

MICROPROCESSOR CONTROLLER

BEKA P/N 19313

TO BE USED WITH COMPRESSOR 18280-12.50

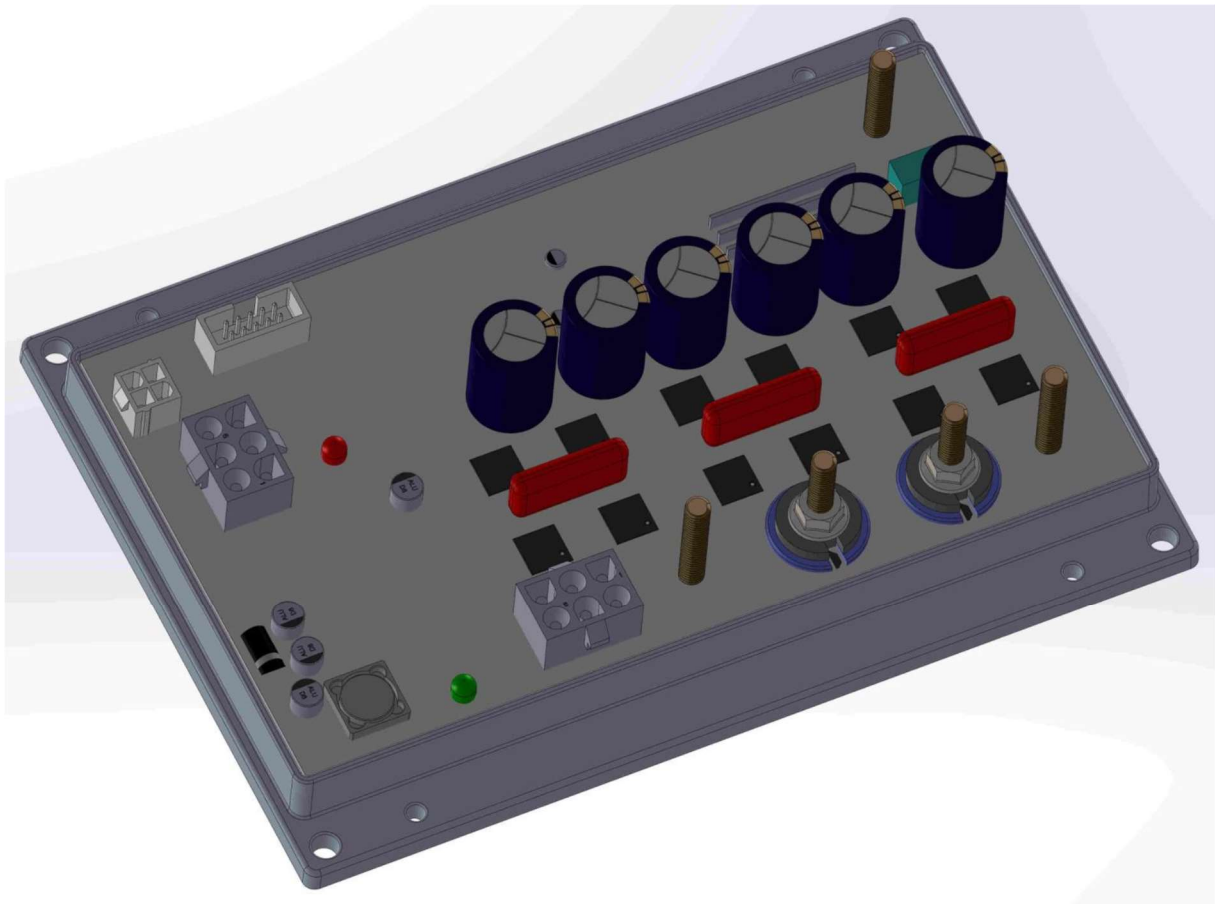
INTRODUCTION

The here described product is a controller designed for brushless DC PM motors powered by battery 12V or 24V.


The controller is equipped with a powerful microprocessor for digital control of the speed, current regulation and failures of the motor; an efficient diagnostic of the failures and wrong wiring connections, programmability of the main parameters.

The MOSFET power stage is operating with PWM modulation.

