

# Servo Amplifier

## 4-Quadrant analog

**For combination with**  
 Thin Profile Brushless Motors:  
 1202 ... BH  
 Brushless Gearmotors:  
 1307 ... BH, 1309 ... BH

### Series BLD 1501 H

		BLD 1501 H	
Power supply electronic <sup>1)</sup>	V <sub>CC</sub>	5 ... 15	V DC
Continuous output current		Dependent on the supply voltage and lead resistance	
Max. output current	I <sub>out</sub>	1 000	mA
Current consumption at standby		~ 1	µA
Max. current input without motor		20	mA
Analog speed control			
Voltage range		0 ... 5	V
Max. speed in the speed control mode		60 000	min <sup>-1</sup>
Logic inputs		TTL	
Operating temperature	T <sub>opr</sub>	0 ... 70	°C
Dimension		33,1 x 17,8	mm
Height including connector		6,8	mm
Pin height		3,8	mm
Plug diameter		0,5	mm
Weight		2,1	g

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

#### General information

The BLD 1501 H is a servo controller for the ultra flat penny-motor with integrated hall sensors.

The following functions are available:

- » Switchable between speed or torque control mode.
- » The digital output signals of the hall sensor provide position feedback with resolution of 24 edges per revolution.
- » The current can be reduced at standby to 1µA.
- » The circuit is built as a simple to integrate hybrid building block, suitable for a DIL-26 socket. A SMD version is available on demand.

#### Speed Control Mode

In the speed control mode the actual speed of the motor is measured from the hall sensors and compared to a command value. Depending on the configuration the controller can provide dynamic braking as well as acceleration ramping. The braking is active when the actual speed is higher than the command speed. The torque and thereby

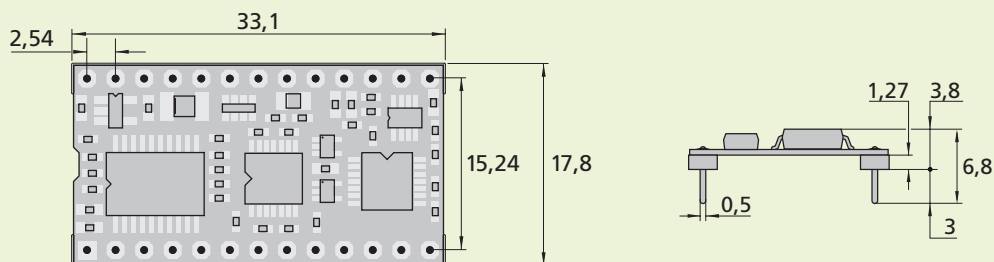
the current consumption of the motor are actively optimized to the load. The controller parameters can be set through a separate passive host network.

#### Torque Control Mode

In torque control mode the motor is driven with alternating current of a constant amplitude. The torque produced is proportional to the motor current and is thereby almost entirely independent of the load and speed. In operation, the motor will accelerate until the counter torque, consisting of the bearing friction and the load, is as high as the drive torque. The operational speed is in this fashion very load dependent.

#### Dimensional drawing

Scale enlarged M 1,5:1



BLD 1501 H