



**Main features:**

- Direct measurement of surface strain
- With integrated digital amplifier
- Quick and easy non-destructive assembly
- High accuracy and linearity
- Ideal for use on presses, injection-moulding and die-casting machines
- One system for many different tie bar diameters (25...250mm)
- Dynamic applications
- Ideal for online monitoring of clamping force

The strain gauge sensor GE1029-A measure the surface-strain directly at the mounting location in the same quality as bonded strain gages. The integrated variable digital amplifier amplifies the signal on the spot, avoiding EMC problems. The sensor does not have to be recalibrated between remove and re-installation. The press-on technology, developed by Sensormate AG, presses the strain gauges under the stainless protective film so strongly against the surface to be measured that frictional contact occurs.

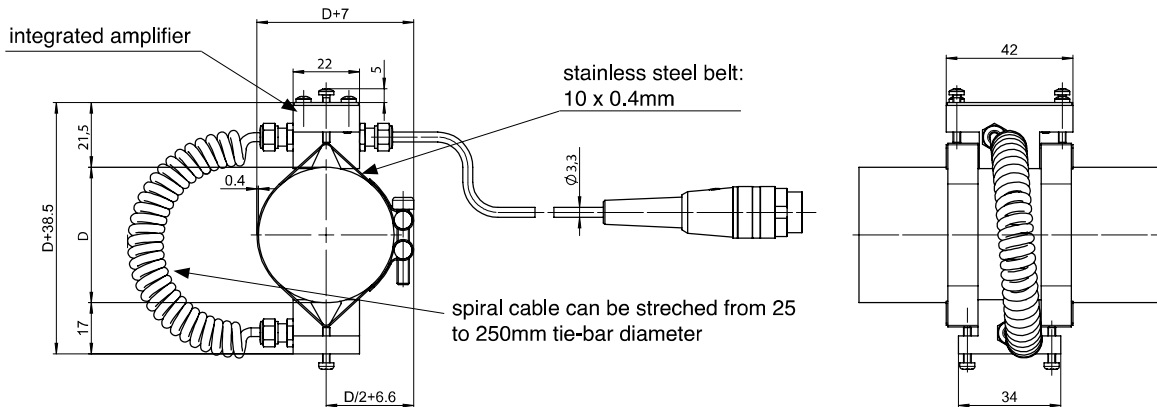
The sensor is mounted using stainless steel straps, is non-destructive, very fast and simple. For each tie-bar diameter outside tolerance of  $\pm 2.5\text{mm}$  a different pair of steel straps is required. The sensor can not be overloaded. The GE1029-A sensors require a cyclic reset.

**TECHNICAL DATA**

Strain gauge type	Foil (GF 2.0)
Measuring range	+ 1000 $\mu\epsilon$
Sampling rate	4 kHz
Output rate	4 kHz
Low-pass filter	500 Hz
Output signal (0...+100% FS)	+0...+10VDC,+1...+10VDC
Noise	< 25mV
Accuracy	< $\pm 0.5\%$ FS
Accuracy of zero point	< $\pm 0.15\%$ FS (typ) < $\pm 0.25\%$ FS (max)
Linearity	< $\pm 0.5\%$ FS
Hysteresis	< $\pm 0.2\%$ FS
Repeatability	< 0.1% FS
Output resistance	5 k $\Omega$
Reset time	> 25ms
Reset voltage	16...30VDC
Supply voltage	16...30VDC
Supply current	< 30mA
Inverse polarity protection	YES
Accidental short-circuit protection	YES
Operating temperature range	-20...70°C
Storage temperature range	-20...70°C
Overload capability	indefinite (offset occurs)
Protection class	IP64
EMC	2014/30/EU
Case material	Anodized aluminium
Weight, including cable	150g

## DIMENSION

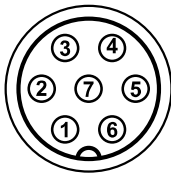
Installation requirements	
Press-on torque (M4 screws)	2.0 Nm
Surface installation spot	N7



Dimension in mm

## ELECTRICAL CONNECTION

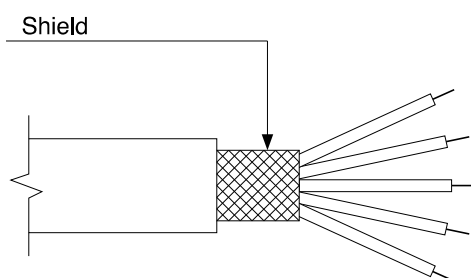
### Option: C



Option C with connector	Function
1	Power (20...28VDC)
2	n.c.
3	Power ground
4	Reset
5	Signal output
6	Signal ground
7	Power ground

