Servo Amplifier

4-Quadrant PWM

For combination with:
Brushless DC-Servomotors

Series BLD 7010

	BLD 7010-SC4P	
Power supply	11 ÷ 70	V DC
Switching frequency	49	kHz
Continuous output current @ TA = 22°C	10	A
Peak current limit	20	A
Analog input command: [1]		
– Voltage range	± 10	V DC
Logic input:		
– Encoder	TTL	
– Encoder frequency	100	kHz
– Enable	8 - 30	V DC
Output voltage for external use:		
– Positive (max. 20 mA)	+15	V DC
(max. 100 mA)	+5	V DC
– Negative (max. 20 mA)	–15	V DC
Maximum controllable speed with Hall Sensor [2]	5 000 / 40 000	rpm
Minimum controllable speed with Hall Sensor [3]	250 / 2 000	rpm
Maximum controllable speed with Encoder (with 1 000 lines per revolution) [2]	1 250 / 10 000	rpm
Minimum controllable speed with Encoder [3]	5 / 40	rpm
External inductance [4]	100 ÷ 300	µH
Temperature range:		
– Operating temperature	–10 ... + 45	°C
– Storage temperature	–40 ... + 80	°C
Dimension and Weight:		
– Dimensions (L x W x H)	180 x 100 x 40	mm
– Weight	650	g

[1] Analog input command may be set by an external potentiometer or an external voltage.
[2] The maximum controllable speed depends on the power supply, the motor type, the load and the feedback.
[3] The minimum controllable speed depends on the motor type, the load and the feedback.
[4] The appropriate value depends on the operating cycle and working conditions. An external inductance from 100 to 300 µH can be use to reduce the temperature of the motor series 4490 ... B.

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

General description

The Servo Amplifier BLD 7010 is a powerful 4-Quadrant PWM Controller with electronic commutation for our three-phase brushless DC-Servomotors with Hall sensors.

Operating modes:

- Torque / current control
- Speed control by Encoder
- Speed control by Hall sensors

The required operation mode is selected by setting jumpers.
The Servo Amplifier is protected against over current, overheat and short-circuit of the motor connections against each other and to the power supply.

Advanced technology design with power MOSFET assure high efficency of up to 95%.
The robust controller design and screw terminals assure simple and easy installation and safe operation.
The solid aluminium case offers several mounting possibilities to allow easy system integration.

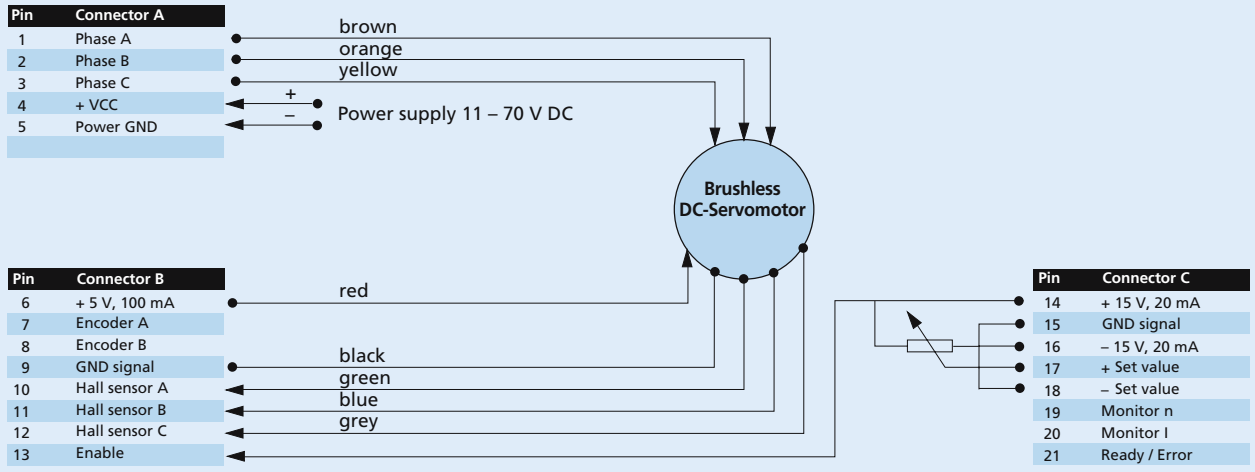
Features:

