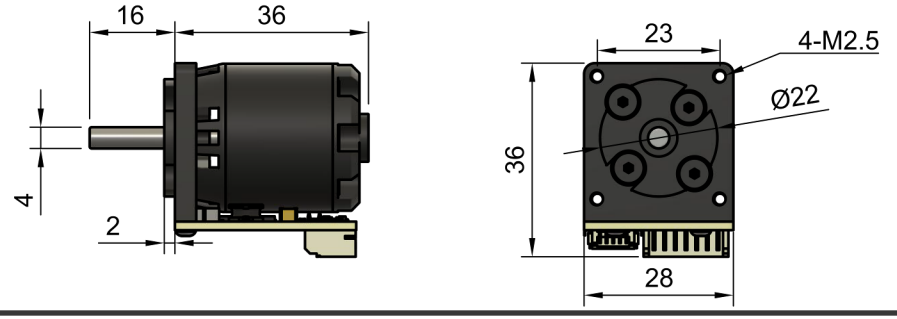
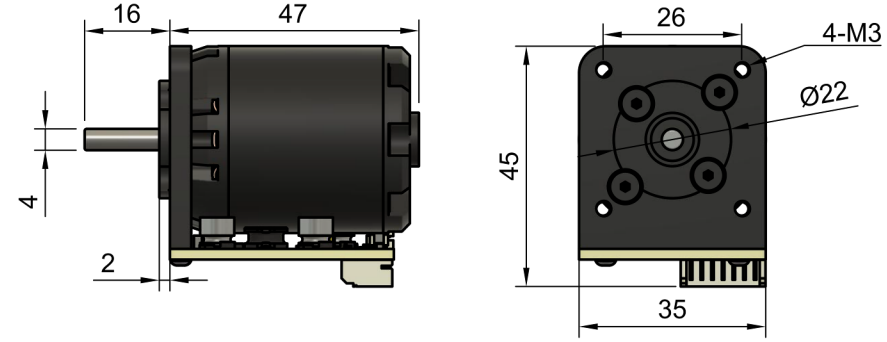
simplex motion

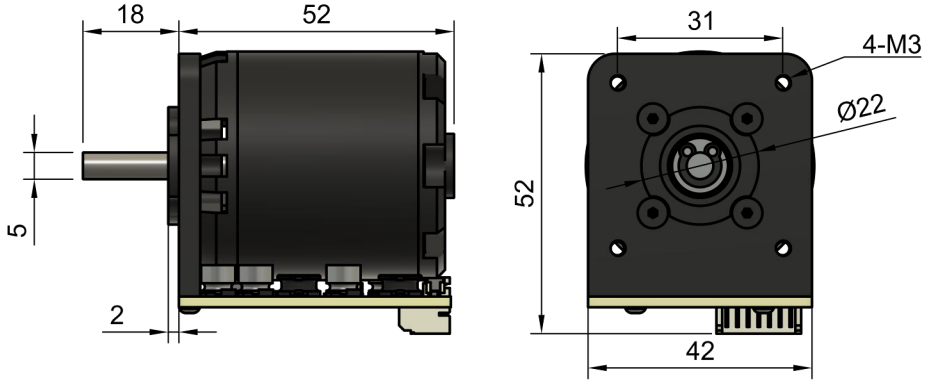
SC10A



SC20A



SC40A



Our product range is evolving fast to provide our customers with truly unique products.
Come and talk to us about what you would like to see in the next Simplex Motion product!

Simplex Motion AB
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412 92 Gothenburg, Sweden
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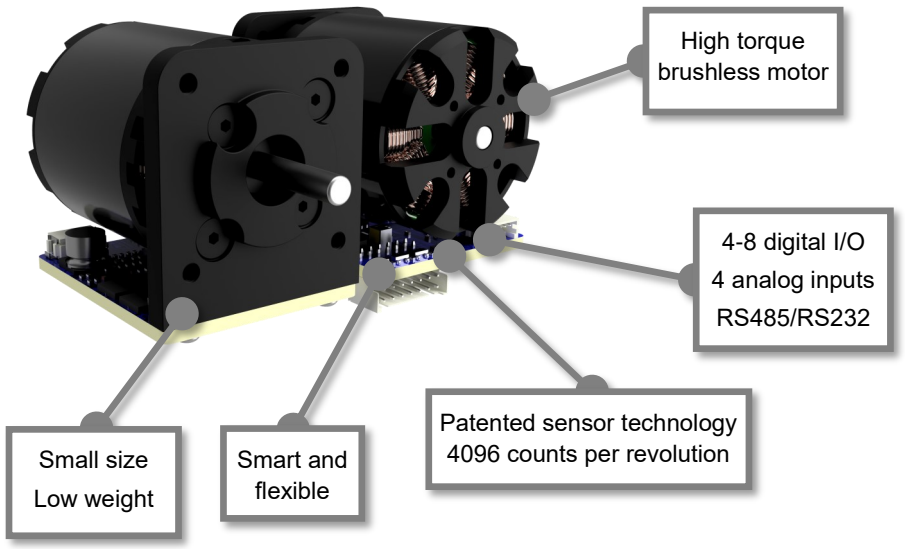
Edition
201803

