



SECU

HIGH FREQUENCY CONTROL UNIT FOR SEPARATELY EXCITED MOTORS

SECU bidirectional and high frequency electronic control units have been designed for separately excited DC motors. No direction and braking contactors are necessary, a MOSFET full bridge control allows for reversing. The main contactor guarantees the insulation from the battery in emergency situations and complies with safety requirements.

The possibility to separately control motor windings enables a smooth and seamless control of the motor and can optimize vehicle performance.

The unit also features regenerative braking at pedal release and during reverse.

All parameters can be modified using a simple programming keyboard or by PC using a special interface and software.

Outputs for main contactor, power steering and braking are available. All drivers are equipped with economizer function to avoid coil overheating. Contactors at 24V are to be used for all models, independently from supply voltage, while for electromagnetic brake, voltage depends on the battery.

GENERAL FEATURES

- Control unit for separately excited DC motors.
- MOSFET technology and high frequency for the control of both field and rotor.
- Microprocessor control and self test of drive circuits.
- Running parameters setting by means of programming keyboard.
- Possibility to program the unit by PC using a special interface.
- Regenerative braking at pedal release and during reverse.
- Control by three wires 5K potentiometer.
- Possibility to control the unit using a central 0 potentiometer.
- Protection against potentiometer failure.
- Protection against MOSFET short circuit.
- Protection against overheating of the unit.
- Protection against accidental start of the vehicle due to potentiometer not at 0.
- Undervoltage protection.
- Contactors at 24V independently from battery voltage.
- 2 or 3 output drivers for main, power steering, braking or other contactors.
- Drivers with economizer function to avoid contactor coil overheating.
- 5 inputs for auxiliary functions.
- Error signalling by means of a LED fitted on the unit.
- Possibility to connect an external LED for error signalling.
- Advanced communication protocol for connection with other units or with a display.

TECHNICAL SPECIFICATIONS

- Running voltage from 12V to 80V
- Running frequency (rotor/field) 17 KHz
- Running temperature -20°C/+40°C
- Thermal limiter action from 70 to 80°C

MODELS AND DIMENSIONS

| MODEL | FIELD CURRENT | ROTOR CURRENT | VOLTAGE |
|---------------|---------------|---------------|---------|
| SECU10 160/25 | 25A | 160A | 12-48V |
| SECU10 220/40 | 40A | 220A | 12-36V |
| SECU20 200/25 | 25A | 200A | 24-80V |
| SECU20 350/50 | 50A | 350A | 24/48V |
| SECU40 400/50 | 50A | 400A | 24-80V |
| SECU40 600/70 | 70A | 600A | 24-48V |



