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Find the *Warner Electric SLO-SYN TDC330/08* at our website: ***Click HERE***

Superior Electric

SLO-SYN® BRUSHLESS SERVO SYSTEMS
TD SERIES



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SLO-SYN® TD SERIES SERVO AMPLIFIERS

TD Series Servo Amplifiers

The SLO-SYN® TD series of Brushless DC servo amplifiers provide a superior, cost effective transition from stepper to servo performance. The TD servo products are stand-alone, compact servo amplifiers with integral, line-operated, power supply.

TD Torque Mode Amplifier

The TD servo amplifier operates directly off the AC line with input voltages from 95 to 264 VAC, 50/60 Hz. They are designed to drive Brushless DC servo motors utilizing either Hall effect devices or encoders with commutation tracks.

Available in two model configurations, the TD330/04 provides output currents of 4 amps continuous, 8 amps peak, while the TD330/08 provides 8 amps continuous, 16 amps peak. Both operate with a bus voltage of up to 330 VDC for optimum speed/torque performance. Depending on the motor/drive combination, speeds up to 5000 rpm are available when using the SLO-SYN LIS/HIS servo motors. Continuous stall torques range from 5 lb-in to 104 lb-in, with peak torques approximately double that of continuous.



TD Torque Mode Amplifier

TDP Pulse Input Servo Amplifier

The SLO-SYN TDP Brushless DC servo system is the solution when servo performance is demanded and a stepper control desired. The TDP is a packaged servo amplifier and power supply capable of accepting pulse position commands and driving Brushless DC servo motors.



TDP Pulse Input Servo Amplifier

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SLO-SYN® TD Series Servo AMPLIFIER FEATURES

Features - Common to TD Series Servo Amplifiers

- Continuous current ratings of 4 amps and 8 amps
  (8 amps and 16 amps peak)
- Compatible with most Brushless DC servo motors using Hall effect devices or encoders with commutation tracks
- Systems provide typical torque outputs from 5 lb-in to 104 lb-in
- Speeds up to 5000 rpm
- Line operated 95-264 VAC input, no external power supply required
- Bus voltage of up to 330 VDC
- Operates as a torque amplifier
- Switch selectable current scaling for easy instal-
  lation (no potentiometers to adjust)
- Latched short circuit protection
  (phase-to-phase and phase-to-ground)
- Latched over temperature protection
- Latched DC bus over voltage protection
- Accepts conventional +/-10 VDC analog input
- LED indicators for over voltage, over current, over temperature, and power regeneration
- 50 ohm, 50 watt regenerative energy
  circuit included
- Provision for external regeneration resistors
- UL Recognized
- CE Compliant

Features - Unique to TD Torque Mode Amplifier

- Accepts conventional +/-10 VDC analog input command

Features - Unique to TDP Pulse Input Servo Amplifier

- 16 bit microprocessor
- Scalable pulses per motor revolution (Step Angle)
- 3 pulse formats
  - Pulse and Direction
  - CW Pulse and CCW Pulse
  - A/B Quadrature
- Normal or buffered (burst) pulse input
- Manages servo control of shaft position
- PC based configuration program
- Configuration parameters and auto tuning on one easy to follow screen
- Pre-configured inputs
  - +/-Limit switch inputs (may be disabled)
  - Pulse inhibit
  - Torque limit enable
  - Soft drive enable
  - Reset fault
- Pre-configured outputs
  - In position

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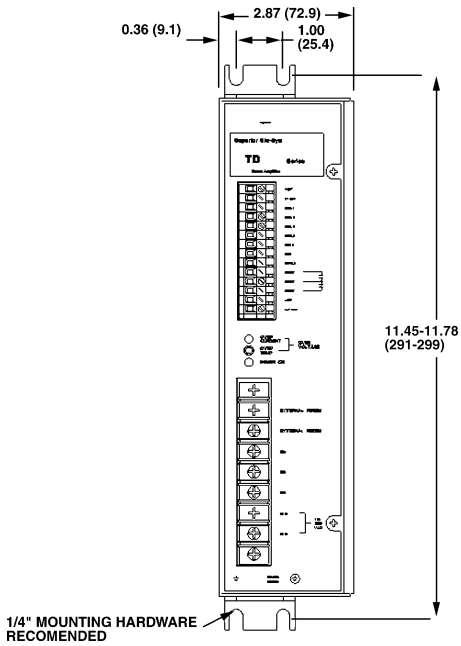
SLO-SYN® TD SERVO AMPLIFIER SPECIFICATIONS

Mechanical and Environmental Specifications

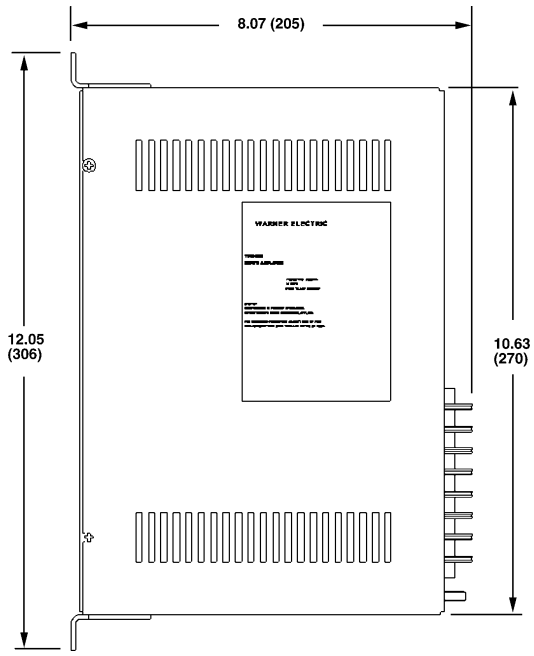
Size:	2.87W x 10.63H x 8.07D
Weight:	6.75 lbs. (3.07 kg)
Temperature:	
Operating	0°C to 50°C (32°F to 122°F)
Storage	-40°C to 75°C (-40 °F to 167°F)
Max. Heatsink Temp:	70°C (158°F); forced air cooling may be necessary
Humidity:	95% maximum, non-condensing
Altitude:	10,000 feet max.

