GEFRAN

CT (A - B - C - D)
TOROIDAL FORCE TRANSDUCER FOR INDUSTRIAL APPLICATIONS


CE

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 desi-gned for use in polymer processing in applications where it is required to measure the reaction force produced by the extru-sion pressure on the gearbox along the axis of the screw. They measure a force whose value is indicative of the extru-sion 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 Histeresis, Repeatibility	< ± 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 Sensitivity compensated Zero range Calibration	< ± 0,02% FSO°C < ± 0,02% FSO°C < ± 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

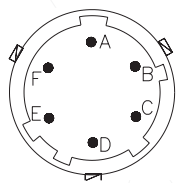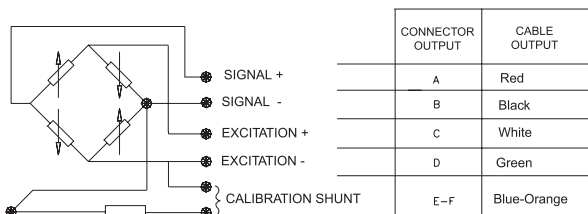* The exact value is indicated on the instrument nameplate.

MECHANICAL DIMENSIONS

Load introduction direction

Load introduction surface
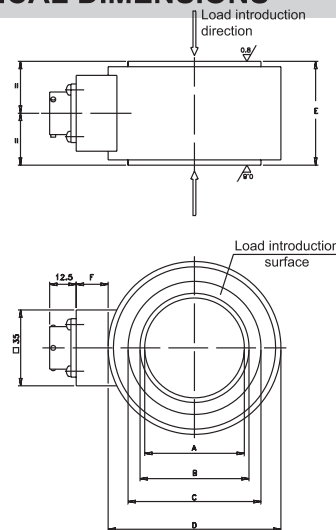
Dimensions mm. (± 0,1)

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			
	750		72	84,7			
CTC	500	94	102,8	112,1	140	60	45
	750		100,2	114,2			
	1000		97,9	116,5			
	1500		95,3	118,6			
CTD	1500	110	124,1	146,2	196	60	80
	2000		120,1	149,6			
	2500		115,8	152,9			
	3000		111,4	156			

ELECTRICAL CONNECTIONS

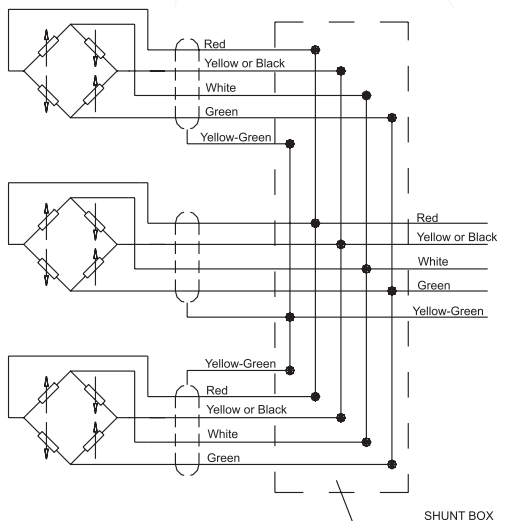|	CONNECTOR OUTPUT	CABLE OUTPUT
SIGNAL +	A	Red
SIGNAL -	B	Black
EXCITATION +	C	White
EXCITATION -	D	Green
CALIBRATION SHUNT	E–F	Blue-Orange

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 stessed 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   **C08W**
6-pin connector with 15m (50ft) cable   **C15W**
6-pin connector with 25m (75ft) cable   **C25W**
6-pin connector with 30m (100ft) cable   **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.