



**Main features:**

- Available for all Sensormate sensors (2/4 bridges)
- Direct display of the measured values in  $\mu\epsilon$ , kN or t
- High accuracy and stable reset
- Very bright displays and robust aluminum housing (IP52); Ideal for rough environments
- USB connection for tie bar adjustment software (optional)
- Analog output 0...10VDC (optional)

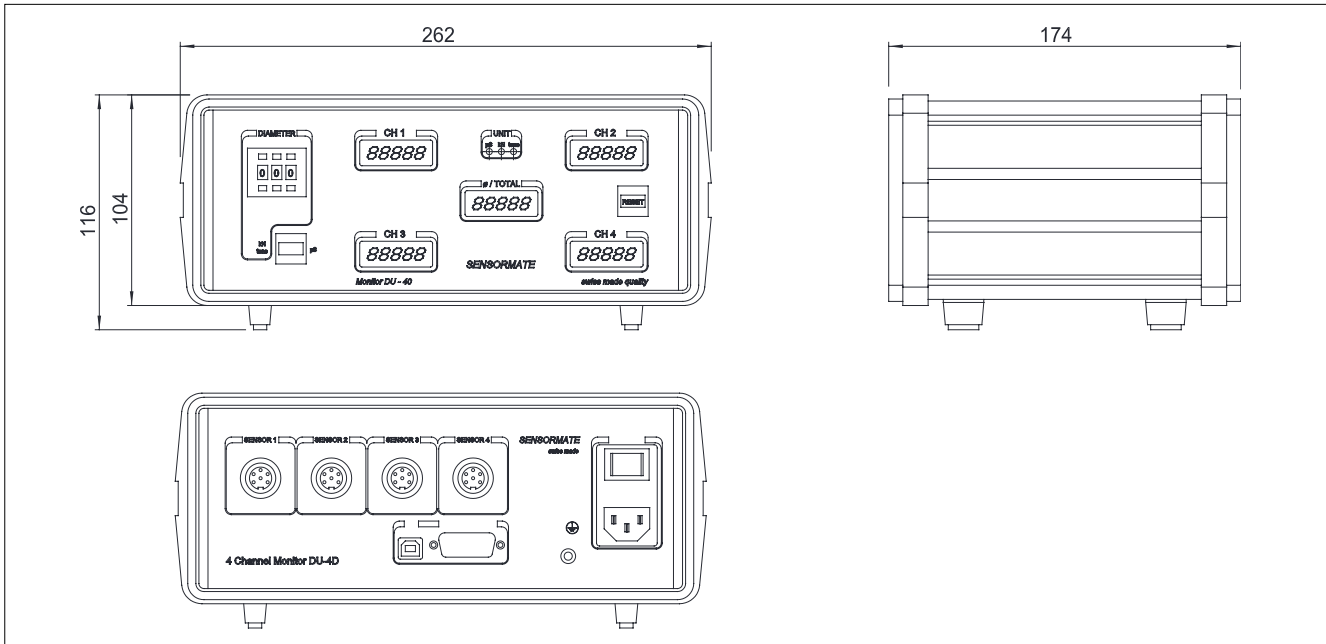
The DU-4D Monitor is an industrial signal amplifier and monitor for strain gauges and strain sensors. It has integrated functions for external reset. Force measurement on tie bars displays in kN or tons and diameter input. Strain measurement displays in  $\mu\epsilon$  (micro strain). Direct switch units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

Application: The device DU-4D is used in conjunction with tie bar strain-sensors of the Sensormate AG for the control of the clamping force on presses, injection-moulding and die-casting machines. Ideal to retrofit on existing machines.

**TECHNICAL DATA**

Input Bridge resistance	120...1000 $\Omega$
Signal input range (FS)	0.1...1mV/V
Resolution ADC	16-Bit
Resolution DAC	16-Bit (only if ANO)
Sampling rate	60Hz
Output rate	5Hz
Display refresh	100Hz
Output signal	Display ( $\pm$ 9999 digit, 4 channel & average channel) 0...10VDC (ANO)
Noise	$\leq$ 1 digit, $<$ 20mV (only if ANO)
Accuracy	$<$ $\pm$ 0.5% FS
Accuracy of zero point	$\leq$ 1 digit, $<$ 20mV (only if ANO)
Linearity	$<$ $\pm$ 0.5% FS
Response time of the alarm	$>$ 25ms
Reset time	$>$ 200ms
Supply voltage	85...260VAC, 50/60 Hz ( $\pm$ 5%)
Supply current	$<$ 200mA
Inverse polarity protection	Yes
Accidental short-circuit protection	Yes
Operating temperatur range	0...+65 $^{\circ}$ C
Storage temperatur range	-40...+80 $^{\circ}$ C
Temperature coefficient at 10 $^{\circ}$ C	$<$ 0.1 (0.05 typical)
Protection class	IP54
EMC	2014/30/EU
Case material	Aluminium
Weight	2450g

