

Brake Tester (Decelerometer) CL 170

Purpose

Decelerometer CL 170 is a portable device for testing brakes by measurement of braking deceleration of brake system in road vehicles, as such as cars, trucks and motor-cycles (for testing motor-cycles is necessary a special clamp adapter, which is a standard equipment of CL 170 set). The measurements are taken in technical inspection stations.

The device CL170 measures the real acceleration in two orthogonal axis, which are situated in the plane of vehicle longitudinal symmetry. A special algorithm calculating measurement results makes possible eliminating of influence concerning angle variation from the level in vehicle by using brakes for the measurement results. The device measures also the load force on brake pedal by use of a precise strain gage force sensor.

The measurement results from braking deceleration and load force on brake pedal are stored during braking and after processing are stored in the EE-PROM memory. The decelerometer CL170 analyses additionally the measurement results as satisfactory or not. The results are shown on the display and can be transmitted by RS 232 to the PC for visualization, printout and data acquisition. The device can be equipped with a thermal printer, what makes a direct printout of measurements possible.



Specifications:

Acceleration range measurement	(+/-) 15 m/s ²
Resolution of acceleration measurement	0,1 m/s ²
Acceleration measurement error	< (+/-) 0,1 m/s ²
Maximal allowable overload capacity for acceleration sensors	100 m/s ² by maximum 0,5 ms
Force measurement range on brake pedal	-10 up to +120 daN
Resolution of force measurement	1 daN
Force measurement error	< (+/-) 1 daN
Maximal allowable overload capacity for force sensors	150 daN
Memory for measurements	up to 16
Maximal single measurement time	10 s
Measurement velocity	100 measurements / sec.
Data transmission	in series RS232
Transmission parameters	9600 bps, 8 info bits, 2 stop bits, without parity controll
Electrical safety class	
- device	III class
- power pack	II class
Safety degree	
- device	IP51
- force sensor	IP66
Operating temperature	0 - 70°C
Storing temperature	-10 ÷ 70°C

Barometric pressure	80 - 106 kPa
Power input	<80 mA without illuminating LCD <140 mA with illuminating LCD
Operating time	10 h without illumination LCD ca 6 h with illumination LCD
Power supply	Internal akupack 4,8 V or from vehicle instalation (11,4-14,0 V)
Type of akupack	4 cells NiCd (4 x 1,2 V) R6, 1100 mAh
Battery charging	Feeder 12 V/250 mA
Signalling of battery discharging	Sound signal every second
Battery charging time	14-16 h
Overall dimensions	220 mm x 115 mm x 98 mm
Weight of device	620 g
Weight of force sensor	350 g
Weight of external switch	125 g



CL 170 Set

Standard equipment

1. Decelerometer CL170

1 pcs.



CL 170 Set
with force sensor on
brake pedal



Gauge CL 170

System and equipment requirements

The CL170PC program requires Windows(R) 95 or Windows (R) 98 on PC. The computer ought to have 32 MB RAM-memory at least, a VGA card with resolution 800 x 600 at least and one free input COM1 or COM2 for communication with the decelerometer.

The CL170PC program consists of only one file: CL170PC.EXE, which has to be copied into a new folder renamed optionally (recommended folder C:\CL170). For a faster start is recommended to create an abbreviation on the screen.

The files with identified measurement results from decelerometer are automatically stored in folders corresponding to the year of measurements. The name of file is identical as the vehicle identification, which is created by decelerometer before measurement.