Electrical Specifications

Motor Current:	
TD330/04	4 amps continuous, 8 amps peak
TD330/08	8 amps continuous, 16 amps peak
Torque Command:	+/-10 Vdc
Input Impedance:	100K ohm
AC Input Voltage:	Single Phase 95 to 264 VAC, 50/60 Hz
Internal Bus Voltage:	130 to 375 Vdc depending on AC Input Voltage (maximum value of a 6-step waveform)
Rated Bus Voltage	
@ 230VAC	330 Vdc
Switching Frequency:	15 kHz
Operating Mode:	Current
Input Current:	
TD330/04	7 amps, fuse rating: 8 amp 3AB - Fast Acting
TD330/08	14 amps, fuse rating 15 amp 3AB - Fast Acting
Regenerative Energy Circuit:	
Internal	50 ohm, 50 watt resistor
External	Connections available (consult factory)
LED Indicators:	Over Voltage, Over Current, Power, Regen On, Over temperature
Regenerative Energy	
Circuit Fusing:	1 amp 3AG - Slo-Blo
Power Dissipation	75 Watts



(Fig. 1) TD Servo Amplifier Front View



(Fig. 2) TD Servo Amplifier Side View

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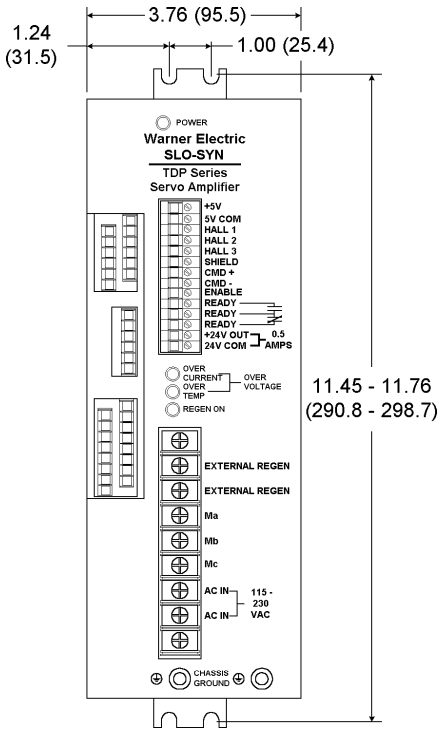
Mechanical and Environmental Specifications

Size:	3.76W x 10.63H x 8.07D
Operating temperature:	+32°F to +122°F (0°C to +50°C)
Storage temperature:	-40°F to +167°F (-40°C to +75°C)
Humidity:	95% maximum, non-condensing
Altitude:	10,000 feet (3048 meters) maximum
Weight:	7.75 lbs (3.52 kg)

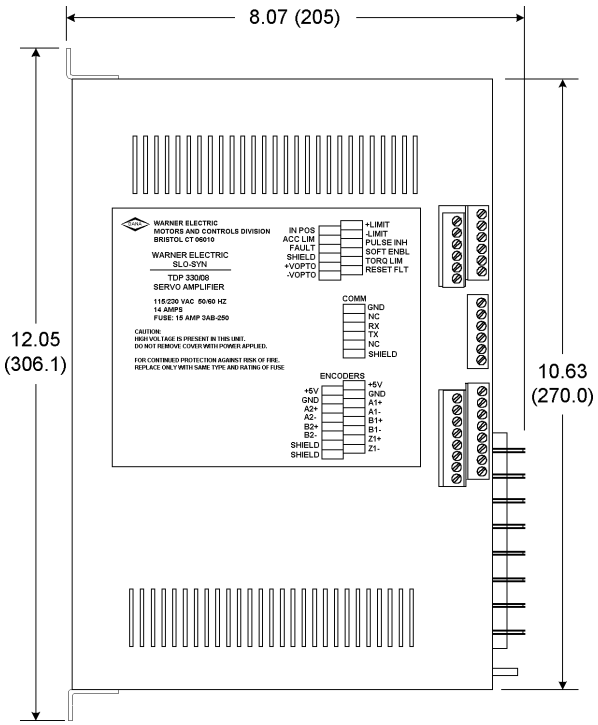
Electrical Specifications

Pre-Configured Inputs:	
Sink mode:	
On state voltage range:	0V to (+Vopto - 4.5V)
Input Current; (V_IL = 0V):	11.5mA
Input Current; (V_IL = 19.5V):	1.7mA
Maximum Input differential voltage:	26V
Response time (sink or source):	
Opto turn on delay:	10µS typical
Opto turn off delay:	75µS typical
Pre-Configured Outputs:	
Sink or source selectable via jumpers JP1 and JP2.	
Sink mode:	
Current rating:	50mA continuous
Maximum collector voltage:	26V max
On state voltage @ 50mA:	2.0V max
Hall Effect Inputs: Optically isolated inputs for the commutation devices.The inputs are pulled up to the +5 VDC supply.	
Impedance to +5Vdc supply:	1K ohm pullup resistor
Low level current:	4 mA maximum
Low level voltage:	1V maximum
Serial Communication:	
Type:	RS232
Baud Rate:	9600
Word Length:	8 bits
Stop bits:	1 bit
Parity:	None
Encoder Connections:	
Encoder channel 1 has power and inputs for a digital encoder interface to provide servo motor position to the controller. (position loop)	
Encoder +5VDC output:	+5VDC (+/-5%) @ 100mAcurrent.
Encoder signal inputs:	TTL level single ended or differential channels A and B in phase quadrature.
Input current A+,A-,B+,B-:	+/-5mA min
Encoder channel 2 has power and inputs for motor motion signals	
Electrical characteristics same as encoder channel 1	

Note: The above inputs and outputs are optically isolated



(Fig. 3) TD Pulse Input Servo Amplifier Front VIew



(Fig. 4) TD Pulse Input Servo Amplifier Side View

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TDC Servo Positioning Systems

The SLO-SYN® TDC series of Brushless servo positioning systems are the perfect solution to replace a step motor system with servo performance in a compact, cost effective package. Applications once earmarked for stepper systems can now be upgraded to the highest levels of performance using true, closed loop, Brushless DC servo controls and motors.

The TDC servo positioning system is a completely integrated system, including all of the superior features of the TD servo amplifier, plus an integral positioning controller with BASIC-like language programming, and power supply in one compact package.

Available in two model configurations, the TDC 330/04 provides output currents of 4 amps continuous (8 amps peak), while the TDC 330/08 provides 8 amps continuous (16 amps peak). Both operate with a bus voltage of up to 330 VDC for optimum speed/torque performance. Depending on the motor/drive combination, speeds up to 5000 rpm are available when using the SLO-SYN® LIS/HIS servo motors. Continuous stall torques range from 5 lb-in to 104 lb-in with peak torques double that of continuous.



TDC Servo Positioning System

Features

The following features are in addition to the features already listed for the TD servo amplifier on page 2.

