

# 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](#), \$--04ll:) is available to make the connection between the drive serial port and PC DB-9 serial port simple.

*\*Note: Use our [USB-RS232-1](#) converter cable in conjunction with the [SVC-PCCFG-CBL](#) cable on PCs having only USB ports.*

### Features

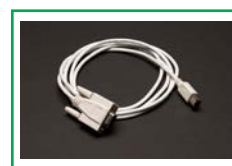
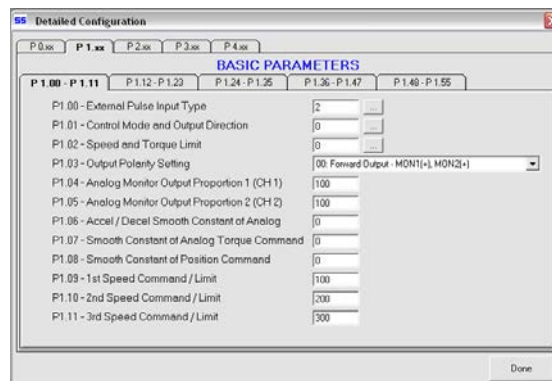
- Quick Start - The basic setup when you have limited time and just want to get up and running ASAP.
- Maintenance keypad allows the user to operate the servo system from the PC. This is a great aid during start-up to allow the servo to perform some basic motion and to check the I/O.
- Detailed - The 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

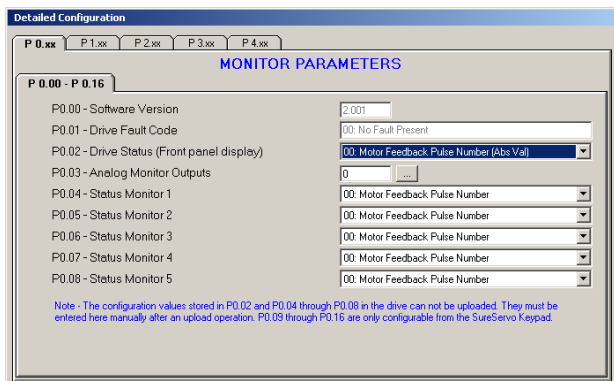
Product	Price	Description
<a href="#">SV-PRO</a>	Free	SureServo Pro configuration software for use with all SureServo servo systems. FREE download from <a href="http://www.sureservo.com">www.sureservo.com</a> or <a href="http://www.automationdirect.com">www.automationdirect.com</a> websites.
<a href="#">SVC-PCCFG-CBL</a>	\$--04ll:	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-RS232-1 converter cable in conjunction with the <a href="#">SVC-PCCFG-CBL</a> cable.
<a href="#">SVC-485CFG-CBL-2</a>	\$04yb:	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](#).

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## SureServo Pro configuration software - Parameter views (continued)

### Parameter View Example Screen - Monitor Parameters



**Detailed Configuration**

P 0.xx P 1.xx P 2.xx P 3.xx P 4.xx

**MONITOR PARAMETERS**

P 0.00 - P 0.16

P0.00 - Software Version: 2.001

P0.01 - Drive Fault Code: 00 No Fault Present

P0.02 - Drive Status (Front panel display): 00 Motor Feedback Pulse Number (Abs Val)

P0.03 - Analog Monitor Outputs: 0

P0.04 - Status Monitor 1: 00 Motor Feedback Pulse Number

P0.05 - Status Monitor 2: 00 Motor Feedback Pulse Number

P0.06 - Status Monitor 3: 00 Motor Feedback Pulse Number

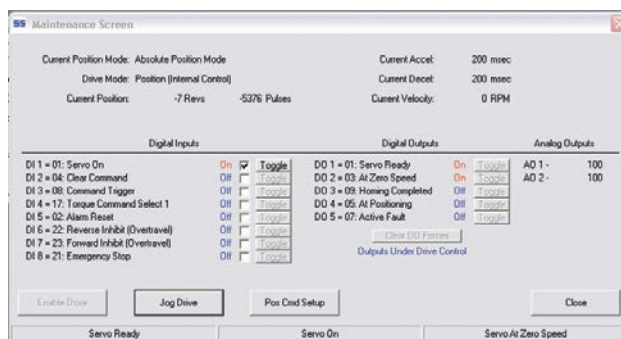
P0.07 - Status Monitor 4: 00 Motor Feedback Pulse Number

P0.08 - Status Monitor 5: 00 Motor Feedback Pulse Number

Note - The configuration values stored in P0.02 and P0.04 through P0.08 in the drive can not be uploaded. They must be entered here manually after an upload operation. P0.09 through P0.16 are only configurable from the SureServo Keypad.

## Maintenance screen

A 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.



