## **GEFRAN**

### AM

# MINIATURE FORCE TRANSDUCER FOR COMPRESSION APPLICATIONS



#### Main features

• Range of measurement: from 5 to 20 kN

Accuracy class: 1%

· All stainless steel construction

Corrosion resistant

• Grade of protection: IP65 (DIN 40050)

• Small size

The AM force transducers series have been designed to measure static and dynamic compression forces.

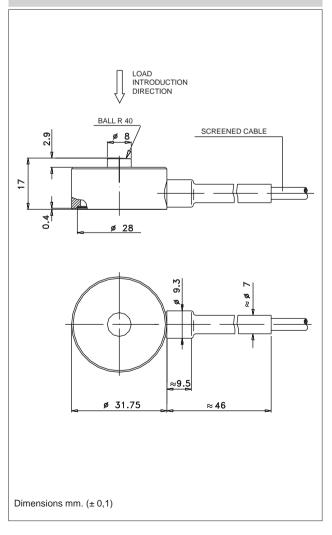
They are particularly suitable for monitoring pounding operations in compression which require a rugged transducer, insensitive to high resonance frequencies caused by non-homogeneous leads in dynamic sequences.

The accuracy and the stability are not affected by continuous cycling under harsh conditions even with dynamic loads. The small size of the AM force transducers makes them ideal for retrofitting in existing equipment.

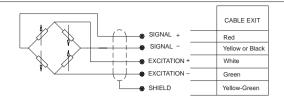
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Nominal full scale load (Ln)  Nominal output at FSO  Output tolerance at Ln  Cet 5% FSO  Combined errors: Non linearity Histeresis, Repeatibility  Creep (after 30 min. at Ln)  Zero load out of balance signal  Thermal drift in Sensitivity compensated Zero range Calibration  Nominal bridge resistance  So Ohm  Isolation resistance  Nominal supply voltage  Maximum supply voltage  Maximum temperature range  Catomensated temperature range  To V  Compensated temperature range  Auximum temperature range  Storage temperature range  Permitted static load  Maximum applicable load  Rupture load  Maximum elastic deformation at Ln  Grade of protection (DIN40050)  Electr. connections screened cable  Elastic element material  Stainless steel	Accuracy		1%		
Output tolerance at Ln  Combined errors: Non linearity Histeresis, Repeatibility  Creep (after 30 min. at Ln)  Zero load out of balance signal  Thermal drift in Sensitivity compensated Zero range Calibration  Nominal bridge resistance  Isolation resistance  Nominal supply voltage  Maximum supply voltage  Tompensated temperature range  Compensated temperature range  Storage temperature range  Permitted dynamic load  Maximum applicable load  Maximum static lateral load  Maximum elastic deformation at Ln  Grade of protection (DIN40050)  Electr. connections screened cable  V ± 1% FSO  ×± 1% FSO  ×± 1% FSO  ×± 0,2% FSO°C  ×± 0,02% FSO°C  ×± 0,04% FSO°C  ×± 0,02% FSO°C  ×± 0,04% FSO°	Nominal full scale I	oad (Ln)	520 kN		
Combined errors: Non linearity Histeresis, Repeatibility  Creep (after 30 min. at Ln)  Zero load out of balance signal  Thermal drift in Sensitivity compensated Zero range Calibration  Nominal bridge resistance  South Maximum supply voltage  Maximum temperature range  Storage temperature range  Permitted dynamic load  Maximum static lateral load  Maximum elastic deformation at Ln  Grade of protection (DIN40050)  Zero (at 1% FSO  At 10,02% FSO°C  At 10	Nominal output at I	FSO	2mV/V		
Histeresis, Repeatibility  Creep (after 30 min. at Ln)  Zero load out of balance signal  Thermal drift in Sensitivity compensated Zero range Calibration  Nominal bridge resistance  Solution resistance  Nominal supply voltage  Maximum supply voltage  Compensated temperature range  Storage temperature range  Permitted dynamic load  Rupture load  Maximum static lateral load  Maximum elastic deformation at Ln  Grade of protection (DIN40050)  Zero, 22 - 10,02% FSO°C  + 20,02% FSO°C  - 20,02% FSO°C  - 20,04% FS	Output tolerance at	t Ln	<± 5% FSO		
Zero load out of balance signal  Thermal drift in Sensitivity compensated Zero range Calibration  Nominal bridge resistance 350 Ohm  Isolation resistance > 10 GOhm  Nominal supply voltage 10 V  Maximum supply voltage 15 V  Compensated temperature range -20+50°C  Storage temperature range -30+80°C  Permitted static load 130% Ln  Permitted dynamic load 150% Ln  Rupture load > 300% Ln  Maximum static lateral load 40% Ln  Maximum elastic deformation at Ln  Grade of protection (DIN40050) IP65  Electr. connections screened cable 4x0,15/2 m.			< ± 1% FSO		
Thermal drift in Sensitivity compensated Zero range Calibration Sensitivity compensated Zero calibration Sensitivity Sensitivi	Creep (after 30 mir	n. at Ln)	< ± 0,2% FSO		
compensated range	Zero load out of ba	lance signal	< ± 1% FSO		
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  Permitted dynamic load 100% Ln  Maximum applicable load 150% Ln  Rupture load > 300% Ln  Maximum static lateral load 40% Ln  Maximum elastic deformation at Ln  Grade of protection (DIN40050) IP65  Electr. connections screened cable 4x0,15/2 m.	compensated	Zero			
Nominal supply voltage  Maximum supply voltage  Compensated temperature range  -20+50°C  Maximum temperature range  -20+60°C  Storage temperature range  -30+80°C  Permitted static load  130% Ln  Permitted dynamic load  Maximum applicable load  Rupture load  Maximum static lateral load  Maximum elastic deformation at Ln  Grade of protection (DIN40050)  Electr. connections screened cable	Nominal bridge res	istance	350 Ohm		
Maximum supply voltage  Compensated temperature range  -20+50°C  Maximum temperature range  -20+60°C  Storage temperature range  -30+80°C  Permitted static load  130% Ln  Permitted dynamic load  Maximum applicable load  150% Ln  Rupture load  >300% Ln  Maximum static lateral load  40% Ln  Maximum elastic deformation at Ln  Grade of protection (DIN40050)  Electr. connections screened cable  15 V  16 V  16 V  17 C  18 V  18 V  18 V  18 V  18 O°C  18 O	Isolation resistance	)	> 10 GOhm		
Compensated temperature range -20+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 static lateral load 40% Ln  Maximum elastic deformation at Ln < 0,2 mm  Grade of protection (DIN40050) IP65  Electr. connections screened cable 4x0,15 / 2 m.	Nominal supply vol	tage	10 V		
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 static lateral load 40% Ln  Maximum elastic deformation at Ln < 0,2 mm  Grade of protection (DIN40050) IP65  Electr. connections screened cable 4x0,15 / 2 m.	Maximum supply v	oltage	15 V		
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 static lateral load 40% Ln  Maximum elastic deformation at Ln < 0,2 mm  Grade of protection (DIN40050) IP65  Electr. connections screened cable 4x0,15 / 2 m.	Compensated temp	perature range	-20+50°C		
Permitted static load 130% Ln  Permitted dynamic load 100% Ln  Maximum applicable load 150% Ln  Rupture load > 300% Ln  Maximum static lateral load 40% Ln  Maximum elastic deformation at Ln < 0,2 mm  Grade of protection (DIN40050) IP65  Electr. connections screened cable 4x0,15 / 2 m.	Maximum temperat	ture range	-20+60°C		
Permitted dynamic load  Maximum applicable load  Rupture load  Maximum static lateral load  Maximum elastic deformation at Ln  Grade of protection (DIN40050)  Electr. connections screened cable  150% Ln  40% Ln  40% Ln  <0,2 mm  IP65  Electr. connections screened cable	Storage temperatur	e range	-30+80°C		
Maximum applicable load  Rupture load  > 300% Ln  Maximum static lateral load  Maximum elastic deformation at Ln  Grade of protection (DIN40050)  Electr. connections screened cable  150% Ln  > 40% Ln  < 0,2 mm  IP65  Electr. connections screened cable	Permitted static loa	ad	130% Ln		
Rupture load > 300% Ln  Maximum static lateral load 40% Ln  Maximum elastic deformation at Ln < 0,2 mm  Grade of protection (DIN40050) IP65  Electr. connections screened cable 4x0,15 / 2 m.	Permitted dynamic	load	100% Ln		
Maximum static lateral load 40% Ln  Maximum elastic deformation at Ln < 0,2 mm  Grade of protection (DIN40050) IP65  Electr. connections screened cable 4x0,15 / 2 m.	Maximum applicat	ole load	150% Ln		
Maximum elastic deformation at Ln < 0,2 mm  Grade of protection (DIN40050) IP65  Electr. connections screened cable 4x0,15 / 2 m.	Rupture load		> 300% Ln		
Grade of protection (DIN40050)  Electr. connections screened cable  4x0,15 / 2 m.	Maximum static la	teral load	40% Ln		
Electr. connections screened cable 4x0,15 / 2 m.	Maximum elastic de	eformation at Ln	< 0,2 mm		
-, -, -, -, -, -, -, -, -, -, -, -, -, -	Grade of protection	(DIN40050)	IP65		
Elastic element material Stainless steel	Electr. connections	screened cable	4x0,15 / 2 m.		
	Elastic element mate	erial	Stainless steel		

