

iLD60S

Integrated Servo Motor & Drive

The iLD60S 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.

Product Overview

The iLD60S 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 iLD60S's can be connected and work together.



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



Product Features

- Compact 60mm frame permanent magnet servo motor
- Available in front-facing or rear-facing connectors
- 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
- Integrated encoder with 4096 counts per revolution
- RS485 Serial port
- 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
- IP54 protection



Stand-Alone or Multi-Axis
Versatility for Your Applications



Decentralized Solution
Flexible design and reduced machine footprint



Fully Integrated System
Efficiency, Performance & Accuracy
Simple, Configuration & Analysis



No Cable between Motor & Drive
Simplifies and Optimizes
Costs Less



Warehouse Automation



Autonomous Guided Vehicles



Manufacturing Automation



Automated Storage Retrieval



Collaborative Robots

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Motor Specifications

Feature	Value	
Motor Type	Permanent magnet-excited three-phase synchronous motor	
Feedback	Absolute SSI Encoder, 4096 counts per Revolution	
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



✓ **Versatility for your Applications**

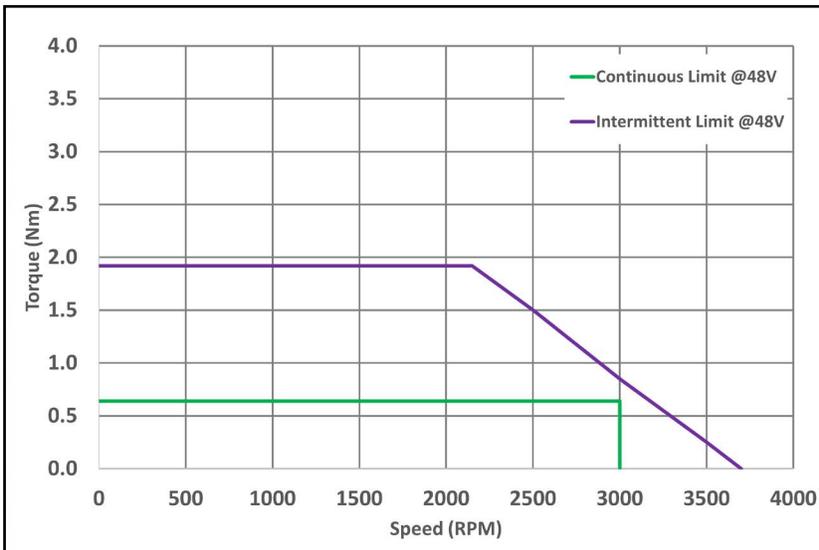
✓ **Efficiency, Performance and Accuracy**

