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## **Product Name:**

Brushless DC Motor and Controller with Optical Encoder

Product Code: LABUK-AP12LAB0020



## **Description:**

Brushless DC Motor and Controller with Optical Encoder

## **Technical Specification:**

The electrical servomechanisms for DC motors are widely used nowadays in several different applications

Versatile as concerns the position controls, e.g., they are employed mostly in machine tools, where high precision relative motions between the tool and the place to be machined are required.

The board mod. G36A/EV has been designed and carried out to be an instrument necessary to the training of technicians with a high level of knowledge on DC motor controls.

Together with the external unit mod DC permanent magnets motor general notions and mathematical modelization, Electrical and mechanical characteristics.

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Detection of the characteristics of the armature
reaction of a D motor
Detection of the characteristics of an optoelectronic speed transducers.  Detection of the characteristics of a tacho generator of industrial kind
Detection of the characteristic of a potentiometric transducer of industrial kind study and calibration of the signal conditioners for:  Tachogenerator - Armature feedback
Optoelectronic transducer - Potentiometric transducer
Study of the Proportional, Integrative and Derivative controllers at different input Signal. Speed servo mechanics with DC motor DC/DC MOSFET converter for 4-quadrant operation.
Driver for the MOSFET of the DC/DC converter
PWM modulation or driving the DC/DC converter
Process response using a controller with independent

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Front panel in insulating material, with silk screen
Printed diagram of the different circuit blocks of the module and electrical diagram of each circuit
Terminals for the connections and measurements
Characteristics of the speed and conditioner transducer
Speed input range: ±4000 r.p.m. Characteristics of the position and conditioner transducer
Position input range: 0 - 360-Output voltage range: ±8 V
EXTERNAL UN IT FOR SPEED AND POSITION
The external unit would be composed by:
DC permanent magnets motor
Potentiometric position transducer

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Tachometric and optoelectronic speed Devices for load variation Characteristics of the DC permanent magnet motor: Rotation speed: 4000rpm Nominal voltage: 24V Computer Interface Multimedia software



## **Astra Scientific**

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