



Monocote

Electronic comparator for gauging probes





The electronic gauging unit Monocote allows to check dimensions from 1 to 4 gauging probes (inductive HBT or LVDT, digital probes or linear encoders).

Up to 8 measurement characteristics can be stored in its memory.

Three indicator lights and an analogical 7 segment display indicate the dimension position compared with the tolerance limits.



Functions

77 functions can be selected with the keyboard or by remote control through the RS 232 port or Ethernet:

- Nominal dimension, tolerance limits , dimension of the master part (reference piece)
- Calculation of the dimension from probes
- Calibration mode and calibration checking
- Duration of validity of the calibration
- Storage of over/under tolerance limits .
- Keyboard locking
- Measuring mode (maxi-mini, maxi, mini, average, median).
- Display resolution (2 to 4 decimals)
- Metric or imperial measurements (mm or inches)
- Measurement hold
- Choice between 8 measurement configurations (8 characteristics)
- Sorting of the dimension up to 8 classes
- Automatic change of measurement characteristic by moving a probe
- Measurement on a «V type» setup (calibration with a min and max master part)

Measurement modes

6 measurement modes :

- Direct measurement : The displayed value is the measured value
- Minimum : The displayed value is the minimum value recorded from the beginning of the measurement.
- Maximum : The displayed value is the maximum value recorded from the beginning of the measurement.
- Average : The displayed value is the median or the average value from the beginning of the measurement.
- Difference : The displayed value is the difference between the maximum and the minimum values from the beginning of the measurement.
- On the fly measurement : Fast measurement by searching the maximum value of the parts moving below the probe

Compatible probes

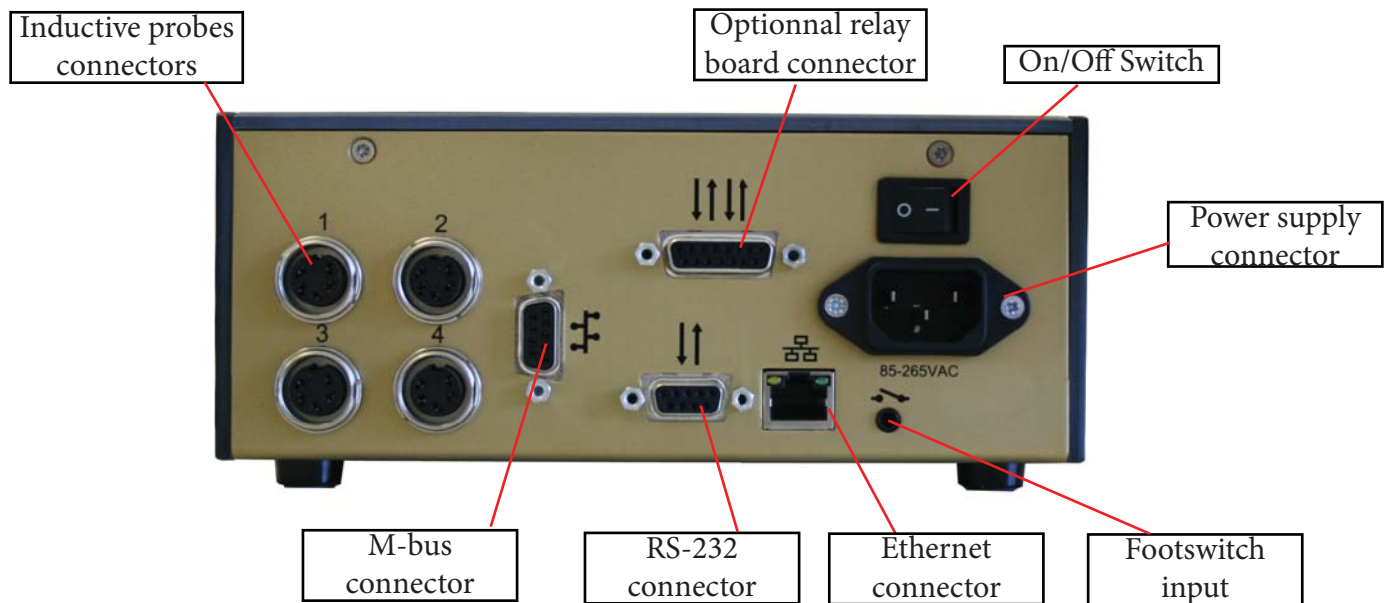
One of the advantage of the Monocote is its compatibility with different technologies of probe :

- Inductive (Metro, Tesa compatible, Mahr)
- Incremental linear encoders (Metro, Heidenhain)
- Digital (Metro)
- Capacitive (Sylvac - under development)

Thanks to its M-bus connector it is possible to connect probes extension' s boxes and to mix different technologies of probes.