simplex motion

MOTION CONTROL MADE SIMPLE

SC10A, SC20A, SC40A
Integrated Servo Motor
Product Information



“Half Weight – Double Torque”

The advantage of the Simplex Motion smart integrated servomotor is that it offers a very powerful motion control capability at the same time as its **weight and size** is only up to half of other integrated motors on the market.

By utilizing a **patented sensor technology**, Simplex Motion integrated servomotors are compact, high performance and a complete servomotor system. Compared with other existing integrated servomotors on the market, Simplex Motion servomotors excels in output torque for its size and weight as well as cost efficiency.

Technical Data

Motor specifications		SC10A	SC20A	SC40A
Torque	Nominal at 4000 rpm	60 mNm (8.5 oz-in)	120 mNm (17 oz-in)	200 mNm (28 oz-in)
	Continuous stall	50 mNm (7.1 oz-in)	100 mNm (14 oz-in)	190 mNm (27 oz-in)
	Peak	200 mNm (28 oz-in)	400 mNm (56 oz-in)	800 mNm (113 oz-in)
Speed	Nominal	4000 rpm	4000 rpm	4000 rpm
	Peak	6000 rpm	6000 rpm	6000 rpm
Power (in open air)	Continuous	25 W	50 W	80 W
	Peak	75 W	150 W	240 W
Efficiency	Up to	70%	75%	80%
Rotor inertia		3.43 E-6 kgm2	12.60 E-6 kgm2	33.00 E-6 kgm2
Electrical specifications				
Supply voltage	Min	8 V	8 V	12 V
	Typical	12 V	12 V	24 V
	Max	15 V	15 V	28 V
Supply Current	Idle	0.05 A	0.05 A	0.05 A
	Continuous	3.0 A	5.6 A	4.2 A
	Peak	9.0 A	16.7 A	12.5 A
Mechanical specifications				
Dimensions	Body (L x W x H)	36 x 28 x 36 mm	47 x 35 x 45 mm	52 x 42 x 52 mm
	Shaft	D4 x 14 mm	D4 x 14 mm	D5 x 16 mm
Mounting	Screws in front	4-M2.5	4-M3	4-M3
Weight		75 g	160 g	240 g
Controller specifications				
Sensor	Counts per revolution	4096		
	Resolution	0.09°		
Switching frequency		32 kHz		
Motor commutation	Method	Space vector modulation with field orientation control		
	Rate	16 kHz		
PID controller	Sample rate	2 kHz		
	Control	Torque, Position, Speed		
Ramping control	Speed	Speed limit + controlled acceleration/deceleration		
	Position	Controlled speed + acceleration/deceleration		
Protection		overcurrent, torque, voltage, temperature, locked shaft		
Status indicator		green + red light, blink pattern provides status		
Interfaces	RS485/RS232 TTL	max 115kBit/s, Modbus RTU protocol		
	Step motor interface	direction/step inputs, 3.3V logic inputs, max 2.2MHz		
	Quadrature encoder	3.3V logic inputs, max 2.2MHz		
	Analog control	voltage 0…+3.3V		
Digital Inputs, IN1-4	Maximum voltage	-0.5..+30V		
	Low/high threshold	Configurable 0..+3.3V		
	Pull up/down resistor	10kOhm to +3.3V or GND, or disabled		
Digital inputs, IN5-8	Maximum voltage	-0.5..+8.0V		
	Low/high threshold	Low < 0.7V, high > 2.4V		
	Pull up resistor	none		
Analog inputs, IN1-4	Maximum voltage	-0.5..+30V		
	Input range	0..+3.3V		
	Resolution	16bits		
	Accuracy	10bits		
	Input impedance	300kOhm with pullup/down disabled		
Digital outputs, OUT1-4	Control	Logic, single pulse, PWM, RC servo control		
	Output circuit	Open collector, transistor.		
	Maximum voltage	-0.5..+30V		
	Maximum current	1A		
	Pull up/down resistor	10kOhm to +3.3V or GND, or disabled		

Specifications subject to change without notice
www.simplexmotion.com