![SureServo logo]

AC Servo System Configuration

SureServo series drives and motors part numbering system

SV A - 2 04 0

Series
SV: *Sure*Servo AC servo

Component Type
A: Drive
L: Low inertia motor
M: Medium inertia motor

Component Option
0: Drive
Blank: Motor without brake
B: Motor with brake

Rated Output Power
01: 100W   10: 1000W
02: 200W   20: 2000W
04: 400W   30: 3000W
07: 750W

Nominal Input Voltage
2: 230VAC; 50/60 Hz
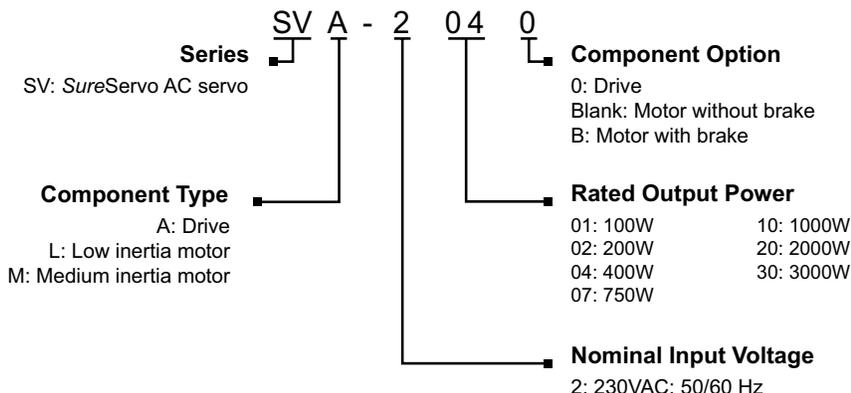
Here is what you will need to order a complete servo system:

| 1. Servo Drive | 2. Servo Motor | 3. Motor Power Cable | 4. Motor Encoder Cable | 5. ZIPLink I/O Interface |

NOTE: Unit can be programmed via keypad.
Optional programming software (free download) and optional programming cable available.

NOTE: If you need a gear box for your configuration, you can do it easily online:
http://www.sureservo.com/gearbox/selector

SureServo AC servo drive, motor, and cable combinations

Inertia & Power		Drive and Motor			Power Cables (from Drive to Motor)				Encoder Feedback Cables				Miscellaneous	
Inertia	Power	Servo Drive	Servo Motor without brake (note)	Servo Motor with brake (note)	10 ft	20 ft	30 ft	60 ft	10 ft	20 ft	30 ft	60 ft	ZIPLink I/O Interface	RS-422/485 Serial Communication Cable
Low inertia	100W	SVA-2040	SVL-201	SVL-201B	SVC-PFL-010	SVC-PFL-020	SVC-PFL-030	SVC-PFL-060	SVC-EFL-010	SVC-EFL-020	SVC-EFL-030	SVC-EFL-060	ZL-RTB50 and ZL-SVC-CBL50 or ZL-SVC-CBL50-1 or ZL-SVC-CBL50-2	SVC-MDCOM-CBL
Low inertia	200W	SVA-2040	SVL-202	SVL-202B										
Low inertia	400W	SVA-2040	SVL-204	SVL-204B										
Low inertia	750W		SVL-207	SVL-207B										
Low inertia	1000W	SVA-2100	SVL-210	SVL-210B	SVC-PHM-010	SVC-PHM-020	SVC-PHM-030	SVC-PHM-060	SVC-EHH-010	SVC-EHH-020	SVC-EHH-030	SVC-EHH-060		
Medium inertia	1000W	SVA-2100	SVM-210	SVM-210B										
Medium inertia	2000W	SVA-2300	SVM-220	SVM-220B	SVC-PHH-010	SVC-PHH-020	SVC-PHH-030	SVC-PHH-060						
Medium inertia	3000W	SVA-2300	SVM-230	SVM-230B										

