

**Main features:**

- Complete system for the simultaneous strain-measurement on up to four tie bars
- Direct display of the measured values in $\mu\Omega$, kN or t
- Quick and easy non-destructive assembly
- High accuracy and linearity in tension and pressure (like bonded strain gauges)
- Ideal for use on presses, injection-moulding and die-casting machines
- One system for many different tie bar diameters (25...400mm)
- Dynamic applications
- 4- channel digital monitor DU4D
- USB connection for tie bar adjustment software (optional)
- Analog output 0...10VDC (optional)
- Very compact and easy to use system

The DU-4D Monitor is an industrial signal amplifier and monitor for strain gauges and strain sensors. It has integrated functions for external and internal (automatic) reset. Force measurement on tie bars displays in kN or tons and diameter input. Strain measurement displays in $\mu\epsilon$ (micro strain). Direct switch units and change parameters. The handling is very user-friendly, the robust aluminium housing ideal for harsh environments.

The strain gauge sensor GE1029 measure the surface-strain directly at the mounting location in the same quality as bonded strain gages. 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 does not have to be recalibrated between remove and re-installation.

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 GE1029 sensors require a cyclic reset.

TECHNICAL DATA*

Strain gauge type	Foil (GF = 2.0)
Measuring range	$\pm 1000 \mu\epsilon$
Accuracy	$<\pm 0,5\% \text{ FS}$
Linearity	$<\pm 0,5\% \text{ FS}$
Hysteresis	$<\pm 0,2\% \text{ FS}$
Repeatability	$< 0,1\% \text{ FS}$
Supply voltage (DU-4D)	85...260VAC / 50-60Hz, 0,5A
Operating temperature range	0 bis $+65^\circ\text{C}$
Storage temperature range	-20 bis $+70^\circ\text{C}$

* Further specifications takes from data sheets „GE1029“ and „DU-4D“.

APPLICATION

System containing

- 4- channel digital monitor DU-4D
- 4 pair GE1029 strain sensors incl. cable
- Carrying case



External dimensions of carrying case	500 x 330 x 210 mm
Weight	approx. 9,5 kg

ORDER CODE

System for tie-bar measurement
with 4- channel monitor

GE1029 - - - - - X X X -

Numbers of sensors	
4 pair	04

Monitor type	
DU-4D	4D

Bridge	
2/4 bridge	2

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

Steel belts	
<i>Always use XXX. (The stainless steel belts must be ordered separately as accessories and may not be listed in the order code.)</i>	XXX






Monitor features	
USB-Output for tie bar adjustment- software	USB
US-tons instead tons	UST
Analog output: 0...10 VDC (only without USB-Output)	ANO
No features	OOO

Example: GE1029 - 04 - 4D - 2 - 050 - 132 - OOO

4 pair GE1029 strain sensors, 4- channel digital monitor DU-4D, 2/4 bridge, cable length = 5m, no monitor features

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...400 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	255 mm	GB-29-255	F061246
85 mm	GB-29-085	F061258	260 mm	GB-29-260	F062447
90 mm	GB-29-090	F065839	265 mm	GB-29-265	F062448
92 mm	GB-29-092	F064247	270 mm	GB-29-270	F061254
95 mm	GB-29-095	F061251	275 mm	GB-29-275	F062449
100 mm	GB-29-100	F062450	280 mm	GB-29-280	F062012
105 mm	GB-29-105	F061474	285 mm	GB-29-285	F062451
110 mm	GB-29-110	F062284	300 mm	GB-29-300	F062452
115 mm	GB-29-115	F061253	310 mm	GB-29-310	F062454
118 mm	GB-29-118	F064214	315 mm	GB-29-315	F064225
120 mm	GB-29-120	F065834	320 mm	GB-29-320	F062888
125 mm	GB-29-125	F062408	330 mm	GB-29-330	F062889
127 mm	GB-29-127	F062453	340 mm	GB-29-340	F063379
130 mm	GB-29-130	F061252	350 mm	GB-29-350	F066926
132 mm	GB-29-132	F064219	370 mm	GB-29-370	F061810
135 mm	GB-29-135	F061401	375 mm	GB-29-375	F066914
140 mm	GB-29-140	F061988	380 mm	GB-29-380	F069045
145 mm	GB-29-145	F062435	390 mm	GB-29-390	F066915
148 mm	GB-29-148	F071273	400 mm	GB-29-400	F064220

Description	Order code	Code
Power cord Typ A 	Power cord Typ A	F069672
Power cord Typ C 	Power cord Typ C	F069671
Power cord Typ D 	Power cord Typ D	F069673
Power cord Typ K 	Power cord Typ K	F069674
Power cord Typ L 	Power cord Typ L	F069670

