



150SMC and 300SMC

measuring pantographs according to EN 50206-1, EN 50206-2

The modern systems **150SMC and 300SMC** meet the state-of-the-art requirements for testing pantographs and fulfil not only the basic function of the KM13 instrument, but also allow other measurements subject to the standard EN 50206. By this system the software can be customized as requested by the customer (customizing printed reports, language versions etc.). An Ethernet interface can be connected as well, or the modern wireless technologies can be used. Within the warranty, the SMC systems are provided with the software upgrade free of charge (depending on the legislative).

Systems 150SMC and 300SMC are measuring instruments allowing standard measurements of the characteristic forces as well as other pantograph tests described in EN 50206. As default the systems facilitate:

- measuring the characteristic forces up to 150 N/300 N
- measuring the characteristic forces up to 300 N including cushion (for 300SMC)
- measuring the functionality of Automatic Dropping Device (ADD)
- checking the controlling device – OZ
- checking the highest raise
- measuring the time of raising the pantograph
- measuring the time of lowering the pantograph
- measuring the airtightness of the air equipment

Systems 150SMC and 300SMC allow also connecting external sensors to facilitate more measurements of pantographs according to EN 50206.

As accessories we offer:

- laser sensors for measuring transverse rigidity of the pantograph
- sensors for measuring the degree of freedom of the pantograph head
- 3D laser scanner measuring the contact strip profile

Selected technical parameters:

- measurement range of force: 10-150 N/300 N, resolution 0.1 N
- accuracy of force measurement: 0.5% from the measured value ± 0.1 N
- measurement range of extension: 5,000 mm, resolution 1 mm
- accuracy of extension measurement: 0.5% from the measured value ± 1 mm
- measurement range of pressure: 0-10 bar, resolution 0.01 bar
- accuracy of pressure measurement: 0.5% from the measurement range
- measurement range of time: 0-24 s, resolution 0.001 s
- accuracy of time measurement: 0.5% from the measured value
- voltage range on digital inputs for connecting EPV: 12-120 V DC
- power supply: 230 V/110 V, 50-60 Hz, max. 175 W (150SMC) / max. 350 W (300SMC)
- operating temperature range $+5^{\circ}$ to $+40^{\circ}$ C
- maximum relative humidity: 90%, non-condensing
- ingress protection IP 31
- working environment: standard indoor without external mechanical stress and corrosive effects

Communication interface: RS-232, USB, or Ethernet

The new, state-of-the-art measurement system is also offered with focus on a faster and more precise setting of the current collector. The new measurement system allows detecting additional faults on the collector which are not detectable by the older types of measurement devices. Note that a properly set and functioning collector not only minimizes the energy losses on the power transmission (catenary versus collector), but also eliminates wear of the carbon strips, or can prevent even larger failures as tearing down the catenary due to poor condition of the collector. Together all this contributes to a higher efficiency and safety in the railway transport.