Note: Each servo motor requires an encoder feedback cable and a power cable.
The motor power cable includes brake power wires for the optional motor brake.
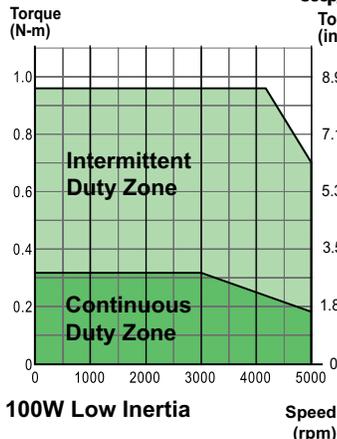
AC Servo System Configuration

Sure Servo®

For all systems:

Order programming software & programming cable if needed. See pgs. page tMNC-307 & page tMNC-319.

100W Low Inertia System

1.

Torque (N·m) / Torque (in·lb)

1.0	8.9
0.8	7.1
0.6	5.3
0.4	3.5
0.2	1.8
0	0

Intermittent Duty Zone

Continuous Duty Zone

Speed (rpm): 0 1000 2000 3000 4000 5000

100W Low Inertia

=

Servo Drive
SVA-2040 $537.00

Jm= Motor Inertia = 0.000027 lb-in-s2 (0.000003 kg - m2)

Sure Servo Motor

2.

SVL-201 — Retired
SVL-201B (w/brake) — Retired

Motor Power Cable (1)

3.

SVC-PFL-010 (10') $51.00
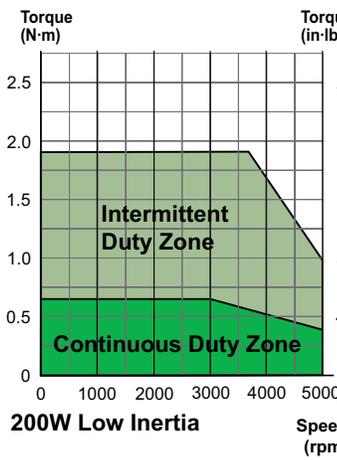SVC-PFL-020 (20') $96.00
SVC-PFL-030 (30') $121.00
SVC-PFL-060 (60') $218.00

Motor Encoder Cable (1)

4.

SVC-EFL-010 (10') $86.00
SVC-EFL-020 (20') $141.00
SVC-EFL-030 (30') $165.00
SVC-EFL-060 (60') $209.00

ZIPLink I/O Interface

5.

ZL-RTB50 $74.00
and one cable below:
ZL-SVC-CBL50 (0.5m) $48.50
ZL-SVC-CBL50-1 (1m) $51.00
ZL-SVC-CBL50-2 (2m) $58.00

200W Low Inertia System

1.

Torque (N·m) / Torque (in·lb)

2.5	22.1
2.0	17.7
1.5	13.3
1.0	8.9
0.5	4.4
0	0

Intermittent Duty Zone

Continuous Duty Zone

Speed (rpm): 0 1000 2000 3000 4000 5000

200W Low Inertia

=

Servo Drive
SVA-2040 $537.00

Jm= Motor Inertia = 0.00016 lb-in-s2 (0.000018 kg - m2)

Sure Servo Motor

2.

SVL-202 — Retired
SVL-202B (w/brake) $699.00

Motor Power Cable (1)

3.

SVC-PFL-010 (10') $51.00
SVC-PFL-020 (20') $96.00
SVC-PFL-030 (30') $121.00
SVC-PFL-060 (60') $218.00

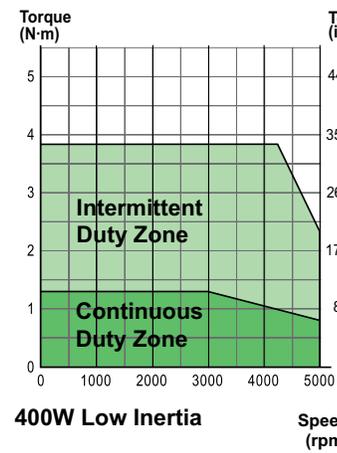**Motor Encoder Cable (1)**

4.

