

RoboG4™ Ultra Low Voltage Servo Drives

The RoboG4 range includes three main families of single-channel and dual-channel drives from 1500W to 19kW max. A major new addition is an integrated unit that merges Roboteq's motion control technology with Nidec's servo motor expertise. RoboG4 drives deliver world-class performance, functional safety, and exceptional connectivity to all major fieldbuses. All RoboG4 drives are compatible with each other and can scale to meet the needs of most applications.

RoboG4 is our fourth generation family of ultra low voltage (under 60 V) servo drives



S1 series
1x40A

F series
2x60A
1x120A



S2 series
2x30A
1x60A

G series
2x180A
1x360A



RoboG4™ Ultra Low Voltage Servo Drives



Ultimate Precision and Control

Current is measured and adjusted every 62 microseconds to produce smooth and precise torque. Three cascaded loops for position, speed and current, each with its own PID and Feed-forward gains, resulting in easier tuning, and optimal performance and system responsiveness.



Faster Processing

New, faster motion algorithms.



Get More Torque & Speed

RoboG4 drives include automatic field weakening, allowing the motor to reach a higher speed than its maximum rating or produce additional torque at the motor's rated top speed. Important: Field weakening may enable higher speeds, but always consult the motor manufacturer to ensure safe operation within your motor's capabilities.



Adapt Automatically to Load Changes

Adaptive control continuously observes the system's inertia and applies new gains on the fly, resulting in optimal performance.



Works with Virtually any Motor

Wide range of supported rotor sensor types including Hall, Quadrature Encoders, Analog, Sin-Cos, Resolver, and SSI.



Major Connectivity

Drives include traditional RS232/485/USB communication ports compatible with major Fieldbus standards. Can be tightly coupled with other drives, computers, or PLCs in factory installations and robotics systems.



Scripting = Ultimate Flexibility

Think of it as having a PLC built right into the drive, at no extra cost. This Roboteq exclusive feature lets you tailor the drive to meet challenging requirements.



Fast & Automated Setup/Tuning

Free PC Utility cuts development time from hours to minutes! Attach a motor and the drive automatically characterizes it, calibrates the rotor sensor, and tunes the torque and speed control loops. Monitor and troubleshoot with the powerful multichannel chart recorder.



Stay Ahead of Technology

RoboG4 drives have the necessary circuitry and control algorithms for today's most popular motor types: Surface Permanent Magnets (SPM) or Internal Permanent Magnets (IPM) brushless motors, DC brushed motors, and AC Induction motors.



Brushed Motor Drives Description	Part Number
Brushed DC Motor Controller, Single Channel, 1 x 40A, 60V, USB, CAN, 8 Dig/Ana IO, Cooling plate with ABS cover	SDC2160(S)
Brushed DC Motor Controller, Dual Channel, 2 x 20A, 60V, USB, CAN, 8 Dig/Ana IO, Cooling plate with ABS cover	SDC2160
Brushed DC Motor Controller, Single Channel, 1 x 120A, 60V, USB, CAN, 8 Dig/Ana IO, Cooling plate with ABS cover	MDC1460
Brushed DC Motor Controller, Dual Channel, 2 x 60A, 60V, USB, CAN, 8 Dig/Ana IO, Cooling plate with ABS cover	MDC2460
Brushed DC Motor Controller, Triple Channel, 3 x 60A, 60V, USB, CAN, 14 Dig/Ana IO, Cooling plate with ABS cover, STO PLe, Cat3, SIL3	FDC3260T
Brushed DC Motor Controller, Single Channel, 1 x 300A, 60V, USB, CAN, 19 Dig/ Ana IO, Heatsink Enclosure	HDC2460(S)
Brushed DC Motor Controller, Dual Channel, 2 x 150A, 60V, USB, CAN, 19 Dig/Ana IO, Heatsink enclosure	HDC2460
Brushed DC Motor Controller, Triple Channel, 3 x 180A, 60V, En-coder input, USB, CAN, No Ethernet	GDC3660
Brushed DC Motor Controller, Triple Channel, 3 x 180A, 60V, En-coder input, USB, CAN, Ethernet	GDC3660E
Brushed DC Motor Controller, Single Channel, 1 x 300A, 60V, USB, CAN, 16 Dig/Ana IO, Cooling plate with ABS cover	RGDC1860



