VAUTOMATIONDIRECT













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Motion: SureServo

Up-to-date price list: www.automationdirect.com/pricelist

FREE Technical Support: www.automationdirect.com/support

FREE Videos: www.automationdirect.com/videos

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For the latest prices, please check AutomationDirect.com.

Surevo 2 AC Servo Systems

SureServo2[®] AC servo systems

The SureServo family of brushless servo systems is fully digital and offers a rich set of features to cover a broad range of motion control applications. There are 26 standard servo motors that can be operated in combination with one of sixteen standard servo drives.

The SureServo family includes standard accessories such as: servo motor encoder cables, servo motor power/ brake cables, direct mount and DIN-rail mount I/O break-out kits for easy connection of external command and I/O signals, optional battery backup for the encoder, optional external braking resistors, and optional AC input filters. Optional Modbus TCP and EtherNet/IP modules for networking (full command and control capability).

Why use a servo?

The SureServo2 servo systems provide the highest possible level of performance for precise control of position, velocity, and torque. Compared to lower cost stepping systems, or lower featured servo systems, the SureServo2 products provide:

- More torque at higher speeds (up to 6,000 rpm)
- Broader range of power (up to 15kW)
- Higher response with closed-loop control (high hit rate without stalling or lost position)



- 13 different power ratings
- Support for 110VAC and 220VAC single-phase input power on systems 2kW and below
- Support for 220VAC three-phase input power on systems from 100W to 15kW
- Support for 460VAC three-phase input power on systems from 400W to 15kW
- Control via analog speed or torque signal, high-speed pulse train (up to 4MHz), internal indexing, or with serial or Ethernet communications (Modbus TCP and Ethernet/IP)
- Professionally manufactured cables for motor power, encoder feedback, and brake (optional)

- Compatible with most AutomationDirect
 PLCs; or any other host controller or HMI
- PLCs; or any other host controller or HMI
 Servo drives feature on-board motion
- Servo drives feature on-board motion controller with registration, electronic camming, and event-based logic control
- Option modules for networking capability
- Absolute Encoder functionality
- External (secondary) encoder support for Full Closed Loop Control
- Servo drives feature Safe Torque Off (STO)
- Free set-up software includes graphing/ trending oscilloscope and the ability to generate a custom Ethernet/IP EDS file (define exactly what is transferred via Implicit Messaging)



Reset Filters

O Imperia

Filtered Results (Expa

Rated Torque (N-m)

7.16

9.55

17.6

28.6

Rated Power

2kW

1.5kW

4.5kW

S.5kW

✓ 7.5kW

 \odot

SkW

⊘⊘

Metric

Units

Click Here

Use our configuration tool to configure and order. • Filter motors based on your criteria

- View/compare Torque-Speed Curves
- Pick matching accessories
- Get ALL the required parts on ONE order



Get Started FAST... With our FREE "quick start" videos





mMS2-2 SureServo

AC Servo Systems Sure 2

	Sure	Servo2® S	System Sele	ctor			
						Sure _{se}	rvo2
ect Torque R	equired from M	Notor (N-m) : (95.4	ated Torque ax Torque			
ng Brake () Without Integ	ıral Holding Bra	ke O With	Integral Holding Br	ake			
Power () 230 VAC 3 P	hase O 220) VAC Single P	hase O 110 VA	AC Single Pha	se		
rows to view T	orque-Speed c	urves. Then se	lect motor and cho	ose accessorie	es on page 2):		
Max Torque (N-m)	Rated Speed (RPM)	Max Speed (RPM)	Rotor Inertia (×10 ⁻⁴ kg-m ²) 3	Frame Size (mm)	Motor Part Number	System Price (3)	_
14.9	2000	3000	11.2	130	SV2M-215N	\$1344 S	elect
24.5	2000	3000	34.7	180	SV2M-220N	\$1632 S	elect
24.5 48.3	2000 1700	3000 3000	34.7 55	180 180	SV2M-220N SV2M-230N	\$1632 S	elect
24.5 48.3 71.6	2000 1700 1500	3000 3000 3000	34.7 55 77.75	180 180 180	SV2M-220N SV2M-230N SV2H-245N	\$1632 S \$1861 S \$2460 S	elect elect elect
24.5 48.3 71.6 87.5	2000 1700 1500 1500	3000 3000 3000 3000	34.7 55 77.75 99.78	180 180 180 180	SV2M-220N SV2M-230N SV2H-245N SV2H-255N	\$1632 \$ \$1861 \$ \$2460 \$ \$2755 \$	elect elect elect elect

SureServo

mMS2-3

For the latest prices, please check AutomationDirect.com.

Surevo 2 More Features ... and 26% Lower Cost

(than SureServo1)

Single-Phase 110/220VAC up to 2kW

Flexible voltage options

- 110VAC or 220VAC single-phase from 100W to 2kW
- 220VAC three-phase from 100W to 15kW
- 460VAC three-phase from 400W to 15kW



CERTIFIED



Higher Peak Torque

- Larger intermittent duty zone
- Speeds up to 6,000 rpm
- Allows faster accels/decels
- Handles intermittent load increases (get product moving quickly)

Safe Torque Off (STO)

(350%

. Up to

350%

SureServo2 systems support Safe Torque Off (STO). STO allows stopping all torque to the motor and eliminates the need for a TÜVRheinland large external contactor to disconnect the power circuit.