SVC-EFL-010 (10') $86.00
SVC-EFL-020 (20') $141.00
SVC-EFL-030 (30') $165.00
SVC-EFL-060 (60') $209.00

ZIPLink I/O Interface

5.

ZL-RTB50 $74.00
and one cable below:
ZL-SVC-CBL50 (0.5m) $48.50
ZL-SVC-CBL50-1 (1m) $51.00
ZL-SVC-CBL50-2 (2m) $58.00

400W Low Inertia System

1.

Torque (N·m) / Torque (in·lb)

5	44.3
4	35.4
3	26.6
2	17.7
1	8.9
0	0

Intermittent Duty Zone

Continuous Duty Zone

Speed (rpm): 0 1000 2000 3000 4000 5000

400W Low Inertia

=

Servo Drive
SVA-2040 $537.00

Jm= Motor Inertia =0.0003 lb-in-s2 (0 .000034 kg - m2)

Sure Servo Motor

2.

SVL-204 — Retired
SVL-204B (w/brake) — Retired

Motor Power Cable (1)

3.

SVC-PFL-010 (10') $51.00
SVC-PFL-020 (20') $96.00
SVC-PFL-030 (30') $121.00
SVC-PFL-060 (60') $218.00

Motor Encoder Cable (1)

4.

SVC-EFL-010 (10') $86.00
SVC-EFL-020 (20') $141.00
SVC-EFL-030 (30') $165.00
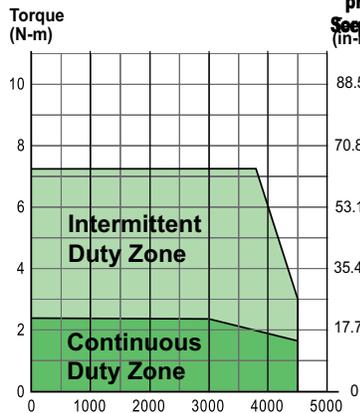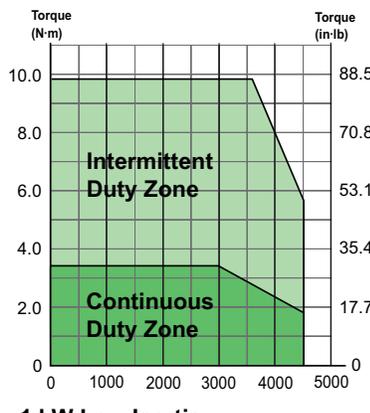SVC-EFL-060 (60') $209.00

ZIPLink I/O Interface

5.

ZL-RTB50 $74.00
and one cable below:
ZL-SVC-CBL50 (0.5m) $48.50
ZL-SVC-CBL50-1 (1m) $51.00
ZL-SVC-CBL50-2 (2m) $58.00

Sure*servo*®

AC Servo System Configuration

750W Low Inertia System

For all systems:

Order programming software & programming cable if needed.
See pgs. page tMNC-307 & page tMNC-319.

Torque (N-m) / Torque (in-lb)

Intermittent Duty Zone

Continuous Duty Zone

750W Low Inertia — Speed (rpm)

Jm= Motor Inertia = .00096 lb-in-s2 (0.000108 kg - m2)

1. Servo Drive
SVA-2100 Retired

2. *Sure*Servo Motor

SVL-207	Retired
SVL-207B (w/brake)	Retired

3. Motor Power Cable (1)

SVC-PFL-010 (10')	$51.00
SVC-PFL-020 (20')	$96.00
SVC-PFL-030 (30')	$121.00
SVC-PFL-060 (60')	$218.00

4. Motor Encoder Cable (1)

SVC-EFL-010 (10')	$86.00
SVC-EFL-020 (20')	$141.00
SVC-EFL-030 (30')	$165.00
SVC-EFL-060 (60')	$209.00

5. *ZIP*Link I/O Interface

ZL-RTB50	$74.00
and one cable below:	
ZL-SVC-CBL50 (0.5m)	$48.50
ZL-SVC-CBL50-1 (1m)	$51.00
ZL-SVC-CBL50-2 (2m)	$58.00

