

# Servo Amplifier

## Synchronous Drive

### penny-motor® Technology

For combination with  
 Brushless DC-Micromotors:  
 0206, 0308, 0515, 1202  
 Brushless DC-Gearmotors:  
 1307, 1309

## Series BLD 05002 S

	BLD 05002 S	
Power supply	2,7 ... 5,5	V DC
PWM switching frequency	500	kHz
Continuous output current @ TA = 22°C	250	mA
Total standby current	15	mA
Steps per revolution with pole-pair 1 (0206, 0308, 0515)	48	
Steps per revolution with pole-pair 4 (1202, 1307, 1309)	192	
Temperature range:		
– Operating temperature	0 ... +70	°C
– Storage temperature	–20 ... +80	°C
Dimension and Weight:		
– Dimension (L x W x H)	10,2 x 10,2 x 2,8	mm
– Weight	0,6	g

Note: The Servo Amplifier is supplied with an operating instruction manual for installation and start-up.  
 A Test board with adjustable oscillator and integrated motor mounts is available separately.

### General Information

The Series BLD 05002 S is an electronics with sine form output voltage for synchronous micromotors.

At  $V_m < 0,8$  V the PWM outputs are deactivated (the motor is switched off). A current regulation is not provided.

The motor voltage is set with an analogous control voltage at input "V<sub>m</sub>". It is calculated from the supply voltage V<sub>cc</sub> and the voltage at V<sub>m</sub> to:

The circuit is set-up as plug-in hybrid component for DIL-8 socket.

$$V_{Motor} = (V_m - V_{cc}/2) \cdot 0,707$$

A suitable range for V<sub>m</sub> is V<sub>cc</sub>/2 to V<sub>cc</sub>.

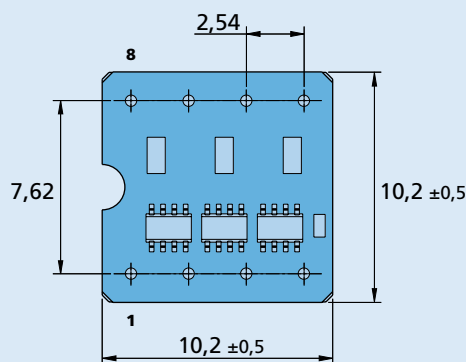
The setting of speed is done with an external clock signal at the digital input "Clk". It is calculated from the number of pole pairs p and the clock frequency f<sub>clk</sub> to:

$$n = f_{clk} / (48 \cdot p)$$

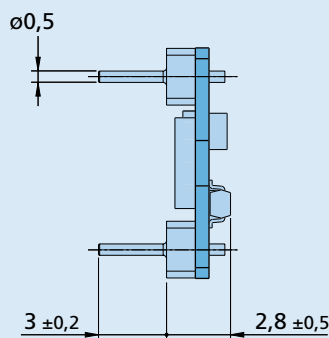
The direction of rotation of the motor can be reversed with the digital input "Dir".

### Dimensional drawing

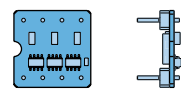
Scale enlarged



BLD 05002 S



Actual size



### Connection

Pin	Description
1	V <sub>m</sub>
2	Clk
3	Dir
4	GND
5	Phase A
6	Phase B
7	Phase C
8	V <sub>cc</sub>