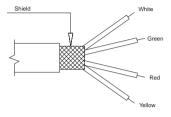
## **MECHANICAL DIMENSIONS**



#### **ELECTRICAL CONNECTIONS**

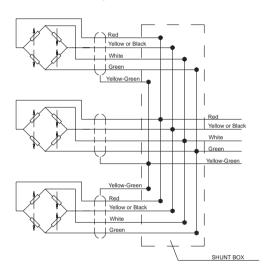


#### 4x0.25 Screened cable



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

#### Cells connected in parallel



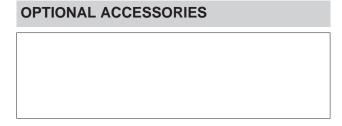
In systems that use several cells, the parallel connection automatically sums the loads on each individual cell.

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 stessed beyond its maximum rating under any load condition.

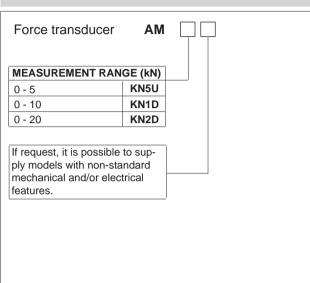
#### **CONVERSION TABLE**

N	Lb	
9.807	2.205	
1	0.225	
4.448	1	
	9.807	

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



#### **ORDER CODE**



Ex.: AM - KN5U

AM force transducer with range of measurement 0 - 5 kN.