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1 kW Low Inertia System

Torque (N·m) / Torque (in·lb)

Intermittent Duty Zone

Continuous Duty Zone

1 kW Low Inertia — Speed (rpm)

Jm= Motor Inertia = .0023 lb-in-s2 (0.00026 kg - m2)

1. Servo Drive
SVA-2100 Retired

2. *Sure*Servo Motor

SVL-210	Retired
SVL-210B (w/brake)	$1,103.00

3. Motor Power Cable (1)

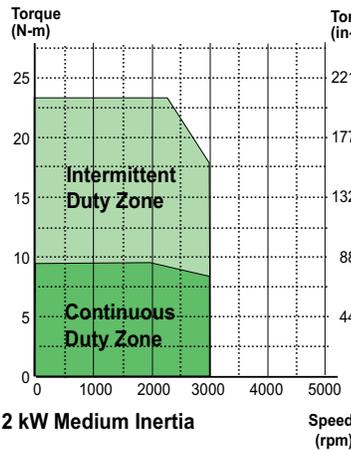|	
SVC-PHM-010 (10')	$160.00
SVC-PHM-020 (20')	$175.00
SVC-PHM-030 (30')	$290.00
SVC-PHM-060 (60')	$343.00

4. Motor Encoder Cable (1)

SVC-EHH-010 (10')	$153.00
SVC-EHH-020 (20')	$171.00
SVC-EHH-030 (30')	$191.00
SVC-EHH-060 (60')	$250.00

5. *ZIP*Link I/O Interface

ZL-RTB50	$74.00
and one cable below:	
ZL-SVC-CBL50 (0.5m)	$48.50
ZL-SVC-CBL50-1 (1m)	$51.00
ZL-SVC-CBL50-2 (2m)	$58.00

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1 kW Medium Inertia System

Torque (N-m) / Torque (in-lb)

Intermittent Duty Zone

Continuous Duty Zone
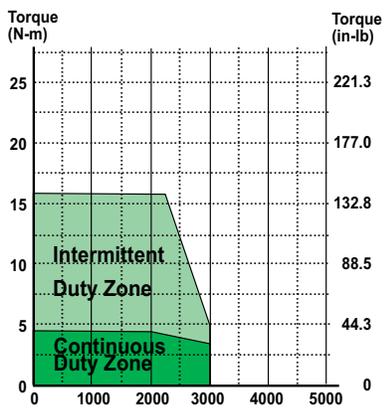
1 kW Medium Inertia — Speed (rpm)

Jm= Motor Inertia = .0053 lb-in-s2 (0.000598 kg - m2)

1. Servo Drive
SVA-2100 Retired

2. *Sure*Servo Motor

SVM-210	Retired
SVM-210B (w/brake)	Retired

3. Motor Power Cable (1)

SVC-PHM-010 (10')	$160.00
SVC-PHM-020 (20')	$175.00
SVC-PHM-030 (30')	$290.00
SVC-PHM-060 (60')	$343.00

4. Motor Encoder Cable (1)

SVC-EHH-010 (10')	$153.00
SVC-EHH-020 (20')	$171.00
SVC-EHH-030 (30')	$191.00
SVC-EHH-060 (60')	$250.00

5. *ZIP*Link I/O Interface

ZL-RTB50	$74.00
and one cable below:	
ZL-SVC-CBL50 (0.5m)	$48.50
ZL-SVC-CBL50-1 (1m)	$51.00
ZL-SVC-CBL50-2 (2m)	$58.00

AC Servo System Configuration

SureServo®

For all systems:

2 kW Medium Inertia System

Order programming software & programming cable if needed.
See pgs. page tMNC-307 & page tMNC-319.

