

Technical specification UHU Servocontroller 3.00:

Controller

Platform: Atmel Attiny2313
Operating frequency: 24 MHz
Operating principle: enhanced PID
Loop parameters: 3 setups storable in EEPROM and secured by forward error correction
Speed: up to 250.000 steps/s (4-fold encoder steps)

Communication:
interface: RS232 34.800, 8 Bit, 1 Stop, No Parity
logic: command line, plain text

Inputs
PC: step/dir
encoder : A/B 90°, 4-fold
emergency stop: Active Low

Outputs:
Ready (LED)
PWM (10 Bit, symmetric)
power enable
error (LED)

Enhanced functionality:
- Higher derivative feedback for stabilisation with minimal impact on positioning error
- adjustable tracking-error shutdown
- detection of false encoder inputs
- loop in of error conditions
- step multiplier for the use of high resolution encoders
- continuous output of tracking error values for visualisation on external PC

PCB

Size: 1/1 euro format (160x100mm)
Technology: single sided, no SMD, EMC optimized
Power stage:
- MOS-FET technology
- adjustable maximum current
option 1: IRF540 max 10A/60V
option 2: IRFP260N max.30A/150V

Interfaces:
encoder: TTL
step/dir: TTL through opto coupler
RS232: V.24 with built in level shifter and 1:1 connector SubD9
error in/out: 5 V wired-or, active low

Power supply:
12 V regulated (logic)
< 150V DC unregulated (power)