Features - Unique

- Electronic gearing capabilities
- 16 bit microprocessor
- Differential or single ended encoder input
- Two serial ports, RS232/485 up to 38.4 kBaud rates
- Optically isolated I/O, 10 inputs, 2 outputs, or source selectable.
- Additional 8 inputs and 4 outputs, non-isolated
- Auto tuning of servo gains
- One +/-10 VDC differential analog input, 10 bits
- BASIC-like programming language
- Complete Windows based software development utility, for easy programming on any PC, included
- Built-in BCD interface with separate connector
- Non-volatile RAM for storage of user defined variables (400 memory locations)
- Separate Busy and Fault LED indicators

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Mechanical and Envirnmental Specifications

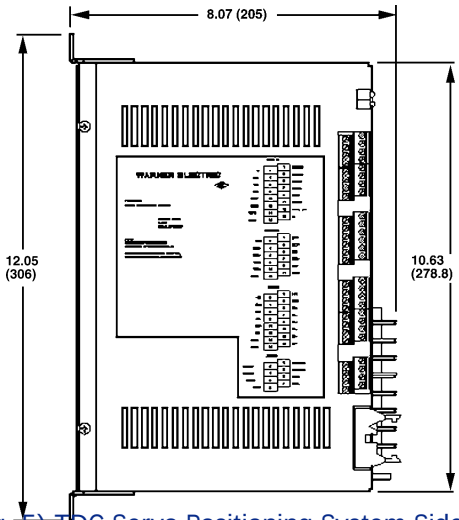
Size:	3.76W x 10.63H x 8.07D
Operating temperature:	+32°F to +122°F (0°C to +50°C)
Storage temperature:	-40°F to +167°F (-40°C to +75°C)
Humidity:	95% maximum, non-condensing
Altitude:	10,000 feet (3048 meters)max.
Weight:	7.75 lbs (3.52 kg)

Electrical Specifications

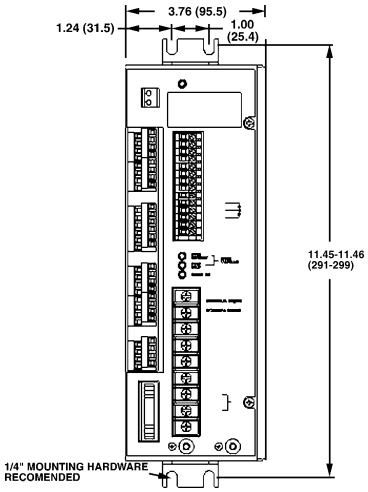
Inputs (IN1 - IN10):	Sink or Source mode selectable via jumper
Sink mode:	
On state voltage range:	0V to (+Vopto - 4.5V)
Input Current; (V_IL = 0V):	11.5mA
Input Current; (V_IL = 19.5V):	1.7mA
Maximum Input	
differential voltage:	26V
Source mode:	
On state voltage range:	4.5V to 26V
Input Current; (V_IH = 4.5V):	1.7mA
Input Current; (V_IH = 26V):	11.5mA
Maximum Input	
differential voltage:	26V
Response time (sink or source):	
Opto turn on delay:	10µS typical
Opto turn off delay:	75µS typical
Programmable Outputs (OUT1,OUT2):	
Sink or source selectable via jumpers JP1 and JP2.	
Sink mode:	
Current rating:	50mA continuous
Maximum collector voltage:	26V max
On state voltage @ 50mA:	2.0V max
Source mode:	
Current rating:	50mA continuous.
Maximum emitter voltage :	26V max
On state voltage @ 50mA:	+Vopto - 2.0V

TTL I/O or BCD Interface, Non-Isolated

IN 11- IN18:	
Logic high input level:	5V > Vsource > 4.5V
Logic low input level:	1.5V max
OUT 3 - OUT6: Open-collector, sink only TTL outputs, are NOT isolated from the units +5 V logic supply. Proper care must be taken to insure noise is not injected onto these signals.	
Active output voltage:	0.6V max @ 20mA
Permissible output current:	20mA
FAULT Output: The FAULT output is SINK ONLY, active low. Specifications are identical to OUT1, OUT2 sink mode shown above.	
Serial Communications:	
Port 1: Configurable for RS-232C or RS-485 via jumpers Port 1 is designated as the HOST communications port.	
Port 2: Port 2 is for RS-485 USER communications.	
Encoder Connections: Encoder channel 1 has power and inputs for a digital encoder interface to provide servo motor position to the controller.	
Encoder +5VDC output:	+5VDC (±5%) @ 100mA current
Encoder signal inputs:	TTL level single ended or differential channels A and B in phase quadrature.
Input current A+,A-,B+,B-:	+/-5mA min
Analog Input:	
Voltage Range:	+10V(max) to -10V (min)
Resolution:	10 bits or 19.5mV
Absolute Accuracy:	+/-0.3V worst case
Sample Rate:	500 Hz min
Bandwidth:	100 Hz max
Analog +10V Reference:	
Voltage:	+10.00VDC (+/- 20mV)
Output current source rating:	10mA max
Servo Monitor Output:	
Voltage Range:	+10 to -10VDC
Output Impedance:	200 ohm max
Output Current:	5mA max, recommended sourcing to impedance > 20K ohm
Hall Effect Inputs: Optically isolated inputs for the commutation devices.The inputs are pulled up to the +5 VDC supply. Impedance to +5VDC	
supply:	1K ohm pullup resistor
Low level current:	4 mA maximum
Low level voltage:	1V maximum



(Fig. 5) TDC Servo Positioning System Side View



(Fig. 6) TDC Servo Positioning System Front View

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SLO-SYN® TD SERIES SERVO APPLICATIONS

SLO-SYN® TD Series Servo Positioning Systems and Amplifiers provide superior performance, reliability, cost effectiveness, and value-added support for these applications and many more in today's ever changing market place.



Web Tensioning



Paper Converting



Sheet Metal Fabrication

Applications

- Environmental Testing
- Silicon Crystal Growing
- Paper Packaging System
- Cut-To-Length of Metal, Plastic, Fabric, etc.
- Sheet Metal Fabricatio
- Fiberglass Mass Production
- Aircraft and Aerospace Parts Machining
- Laser Positioning
- Brush Manufacturing
- Tire Manufacturing
- Radiation Testing Control
- Office Peripheral Equipment
- Paper Converting
- Pick-And-Place Automatic Loading and Unloading
- Grinding
- Metal Punching
- Rotary Table Control
- Web Tensioning
- Welding
- Wire Harness Assembly
- Wrapping Machines
- XYZ Applications

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HIS - Heavy Industrial Servo Motors

The SLO-SYN® HIS line of Heavy Industrial Servo Motors are brushless permanent magnet motors designed to the highest performance available. Continuous torques range from 6.3 to 104 lb-in (0.7 to 11.7 Nm). Peak torque ranges from 14 to 195 lb-in (3.4 to 45.7 Nm). The HIS series is available in multiple frame sizes 2.3 in., 3.4 in. and 4.5 in. and conform to NEMA 23, 34, and 42 standard mounting. Coupled with the TD series of servo amplifiers and controls, HIS motors provide the features necessary to meet your servo motion control system needs.



