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**GTE Industrieelektronik**  
Product division measurement and sensor technology

## KMG-2000-G



Hand-held instrument for  
measuring static and dynamic forces  
at closing edges of doors and gates

in conformance with EN 12453 and EN 16005

# KMG-2000-G

According to the european standard EN 12453 – safety in use of power operated doors – determination of closing forces at closing edges on newly installed doors and gates is obligatory. Furthermore basic features of an adequate force measuring instrument are specified. KMG-2000-G was developed to fully comply with these specifications.

KMG-2000-G measures the dynamic and static forces during the specified time and displays the force vs. time graph as well as the peak force value. All measurement values are instantly evaluated and saved to the internal memory. According to the standards a triplet of individual measurement values is automatically averaged, yielding a final measurement result, which is conforming to standards.

Aside from this aspect, its compact design and its technical details make KMG-2000-G a powerful as well as convenient instrument for all kinds of force measurements linked to power operated closures (e.g. pr EN 16005).

The huge internal memory of KMG-2000-G allows you to store the results of 500 measurements (= 166 standard triplet measurements). Saved measurement data can be reloaded to the display at any time (including the graphs).

For further analysis and data administration the device is equipped with a USB interface. With the seperately available software, saved measurement data can easily be transferred from your KMG to a PC or notebook for evaluation, archiving and printing of test protocols.

- **Stand-alone one-hand instrument** (no computer required)
- **Allows quality assurance according to standard EN 13241 during production of doors and gates**
- **Easy handling**
- **Illuminated LCD-Display**
- **Graphical display of measurement values and limits specified in the standards**
- **Mechanical overload protection**
- **Battery powered** (approx. 100 hrs of operation without charging)
- **Automatic averaging**
- **Automatic start of measurement possible**
- **Internal memory for 500 measurements**
- **USB interface for data transfer**
- **Fixation attachments in various inclinations available**

## Specifications:

Current supply:	integrated rechargeable batteries (2 x 1,2V NiMH), recharging via USB
Current consumption:	20 mA
Interface:	USB
Internal memory:	500 single measurements (= 166 norm measurements)
Range of temperature:	-10 .... +60°C
Relative humidity:	20 - 90 % r.F. (not condensing)
Dimensions of contact area:	80 mm Ø, height: 50 mm
Overall dim. (incl. handle):	310 x 80 x 50 mm (l x b x h)
Weight:	1400 g
Measuring range:	25 N - 2000 N
Accuracy:	typ. < 10 N
Measurement error (max):	25 N ... 200 N: ± 10 N 200 N ... 2000 N: ± 5 % of reading
Spring (as mech. filter):	500 N/mm
Rising- / falling time:	≤ 5 ms

## Protocol- and analysis software

- Transfer of all data to a PC
- Graphical display of force / time diagram
- Analysis of the diagrams via cursor functions
- Filing and documentation of measurements
- Printing of test protocols conforming to standards
- Documentation of measurements with additional text
- Activation of measurements via PC
- Online display of diagram after each measurement
- Display of  $F_{dyn\ max}$ ,  $F_{s\ max}$ ,  $F_{end}$ ,  $t_{dyn\ max}$  of three single individual measurements and their average values