Torque (N-m) / **Torque (in-lb)**

25	221.3
20	177.0
15	132.8
10	88.5
5	44.3
0	0

Intermittent Duty Zone

Continuous Duty Zone

2 kW Medium Inertia — Speed (rpm) — 0 1000 2000 3000 4000 5000

Jm= Motor Inertia = .014 lb-in-s2 = (0.00158 kg - m2)

1. =

Servo Drive
SVA-2300 $1,266.00

2. *Sure*Servo Motor

SVM-220 $1,000.00
SVM-220B (w/brake) $1,367.00

3. Motor Power Cable (1)

SVC-PHH-010 (10') $192.00
SVC-PHH-020 (20') $253.00
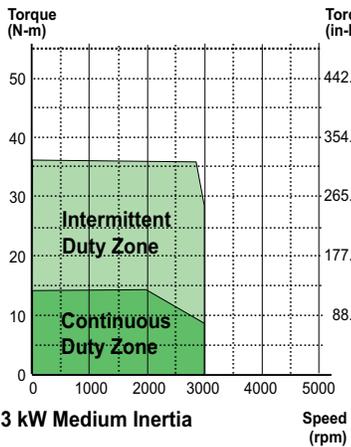**SVC-PHH-030** (30') $312.00
SVC-PHH-060 (60') $509.00

4. Motor Encoder Cable (1)

SVC-EHH-010 (10') $153.00
SVC-EHH-020 (20') $171.00
SVC-EHH-030 (30') $191.00
SVC-EHH-060 (60') $250.00

5. *ZIP*Link I/O Interface

ZL-RTB50 $74.00
and one cable below:
ZL-SVC-CBL50 (0.5m) $48.50
ZL-SVC-CBL50-1 (1m) $51.00
ZL-SVC-CBL50-2 (2m) $58.00

3 kW Medium Inertia System

Torque (N-m) / **Torque (in-lb)**

50	442.5
40	354.0
30	265.5
20	177.0
10	88.5
0	0

Intermittent Duty Zone

Continuous Duty Zone

3 kW Medium Inertia — Speed (rpm) — 0 1000 2000 3000 4000 5000

Jm= Motor Inertia = 0.038 lb-in-s2 = (0.00433 kg - m2)

1. =

Servo Drive
SVA-2300 $1,266.00

2. *Sure*Servo Motor

SVM-230 $1,526.00
SVM-230B (w/brake) $1,741.00

3. Motor Power Cable (1)

SVC-PHH-010 (10') $192.00
SVC-PHH-020 (20') $253.00
SVC-PHH-030 (30') $312.00
SVC-PHH-060 (60') $509.00

4. Motor Encoder Cable (1)

SVC-EHH-010 (10') $153.00
SVC-EHH-020 (20') $171.00
SVC-EHH-030 (30') $191.00
SVC-EHH-060 (60') $250.00

5. *ZIP*Link I/O Interface

ZL-RTB50 $74.00
and one cable below:
ZL-SVC-CBL50 (0.5m) $48.50
ZL-SVC-CBL50-1 (1m) $51.00
ZL-SVC-CBL50-2 (2m) $58.00

NOTE: All Motor Power Cables include brake power wires for the optional motor brake.

SureServo Communications Cables for Muti-drop Networks

Product	Price	Description
SVC-MDCOM-CBL	$43.00	RS-422/485 serial communication cable for use with multidrop networks; 3ft length; IEEE 1394 plug to unterminated wires; compatible with all SureServo systems. Facilitates connection between the SureServo drive serial port and host controllers.
SVC-232RJ12-CBL-2 *	$12.50	ZIPLink SureServo Drives cable with 6-pin RJ12 connector to a 6-pin IEEE 1394 connector, shielded, twisted pair, 2.0 meter (6.6 ft.) length. For RS-232 connection to all SureServo amplifiers.
SVC-485RJ12-CBL-2 *	$15.00	ZIPLink SureServo amplifier communication cable, RJ12 male to 6-pin IEEE 1394 connector, shielded, twisted pair, 2.0 meter (6.6 ft.) length. Cable used in conjunction with ZL-CDM-RJ12xxx distribution module can access a compatible RS-485 device network.
SVC-485HD15-CBL-2 *	$13.50	ZIPLink SureServo Drives cable with a HD 15-pin male to a 6-pin IEEE 1394 connector, shielded, twisted pair, 2.0 meter (6.6 ft.) length. For RS-485 connection to all SureServo amplifiers.