✓ **Simple Configuration and Analysis**

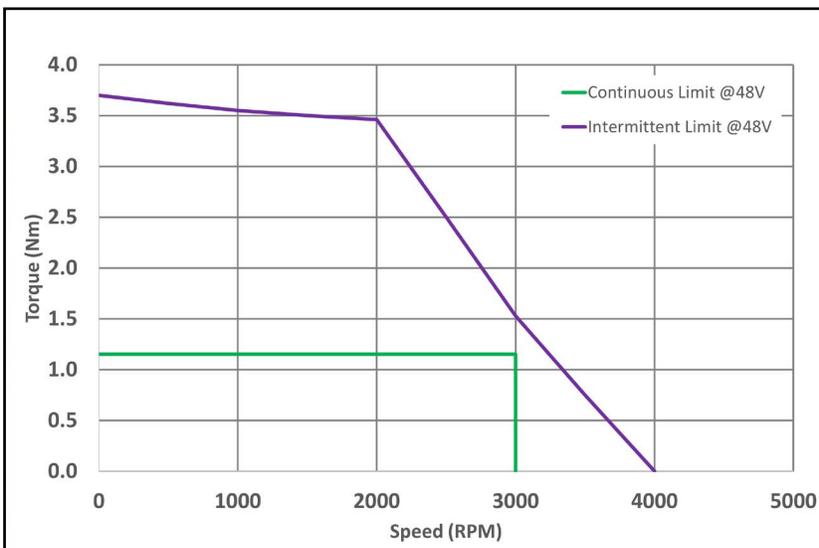
✓ **Lower Cost**

✓ **Design Flexibility**

A-Length Speed-Torque Curve



B-Length Speed-Torque Curve

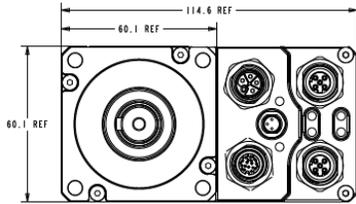


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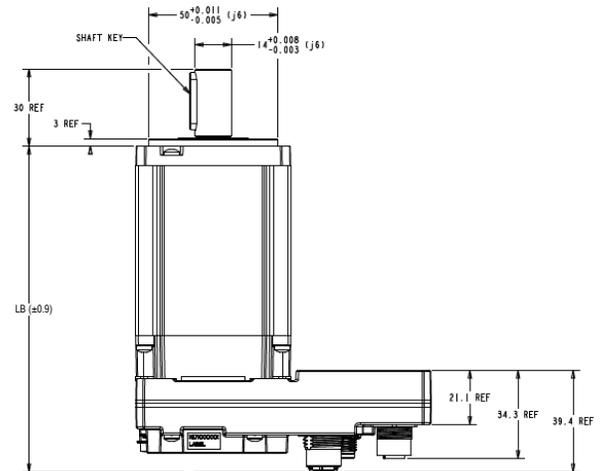
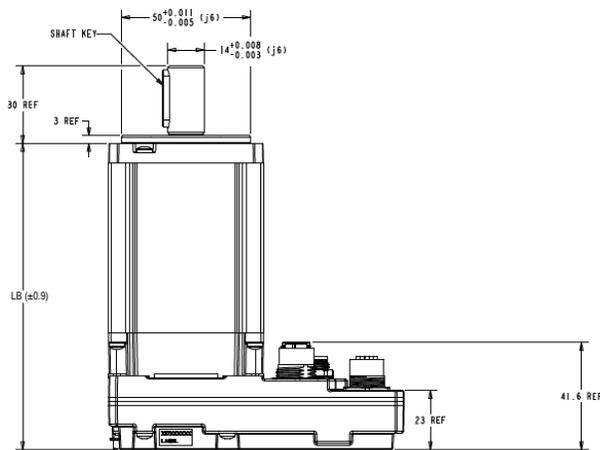
Motor Dimensions

Ethercat, Profinet, Ethernet IP (Front and Rear-Facing)

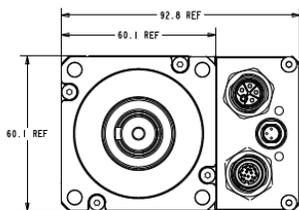


Shaft Key	
Height	16 mm
Length	22 mm
Width	5 mm

LB Dimension	
A Stack	98.8 mm
B Stack	118.8 mm

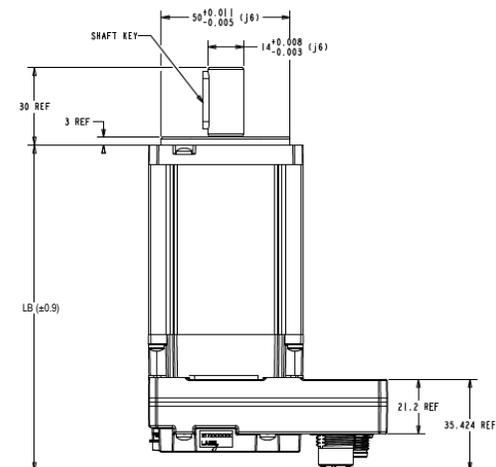
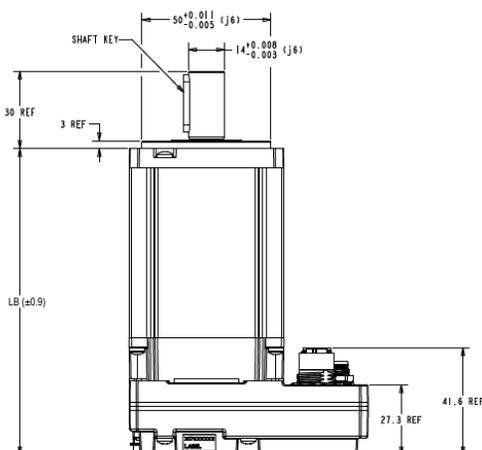


CANopen (Front and Rear-Facing)



Shaft Key	
Height	16 mm
Length	22 mm
Width	5 mm

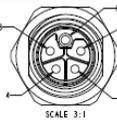
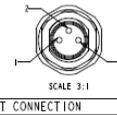
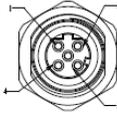
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User Interface Connection Specifications

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SIGNAL CONNECTION																																																																																																																																											
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Orderable Product Reference

The iLD60S is available in several combinations of motor lengths, power, fieldbus, connector mounts and accessory configurations. The table below shows these options and the product reference scheme for each possible configuration.