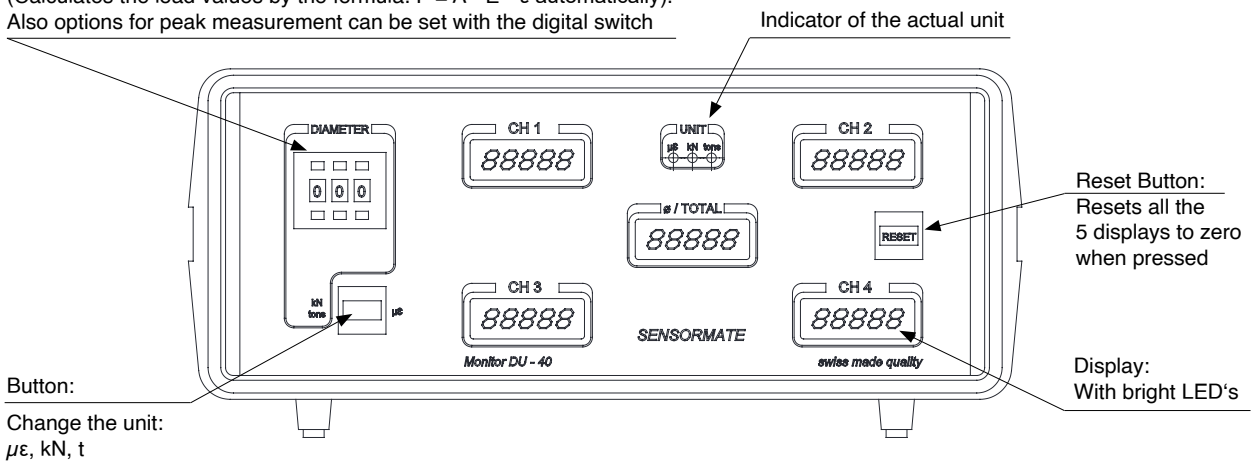
## DIMENSIONS



Dimensions in mm

## FACEPLATE DESCRIPTION

Digital switch to set the tie bar diameter  
(Calculates the load values by the formula:  $F = A * E * \epsilon$  automatically).  
Also options for peak measurement can be set with the digital switch



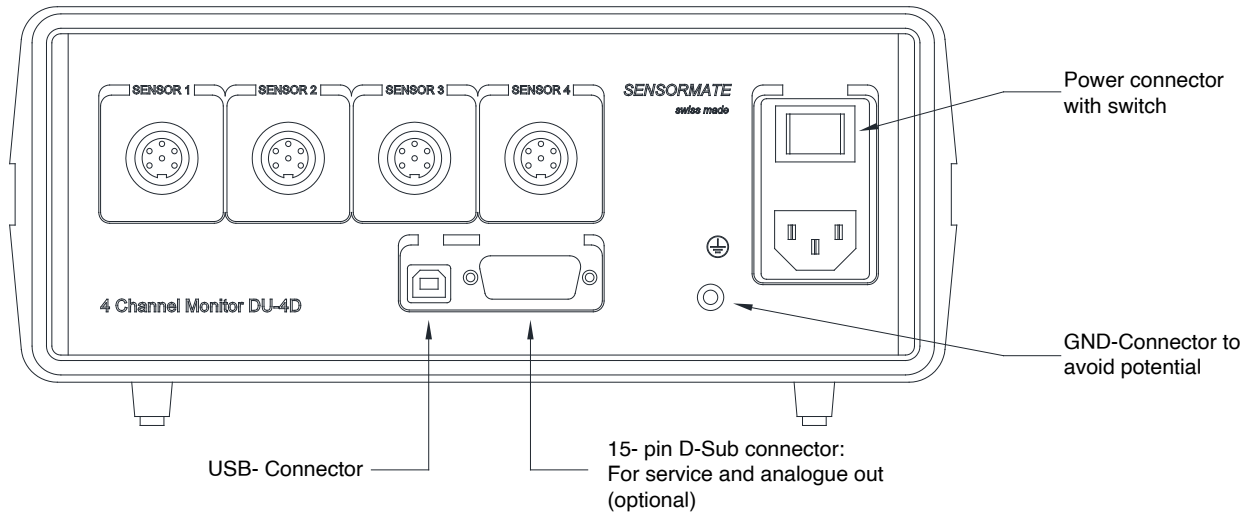
## SOFTWARE DATA (OPTION)

