (100ft) cable

**C08W**

**C15W**

**C25W**

**C30W**

Other lengths

**consult  
factory**

## APPLICATION NOTE

For a correct use of the transducer, it is necessary to ensure that the load is evenly distributed over the application surfaces shown in the diagram.

It is essential to centre the transducer using the circular crown of diameter **C** and to apply the load installing the transducer between two grinded surfaces perpendicular to the direction of the applied load.

## ORDER CODE

Force transducer **CT**

### MODEL

A

B

C

D

### Mod. MEASUR. RANGE (kN)

|     |        |        |
|-----|--------|--------|
| CTA | 0-100  | KN1C   |
|     | 0-200  | KN2C   |
|     | 0-300  | KN3C   |
| CTB | 0-200  | KN2C   |
|     | 0-300  | KN3C   |
|     | 0-500  | KN5C   |
|     | 0-750  | KN7.5C |
| CTC | 0-500  | KN5C   |
|     | 0-750  | KN7.5C |
|     | 0-1000 | KN1M   |
|     | 0-1500 | KN1.5M |
| CTD | 0-1500 | KN1.5M |
|     | 0-2000 | KN2M   |
|     | 0-2500 | KN2.5M |
|     | 0-3000 | KN3M   |

If request, it is possible to supply models with non-standard mechanical and/or electrical features.

### Ex.: CTC - KN1M

CT force transducer, model C, measurement range 0 - 1000 kN.

GEFRAN spa reserves the right to make any kind of design or functional modification at any moment without prior notice.

**GEFRAN spa**

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