Features

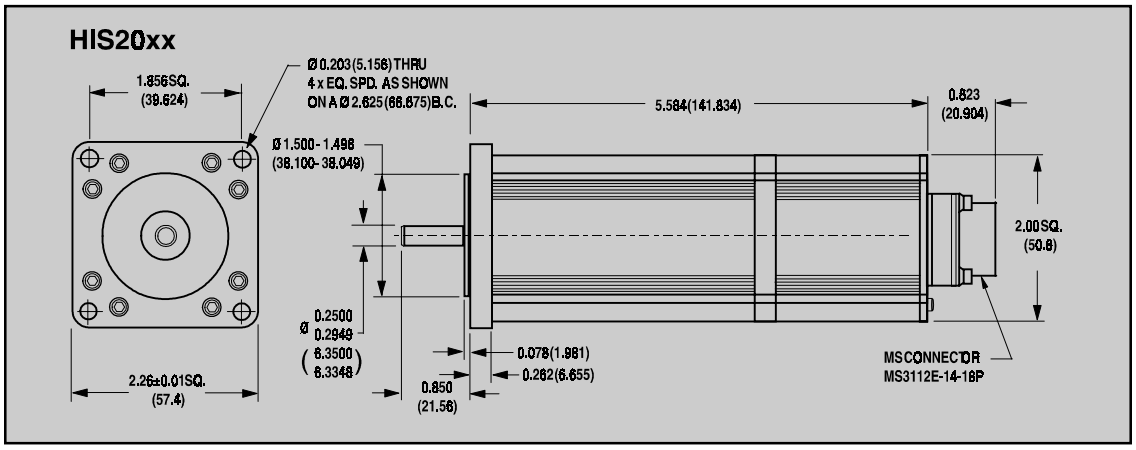
- 2.3", 3.4" and 4.5" frame sizes (NEMA 23, 34, and 42 mounting)
- 1000 LPR differential encoder standard
- 2000 LPR differential encoder optional
- Commutation tracks on encoder
- 6.3 to 104 lb-in (0.7 to 11.7 Nm) continuous torque
- Thermostat protection
- MS connectors standard
- 24 VDC brake option
- IP65 sealing
- Class H winding insulation
- UL Recognized

HIS Motor Specifications

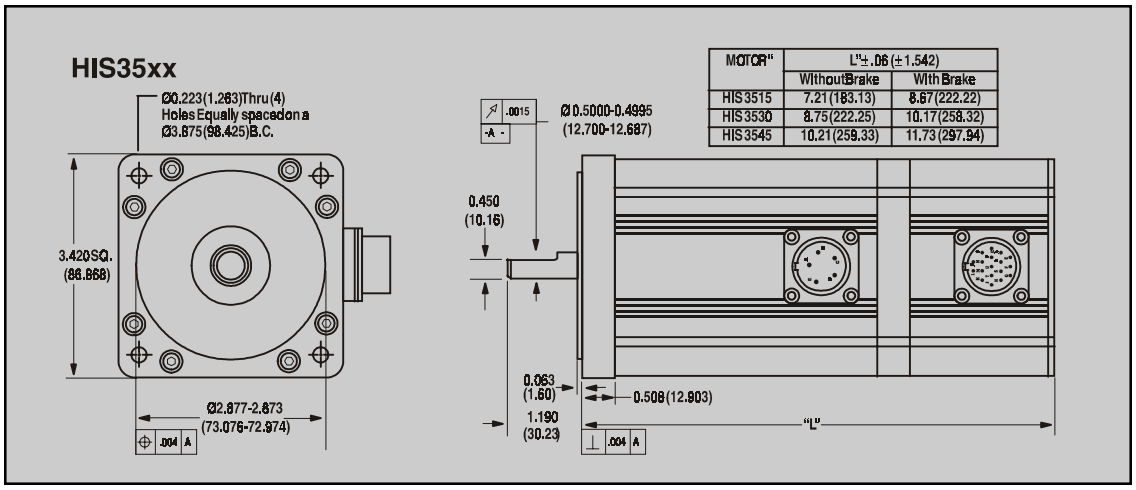
Motor	Power	Rated Torque Cont.	Stall Torque Cont.	Peak Stall Torque	Current Cont.	Peak Line Current	Max. Operating Speed	Speed at Rated Torque	Torque Sensitivity (±10%)	Back EMF, line-to-line (±10%)	DC Resist-ance (±10%)	Induct-ance (±10%)	Rotor Inertia	Thrust (Axial) Load Rating	Overhang (Radial) Load Rating	Weight
Units	hp (W)	lb-in (Nm)	lb-in (Nm)	lb-in (km)	amp	amp	rpm	rpm	lb-in/amp (Nm/amp)	Vrms/ krpm	ohm	mH	lb-in-sec2 (kg-m2)	lb(kg)	lb(kg)	lb(kg)
HIS2020	0.40 (300)	6.3 (0.7)	10 (1.1)	30 (3.4)	2.4	10.3	5000	4000	2.9 (0.33)	28	12.1	16	0.0001 (0.00001)	15 (7)	20 (9)	3.0 (1.4)
HIS3515	0.82 (6.20)	13 (1.47)	16 (1.8)	58.8 (6.64)	3.8	14.0	5000	4000	4.2 (0.48)	37.6	3.9	9.1	0.0005 (0.00006)	25 (11)	40 (18)	8.3 (3.8)
HIS3530	1.62 (1200)	25.5 (2.9)	30 (3.4)	109.9 (12.42)	7.3	26.8	5000	4000	4.1 (0.47)	36.6	2.1	7.0	0.001 (0.00011)	25 (11)	40 (18)	12.0 (5.4)
HIS3545	1.96 (1460)	34.4 (3.8)	39 (4.4)	143.2 (16.2)	6.3	23.1	4100	3600	6.2 (0.70)	55	1.9	6.8	0.0014 (0.00016)	25 (11)	40 (18)	14.6 (6.6)
HIS4525	2.1 (1600)	45 (5.1)	54 (6.1)	189 (21.3)	8.7	30.5	4200	3000	6.2 (0.71)	55	0.81	4.5	0.0026 (0.00029)	50 (23)	100 (45)	20.0 (9.1)
HIS4550	1.8 (1300)	75 (8.4)	83 (9.3)	291 (32.7)	6.7	23.4	2100	1500	12.4 (1.42)	110	0.94	7.0	0.0051 (0.00058)	50 (23)	100 (45)	28.6 (13.0)
HIS4575	2.4 (1800)	104 (11.7)	116 (13.1)	407 (45.7)	9.4	32.8	2100	1500	12.4 (1.42)	110	0.5	4.3	0.0074 (0.00084)	50 (23)	100 (45)	37.0 (16.8)

