D30/7.5/4Q-E3M

General Description

The D30/7.5/4Q-E3M is a small 4-quadrant digital controller for the control of brushless motor up to 180 W, equipped with digital hall sensors.

Features:

- Digital speed control - operates as «closed loop» speed controller
- Maximum speed 60,000 rpm (motor with 1 pair of poles)
- Set value input through external analogue voltage (0 ... +5 V)
- Set value input through external PWM 200 Hz
- SCI protocol available
- Direction of rotation preset by a digital signal
- The output stage can be enabled or disabled
- Maximum output current limit adjustable up to 16 A
- Motor speed can be monitored with the «FG» output
- Motor blocked protection (current limit for blocked motor)
- Protective functions: overvoltage and short circuit protection
- The built-in shunt regulator is designed to limit the supply voltage of the controller
- Compact size with aluminum housing.

Technical Specifications

Input Specifications	
Power Supply Input - Nominal	12 - 30 VDC power supply range, ripple < 5%
Control Inputs	Speed command: 0 - 5 VDC Enable signal: +5 VDC Direction signal: +5 VDC
Position Feedback with Sensor	Interfaces to 3 hall effect position sensors integrated into the motor.
Output Specifications	
Drive Output	Outputs to one brushless motor: 0.95 * Supply voltage V_{CC} Shunt regulator output: PNP output, 10 A Speed output: 20 * output frequency
PWM Frequency	50 kHz
Operating Mode	
Basic Operation	Default closed loop.
Power/Current Limiting	Power or current limiting operating mode (user configurable) so the drive can still safely operate when it exceeds preset power/current limits. Default is current limiting (16 A).
General Specifications	
Microprocessor	LCM32F037K6T8
Efficiency	95%
Mounting	Contact Boreasa
Dimensions (L x W x H)	57 x 70.5 x 24.7 mm
Weight	91 g