PHYWE

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HANDBOOK

COBRA

Pulse Rate, Frequency and Time
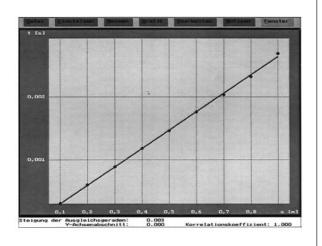

All experiments described in this handbook can be performed with the "COBRA-Interface" which has following specific features:

The versatile high performance computer interface basic unit can be extended by means of a series of supplementary modules.

- Intelligent, microprocessor controlled interface for the performance of measurements and experiments in physics, chemistry, biology and technology
- Can be connected directly to any modern computer over the standard serial interface (RS 232) without supplementary cards and without opening the computer housing
- Replaces devices such as 4-channel plotters, xyt-plotters, transient plotters, digital counters, temperature, conductivity, pH, pressure measuring devices, etc.
- No load on the computer power supply due to the interface, thus excluding computer failures due to partial power supply overloads
- High performance, adjustable direct voltage output to provide power for experiments and for programmable power outputs
- Continuous extension of the series of modules and of the software library keeps on providing new applications for the COBRA user

This handbook specially covers experiments which may be performed with the COBRA interface without measuring modules.

**This HANDBOOK can be purchased separately.
It contains the experiments listed below. Please ask for a complete equipment list. Ref No 26105**

Handbook • COBRA – Pulse Rate, Frequency and Time • No. 01273.02 • 13 described Experiments

1 Pulse counting

CBT 1.1   (12106)
Oscillation count of a pendulum during a pre-set time

CBT 1.2   (12107)
Determination of the half life of a radio nuclide with short life time

CBT 1.3   (12108)
Weakening of the Gamma radiation through lead (Half-value thickness)

2 Frequency measurement

CBT 2.1   (12109)
Measurement of the characteristic frequency of the tuning fork; Vibrations

CBT 2.2   (12110)
Verification of the acoustic Doppler effect

CBT 2.3   (12111)
Verification of the characteristic frequency of a Helmholtz resonator

CBT 2.4   (12112)
Characteristic frequencies of electrical oscillatory circuits

3 Time measurement

CBT 3.1.1 (12113)
The path time law for the force free linear motion

CBT 3.1.2 (12114)
The path time law for the uniformly accelerated motion

CBT 3.1.3 (12115)
The elastic and the inelastic collision

CBT 3.2.1 (12116)
The path time law for the propagation of sound in air (sound velocity)

CBT 3.2.2 (12117)
Measurement of sound velocity through a metal rod

CBT 3.3.1 (12118)
Measurement of the bounce time of a switch

Measurement of sound velocity through a metal rod (CBT 3.22)