Servo Amplifier

2-Quadrant PWM

For combination with:
Brushless DC-Servomotors

Series BLD 3502

	BLD 3502-SE2P	
Power supply	12 ÷ 35	V DC
Switching frequency	25	kHz
Continuous output current @ TA = 22°C	1,5	A
Current limit (pulse-by-pulse current limiting)	3	A
Analog speed command: [1]		
– Voltage range	0 ÷ 5	V DC
– Input resistance	36	kΩ
Logic input	TTL	
Output voltage for external use (max. load 50 mA)	5,5	V DC
Total standby current without encoder (Hall sensors supply included)	55	mA
Maximum controllable speed with Hall sensor [2]	60 000	rpm
Minimum controllable speed with Hall sensor [3]	1 000	rpm
Minimum controllable speed with encoder [3]	100	rpm
Temperature range:		
– Operating temperature	0 ... + 70	°C
– Storage temperature	–20 ... + 80	°C
Dimension and Weight:		
– Dimension (L x W x H)	77 x 65 x 26	mm
– Weight	100	g

[1] Analog speed command may be set by an external potentiometer or an external voltage.
[2] The maximum controllable speed depends on the gain of the Servo Amplifier, the power supply, the motor type and the load.
[3] The minimum controllable speed depends on the motor type and the load.

Note: The Servo Amplifier is supplied with an operating instruction manual for installation and start-up.

General description

The BLD 3502-SE2P is a 2-Quadrant PWM (Pulse-Width Modulation) Servo Amplifier suitable for speed control of three-phase brushless DC-Servomotors, type 1628, 2036 and 2444.

The phase commutation sequence of the brushless DC-Servomotor is automatically made by the Servo Amplifier.

A specially designed frequency-to-voltage converter allows precise speed regulation (regulator type P, proportional).

Two amplifier configurations for speed control:

- Hall sensors for operation above 1 000 rpm;
- Encoder signals for operation down to 100 rpm.

The analog speed command is a unipolar signal, from 0 to +5 V, (optional 0 to +10 V) producing a fixed speed proportional to the input voltage.

Three logic inputs activate the following functions:

- Enable, enables the servoamplifier.
- Brake, dynamically brakes the motor.
- Direction, selects the motor's rotational direction.

The maximum output power without additional heat sink is 50 W.

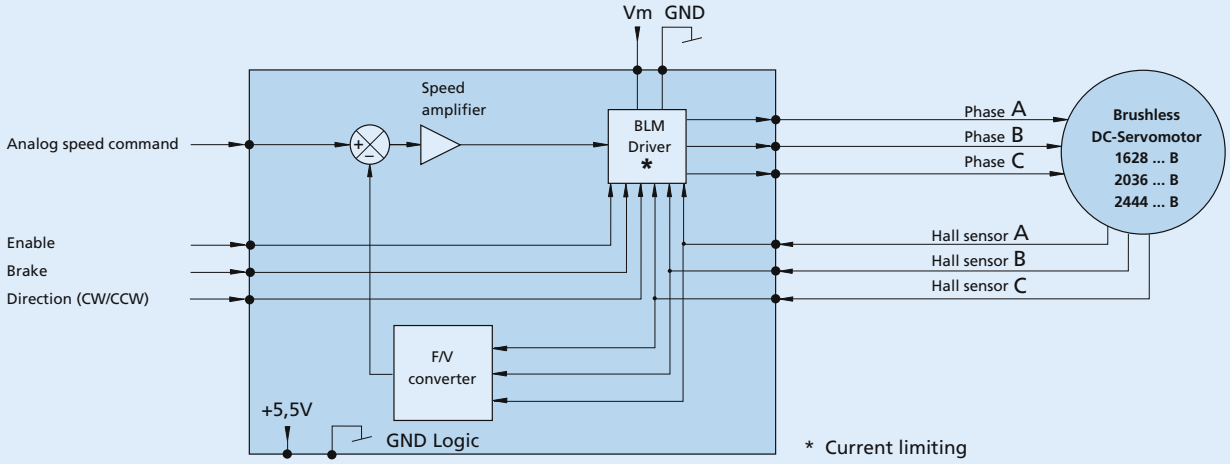
Features:

- Operation from a single supply source
- 2-Quadrant PWM
- Adjustable gain
- Efficiency 90%
- Excellent linearity
- Pulse-by-pulse current limiting
- Speed regulator, type P
- Power supply input fuse (F1)
- Protection against inverted power supply polarity
- Low speed control with encoder feedback included

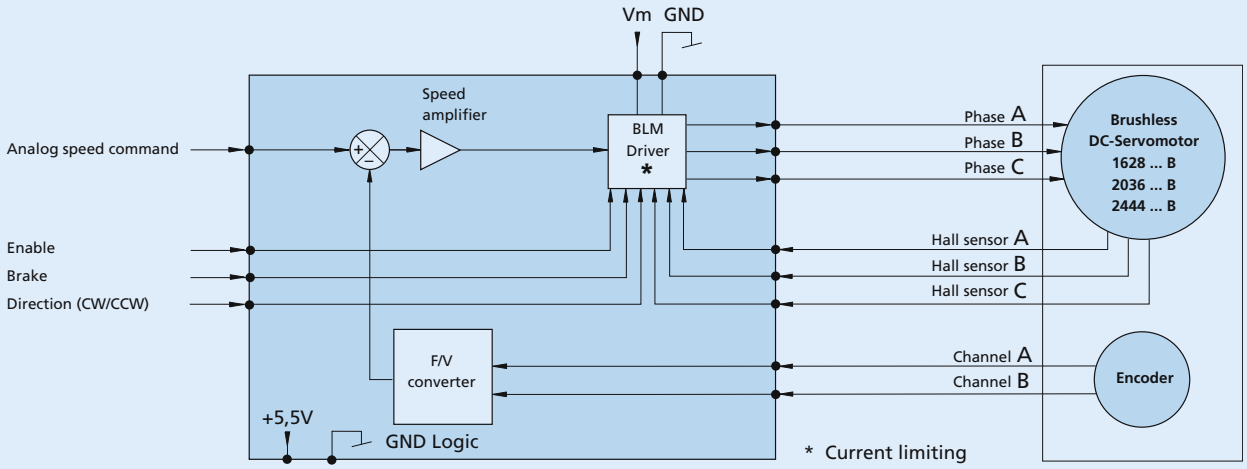
Full product description:

Servo Amplifiers	Brushless DC-Servomotors	Encoders
BLD 3502-SE2P (Hall Sensor)	1628 T ... B	
	2036 U ... B	
	2444 S ... B	
BLD 3502-SE2P (Encoder)	1628 T ... B - K 313	IE2 – 512
	2036 U ... B - K 313	IE2 – 512
	2036 U ... B - K 312	HEDS 5500 - K 1050
	2444 S ... B - K 313	IE2 – 512
	2444 S ... B - K 312	HEDS 5500 - K 1050

Block diagram of the Servo Amplifier BLD 3502-SE2P for speed control with Hall sensor feedback

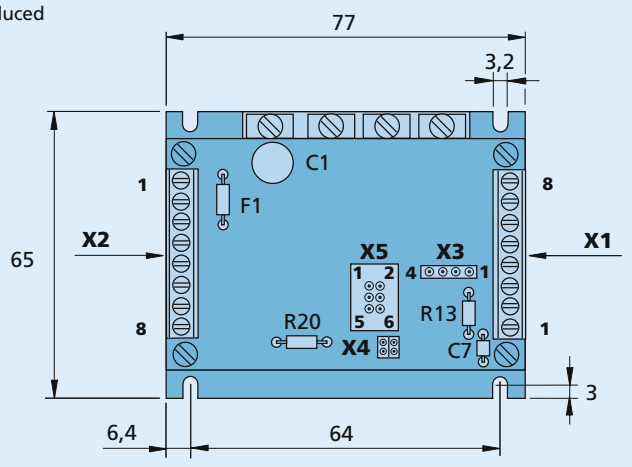


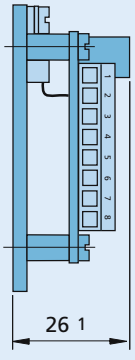
Block diagram of the Servo Amplifier BLD 3502-SE2P for speed control with Encoder feedback



Dimensional drawing and connection information

Scale reduced





Connection

Nr.	Function
X1	Motor
X2	Power supply - signal command
X3	Encoder series 10B/BP, 09B/BP (on request)
X4	Jumpers to be removed for encoder use
X5	Encoder series IE2 – 512