



## Safety ensured by Pinch Force Measurement

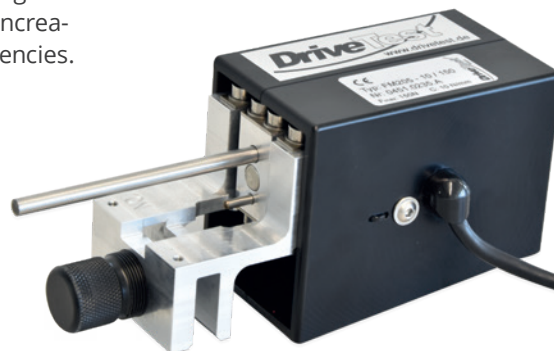
DriveTest GmbH develops and produces test systems for the worldwide use in the automotive and railway industry. As one of the pioneering companies in the field of pinch force measurement DriveTest offers a broad range of different systems for a variety of applications. Every system supports the control of applicable standards. The service comprises the consultation, maintenance and calibration of the measuring devices. Major customers in the automotive industry include Webasto, Daimler, BMW and Volkswagen.

The FM 205 is an electronic pinch force measuring system for powered window lifters. Typical use includes R+D and production testing in the automotive industry. The FM205 is characterized by its ease of use for repetitive measurements. According to the requirements of different standards a large variety of spring stiffnesses is available. It is also increasingly used by technical safety agencies.

Combining rugged construction with precision, the advanced mechanical design delivers exact measurements, even after years of service in an industrial environment. Fast and easy performance of repetitive measurements is an important aspect of standard test scenarios.

DriveTest has responded to this requirement by developing software which streamlines the measurement process and drastically reduces documentation effort. Measurements can be downloaded to a PC, analysed, exported and documented with a minimum of user interactions. Our PinchPilot software provides also interface like Microsoft® DDE or National Instruments® Labview for remote control in automated environments.

- **Applicable standards** – directive 2000/4/EG, US Standard FMVSS 118
- **Precision measurements** – uses frictionless guides and a single point (platform) load cell
- **Robust construction** – manufactured from durable aluminium for long service life in industrial environment
- **Ease of Use** – single-button operation or remote control via Microsoft® DDE Interface or National Instruments® Labview library
- **Professional software** – Pinch-Pilot offers complete functionality
- **Different spring stiffness available** – 65, 20, 10, 5, 2 N/mm (see next page)
- **Complete delivery** – all components packed in high-quality transportation case



### Sensor FM 205

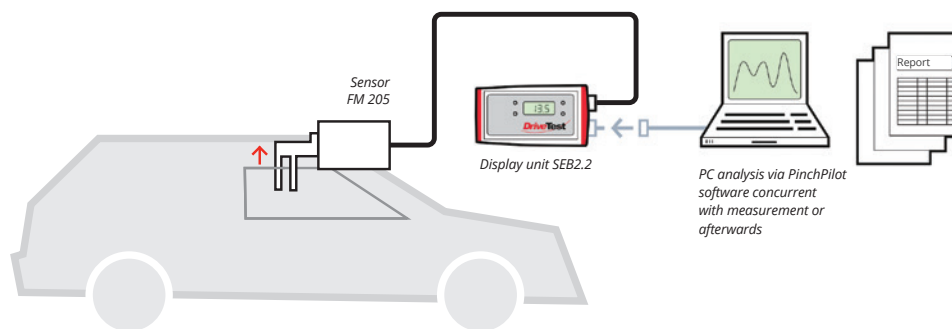
Force initiation:	one-sided
Range:	0–260 N
Accuracy:	+/- 3 N (0–100 N) or +/- 3 % (>100 N)
Available spring stiffness:	2, 5, 10, 20, 65 N/mm
Gap width:	25 mm / 30 mm
Area:	5 x 80 mm
Force sensor:	Strain Gauge Bridge
Size:	ca. 125 x 75 x 55 mm
Weight:	ca. 400 g
Temperature range:	0 ... 40 °C
Extended temperature range:	-40 ... 85 °C (not for permanent operation)

### Display unit SEB2.2

- Data logging module (Display unit SEB2.2) with LCD display, LED states, button and USB interface
- Optional PC controlled measurements
- Lithium Polymer battery
- Onboard real time clock
- Storage for approx. 100 measurements
- Sensor and PC interfaces
- Display of peak force and effective force
- Pass/fail evaluation OK/not OK

### PC Analysis Software PinchPilot

- Multi-Language (DE, EN, IT, FR, ES)
- Graphical display of force vs. time
- Calculation of relevant parameters
- Assessment with respect to different guidelines/standards
- Support for user defined standards
- Printed reports
- Data export (Excel, CSV, PDF)



### Available items:

- **FM 205-10-150**  
Spring stiffness: 10 N/mm +/- 5 %  
 $F_{min}$ : 0 N (25 mm)  
 $F_{max}$ : 150 N (5 mm)
- **FM 205-05-100**  
Spring stiffness: 5 N/mm +/- 10 %  
 $F_{min}$ : 0 N (25 mm)  
 $F_{max}$ : 100 N (5 mm)
- **FM 205-02-50**  
Spring stiffness: 2 N/mm +/- 10 %  
 $F_{min}$ : 0 N (25 mm)  
 $F_{max}$ : 50 N (5 mm)
- **FM 205-20-200**  
Spring stiffness: 20 N/mm + 10 %  
 $F_{min}$ : 0 N (25 mm)  
 $F_{max}$ : 200 N (15 mm)
- **FM 205-65-260**  
Spring stiffness: 65 N/mm + 10 %  
 $F_{min}$ : 0 N (25 mm)  
 $F_{max}$ : 260 N (21 mm)



### Accessories: Spacers

- Optional available are spacers for different gap widths (1 mm, 25 mm, 75 mm, 125 mm, 175 mm)
- Ease of use, fast mounting and dismantling, no tools required
- Robust construction, low weight
- Made from durable POM