### Option: O

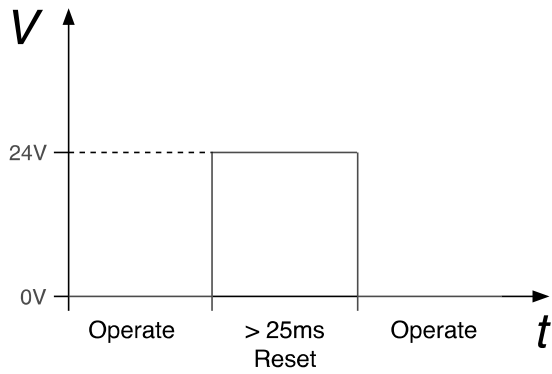
PUR screened cable (standard); 5 x 0.09 mm $\varnothing$ ;  $\varnothing$  3.3mm



Option O with open leads	Function
white	Power (20...28VDC)
braun	Power ground
grey	Reset
black	Signal output
blue	Signal ground

Stretching (positive strain) gives positives signal.

## RESET FUNCTION



Reset control input	Reset	16...30V
	Operate	0V / open
Minimum reset pulse duration	>25ms	

## ORDER CODE

Tie-bar sensor with amplifier

GE1029-A -  -  -  -

Signal output	
0...10 VDC	0
1...10 VDC	1

Calibration	
0500 $\mu\epsilon$	0500
0750 $\mu\epsilon$	0750
1000 $\mu\epsilon$	1000

Cable length	
0.5 m	005
3 m	030
5 m	050
10 m	100

Connection	
Cable with open leads	O
Cable with connector	C

Example: GE1029-A - 0 - 0500 - 030 - C

Tie-bar sensor with amplifier GE1029-A, Output signal = 0...10VDC, Calibration = 500 $\mu\epsilon$ , Cable length = 3m, Cable with connector

## ACCESSORIES

Description	Order code	Code	Description	Order code	Code
Stainless steel belt (in pairs) (tie-bar diameter 25...148 mm)			Stainless steel belt (in pairs) (tie-bar diameter 150...250 mm)		
25 mm	GB-29-025	F062437	150 mm	GB-29-150	F060628
28 mm	GB-29-028	F062438	152 mm	GB-29-152	F071309
30 mm	GB-29-030	F062439	155 mm	GB-29-155	F061256
35 mm	GB-29-035	F062009	160 mm	GB-29-160	F061989
38 mm	GB-29-038	F062440	165 mm	GB-29-165	F062383
40 mm	GB-29-040	F062441	170 mm	GB-29-170	F065814
45 mm	GB-29-045	F062431	175 mm	GB-29-175	F065815
50 mm	GB-29-050	F062432	180 mm	GB-29-180	F061259
53 mm	GB-29-053	F062442	185 mm	GB-29-185	F065816
55 mm	GB-29-055	F061809	190 mm	GB-29-190	F061257
56 mm	GB-29-056	F062443	195 mm	GB-29-195	F066931
58 mm	GB-29-058	F062444	200 mm	GB-29-200	F062108
60 mm	GB-29-060	F062011	205 mm	GB-29-205	F071306
62 mm	GB-29-062	F064215	210 mm	GB-29-210	F060009
64 mm	GB-29-064	F062445	215 mm	GB-29-215	F064224
65 mm	GB-29-065	F062446	220 mm	GB-29-220	F061475
68 mm	GB-29-068	F071302	225 mm	GB-29-225	F069667
70 mm	GB-29-070	F061400	230 mm	GB-29-230	F061255
75 mm	GB-29-075	F062094	240 mm	GB-29-240	F060626
80 mm	GB-29-080	F065817	250 mm	GB-29-250	F071322
82 mm	GB-29-082	F064216			
85 mm	GB-29-085	F061258			
90 mm	GB-29-090	F065839			
92 mm	GB-29-092	F064247			
95 mm	GB-29-095	F061251			
100 mm	GB-29-100	F062450			
105 mm	GB-29-105	F061474			
110 mm	GB-29-110	F062284			
115 mm	GB-29-115	F061253			
118 mm	GB-29-118	F064214			
120 mm	GB-29-120	F065834			
125 mm	GB-29-125	F062408			
127 mm	GB-29-127	F062453			
130 mm	GB-29-130	F061252			
132 mm	GB-29-132	F064219			
135 mm	GB-29-135	F061401			
140 mm	GB-29-140	F061988			
145 mm	GB-29-145	F062435			
148 mm	GB-29-148	F071273			

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



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