



# EM-206-48 OPERATING INSTRUCTIONS

Operating voltage 0-56V filtered, with less than 20% ripple.  
An external supply fuse is recommended, suitable values 1-8A.

Speed control set with voltage or potentiometer. Range is adjustable with SCALE and ZERO trim.  
The recommended pot. value is 2-10k, the control voltage signal should be 0-5V or 0-10V.

There is option for  $\pm 10V$  control input if EM-A1 is assembled. Otherwise use two jumpers.

Speed input impedance of is 100kohm.

Speed control mode NORMAL or CLOSED LOOP is selected with SW1.

Normal speed control: Motor acts like a normal DC-motor without feedback.

Closed loop control: The control unit uses a hall sensor signal to regulate motor speed.

Accuracy of the motor rpm is typically  $\pm 1\%$  in this mode.

The useable rpm range in closed loop mode is selected with "CLOSED LOOP RANGE" trimmer.

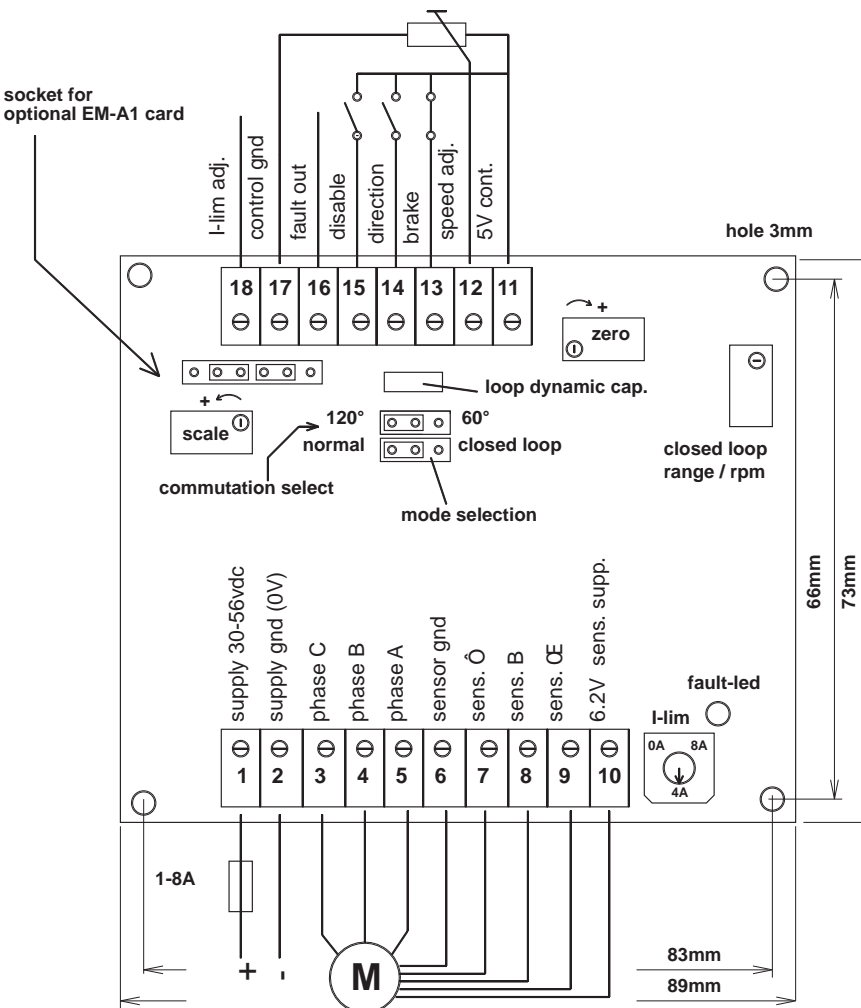
The loop dynamic behaviour can be changed with LOOP DYNAMIC

CAPASITOR. The capacitor is assembled to socket, and it is easily exchanged.

Recommended value is 47nF...1000nF.

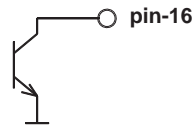
Current limit adjust (I-LIM) limits the motor current (torque). Normally current limit is set with I-lim trimmer.  
If external I-lim control voltage is preferred, I-lim trim must be set to minimum, and control pin 18 connected to a potentiometer or a voltage signal of 0-5V (adj. range 0-8A). Input impedance of pin 18 is 10kohm.

## Connection example: control with pot. and switches



FAULT-output is pulled down and FAULT LED is lighted if at least one of the following conditions occurs:

- undervoltage
- current limit
- sensor fault
- disable input selected



Brake input: Brakes if "low"; connected to GND or open (brake has higher priority than disable). This function short-circuits motor wiring.

Direction in: "high" voltage 4-30V pin 14 for reverse

Disable in: "high" voltage 4-30V pin 15 disables output (motor freewheeling)

