

## Electronic control system for CENSOR measuring and sorting machines

The C+M control system has been designed specifically to meet the requirements for measuring and sorting roller bodies and offers a maximum of easy operation and flexibility.

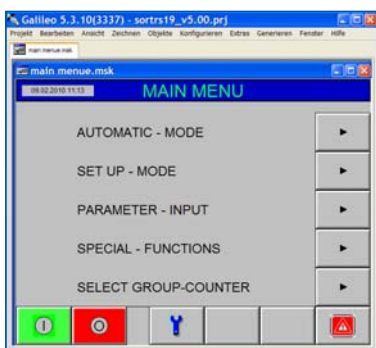


**Fully automatic control of measuring and sorting sequences**

The C+M control system comprises:

- a measuring module with a parallel Interface
- a service and display unit (rotatable) Microinnovation "GFO" touch screen color 10" screen
- 3 standard sorting programs, individually extendable

All functions are controlled by microprocessors. The C+M control system meets EN 60204 and protection class IP54. An RS232 interface permits use in a network. Measured data can be recorded by means of a printer. With preset sorting programs, the unit can be quickly retrofitted in the various menus for handling other types of rollers. Up to 18 sorting groups can be freely programmed.



**Modes**

**Manual Operation:**

For setup or startup of all moving sequences in the „JOG“ mode.

**Automatic Operation:**

The unit works fully automatically when preselecting the „AUTOMATIC“ mode. All monitoring functions are active.

**Large display for graphic reproduction**

The large 10" screen which enables graphic reproduction and the self-explanatory inquiry of measured data, such as, parts per minute, groups distribution as a bar diagram, probe values at 0.1 µm precision in the setup mode, etc.

**Optimum user communication**

A display with prompting for:

- operation
- remarks
- safety functions
- error messages

permits to react fast and selectively to current operating conditions.

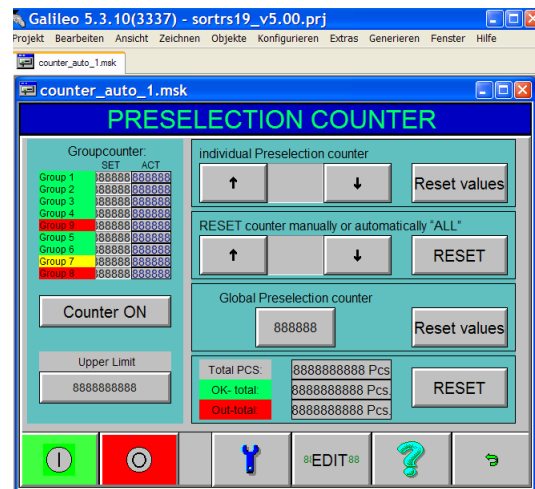
## Input and display at the «Touch-Screen»

### Input options:

- selection of language for menu prompting
- selection of various sorting programs
- 99 roller tolerances, group tolerances at 0.1  $\mu\text{m}$  - reference measures at 0.1  $\mu\text{m}$  / group control also possibly at 0.1  $\mu\text{m}$
- stepless adjustment of all drives, also in the auto mode
- input of reference value, also in the auto mode
- counter preselection and reset, also in the auto mode

### Display:

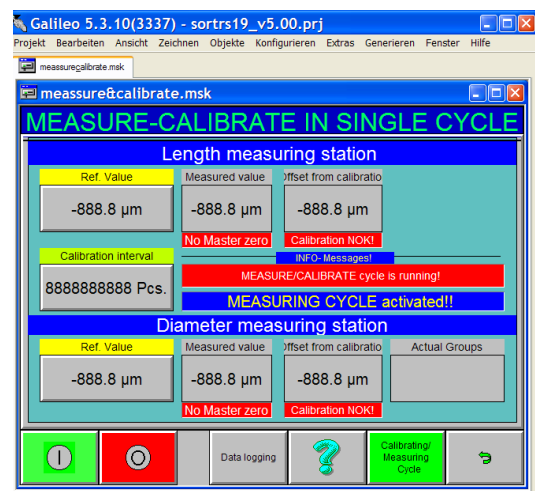
- operating condition of the machine
- result of the classification of measured values
- rating per minute, group counter with ACTUAL and NOMINAL display, as well as total counter of parts
- counter conditions - preselection, error display - text in clear - modes of operation - setup and test functions etc.
- Display of actual group tolerances and of the actual reference value
- graphical display of the piece to be measured



## Semi-automatic calibration cycle

After insertion of the „calibration master“ (= reference roller with known dimensions), calibration is carried out automatically. This ensures a calibrated value which was produced at the same speed as the measured values with fully automatic sorting.

Optionally, several calibrations may also be carried out and then compared with the so-called „Master Zero“ (= reference zero measure). (this can be also used to determine the eccentricity of the roller.)

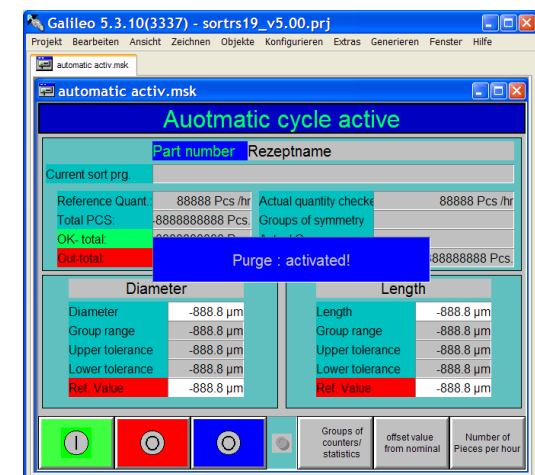


## Fully automatic sorting

Sorting occurs fully automatically:

- with a scatter of  $\pm 0.1 \mu\text{m}$  at the sorting group limits
- by a stepless control of group limits by means of the reference dimension (optional)

An automatic STOP is obtained by preset group counters, the STOP key or with an alarm message.



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