TM 155.20
System for data acquisition

Description

- **measurement and illustration of frequency and phase response**
- **digital storage oscilloscope**

This system for data acquisition is an addition to the experimental unit TM 155 and makes it possible to analyse vibration signals on a PC. Frequency and phase response curves can be easily generated, saved and output using this system. The system also offers all the essential functions of a digital storage oscilloscope and can calculate the frequency spectra of the signals.

In addition to the software, a displacement sensor and a reference sensor, the system also includes an interface box. The box supplies up to three sensors, prepares their measuring signals for the PC and offers them to three analogue outputs for display.

All components of the system are ready at hand and securely housed in a storage system.

Learning objectives/experiments

- supported experiments with TM 155
  - natural vibration of a bar-type oscillator
  - damped vibration of a bar-type oscillator
  - forced vibration of a bar-type oscillator (damped and undamped resonance)
  - frequency and period time measurements

Specification

[1] data analysis for TM 155
[2] measurement, recording and analysis of frequency response and transfer function
[3] function as digital storage oscilloscope
[4] interface box with 3 sensor inputs, 3 analogue outputs
[5] 1 inductive displacement sensor (amplitude), 2 reference sensors (exciter force)
[6] GUNT software for data acquisition via USB under Windows 10

Technical data

Sensor input channels: 3
Inputs in oscilloscope mode: 2
Time basis: 10 ... 750ms/DIV
Record length: 2000 points

Displacement sensors
- measuring range: 5...10mm
- frequency range: 0...50Hz

230V, 50Hz, 1 phase
230V, 60Hz, 1 phase
120V, 60Hz, 1 phase; UL/CSA optional
LxWxH: 265x260x110mm (interface box)
LxWxH: 600x400x170mm (storage system)
Total weight: approx. 7kg

Required for operation

PC with Windows

Scope of delivery

1 interface box
1 displacement sensor
2 reference sensors (exciter force)
1 GUNT software + USB cable
1 set of cables
1 storage system
1 manual

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Required accessories

TM 155	Free and forced vibrations