* Refer to the ZIPLinks Wiring Solutions section for complete information regarding the ZIPLink cables.

AC Servo System Software

SureServo Pro configuration software

SureServo Pro is an optional free downloadable configuration software package for the SureServo drives. With SureServo Pro installed, the personal computer may be directly connected to the servo drive's serial port via the PC's RS-232 serial port*. A six-foot configuration cable (SVC-PCCFG-CBL, $37.50) is available to make the connection between the drive serial port and PC DB-9 serial port simple.

Note: Use our USB-RS232 converter cable in conjunction with the SVC-PCCFG-CBL cable on PCs having only USB ports.
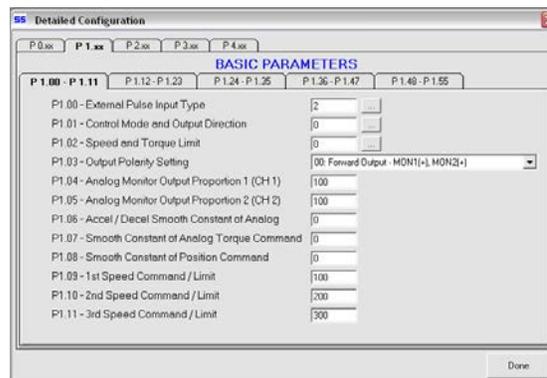
Features
- Quick Start - The basic setup when you have limited time and just want to get up and running ASAP.
- Maintenance keypad allows the user to operate the servo system from the PC. This is a great aid during start-up to allow the servo to perform some basic motion and to check the I/O.
- Detailed - The complete setup for all the drive parameters
- Tune and check the servo response live using the scope feature.
- Upload and download the drive setup. Save the drive setup as a file for future use.
- Edit the drive setup
- View all drive faults
- Trend drive variables in real time

Parameter views

The SureServo Pro configuration tool logically organizes over 165 servo drive parameters into five tabbed groups. Each parameter has a factory default that usually allows the servo to run "out-of-the-box".

The parameters can be easily changed with available options or setting ranges displayed. Tuning modes and parameters can also be changed using SureServo Pro. After the parameters have been defined, the complete setup can be stored and archived. Drive configurations can be uploaded, edited, saved, and downloaded as often as necessary.

Parameter View Example Screen - Basic Parameters

SureServo Software and Configuration Cables

Product	Price	Description
SV-PRO	Free	SureServo Pro configuration software for use with all SureServo servo systems. FREE download from www.sureservo.com or www.automationdirect.com websites.
SVC-PCCFG-CBL	$37.50	Six-foot RS-232 communications cable; connects servo drive serial port to PC DB-9 serial port. For PCs having only USB ports, use our USB-RS232 converter cable in conjunction with the SVC-PCCFG-CBL cable.
SVC-485CFG-CBL-2	$18.50	ZIPLink SureServo amplifier configuration cable, 6-pin IEEE 1394 connector to RJ45 connector, shielded, twisted pair, 2.0 meter (6.6 ft.) length. Use this cable in conjunction with our USB-485M serial adapter to connect any SureServo amplifier to a PC. Eliminates the need to reprogram networked servo drives from RS485 to RS232 when connecting to a PC.

* Refer to the ZIPLinks Wiring Solutions section for complete information regarding ZIPLink cable SVC-485CFG-CBL-2.