- Operation from a single supply source
- 4-Quadrant PWM
- Efficiency 95%
- Excellent linearity
- User friendly
- Torque / current control
- Speed control
- Bandwidth of current control 2,5 kHz

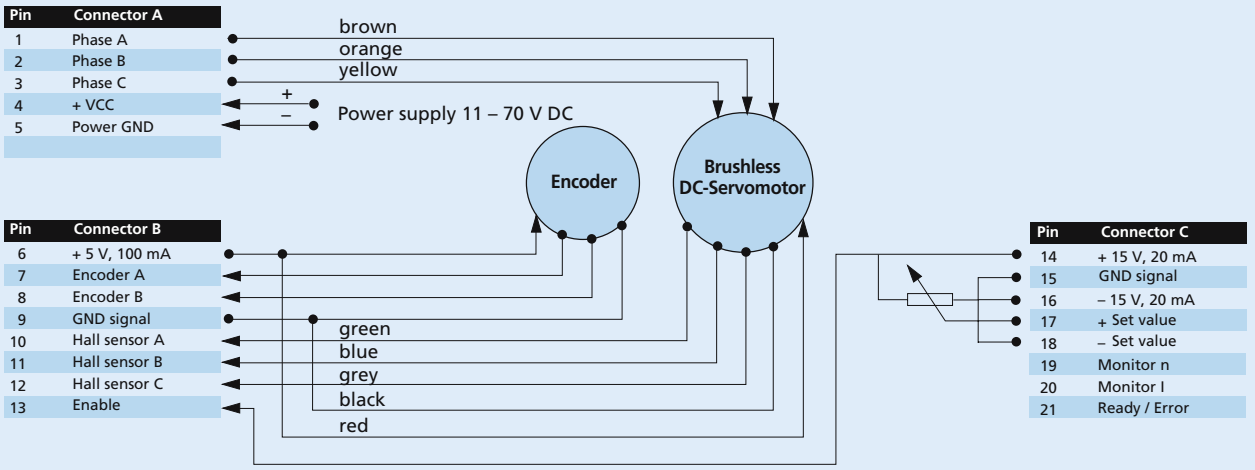
Full product description:

Servo Amplifiers	Brushless DC-Servomotors	Encoders
BLD 7010-SC4P	4490 H 024 B	
BLD 7010-SC4P	4490 H 036 B	
BLD 7010-SC4P	4490 H 048 B	
BLD 7010-SC4P	4490 H 024 B - K 1300	40B27 - 1000/3
BLD 7010-SC4P	4490 H 036 B - K 1300	40B27 - 1000/3
BLD 7010-SC4P	4490 H 048 B - K 1300	40B27 - 1000/3

Block diagram of the Servo Amplifier BLD 7010 for speed control with Hall sensor feedback

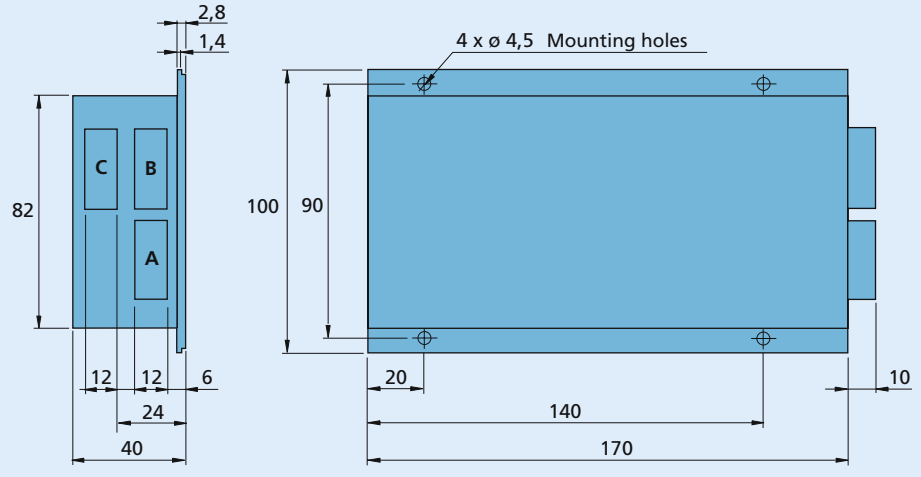


Block diagram of the Servo Amplifier BLD 7010 for speed control with Encoder feedback



Dimensional drawing

Scale reduced



Connection

	Function
A	Motor and power supply
B	Hall signals and encoder
C	Logical

Drive Electronics