



## ELECTROMEN - EM-346 BLDC MOTOR 4Q DRIVE 12-48 V DC, 10A

EM-346

BLDC motor 4Q drive 12-35 V dc, 10A

- 12-48 V dc, 10 A continuous, 20-25 A peak
- Open & closed loop (hall sensor feedback) control operation
- Speed, direction, current limiting, soft start/stop and regenerative braking control
- Compact, din rail mountable
- EM-A1 card slot option for symmetrical control  $\pm 5V$  or  $\pm 10V$  (rev-stop-fwd)



### PRODUCT DESCRIPTION

EM-346 is brushless DC-motor driver with hall sensor feedback. The unit has a mosfet power stage with good efficiency and it meets also today's EMC requirements. The driver can be used with 120° commutation. This driver has true 4Q power stage, and it makes possible to use regenerative braking. In this braking method the supply voltage rises, this voltage rising can be controlled with braking resistor. If uses battery supply then the braking energy can be leaded back to battery and braking resistor will not be needed.

The unit has the basic digital command inputs like direction, brake, start/stop, disable and there are analog inputs for speed and current control. One digitally presettable second speed (speed-2) is possible to activate with digital command input. EM-346 has two NPN outputs for fault and overcurrent indication use. Some input and output functions can be modified with parameters. Driver includes overvoltage, undervoltage and overtemperature protections. These fault situations are indicated with fault on-board LED. Overtemperature and current limit situations can be reset with reset input, reset-timer or by setting analog speed control to value to 0. There are two control options for speed. Direct control (open loop) sets motor voltage in proportion to control voltage as with a standard DC-motor. Closed loop uses hall sensor feedback for speed control, this mode offers good speed regulation. Start and stop ramps work in both mode. Speed adjust range, closed loop rpm range and ramp can be set with parameter. Analog input are filtered so that there can also use PWM signal for control speed and current. Setting can be done digitally with EM-236 interface unit or with Emen-Tool lite program installed in PC and EM-268 adapter cable. Parameters stored into nonvolatile memory of device. This interface unit can also be monitored the current and rpm of motor. Device can be installed in DIN-rail base and some enclosure options are also available.

### FEATURES

- Three phase output
- Speed and torque adjustment
- Open/closed loop modes
- Regenerative braking option
- True 4Q-power stage
- Braking resistor output
- Current limit and trip
- Symmetrical control option  $\pm 5V$  or  $\pm 10V$
- Fault and overcurrent outputs
- Good efficiency
- Low EMC emissions
- DIN-rail mountable
- Rpm-pulse output option

### TECHNICAL DATA

Analogue input

$\pm 0-5V$  or  $\pm 0-10V$  or  $0-5V$  or  $0-10V$