Brushless Motor Drives Description	Part Number
Brushless DC Motor Controller, Single Channel, 30A, 60V, USB, CAN, Trapezoidal/Sinusoidal, FOC, 8 Dig/Ana IO, Conduction Cooling plate	SBL1360A
Gen 4 Brushless DC Motor Controller, Single Channel, 1 x 60A, 60V, USB, CAN, Trapezoidal/Sinusoidal, FOC, 14 Dig/Ana IO, Conduction Cooling plate, STO PLe, Cat3, SIL3 (pending)	SBLG2360TS
Gen 4 Brushless DC Motor Controller, Dual Channel, 2 x 30A, 60V, USB, CAN, Trapezoidal/Sinusoidal, FOC, 14 Dig/Ana IO, Conduction Cooling plate, STO PLe, Cat3, SIL3 (pending)	SBLG2360T
Gen 4 Brushless DC Motor Controller, Dual Channel, 2 x 30A, 60V, USB, CAN, Trapezoidal/Sinusoidal, FOC, 14 Dig/Ana IO, Molex Connectors, Conduction Cooling plate, STO PLe, Cat3, SIL3 (pending)	SBLMG2360T
Gen 4 Brushless DC Motor Controller, Single Channel, 1 x 60A, 60V, USB, CAN, Trapezoidal/Sinusoidal, FOC, 14 Dig/Ana IO, Molex Connectors, Conduction Cooling plate, STO PLe, Cat3, SIL3 (pending)	SBLMG2360TS
Brushless DC Motor Controller, Single Channel, 1 x 120A, 60V, USB, CAN, Trapezoidal/Sinusoidal, FOC, 8 Dig/Ana IO, Cooling plate with ABS cover	MBL1660A
Brushless DC Motor Controller, IP54 dustproof water-tight, Single Channel, 1 x 120A, 60V, USB, CAN, Trapezoidal/Sinusoidal, FOC, 8 Dig/Ana IO, Cooling plate with ABS cover	KBL1660
Gen 4 Brushless DC Motor Controller, Dual Channel, 2 x 60A, 60V, USB, CAN, Trapezoidal/Sinusoidal, FOC, 14 Dig/Ana IO, Conduction Cooling plate, STO PLe, Cat3, SIL3 (Pending)	FBLG2360T
Gen 4 Brushless DC Motor Controller, Single Channel, 1 x 120A, 60V, USB, CAN, Trapezoidal/Sinusoidal, FOC, 14 Dig/Ana IO, Conduction Cooling plate, STO PLe, Cat3, SIL3 (Pending)	FBLG2360TS
Gen 4 Brushless DC Motor Controller, Dual Channel, 2 x 60A, 60V, USB, Ethernet, CAN, Trapezoidal/Sinusoidal, FOC, 14 Dig/Ana IO, Resolver/SSI, Conduction Cooling plate, STO PLe, Cat3, SIL3”	FBLG2360TE
Gen 4 Brushless DC Motor Controller, Single Channel, 2 x 60A, 60V, USB, Ethernet, CAN, Trapezoidal/Sinusoidal, FOC, 14 Dig/Ana IO, Resolver/SSI, Conduction Cooling plate, STO PLe, Cat3, SIL3”	FBLG2360TES
Gen 4 Brushless DC Motor Controller, Dual Channel, 2 x 60A, 60V, USB, Ethercat, CAN, Trapezoidal/Sinusoidal, FOC, 14 Dig/Ana IO, Resolver/SSI, Conduction Cooling plate, STO PLe, Cat3, SIL3”	FBLG2360TC
Brushless DC Motor Controller, Single Channel, 1 x 400A, 60V, USB, CAN, Trapezoidal/Sinusoidal, FOC, up to 16 Dig/Ana IO, Cooling plate with ABS cover	RGBL1860
Gen 4 Brushless DC Motor Controller, Dual Channel, 2 x 180A, 60V, Hall sensors input, Encoder input, USB, CAN, No Ethernet, STO PLe, Cat3, SIL3 (Pending)	GBLG2660T
Gen 4 Brushless DC Motor Controller, Single Channel, 1 x 360A, 60V, Hall sensors input, Encoder input, USB, CAN, no Ethernet, STO PLe, Cat3, SIL3 (Pending)	GBLG2660TS
Gen 4 Brushless DC Motor Controller, Dual Channel, 2 x 180A, 60V, Hall sensors input, Encoder input, USB, CAN, Ethernet, STO PLe, Cat3, SIL3 (Pending)	GBLG2660TE
Gen 4 Brushless DC Motor Controller, Single Channel, 1 x 360A, 60V, Hall sensors input, Encoder input, USB, CAN, TE is Ethernet.	GBLG2660TES

Integrated Servo Motor & Drive

This offering is an all-in-one compact package with IP54 60mm integrated servo motor and 4th generation drive precisely matched and fully optimized to deliver efficiency, performance and accuracy. It is a space-saving integrated unit incorporating motor, encoder and drive for easy installation and serviceability for a multitude of robotics and industrial automation applications. Powered from any 20 to 60V DC power source to deliver up to 725W of smooth rotation, 3.46Nm peak at 2000 RPM. Multiple units can be connected and work together.