Motor Frame	Motor Type	Motor Length	Motor Shaft Speed	Motor Brake		Controller	STO	Network	Encoder		Motor Gear				Controller Connector Orientation	Reserved for Future Use			
060	IL	B	30	0	-	S	T	C	S	-	G	0	0	0	-	R	X	X	X

Component	Place Holder	Code	Code Definition
Motor Frame	xxx	060	Frame size mm
Motor Type	xx	IL, IA	IL=48Vdc, IA=24Vdc
Motor Length	x	A, B, C	Stack Length
Motor Shaft Speed	xx	30, 60	30=3,000 RPM 60=6,000 RPM
Motor Brake	x	0,5	0=No Brake 5=24V power on Brake
Controller	x	S, M	S=GSBL Network M=GDMBL GD3 mini
STO	x	T, P, X	T=STO P=Power Control X=Customized

Component	Place Holder	Code	Code Definition
Network	x	C, P, I, E, X	C=CAN P=Profinet I=Ethernet IP E=Ethercat X=Custom
Encoder	x	S, M, X	S=Single-Turn M=Multi-Turn X=Special
Motor Gear	xxxx	Ratios defined by xxx up to 99:1	G000=Direct Drive (No Gear) G103=3:1 Planetary Single Stage G105=5:1 Planetary Single Stage G110=10:1 Planetary Single Stage
Controller Connector Orientation	x	F, R	F=Front Facing Connector R=Rear Facing Connector
Remaining	xxx	Optional	Reserved for Future Use

About Nidec Corporation

Nidec Corporation is an international conglomerate originally known for having the most significant global market share of small precision motors. Exponential growth through mergers and acquisitions over the past few decades means that Nidec now manufactures motors spanning the spectrum from those original tiny motors to much larger motors powering heavy commercial and industrial equipment. This is one of the reasons it's said that Nidec specializes in "everything that spins and moves."

Headquartered in Kyoto, Japan, Nidec started with only four employees in 1973 and has grown to include more than 330 subsidiary companies with over 112,000 workers in over 40 countries across the globe.



Corporate Head Office
Kyoto, Japan

About Nidec Motor Corporation

Nidec Motor Corporation (NMC), a major subsidiary of Nidec Corporation, was formed in 2010 when Nidec Corporation acquired the motors and controls business of Emerson Electric Company. Headquartered in St. Louis, Missouri U.S.A., Nidec Motor Corporation produces a vast array of motors and controls for the appliance, commercial, and industrial sectors. NMC has 10 manufacturing facilities in the U.S., Mexico, the UK and China. Additionally, there are 15 technology, administration and distribution locations in the U.S., Canada, Mexico, Venezuela, Columbia, China and the Philippines.



Nidec Motor Corporation
St. Louis, Missouri U.S.A.

About Nidec Motion and Drives

Nidec Motion and Drives is a business unit within NMC specializing in standard and custom brushless DC motors, AC and DC servo motors, frameless motors, and brushed PMDC motors, to name a few. Motion and Drives designs and mass manufactures sophisticated electric motors and drives/controllers for AGVs, robotics, HVLS fans, marine applications, and many more. Our customer-centric approach is to serve as a developmental partner, providing innovative solutions for some of the world's most challenging and demanding motor, gearmotor and drive applications.

Nidec Motion and Drives strives for personalized service with dedicated project teams that lead and collaborate from concept to design, and from rapid prototyping to production. These teams focus on delivering the right mechanical package for the application, either by leveraging diverse standard platforms or providing a customized solution. Backed by the global network of Nidec expertise and experience, the end result is a quality product that meets customer requirements on time and at the right price.

About Roboteq

Roboteq founded in 2003, is a leading innovator of low voltage advanced servo drives. In 2020, Roboteq became a part of the Nidec family of brands offering a full range of low-voltage advanced servo drives and integrated drives for all motor types.



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