

Product Name :
Centrifugal Governor

Product Code :
TN195



Description :

Centrifugal Governor

Technical Specification :

Centrifugal Governor

Centrifugal governors use the properties of centrifugal force to control the speed of a machine. Due to centrifugal force, a rotating flyweight mass has the tendency to move away from the axis of rotation and is prevented by counteracting mechanisms.

These mechanisms are differentiated into those governors that use weights and those that use springs. Corresponding kinematics cause a deflection proportional to the speed to occur on the governor. Via an actuator, this affects the energy supplied to the machine, thereby controlling the machine's speed. The unit is perform the following experiments and investigations:

Learning Objectives / Experiments:

Kinetics and kinematics of the following centrifugal systems

Porter governor

Proell governor

Hartnell governor

Adjustment of centrifugal governors

Recording the governor characteristic curves and setting curves

Calculation of the structural design and adjustment of different governors

Specification:

How centrifugal systems work

Three different centrifugal governors: porter, proell and hartnell governors
Versatile range of variations on the governors: adjustment of the centrifugal mass, the sleeve force and the spring preload
Continuous adjustment of speed via a potentiometer
Drive with dc motor
Digital speed display
Protective cover with electronic coupling to the drive ensures safe operation

Technical Data:

DC motor
Power: 35W
Speed control: 60...400rpm
Proell governor
Sleeve mass: 3x 100g
Centrifugal mass: 2x 150g
Porter governor
Sleeve mass: 3x 100g
Centrifugal mass: 2x 400g
Hartnell governor
Centrifugal mass: 2x 400g
2 compression springs, adjustable spring preload
Measuring ranges
Speed: 0...600rpm
230V, 50Hz, 1 phase
230V, 60Hz, 1 phase; 120V, 60Hz, 1 phase
Dimensions and Weight
Length x Width x Height: 420x420x430mm
Weight: 30kg.

Naugralabequipments

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