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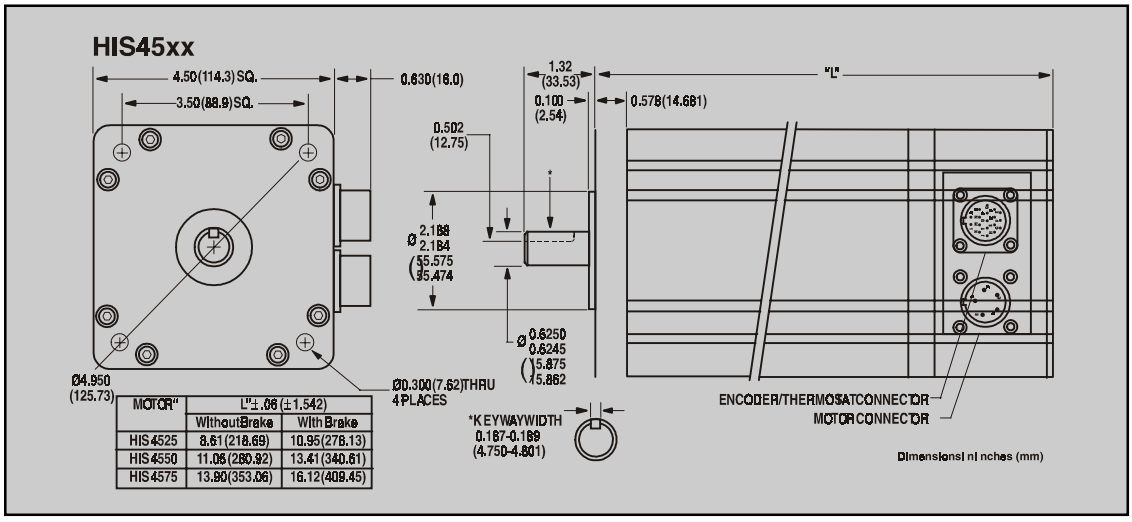
Dimensions



(Fig. 7) HIS20xx Brushless Servo Motor



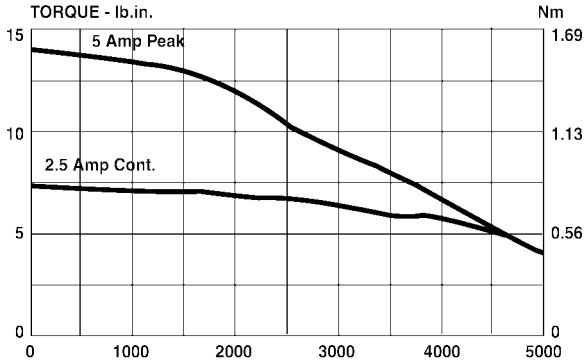
(Fig. 8) HIS35xx Brushless Servo Motor



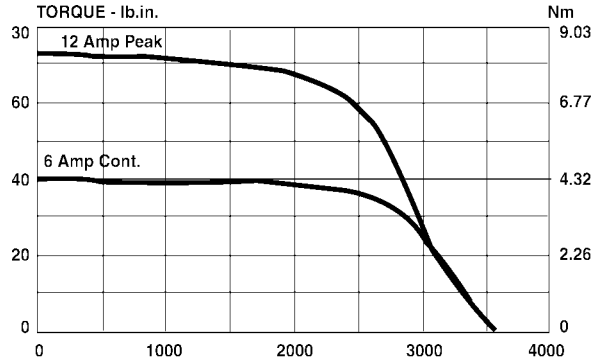
(FIg. 9) HIS45xx Brushless Servo Motor

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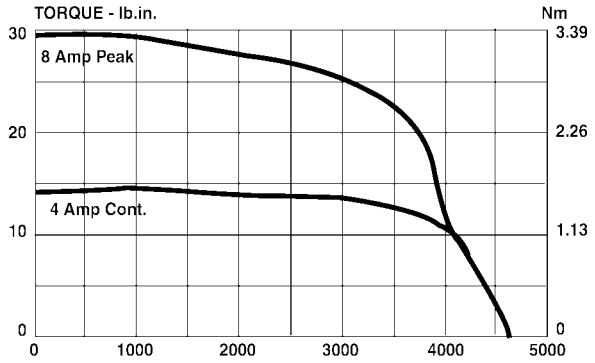
Typical Torque vs Speed Characteristics



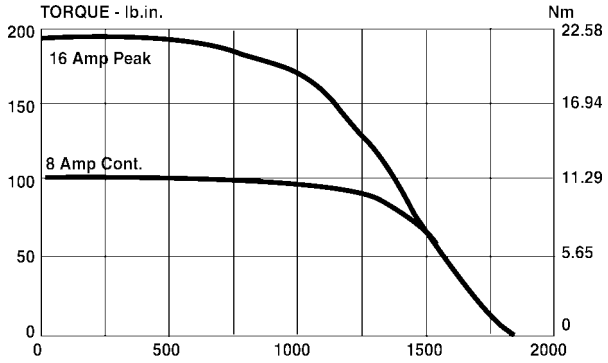
HIS2020-28 • 230 VAC, 2.3 in., 2 in. STACK



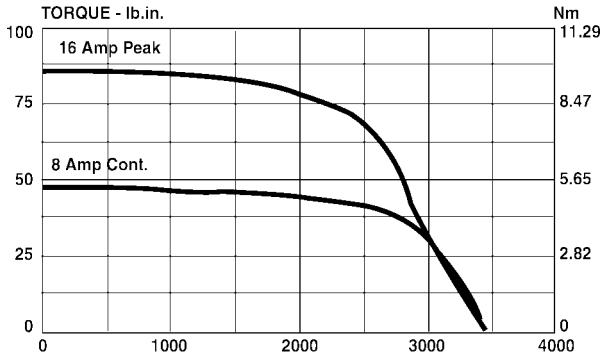
HIS3545-55 • 230 VAC, 3.5 in., 4.5 in. STACK



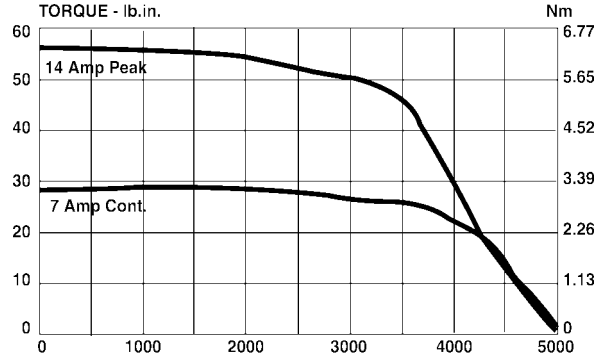
HIS3515-38 • 230 VAC, 3.5 in., 1.5 in. STACK



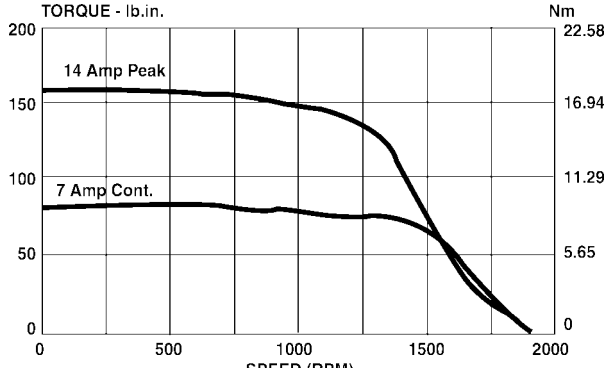
HIS4575-110 • 230 VAC, 4.5 in., 7.5 in. STACK



