

RCV100



SPEED CONTROL OF ASYNCHRONOUS MOTOR STUDY UNIT



Experimental capabilities

- Analysis of the current / voltage signals of the motor according to the load.
- Study the difference between speed regulation in open loop and closed loop.
- Configuring of a variator and of a regulator based on conditions of use.
- Experimental setting of the parameters P, I and D.

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RCV100



Operating principle

The bench RCV 100 is a bench intended to achieve the practical activities of speed regulation of an induction motor. The bench has an aluminum frame with 4 feet, an electrical box including the control panel, and a mini 250W motor associated with an adjustable variable load of type brake with vented dust.

It is equipped with measuring points of motor voltage and motor current (3 current loops on box + 3 sockets of voltage measurement)

2 modes of use are possible:

"BO regulated speed": the motor is controlled in speed by the regulator in open loop (BO) associated with the variator (without slip compensation).

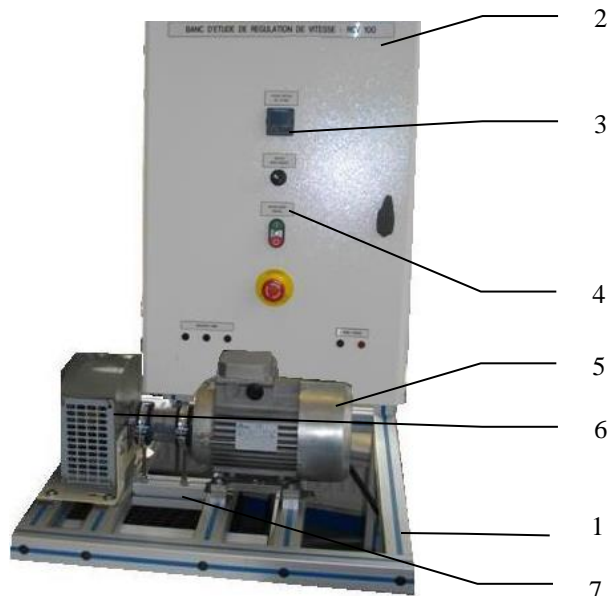
"BF regulated speed": the motor is controlled in closed loop speed (BF).

A tachometric sensor associated to a frequency converter retranscribes the speed information of the motor rotation.

In the context of use in mode "regulated / BF" the setting of the parameters P, I and D can be performed indifferently from the console or from the parameterization software supplied (USB connection on the enclosure of the machine)

The essential parameters intervening in the study of the regulation setpoint of speed, measured speed ... are transcribed via USB port towards PC (not supplied) - the operating software (including plotted graph) and the types operating files are provided.

Illustrations



Technical details

1. Chassis for benchtop in anodized aluminum on 4 feet dampers.
2. Electrical box incorporating all control elements, of power as well as data acquisition card.
3. Regulator type eurotherm 3216 or equivalent
4. Pushbutton of control and of selection for operating mode.
5. Three-phase asynchronous motor 0.25kW mini - 2850tr / min approx.
6. Brake with vented dust type MEROBEL 350 with analog control by potentiometer.
7. Inductive tachometer sensor associated with a frequency / voltage converter type analog IFM DW2003 or equivalent.

Services required

- Electrical supply: 230 Vac - 50 Hz - 16 A
- Electrical supply type: 1Ph + N + T.
- Dimensions: (LxWxH mm): 800 x 800 x 1000
- weight (Kg): 60

Note : if the equipment installation is operated by our staff, all supplies and exhaust connections required must stand at less than 2m from the machine

Documentation

- User's manual
- Pedagogical manual
- Technical documentation of the components
- Regulator Software
- Certificate of conformity CE

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