Integrated Servo Motor & Drive

- MOTOR CONTROLLER
- BRUSHLESS SERVO MOTOR
- DIGITAL SERVO DRIVE
- HIGH RESOLUTION ENCODER

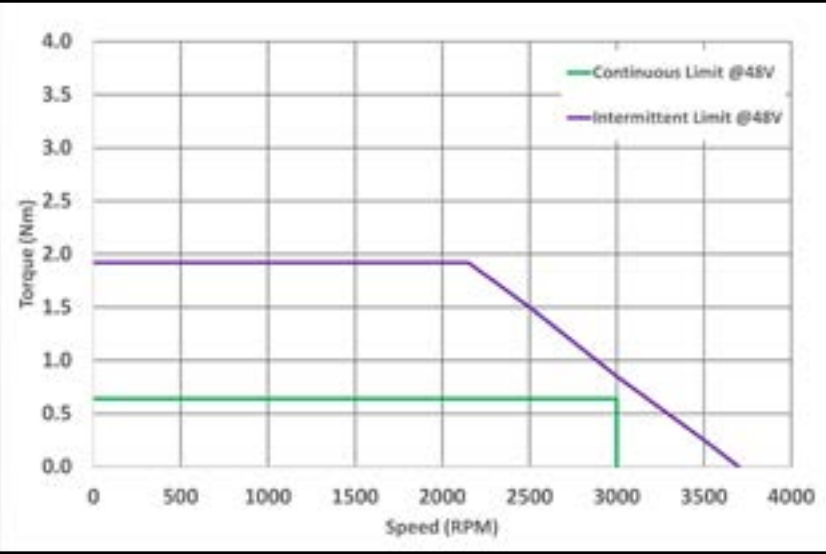


iHD60S		
Feature	Value	
Motor Type	Permanent magnet electronically commutated three-phase synchronous motor	
Feedback	12 bit absolute encoder	
Frame	Flange-mounted 60mm	
Cooling	Convection	
IP Protection Class	IP54	
Ambient Temperature	0 to +40 deg C	
Storage Temperature	-25 to +85 deg C	
	A Length	B Length
Stall Torque	0.64 Nm	1.15 Nm
Rated Torque	0.64 Nm	1.15 Nm
Peak Torque	1.92 Nm	3.46 Nm
Rated Power	200W	360W

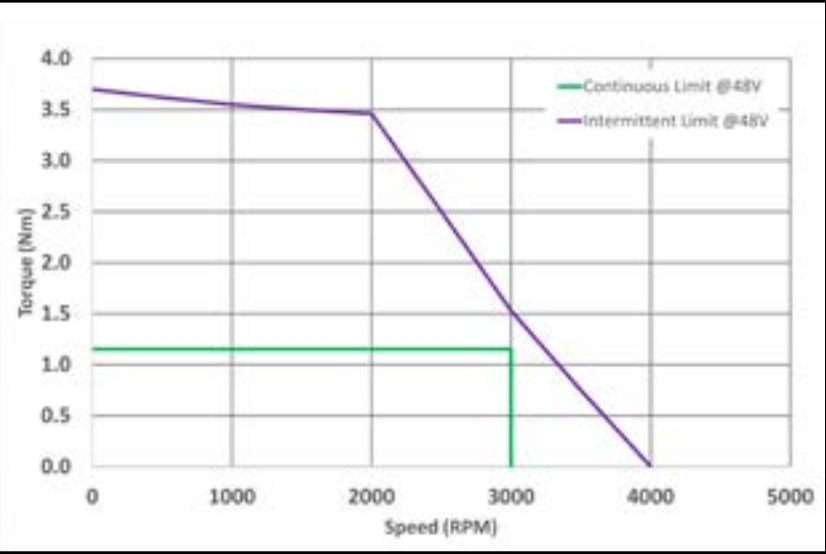


Integrated Servo Motor & Drive

A-Length Speed-Torque Curve



B-Length Speed-Torque Curve



- Compact 60mm servo motor
- Built-in, high-efficiency three-phase 4th generation motor controller
- Low-voltage, 20-60VDC operation
- Four quadrant operation. Supports regeneration
- Available 200W (0.64Nm) and 360W (1.15Nm) continuous rating at 3000 RPM and up to 3.46Nm Peak Torque at 48V
- Smooth & quiet sinusoidal commutation with field oriented control (vector control)
- Fast 16kHz current loop control
- 12 bit absolute encoder
- RS485 Serial port
- IP54 protection

- MODBUS ASCII and RTU support
- STO - Safe Torque Off support. Design complies with EN/IEC 61800-5-2 (Certification Pending)
- User programmable current limit up to 40A for protecting the drive
- Built-in Basic-like scripting language. Execution speed up to 100,000 lines per second
- Automatic tuning of torque, speed and position loops plus automatic field weakening for maximum speed & torque
- Accurate speed and odometry measurement
- Optional integrated mechanical brake with efficient PWM control

Stand-Alone or Multi-Axis

Versatility for your Applications

Fully Integrated System

Simple, Configuration & Analysis

Decentralized Solution

Flexible Design & Reduced Machine Footprint

No Cable between Motor & Drive

Simplifies & Optimizes, Costs Less