Rear view example

Several versions for different technologies of probes are available. The picture below is an example of rear view with the connection facility for 4 inductive probes and 1 M-bus extension.



Mechanical dimensions



Communication Interfaces

- RS 232

A serial RS232 interface enables the measurement reading as well as to download all the parameters of the Monocote in ASCII or Modbus RTU.

- Ethernet

An Ethernet port enables the measurement reading as well as to download all the parameters of the Monocote in ASCII or Modbus TCP.

Optionnal boards

- Relay board

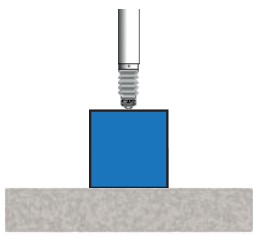
Two relays give the state of the tolerance indicator lights. The functions can be selected by remote control during dynamic measurements thanks to 4 optocoupled inputs.

- Multi-functions boards

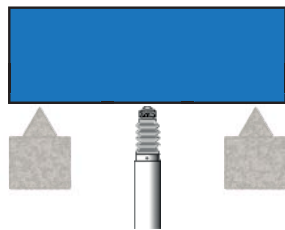
Two relays give the state of the tolerance indicator lights. Two analog outputs give a 0-10 Volts and 4-20 mA signal which indicates the dimension position compared with two programmable thresholds. The functions can be selected by remote control during dynamic measurements thanks to 4 optocoupled inputs. 1 to 8 programmable sorting classes can be defined with 8 optocoupled outputs.

Measurement examples

Simple measurement with 1 probe

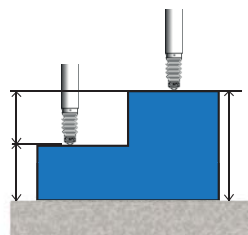


Depth

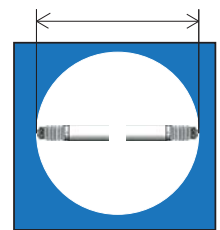


Straightness

Combined measurement with 2 probes

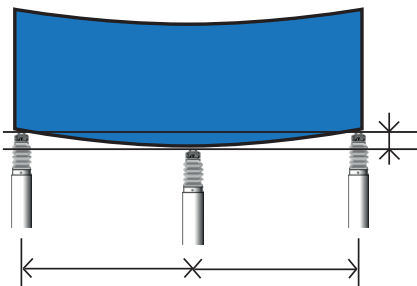


Upset

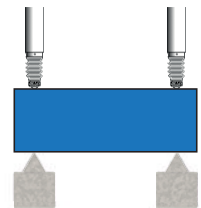


Width or bore

Combined measurement with 3 probes

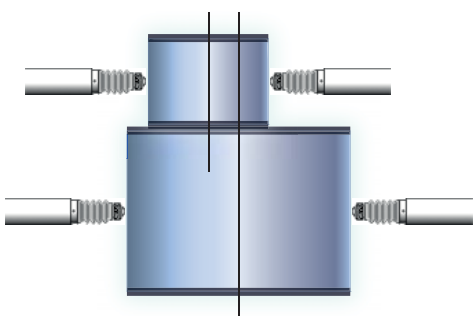


Straightness

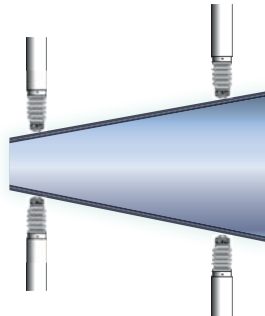


Parallelism

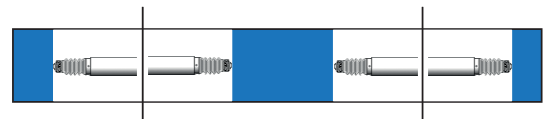
Combined measurement with 4 probes



Concentricity



Taper ratio



Center distance

Product references

Item	Reference
Monocote for 4 inductive probes and M-bus network extension	24100
Monocote for 4 digital probes	24110
Monocote for 2 Heidenhain linear encoders (TTL / SubD15) and M-Bus extension	24104
Monocote for 2 Heidenhain linear encoders (11µA & 1VPP / SubD15) and M-Bus extension	24106
Optionnal relay board	24136
Optionnal multifunction board	24146



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