Load Cells
Force Transducers

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GEFRAN

Our Know how,
Your Solution.

Gefran products

CU - TU load cells

In addition to automation components, systems, and drives, Gefran designs and produces sensors that measure main physical variables: displacement, temperature, humidity, industrial pressure and force. Gefran load cells and force transducers are known for their precision, strength, and reliability.

They have been developed for all applications that demand extremely precise measurement: automation, industrial control and weighing, robotics and precision weighing.

This product family includes cells for industrial applications, with measurement range from 50 Kg to 50,000 Kg, and precision weighing cells with measurement range from 6 Kg to 100 Kg, in accordance with OIML IR60 (Organization International de Metrologie Lègale International Recommendation n° 60), used, for example, in the pharmaceutical industry.

The family also includes specific force transducers for plastic film processing and textile/knitting applications, and small cells that are ideal for robotics.

OD load cell

Gefran load cells and force transducers, in various shapes and capacities, are built (depending on their intended applications) of stainless steel or aluminium, with protection level from IP65 to IP68, and with many classes of precision.

As measuring principle, the cells detect strain generated by compression, tension/compression, cutting, double cutting, and bending, converting it by means of glued strain-gauge technology.

The strain gauges are bonded to form a Wheatstone bridge that converts the measured strain into an easily managed electrical signal.

Load Cells

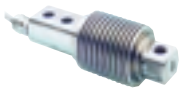
OC	OD	CU	MODEL
C1* C2* C3*	C1* C2* C3*	0.2%	CLASS OF ACCURACY (*according to OIML R60)
1000 2000 3000	1000 2000 3000	-	DIVISIONS
5...100Kg	6...15Kg	50...1000Kg	NOMINAL FULL SCALE LOAD (Ln)
2mV/V	2mV/V	2mV/V	NOMINAL SENSITIVITY AT Ln (FSO)
<±10	<±10	<±0.2	SENSITIVITY TOLERANCE AT Ln % FSO
C1 <±0.05 C2 <±0.03 C3 <±0.03	C1 <±0.05 C2 <±0.03 C3 <±0.03	<±0.2	COMBINED ERROR % FSO (Linearity/Histeresis/Repeatibility)
C1 <±0.05 C2 <±0.025 C3 <±0.017	C1 <±0.05 C2 <±0.025 C3 <±0.017	<±0.06	CREEP % FSO (After 30 mins at Ln)
<±10	<±10	<±1	ZERO BALANCE % FSO
-	-	-	CALIBRATION SIGNAL % FSO
			THERMAL DRIFT WITHIN THE COMPENSATED RANGE % FSO °C
<±0.003/0.0015/0.0015	<±0.003/0.0015/0.0015	<±0.01	Sensitivity
<±0.009/0.006/0.004	<±0.009/0.006/0.004	<±0.01	Zero
-	-	-	Calibration
<±0.05 <±0.03 <±0.03	<±0.05 <±0.03 <±0.03	-	ERROR FOR ECCENTRIC LOAD % FSO ON 400 x 400 mm PLATFORM (with 1/3Ln)
430Ω	430Ω	350Ω	NOMINAL INPUT RESISTANCE
350Ω	350Ω	350Ω	NOMINAL OUTPUT RESISTANCE
>10GΩ	>10GΩ	>10GΩ	ISOLATION RESISTANCE
10V	10V	10V	NOMINAL SUPPLY VOLTAGE
15V	15V	15V	MAXIMUM SUPPLY VOLTAGE
-10...+40°C	-10...+40°C	-10...+50°C	COMPENSATED TEMPERATURE RANGE
-20...+50°C	-20...+50°C	-20...+60°C	OPERATING TEMPERATURE RANGE
-25...+70°C	-25...+70°C	-30...+80°C	STORAGE TEMPERATURE RANGE
100%Ln	100%Ln	130%Ln	PERMITTED LOAD
150%Ln	150%Ln	150%Ln	MAXIMUM APPLICABLE LOAD
-	>300%Ln	>300%Ln	RUPTURE LOAD
<0.5mm	<0.3mm	<0.2mm	MAXIMUM ELASTIC DEFORMATION AT Ln
Test OIML R60	Test OIML R60	IP67	CLASS OF PROTECTION
			ELECTRICAL CONNECTIONS
-	-	-	Connector
4x0,25/1m	4x0,25/1m	4x0,25/5m	Screened cable
Aluminium	Aluminium	Stainless steel	ELASTIC ELEMENT MATERIAL

