



#### Main features

- Range of measurement: from 100 to 20.000 Kg
- Accuracy class: 0,2%
- All stainless steel construction
- Corrosion resistant
- Internally generated calibration signal
- Grade of protection: IP67 (DIN 40050)

TC series load cells are strain gauge transducers used to measure loads in static and dynamic applications, in tension (positive signal of output) and compression (negative signal of output), with high accuracy (industrial weighing, laboratory testing, automation, etc).

The TC series is machined from a single block of metal, so the primary sensing element, the mountings and the case contain no welds allowing smaller dimensions and an enhanced grade of protection.

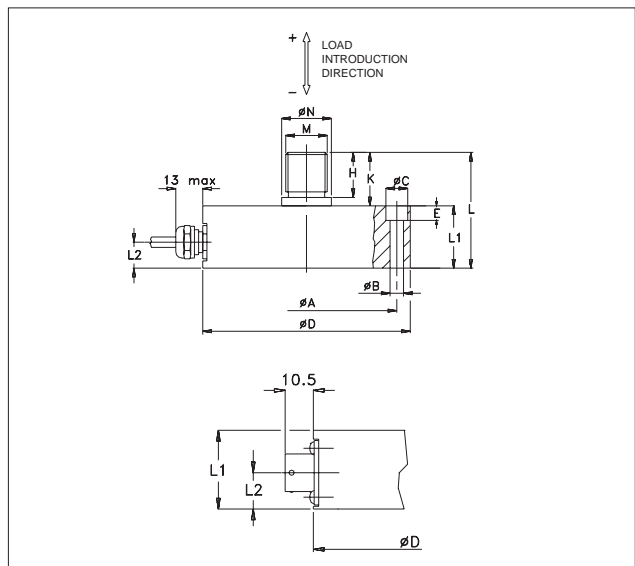
The configuration of the point of measurement, with 8 strain gauges, reduces errors caused by imperfect application of the load. Typical applications of load cells connected in parallel are: silos, hoppers, large weighing platforms, and with suitable accessories, suspended loads. The stainless steel construction is suitable for use in aggressive environments in the chemical and petrochemical industries.

#### TECHNICAL DATA

Accuracy	0,2%
Nominal full scale load (Ln)	100...20.000 Kg
Nominal output at FSO	2mV/V
Output tolerance at Ln	<± 0,2% FSO
Combined errors: Non linearity Hysteresis, Repeatability	< ± 0,2% 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 Zero Calibration
	< ± 0,01% FSO°C < ± 0,01% FSO°C < ± 0,01% FSO°C
Nominal input resistance	700 Ohm
Nominal output resistance	700 Ohm
Isolation resistance	> 10 GOhm
Nominal supply voltage	10 V
Maximum supply voltage	15 V
Compensated temperature range	-10...+50°C
Maximum temperature range	-20...+60°C
Storage temperature range	-30...+80°C
Permitted static load	130% Ln
Permitted dynamic load	100% Ln
Maximum applicable load	150% Ln
Rupture load	> 300% Ln
Maximum elastic deformation at Ln	< 0,2 mm
Grade of protection (DIN40050)	Cable IP67 Connector IP65
Electr. connections: Connector Screened cable	VPT02A10-6PT2 6x0,25 / 5 m.
Elastic element material	Stainless steel

\* The exact value is indicated on the instrument nameplate.

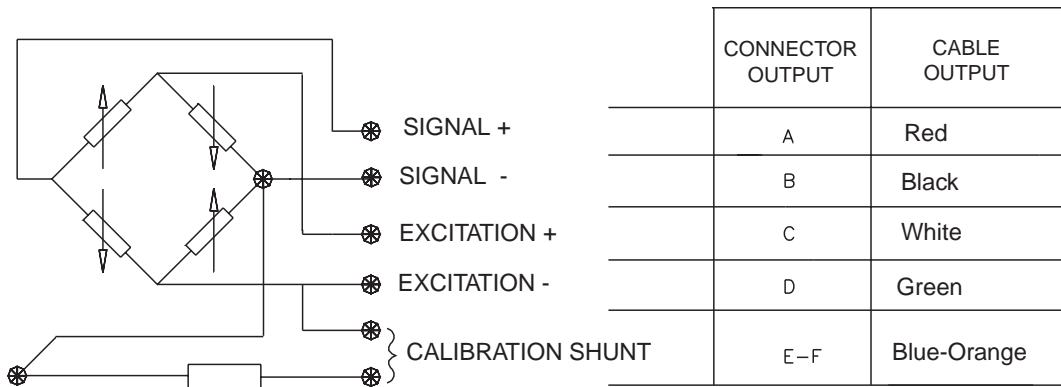
#### MECHANICAL DIMENSIONS



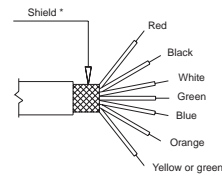
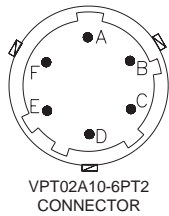
	Ln (Kg)			
	100 2000	3500 5000	7000 10000	20000
ø A	87	98,5	125	135
ø B	6,5	10,5	13	17
ø C	10,5	16,5	19	25
ø D	100	120	155	170
E	6	10	12,5	21
H	21	33,6	45	65
K	25	37,6	50	70
L	55	67,6	90	131
L1	30	30	40	61
L2	13,5	13,5	20	27
M	M20x1,5	M24x2	M39x3	M52x3
ø N	24	30	45	55
wires	6xM6	6xM10	8xM12	8xM16

Dimensions mm. (± 0,1)

## ELECTRICAL CONNECTIONS



NB.: The output signal is positive for traction loads and for calibration, and negative for compression loads.