HIS4525-55 • 230 VAC, 4.5 in., 2.5 in. STACK



HIS3530-37 • 230 VAC, 3.5 in., 3.0 in. STACK

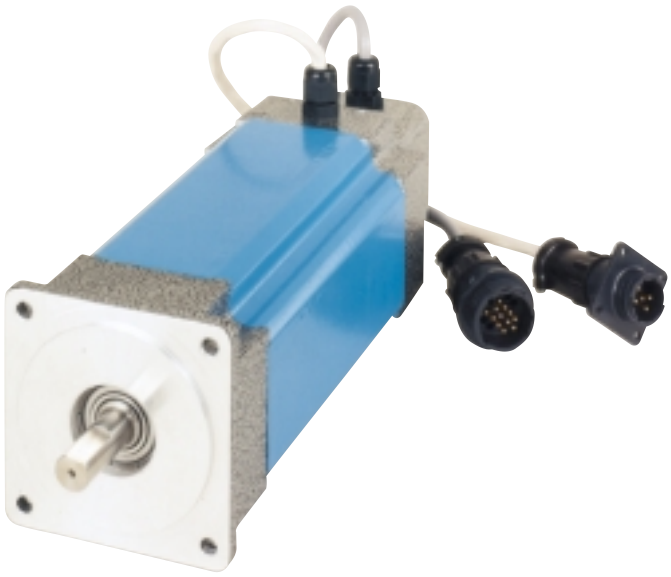


HIS4550-110 • 230 VAC, 4.5 in., 5.0 in. STACK

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LIS - Light Industrial Servo Motors

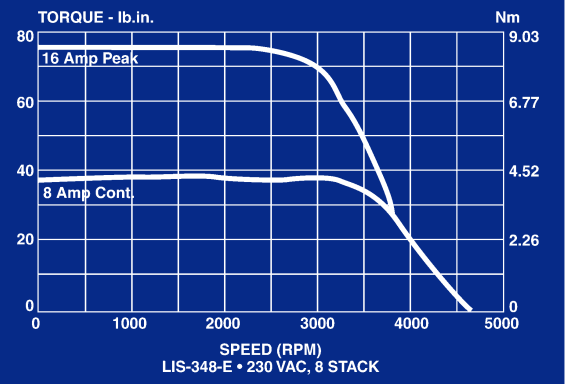
The LIS series of Light Industrial Servo Motors are permanent magnet brushless servo motors engineered for high performance in a compact package. LIS motors provide from 5.5 to 37.5 lb-in (0.6 to 4.2 Nm) continuous torque and 13 to 78 lb-in (2 to 14 Nm) peak torque. The LIS Series of Servo Motors is mechanically equivalent to NEMA 23 and NEMA 34 step motors, providing the perfect solution when upgrading new or existing stepper systems to servo performance. LIS motors employ rare earth magnets and low inertia rotors providing rapid acceleration and deceleration capaabilites.

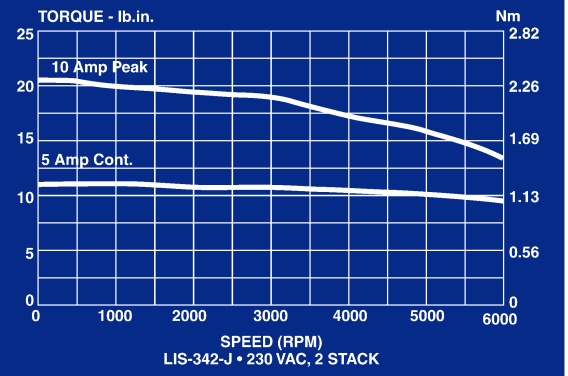


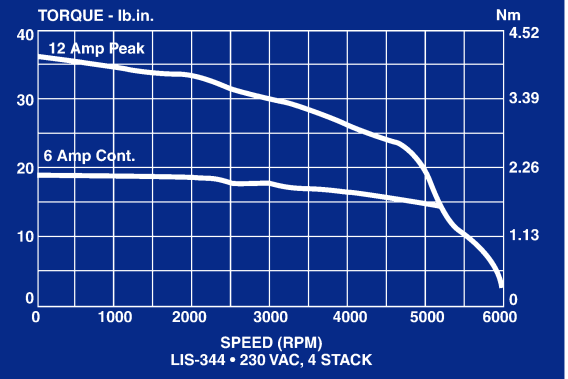
Features

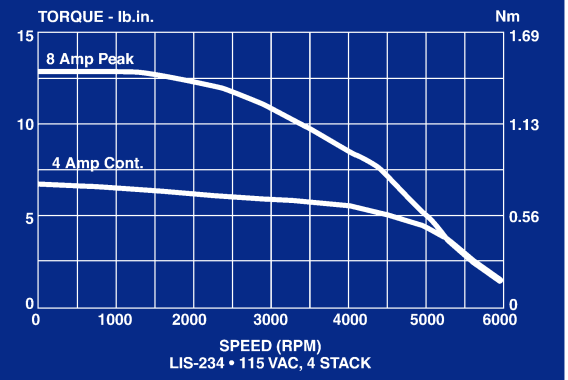
- NEMA 23 and NEMA 34 standard frame size
- 6.94 to 46.56 lb-in (0.8 to 5.3 Nm) continuous stall torque
- 1000 LPR differential encoder included
- Standard Hall Effect commutation
- Twist on connectors standard
- IP40 sealing

