

F08 Pendulum free fall and spring harmonic oscillation



F08 Pendulum, free fall and spring harmonic oscillation

Experiments:

1. The period of simple pendulum is measured by photogate timer in order to study the phenomena of isochronism.
2. The velocity of free-falling object is measured by photogate timer, so the user can estimate the acceleration of gravity.
3. The elastic coefficient of spring can be calculated on Hooke's Law

Specifications:

1. Counter weight 20gx9 / 10gx1 / 5gx2
2. Base with three adjustable legs x1
3. Aluminum Pillar with four channel l= 120cm x1
4. Aluminum Pendulum length controller x1
5. Free fall photo gate fix Slide x2
6. Top plate for free fall release, spring fixer and pendulum V slot and pulley.
7. The ball receiver with L pipe and fix device x1
8. Fishing line with thread x1
9. Iron ball with thread $\phi=25\text{mm}$ x1
10. Plastic ball with thread $\phi=25\text{mm}$ x1
11. Iron ball with thread $\phi=30\text{mm}$ x1
12. Spring 1N/2N/3N x3

Option:

1. Photogate Timer x2
2. Datalogger x1

Photogate x2