**Maintenance Screen**

Current Position Mode: Absolute Position Mode  
Drive Mode: Position (Internal Control)  
Current Position: -7 Revs -5376 Pulses

Current Accel: 200 msec  
Current Decel: 200 msec  
Current Velocity: 0 RPM

Digital Inputs: DI 1 = 01: Servo On, DI 2 = 04: Clear Command, DI 3 = 08: Command Trigger, DI 4 = 17: Torque Command Select 1, DI 5 = 02: Alarm Reset, DI 6 = 22: Reverse Inhibit (Overtravel), DI 7 = 23: Forward Inhibit (Overtravel), DI 8 = 21: Emergency Stop.

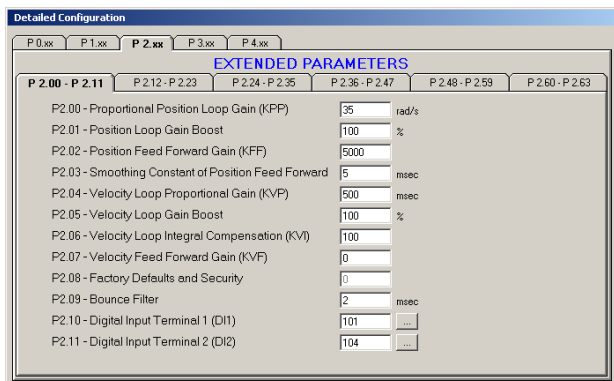
Digital Outputs: DO 1 = 01: Servo Ready, DO 2 = 03: At Zero Speed, DO 3 = 09: Homing Completed, DO 4 = 05: At Positioning, DO 5 = 07: Active Fault.

Analog Outputs: AO 1 = 100, AO 2 = 100.

Buttons: Enable Drive, Jog Drive, Pos Cmd Setup, Close.

Status: Servo Ready, Servo On, Servo At Zero Speed.

### Parameter View Example Screen - Extended Parameters



**Detailed Configuration**

P 0.xx P 1.xx P 2.xx P 3.xx P 4.xx

**EXTENDED PARAMETERS**

P 2.00 - P 2.11 P 2.12 - P 2.23 P 2.24 - P 2.35 P 2.36 - P 2.47 P 2.48 - P 2.59 P 2.60 - P 2.63

P2.00 - Proportional Position Loop Gain (KPP): 35 rad/s

P2.01 - Position Loop Gain Boost: 100 %

P2.02 - Position Feed Forward Gain (KFF): 5000

P2.03 - Smoothing Constant of Position Feed Forward: 5 msec

P2.04 - Velocity Loop Proportional Gain (KVP): 500 msec

P2.05 - Velocity Loop Gain Boost: 100 %

P2.06 - Velocity Loop Integral Compensation (KVI): 100

P2.07 - Velocity Feed Forward Gain (KVF): 0

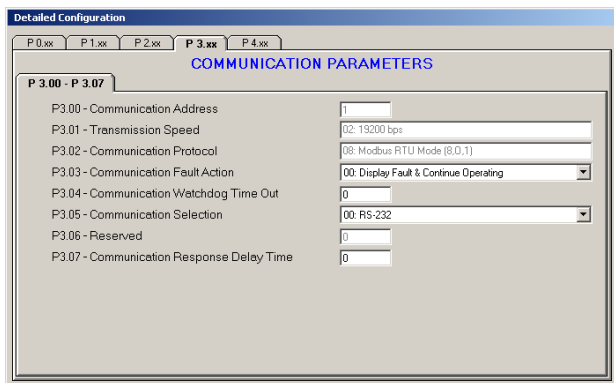
P2.08 - Factory Defaults and Security: 0

P2.09 - Bounce Filter: 2 msec

P2.10 - Digital Input Terminal 1 (DI1): 101

P2.11 - Digital Input Terminal 2 (DI2): 104

### Parameter View Example Screen - Communication Parameters



**Detailed Configuration**

P 0.xx P 1.xx P 2.xx P 3.xx P 4.xx

**COMMUNICATION PARAMETERS**

P 3.00 - P 3.07

P3.00 - Communication Address: 1

P3.01 - Transmission Speed: 02: 19200 bps

P3.02 - Communication Protocol: 08: Modbus RTU Mode (8,0,1)

P3.03 - Communication Fault Action: 00: Display Fault & Continue Operating

P3.04 - Communication Watchdog Time Out: 0

P3.05 - Communication Selection: 00: RS-232

P3.06 - Reserved: 0

P3.07 - Communication Response Delay Time: 0

## Scope

SureServo Pro includes a powerful scope function that allows the user to have as many as three channels of data displayed simultaneously. Each channel has a drop-down table to select the data to be displayed. The scope also has a trigger mode and timebase selection. This function is a valuable tool for tuning SureServo drives.