Typical Torque vs Speed Characteristics







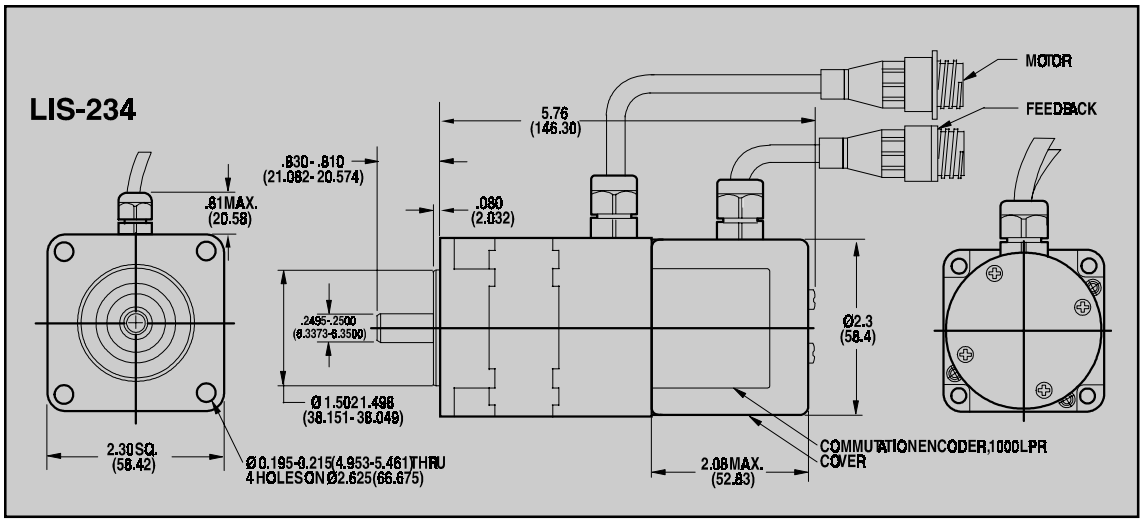


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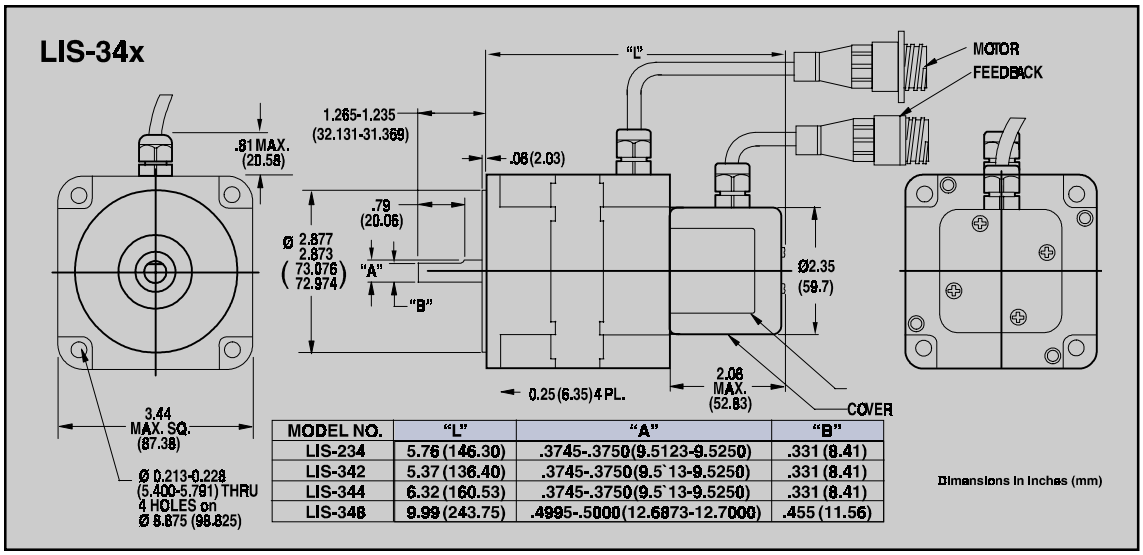
LIS Motor Specifications

Motor	Power	Rated Torque Cont.	Stall Torque Cont.	Peak Stall Torque	Current Cont.	Peak Line Current	Max. Operating Speed	Speed at Rated Torque	Torque Sensitivity (±10%)	Back EMF, line-to-line (±10%)	DC Resist-ance (±10%)	Induct-ance (±10%)	Rotor Inertia	Thrust (Axial) Load Rating	Overhang (Radial) Load Rating	Weight
Units	hp (W)	lb-in (Nm)	lb-in (Nm)	lb-in (km)	amp	amp	rpm	rpm	lb-in/amp (Nm/amp)	Vrms/ krpm	ohm	mH	lb-in-sec2 (kg-m2)	lb(kg)	lb(kg)	lb(kg)
LIS-234-F	0.40 (299)	5.5 (0.621)	6.94 (0.784)	17.43 (1.99)	3.89	11.7	6000	4600	1.78 (0.201)	23.9	2.3	4.63	0.000204 (0.000023)	10 (4.5)	15 (7)	2.8 (1.27)
LIS-342-J	0.63 (470)	8.0 (0.904)	11.19 (1.26)	30.19 (3.41)	4.96	14.9	6000	5000	2.26 (0.255)	30.3	1.86	8.8	0.000424 (0.000048)	30 (14)	50 (23)	3.92 (1.78)
LIS-344-K	1.08 (809)	13.69 (1.55)	18.9 (2.13)	45.56 (5.26)	6.9	16.3	6000	5000	3.17 (0.358)	42.6	1.40	8.2	0.000813 (0.000092)	30 (14)	50 (23)	5.8 (2.65)
LIS-348-E	1.96 (1460)	37.5 (4.24)	45.56 (5.15)	125.2 (15.15)	9.43	28.8	6000	1550	4.83 (0.546)	64.9	0.87	6.06	0.002356 (0.000266)	30 (14)	50 (23)	13.9 (6.32)

Dimensions



(Fig. 10) LIS-234 Brushless Servo Motor



MODEL NO.	"L"	"A"	"B"
LIS-234	5.76 (146.30)	.3745-.3750 (9.5123-9.5250)	.331 (8.41)
LIS-342	5.37 (136.40)	.3745-.3750 (9.5`13-9.5250)	.331 (8.41)
LIS-344	6.32 (160.53)	.3745-.3750 (9.5`13-9.5250)	.331 (8.41)
LIS-348	9.99 (243.75)	.4995-.5000 (12.6873-12.7000)	.455 (11.56)

(Fig.11) LIS-34x Brushless Servo Motor

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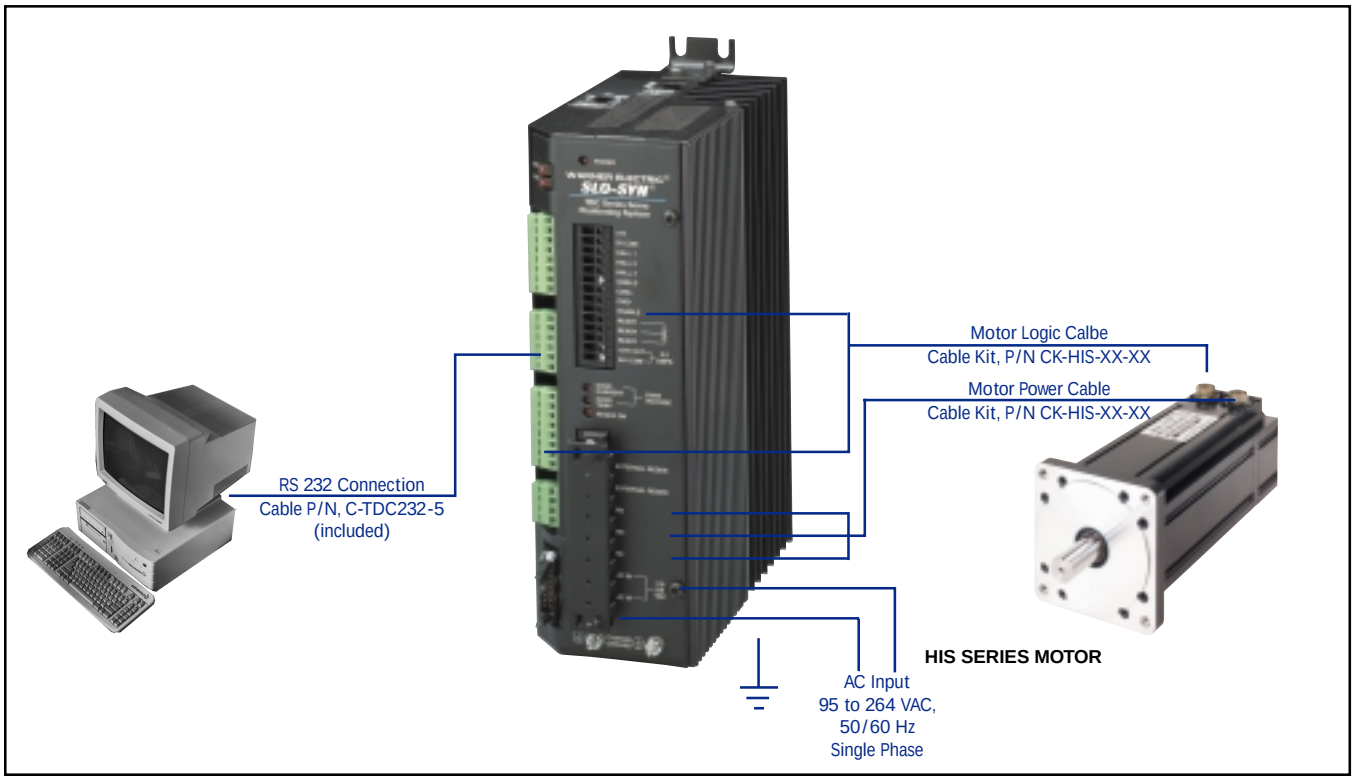
SLO-SYN® LIS/HIS CABLE KITS