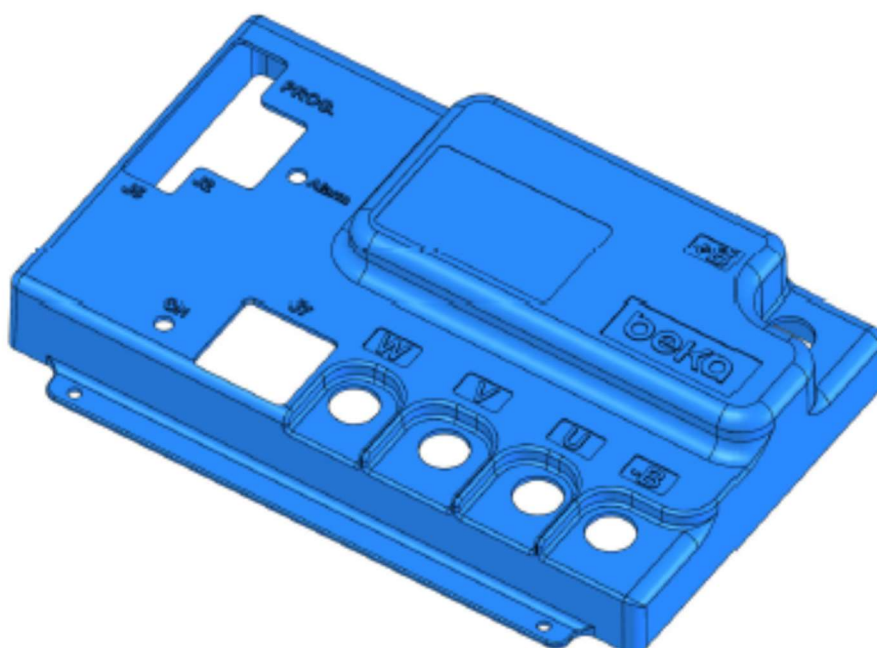
The controller is designed in accordance with the related EC standards.



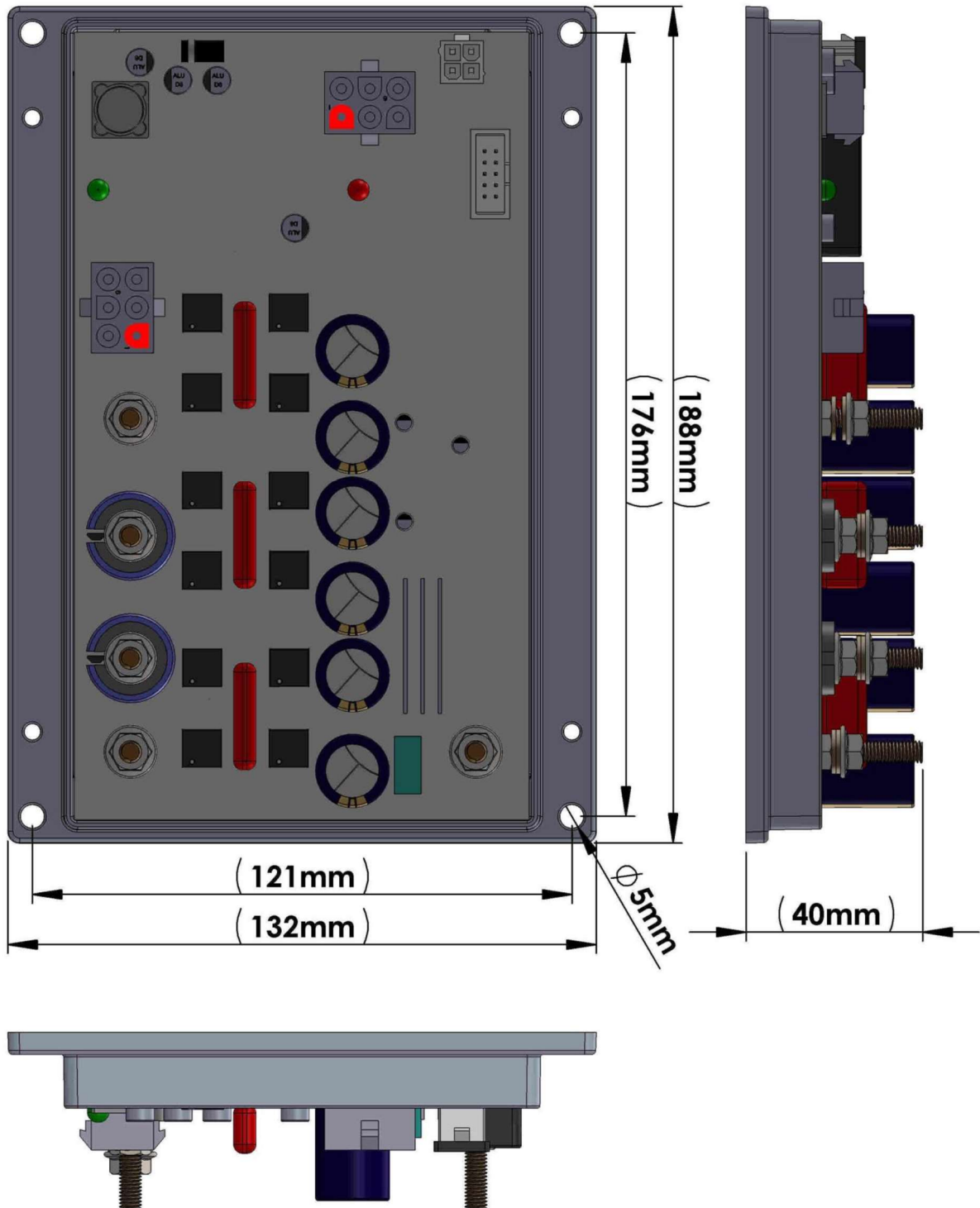
FEATURES

SUPPLY	9 – 30 V Battery
RATED CURRENT	60 Arms (S1) - (80Arms S2-10min)
MAX CURRENT	145 Arms
FREQUENCY	16 KHz
MAX TEMPERATURE	90 °C
OPERATING TEMPERATURE	-20°C / 50°C
SPEED REFERENCE	FIXED SPEED
PROTECTION	POTTED PCB
OVERTORQUE PROTECTION	IF MOTOR TEMPORARY BLOCKED, THE DRIVER WILL DETECT AND TRY TO RESTART SEVERAL TIMES BEFORE GOING INTO FAILURE MODE. THIS FAILURE MODE IS RESET WHEN SIGNAL START IS REMOVED
OVERLOAD PROTECTION	
PARAMETERS PROGRAMMABLE	
 Warning:	NOT PROTECTED FOR BATTERY POLARITY INVERSION