Load Cells



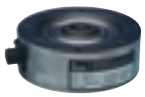
MODEL	CM	TU	TC
CLASS OF ACCURACY (*according to OIML R60)	0.2%	0.2%	0.2%
DIVISIONS	-	-	-
NOMINAL FULL SCALE LOAD (Ln)	100...50000Kg	50...1000Kg	100...20000Kg
NOMINAL SENSITIVITY AT Ln (FSO)	2mV/V	2mV/V	2mV/V
SENSITIVITY TOLERANCE AT Ln % FSO	<±0.2	<±0.2	<±0.2
COMBINED ERROR % FSO (Linearity/Histeresis/Repeatibility)	<±0.2	<±0.2	<±0.2
CREEP % FSO (After 30 mins at Ln)	<±0.06	<±0.06	<±0.06
ZERO BALANCE % FSO	<±1	<±1	<±1
CALIBRATION SIGNAL % FSO	80±1%	-	80 ±1%
THERMAL DRIFT WITHIN THE COMPENSATED RANGE % FSO °C			
Sensitivity	<±0.01	<±0.01	<±0.01
Zero	<±0.01	<±0.01	<±0.01
Calibration	<±0.01	-	<±0.01
ERROR FOR ECCENTRIC LOAD % FSO ON 400 x 400 mm PLATFORM (with 1/3Ln)	-	-	-
NOMINAL INPUT RESISTANCE	700Ω	350Ω	700Ω
NOMINAL OUTPUT RESISTANCE	700Ω	350Ω	700Ω
ISOLATION RESISTANCE	>10GΩ	>10GΩ	>10GΩ
NOMINAL SUPPLY VOLTAGE	10V	10V	10V
MAXIMUM SUPPLY VOLTAGE	15V	15V	15V
COMPENSATED TEMPERATURE RANGE	-10...+50°C	-10...+50°C	-10...+50°C
OPERATING TEMPERATURE RANGE	-20...+60°C	-20...+60°C	-20...+60°C
STORAGE TEMPERATURE RANGE	-30...+80°C	-30...+80°C	-30...+80°C
PERMITTED LOAD	130%Ln	130%Ln	130%Ln
MAXIMUM APPLICABLE LOAD	150%Ln	150%Ln	150%Ln
RUPTURE LOAD	>300%Ln	>300%Ln	>300%Ln
MAXIMUM ELASTIC DEFORMATION AT Ln	<0.2mm	<0.2mm	<0.2mm
CLASS OF PROTECTION	IP67	IP67	IP67
ELECTRICAL CONNECTIONS			
Connector	VPT02A10-6PT2	-	VPT02A10-6PT2
Screened cable	6x0,25/5m	4x0,25/5m	6x0,25/5m
ELASTIC ELEMENT MATERIAL	Stainless steel	Stainless steel	Stainless steel

Load Cells



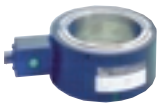
CB	SB	SH	MODEL
C1* C2* C3*	D1*	D1*	CLASS OF ACCURACY (*according to OIML R60)
1000 2000 3000	1000	1000	DIVISIONS
20...200Kg	500...5000Kg	500...10000Kg	NOMINAL FULL SCALE LOAD (Ln)
2mV/V	3mV/V	2mV/V	NOMINAL SENSITIVITY AT Ln (FSO)
<±0,5 <±0,5 <±0,2	<±0.2	<±0.2	SENSITIVITY TOLERANCE AT Ln % FSO
C1 <±0.05 C2 <±0.03 C3 <±0.017	<±0.03	<±0.05	COMBINED ERROR % FSO (Linearity/Histeresis/Repeatibility)
C1 <±0.05 C2 <±0.025 C3 <±0.017	<±0.03	<±0.05	CREEP % FSO (After 30 mins at Ln)
<±1	<±0.5	<±1	ZERO BALANCE % FSO
-	-	-	CALIBRATION SIGNAL % FSO
			THERMAL DRIFT WITHIN THE COMPENSATED RANGE % FSO °C
<±0.006	<±0.005	<±0.005	Sensitivity
<±0.01	<±0.01	<±0.01	Zero
-	-	-	Calibration
-	-	-	ERROR FOR ECCENTRIC LOAD % FSO ON 400 x 400 mm PLATFORM (with 1/3Ln)
400Ω	350Ω	350Ω	NOMINAL INPUT RESISTANCE
350Ω	350Ω	350Ω	NOMINAL OUTPUT RESISTANCE
>5GΩ	>10GΩ	>10GΩ	ISOLATION RESISTANCE
10V	10V	10V	NOMINAL SUPPLY VOLTAGE
15V	15V	15V	MAXIMUM SUPPLY VOLTAGE
-10...+40°C	-10...+40°C	-10...+40°C	COMPENSATED TEMPERATURE RANGE
-20...+50°C	-20...+60°C	-20...+60°C	OPERATING TEMPERATURE RANGE
-25...+70°C	-30...+80°C	-30...+80°C	STORAGE TEMPERATURE RANGE
130%Ln	130%Ln	130%Ln	PERMITTED LOAD
150%Ln	150%Ln	150%Ln	MAXIMUM APPLICABLE LOAD
>200%Ln	>300%Ln	>300%Ln	RUPTURE LOAD
<0.5mm	<0.6mm	<0.7mm	MAXIMUM ELASTIC DEFORMATION AT Ln
IP68	IP66	IP66	CLASS OF PROTECTION
			ELECTRICAL CONNECTIONS
-	-	-	Connector
4x0,25/3m	4x0,25/5m	4x0,25/5m	Screened cable
Steel	Stainless steel	Steel	ELASTIC ELEMENT MATERIAL