TD Series Servo Amplifiers

A complete line of cable kits are available for use with the TD and TDP Brushless Servo Drives and the TDC Brushless Servo Control Drive. Each kit includes all cables required to connect your LIS/HIS motor to the TD, TDP or TDC units. The cables are terminated at the motor end with the corresponding mating connector to the motor. The drive/control ends of the cables have the individual conductors stripped and tinned for easy connection to a TD/TDC unitor your own equipment, if desired. Cable kits are available in two standard lengths of 15 and 30 feet (4.57 and 9.14 meters). Choose the cable kit that corresponds to your system in the length you need. In addition, a 5 ft. (1.52m) RS-232 cable is included for use in programming the TDC and TDP units.

Choose the appropriate cable for your system from the following table. The same cable kit is used whether your system utilizes the TD series of brushless servo drives or the TDC series of brushlessservo drives with integral control.

MOTOR TYPE	CABLE KIT	
	LENGTH	PART NUMBER
LIS-23x/LIS-34x	15 FOOT	CK-LIS-23/34-15
LIS-23x/LIS-34x	30 FOOT	CK-LIS-23/34-30
HIS20xx	15 FOOT	CK-HIS-20-15
HIS20xx	30 FOOT	CK-HIS-20-30
HIS35xx/HIS45xx	15 FOOT	CK-HIS-35/45-15
HIS35xx/HIS45xx	30 FOOT	CK-HIS-35/45-30

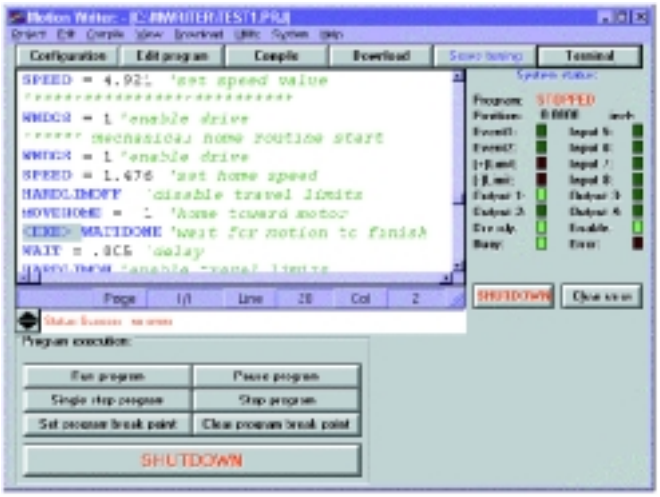


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SLO-SYN®, Packaged Step Motor Controller and Drive WARPDRIVE™ Series

The WARPDRIVE™ Series is designed to offer optimum performance in a full range of step motor positioning applications. This convenient, compact packaged sys-tem with basic-like language for easy programming is compatible with SLO-SYN Standard Motors, sizes NEMA 23 to 42 and High Torque Motors in sizes NEMA 23 and 34.



Motion Writer™

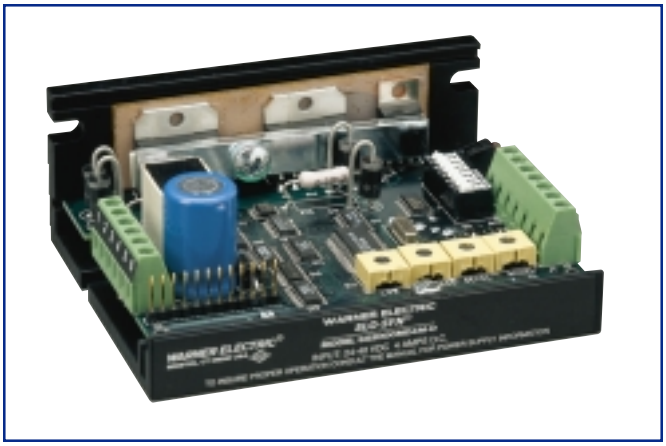
Motion Writer™ is an easy to use programming soft-ware that allows motion programmers to write powerful operating sequences without any programming lan-guage for single axis SLO-SYN® WARPDRIVE™ stepper controls and SLO-SYN® TD series servo controls used in linear and rotary applications.

Complete operating sequences can be programmed by using eight predefined program templates with “smart buttons” that allow users to put information about speed, distance, delay times, and so on, required for programming Warner Electric’s single axis step motor or servo positioning system.



SLO-SYN®, MX2000 Multi-Axis Motion Controller

Two, six, or eight axis DSP based programmable controller is easily incorporated into complex, sophisticated machine control systems. Stepper interface compatible with drives providing up to 50,000 pulses per revolution; encoder interface for up to 8 incremental encoders; axis, analog and expansion BCD I/O; serial data communications.



SLO-SYN®, Micro-Stepping Drives

The SLO-SYN family of Modular Step Motor Drives includes the SS2000MD4 for full step and half step applications and SS2000MD4-M for micro-stepping applications. They are used with two-phase step motors and require a single power supply. Added to the family, the SS2000MD4M-O is a micro-stepping drive with oscillator and analog voltage follower in one compact package. It features a microprocessor based digital oscillator for accurate speed control, built in potentiometers, switch selectable motor currents and motor speeds up to 3000 RPM. All drives are compatible with SLO-SYN® M Series stan-dard & KM Series High Torque Step Motors.

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