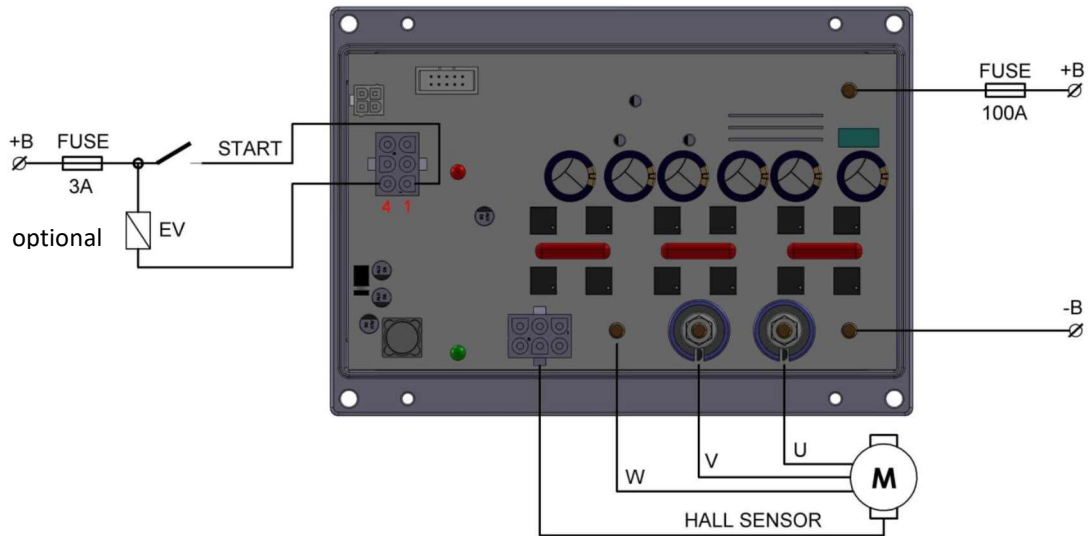
Plastic cover



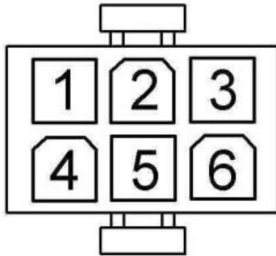
MECHANICAL DIMENSION



WIRING DIAGRAM -- WIRING DIAGRAM

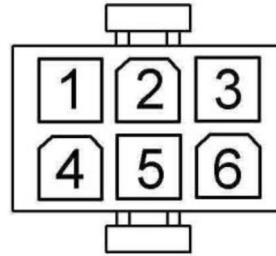


I/O CONNECTOR J2-6V TE (p/n.350431)



PIN 1: Key input: switch input (+B battery) to start.
 PIN 2: not used
 PIN 3: not used
 PIN 4: EV: 12V / 0,5A Electro-valve (optional)
 PIN 5: not used
 PIN 6: not used

MOTOR HALL SENSORS CONNECTOR J7-6V TE (p/n.350431)



PIN 1 = Hall sensor U
 PIN 2 = Hall sensor V
 PIN 3 = Hall sensor W
 PIN 4 = negative supply Hall sensors(0V)
 PIN 5 = not used
 PIN 6 = positive supply Hall sensors (+5V)

19313 Driver failure codes

ALARMS - DISPLAY	ALARM	WHAT TO DO
ALARM A5 OVER TEMPERATURE	Thermal protection > 90°C Automatic reset at 60°C	Wait few minutes and check the motor current.
ALARM A6 POWER STAGE	Controller's power stage damaged	Change the controller.
ALARM A7 OVERCURRENT	Over-current: short circuit	Check the motor's wires: if ok, and the controller repeats this alarm, change it.
ALARM A9 UNDERVOLTAGE	Under-voltage < 10V	Check battery's charge.
ALARM A10 OVERVOLTAGE	Over-voltage > 45V	Check the battery.
ALARM A11 OVERLOAD CURRENT	Overload protection Function of $I > I_n^2 \times T_n$	Check the motor working current and parameters "rated current" and "overload time".
ALARM A14 EEPROM FAIL	E ² prom fail.	Check your settings: if the controller repeats this alarm, change it.
ALARM A15 MOTOR FAIL	Start sequence failure.	Check the motor.
ALARM A16 ENCODER FAIL	Encoder signals failure.	Check encoder connections