



URM-05/4Q experimental module has been especially designed to provide a comprehensive, hands-on and complete instruction in the principles and operations of four quadrants DC motor control circuits (drives) most widely used in industry nowadays for example to control the axes of CNC machines, robots, positioners, etc

The module is completely self-sufficient and doesn't require any external devices or special equipment other than a common DC power supply (+48Vdc) and the standard laboratory measuring instruments.

A special computerised device known as "**URM-SMC**" enables automatic measurements, data acquisition and graphic monitoring of the signals using any PC. Full technical bibliography complete of theory of the control circuits and hands-on experiments are provided with the module ensuring a fast and effective learning on the subject. The module can be used as easily either resting on a bench top surface or fitted on a special vertical anodised aluminium frame. **URM-05/4Q** training unit can be easily managed by external devices like PC or PLC (see our model **URM-08/PLC** and its related managing software) .

MECHANICAL FEATURES

- Silk screened anodised aluminium panel reproducing the various internal electronic circuits
- Easy mechanical mounting/removal system on vertical frame
- Execution according to international safety rules.
- Electronic circuits plastic protection
- Highly reliable bushes for safe connections
- Side ventilation holes
- Rubber feet
- Dimensions: mm 375 x 303 x 110h

GENERAL FEATURES

- Industrial electronic drives (low power) with built-in latest technology
- Main test points and controls available on panel
- Operating modes LEDs indicators
- Short circuit electrical and electronic protection
- Test points on standard safety bushes (Ø 2 mm)
- Supplied complete of motor, brake and Tacho
- External speed regulation either via any PC or PLC
- Open and closed feedback loop
- Possibility of drive managing by means of a PLC module (mod. **URM-07/PLC**) with PLC dedicated software

ELECTRONIC AND FUNCTIONAL FEATURES

- Power supply: 42 -48 Vac
- Output voltage: 48V on safety bushes (4 mm)
- Max current: 6,8A
- Power of DC motor : 250W (0,8 N/m)
- Adjustable acceleration and deceleration ramps
- Automatic sense of rotation reversing
- Dual thyristor bridge fully controlled
- Dual feed back loop (speed and current)
- Permanent-magnet DC motor with T.D (fitted on metal base)
- Efficiency: better of 85%

URM-SMC COMPUTERIZED MEASURING SYSTEM FOR DATA ACQUISITION AND GRAPHIC MONITORING

- PC printer port connection
- Resolution: 12 bits 0.025%, Linearity: 10 bits
- Sampling frequency: 100KHz
- Software running in Windows 95/98/NT environments
- Conversion time: 10 µS
- Two separate input channels (Z=1Mohm/20pF)
- Accuracy: 0.25% ± 1 LSB
- Measuring Instruments: oscilloscope, storage oscilloscope, true RMS voltmeter, spectrum analyser and transient recorder