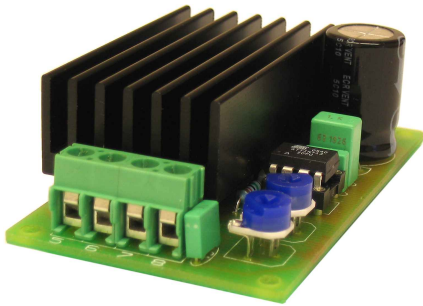


# EM-213 1-QUADRANT POWER CONTROLLER

## 12-24Vdc 10A

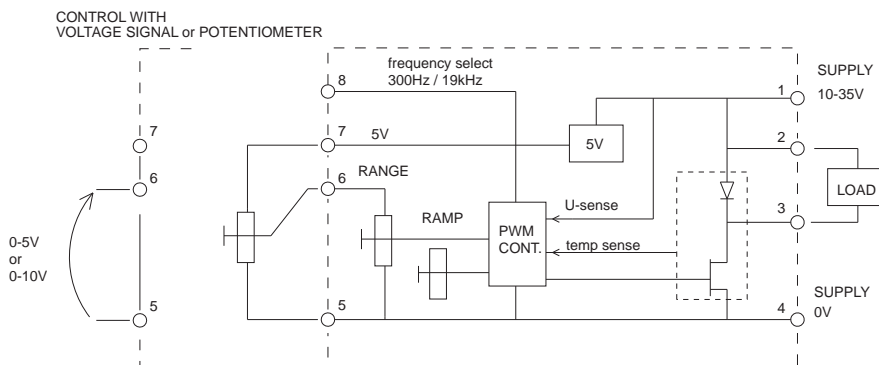


### FEATURES:

- Low cost
- High efficiency
- Operating voltage compensated
- For resistive or inductive loads
- Applications: motor speed control, lamp dimmer
- Rail base fittable

EM-213 is a 1-quadrant power controller. The controller uses PWM principle with high efficiency. The PWM frequency can be set to high or low mode. High frequency is used with inductive (motor) load and low with resistive (lamp) load. The output of the device is compensated against power supply changes, so the device can be used successfully with unregulated power supply. Output is overload (overheat) protected. The protection recovers by itself as temperature decreases. Control of device is done with analog voltage signal 0-5V or more, range of this signal is adjustable. EM-213 also includes a soft-start ramp with adjustable time.

EM-213 BLOCK DIAGRAM



### TECHNICAL DATA

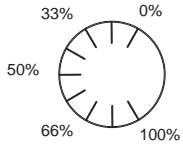
Supply voltage	10-35V
Motor current	cont. max 10A (Ta<50°C) peak max 15A (10s)
Voltage drop	0.4V at 10A
PWM frequency	300Hz or 19kHz
Soft-start time	0..4s adjustable
Control range	0-5V or more, adjustable
Control input imp.	100kohm
Connectors	1.5mm
EMC	EN-50081-2 & EN-50082-2 (industrial)
Temp. protection	110°C
Weight	70g
Operating temp (Ta)	-20...70°C

# EM-213 OPERATING INSTRUCTIONS

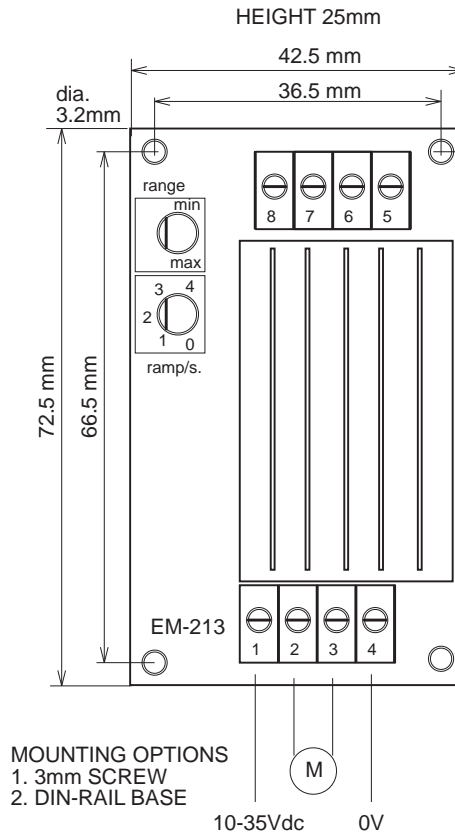
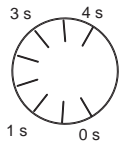
Supply should be filtered 10-35Vdc, max. ripple <30% on full load.  
ATT. Wrong supply polarity can damage the controller.  
ATT. Driver has no fuse in it.

Choose the operating frequency with pin8, 0V..1V or open for 19 kHz , 2..5V for 300 Hz.

Choose the range

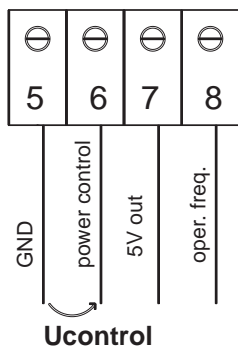


Choose the ramp time / s.



## EXAMPLE 1 - MOTOR CONTROLLER

Speed is set with with external voltage signal to pin 6. Control range is set with range trim. Motor ramp is set with ramp trim. Pin8 is left open for 19 kHz operation frequency. Auxiliary 5V from pin7.



## EXAMPLE 2 - LAMP DIMMER

Lamp brightness is set with with internal range trim. Illumination ramp is set with ramp trim. Pin8 is connected to 5V for 300 Hz operation frequency. Auxiliary 5V from pin7.