### Main features:

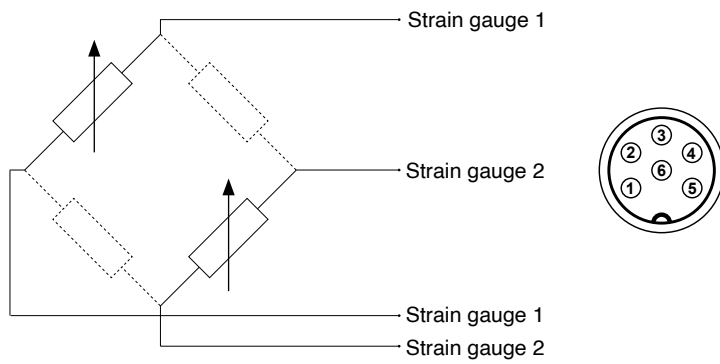
- Control the sensormate product (reset, unit, tie bar diameter, k-factor, e-modul)
- Alarm / accuracy test function (limit %, over limit, under limit, in limit)
- Display the measure values directly in  $\mu\epsilon$ , kN or tons (4 channel, single strain gauges, total force [kN], total force [tons] and average strain [ $\mu\epsilon$ ])
- Save (bmp), print and comment your measurement
- Big view for better overview at large distance



# ELECTRICAL CONNECTION



## 2/4 bridge sensor



Connector PIN	Function
1	Strain gauge 1
2	Strain gauge 1
3	n.c.
4	Strain gauge 2
5	Strain gauge 2
6	n.c.

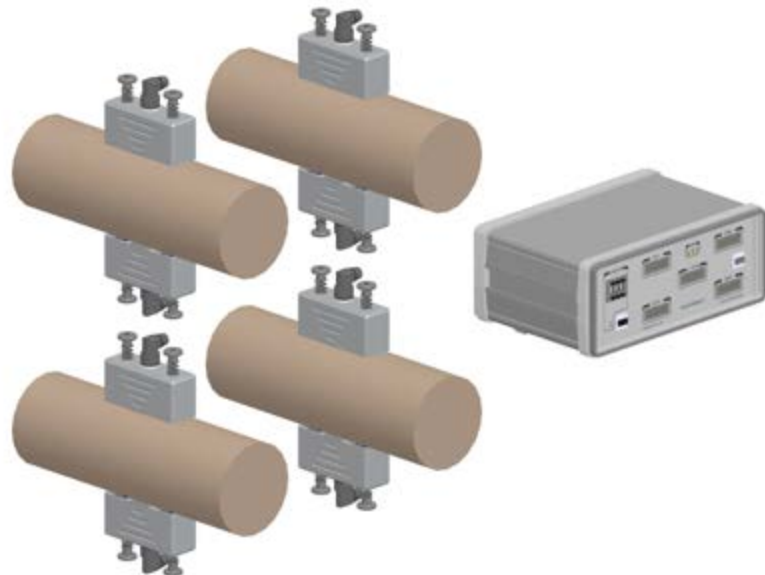
## Order code

4- Channel digital monitor

DU-4D -   -

Calibration for	
3 m cable length	<b>03</b>
5 m cable length	<b>05</b>
10 m cable length	<b>10</b>






Features	
USB-Output for tie bar adjustment-software	<b>USB</b>
US-tons instead tons	<b>UST</b>
Analog output: 0...10 VDC (only without USB-Output)	<b>ANO</b>
No features	<b>000</b>



Example: DU-4D - 05 - 000

4- Channel digital monitor DU-4D, calibrate for cable length of 5m, no features

## ACCESSORIES

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

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



**Sensormate AG**  
Steigweg 8, - CH-8355 Aadorf, Switzerland  
ph: +41(0)52-2421818 - fax: +41(0)52-3661884  
Internet: <http://www.sensormate.ch>



**GEFRAN spa**  
via Sebina, 74 - 25050 PROVAGLIO D'ISEO (BS) - ITALY  
ph. +39 030 9888.1 - fax. +39 030 9839063  
Internet: <http://www.gefran.com>