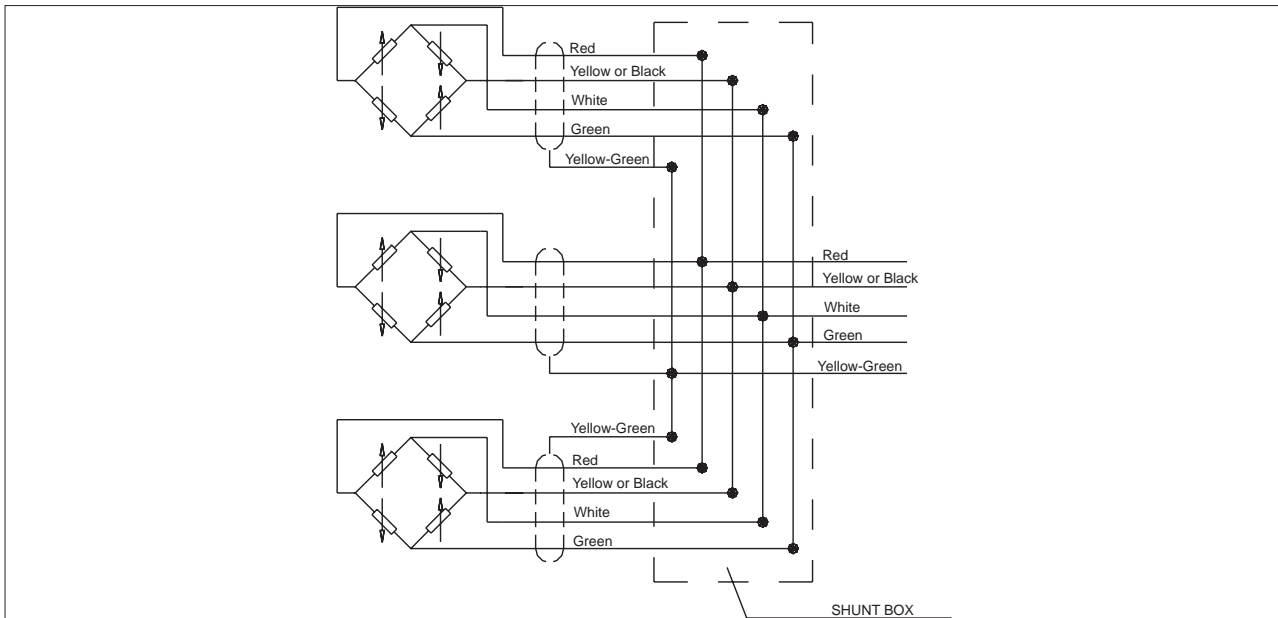


6x0.25 Screened cable

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

\* The screen is isolated from the transducer body. It is recommended that the screen is connected to ground at the instrument end.

### 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

Female cable connector Grade of protection IP65  
 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  
 Other lengths

**CON 300**  
**C08W**  
**C15W**  
**C25W**  
**C30W**  
**consult factory**

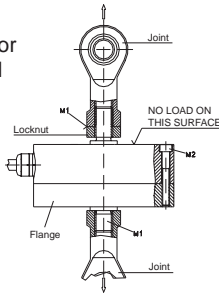
Cable colour code	
Conn.	wires
A	Red
B	Black
C	White
D	Green
E	Blue
F	Orange

Flange and ball joint

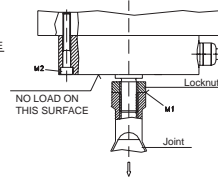
**see table**

## APPLICATION NOTES

Flange mounting for suspended loads



Wall mounting



Nominal load	M1* (Nm)	M2** (Nm)	Flange code	Joint code	Locknut recommended
100 - 700	60	20	FLA700	SND020	-
1000 - 2000	300	20	FLA700	SND020	-
3500 - 5000	500	90	FLA701	SND024	M24x2-h=10
7000 - 10000	2500	125	FLA702	SND040	M39x3-h=16
20000	4500	300	FLA704	SND060	M52x3-h=20

\* Recommended tightening torque between ball-joint and locknut or flange

\*\*Recommended tightening torque with UNI5931 screws with 10.9 resistance class according to UNI3740

## ORDER CODE

Load cell

TC

MEASUREMENT RANGE (Kg)	
0 - 100	<b>K1C</b>
0 - 200	<b>K2C</b>
0 - 350	<b>K3.5C</b>
0 - 500	<b>K5C</b>
0 - 700	<b>K7C</b>
0 - 1000	<b>K1M</b>
0 - 2000	<b>K2M</b>
0 - 3500	<b>K3.5M</b>
0 - 5000	<b>K5M</b>
0 - 7000	<b>K7M</b>
0 - 10000	<b>K10M</b>
0 - 20000	<b>K20M</b>

ELECTR. CONNECTIONS	
6x0,25 5m screened cable	<b>F</b>
VPT02A10-6PT2 Connect.	<b>C</b>

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

SENSITIVITY	
<b>S</b>	2mV/V Version
<b>R</b>	3mV/V Version (range 500...5000Kg)only

Ex.: TC - K10M - F - S

TC load cell, measurement range 0 - 10.000 kg, cable connection and 2mV/V standard sensitivity.

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