



Four Quadrant Drive Training System

Nvis 438Q



New

Four-Quadrant Drive Training System is a highly versatile platform to understand the concept of regenerative braking in electric vehicles. Regenerative braking is a mechanism found in most hybrid and full-electric vehicles. It captures the kinetic energy from braking and converts it into the electrical power that charges the vehicle's high voltage battery.

Regenerative concept in electrical vehicle can be easily explored using four quadrant systems. A four quadrant drive is capable of controlling speed and torque in both positive and negative directions.

Nvis 438Q offers a complete solution to understand the concept and functioning of four quadrant system by operating in all the four modes. It includes PDMC motor coupled with tachogenerator for feedback and further waveform observation on Oscilloscope in forward and reverse mode. Terminals are provided for analyzing the gate signals. The product is designed in such a way that each concept can be studied differently in proper sequence with all safety norms.

Features

- Standalone operation.
- Built in PowerScope for floating measurement on any Oscilloscope.
- Control board consist of high grade FRP material to provide utmost safety to the users.
- High quality digital meters.
- Machine coupled with tachogenerator for feedback signal and waveform analysis at forward motoring and reverse motoring mode.
- Machine with Class 'F' insulation.
- Terminals provided to observe the gate signals on Oscilloscope.
- Standard BS terminals patch cords for safety.
- Designed considering all safety international standards.
- Diagrammatic representation for the ease of working.



Four Quadrant Drive Training System

Nvis 438Q

Scope of Learning

- Study of speed control of PMDC Motor using four quadrant drive in forward motoring mode and its braking mode.
- Study of speed control of PMDC Motor using four quadrant drive in reverse motoring mode and its braking mode..
- Study of four quadrant drive and its waveform analysis in both forward motoring and reverse motoring mode.

Technical Specifications

Mains Supply : Single Phase, 230VAC \pm 10%, 50Hz

Four Quadrant Drive

Voltage : 28VAC \pm 10%

Current : 6A

Operation : Four quadrants

Topology : SCR based

DC Motor

Type : PMDC Motor

Rating : 250W

Voltage rating : 24VDC \pm 10%

Rated speed : 3000RPM \pm 10%

Insulation : Class 'F'

AC Power Supply : 24V \pm 10%, 6A

Digital meters used

DC Voltmeter : 300V

DC Ammeter : 20A

MCB : 10A

Optional

Oscilloscope