Force Transducers



MODEL	TH	AM	CC
CLASS OF ACCURACY (*according to OIML R60)	0,2%	1%	1%
DIVISIONS	-	-	-
NOMINAL FULL SCALE LOAD (Ln)	10...100KN	5...20KN	750...1500KN
NOMINAL SENSITIVITY AT Ln (FSO)	2mV/V	2mV/V	2mV/V
SENSITIVITY TOLERANCE AT Ln % FSO	<±1	<±5	<±1
COMBINED ERROR % FSO (Linearity/Histeresis/Repeatibility)	<±0.2	<±1	<±1
CREEP % FSO (After 30 mins at Ln)	<±0.06	<±0.2	<±0.06
ZERO BALANCE % FSO	<±1	<±1	<±1
CALIBRATION SIGNAL % FSO	80±1%		80±1%
THERMAL DRIFT WITHIN THE COMPENSATED RANGE % FSO °C			
Sensitivity	<±0.02	<±0.02	<±0.02
Zero	<±0.02	<±0.04	<±0.02
Calibration	<±0.02		<±0.02
ERROR FOR ECCENTRIC LOAD % FSO ON 400 x 400 mm PLATFORM (with 1/3Ln)	-	-	-
NOMINAL INPUT RESISTANCE	700Ω	350Ω	700Ω
NOMINAL OUTPUT RESISTANCE	700Ω	350Ω	700Ω
ISOLATION RESISTANCE	>10GΩ	>10GΩ	>10GΩ
NOMINAL SUPPLY VOLTAGE	10V	10V	10V
MAXIMUM SUPPLY VOLTAGE	15V	15V	15V
COMPENSATED TEMPERATURE RANGE	-20...+50°C	-20...+50°C	-20...+50°C
OPERATING TEMPERATURE RANGE	-20...+60°C	-20...+60°C	-20...+60°C
STORAGE TEMPERATURE RANGE	-30...+80°C	-30...+80°C	-30...+80°C
PERMITTED LOAD	130%Ln	130%Ln	130%Ln
MAXIMUM APPLICABLE LOAD	150%Ln	150%Ln	150%Ln
RUPTURE LOAD	>300%Ln	>300%Ln	>300%Ln
MAXIMUM ELASTIC DEFORMATION AT Ln	<0.1mm	<0.2mm	<0.1mm
CLASS OF PROTECTION	IP65	IP65	IP65
ELECTRICAL CONNECTIONS			
Connector	VPT02A10-6PT2	-	VPT02A10-6PT2
Screened cable	-	4x0,15/2m	-
ELASTIC ELEMENT MATERIAL	Stainless steel	Stainless steel	Stainless steel

Force Transducers

		
CT	**TR**	**MODEL**
0,5%	0,5%	**CLASS OF ACCURACY** (*according to OIML R60)
-	-	**DIVISIONS**
100...3000KN	100N...2KN	**NOMINAL FULL SCALE LOAD (Ln)**
2mV/V	2mV/V	**NOMINAL SENSITIVITY AT Ln (FSO)**
<±1	<±1	**SENSITIVITY TOLERANCE AT Ln % FSO**
<±0,5	<±0,5	**COMBINED ERROR % FSO** (Linearity/Histeresis/Repeatibility)
<±0.06	<±0.06	**CREEP % FSO (After 30 mins at Ln)**
<±1	<±1	**ZERO BALANCE % FSO**
80±1%	-	**CALIBRATION SIGNAL % FSO**
		THERMAL DRIFT WITHIN THE COMPENSATED RANGE % FSO °C
<±0.02	<±0.005	Sensitivity
<±0.02	<±0.01	Zero
<±0.02		Calibration
-	-	**ERROR FOR ECCENTRIC LOAD % FSO ON 400 x 400 mm PLATFORM (with 1/3Ln)**
700Ω	350Ω	**NOMINAL INPUT RESISTANCE**
700Ω	350Ω	**NOMINAL OUTPUT RESISTANCE**
>10GΩ	>10GΩ	**ISOLATION RESISTANCE**
10V	10V	**NOMINAL SUPPLY VOLTAGE**
15V	15V	**MAXIMUM SUPPLY VOLTAGE**
-20...+50°C	-10...+50°C	**COMPENSATED TEMPERATURE RANGE**
-20...+60°C	-20...+60°C	**OPERATING TEMPERATURE RANGE**
-30...+80°C	-30...+80°C	**STORAGE TEMPERATURE RANGE**
130%Ln	100%Ln	**PERMITTED LOAD**
150%Ln	300%Ln	**MAXIMUM APPLICABLE LOAD**
>300%Ln	>500%Ln	**RUPTURE LOAD**
<0.1mm	<0.5mm	**MAXIMUM ELASTIC DEFORMATION AT Ln**
IP65	IP65	**CLASS OF PROTECTION**
		ELECTRICAL CONNECTIONS
VPT02A10-6PT2	VPT02A10-6PT2	Connector
-	-	Screened cable
Stainless steel	Aluminium/Stainless steel	**ELASTIC ELEMENT MATERIAL**

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