Wide range of system sizes

 Low, medium & high inertia motors Smaller drive footprint saves

20-40% lower cost than SureServol

(From 100W up to 15kW!)

cabinet space

Intermittent Region

ous Region

4.800

3,000 Speed (r/min)

Click Here

Use our configuration tool

to configure and order.

Pick matching accessories

Get ALL the required parts

on ONE order

• Filter motors based on your criteria

Q

View/compare Torque-Speed Curves

• All motors available with and without holding brake



- STO immediately removes power (and thus torque) to the motor
- Keeps the other electronics "alive" for troubleshooting
- Compatible with most dual-channel safety relays Certified by TUV, the international
- safety standards organization



High 3.1kHz Bandwidth Faster response times

- Shorter settling times
- Better / more accurate auto-tuning
- 600% Improvement in inertia mismatch
- Five notch filters (avoid vibration/ instability at specific speeds)



- For Motor, Encoder, & Brake (optional)
- Maintains IP rating of motor
- Standard or continuous flexing versions
- 3m, 5m, 10m, or 20m lengths







5µs High-Speed Capture (inputs)

- Enables highly accurate registration operations
- Near instant move triggering
- Fast reaction to real world events

24-bit Absolute Encoder 16,777,216 Pulses Per Rev (PPR)... .. That's 46,603 pulses for ONE degree!

SureServo2 supports any input reso-lution you desire (you don't have to supply 16M pulses for control) Internally, all motion is scaled to this high resolution, so your application always benefits from this extreme accuracy

- Use battery backup to turn the encoder into an absolute encoder.
- No loss of position, even when power is disconnected to the drive
- Homing is not required on every power up sequence



Over 50:1 inertia mismatches are now possible... ...and Auto-Tune handles it all!



mMS2-4 SureServo



VAUTOMATIONDIRECT Sure AC 230

AC Servo Systems Sure 2

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Click Here

Want to learn more?

Our In-Depth pages are loaded with tons of photos, videos, and more information

SureServo

mMS2-5

Surevo Built-in control for ALL your motion needs ... Electronic Camming



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Define up to **99 Move Segments**

- Graphical user interface offers simple setup and programming
- Allows arithmetic operations and branching logic
- Homing, position and speed commands are available
- Supports blended moves, and on-the-fly changes

Auxiliary Encoder Feedback Option

- Full closed-loop control
- · Compensate for slippage and other advanced control schemes

Braking Options

- Dynamic braking can stop the motor when it is disabled, overloaded or when a fault occurs.
- Regen braking is used during normal operation and can take advantage of a regen resistor (either built-in or external) to maximize deceleration.
- The Magnetic brake (holding brake) is used to hold position while the servo system is stopped, disabled, or when power is disconnected.

Analog Positioning

- Use a potentiometer to control a rotary table (for example)
- Use a potentiometer to fine tune setup or position parts



Click here to watch **FREE videos** on these features (and more)

Import a table of custom positions from a spreadsheet or other source to set up epicyclic motion.



Flying Shear

feed to make cuts "on the fly"

Capture and Compare (Registration)

Set up precise registration corrections with a sensor input, and automatically correct for inconsistencies and variations

Create Rotary Shear T	able								
Unit	mm								
Gear Ratio: A=	1	:	B=	1					
Knife No.:	2								
Knife diameter (d1):	599.99	5 m	nm		circ	um.:	1884	1.940	mm
Encoder diameter (d2):	250	n	nm		circ	um.:	785.	398	mm
Encoder pulse No.	10000		pulse	e/re	/ []	Man	ual inp	out P5	.084
Motor PUU No. per rev.			100	000		PUU/	rev	Settir	ng
Cutting length (L)	2000		mm	(65.	973	~2356	5.175)	
Speed Compensation	0		% (-	20%	6~2	0%)			

Rotary Indexing Wizard:

drive coordinates all movement

feeders, etc.

For applications with fixed distances/angles

between "stations", this configuration wizard lets

you program all the indexes on one simple screen.

Specify a fixed rotation direction or shortest distance

• Send simple "Go to Station X" commands and the

• For indexing tables, tool changers, volumetric

Rotary Shear

Enter a few dimensions of your knife and set up epicyclic motion in seconds!

SureServo2 Pro

St Knife numbe P2.052 Indexing Coordinate

OPT : INS 🖲 0 : NO OPT : OVLP 0 : NO DIR: rotation direction O: forward rotation 1: reverse rotation 2: the shortest distance S_LOW: speed unit 0 : 0.1 r/min

ACC: time for accelerating to th DEC: time for decelerating from

Click OK to download all inde

mMS2-6 SureServo

VAUTOMATIONDIRECT



Traverse axis tracks motion of material

Electronic Gearing

- Create up to 4 gear ratios
- Switch ratios "on the fly"
- Use your own pulse per rev (ppr) units



		-		×		
Index Coordinates	Setting Wizard	1				
rting PR Path: 70 s (Path Size) : 8 s Scale (PUU): 100000	0 Set the	e interval between t	two path	IS		
Knife nu	umbers (Path number)	1000 C	\sum			
0 1 : YES		600	5).			
() 1: YES						
		P2.052 Indexing Coordinates Scale	: (PUU)			
○ 1 : 0.01 r/min						
ne rated speed(3000 rpm)	AC00 : 200 (P5.020) ~					
n the rated speed (3000 rpm)	AC00 : 200 (P5.020) ~					
SPD: target speed	POV00 : 20.0 (P5.06 ~					
DLY: delay time	DLY00:0(P5.040) ~					
exing parameters and P2.052.	_					
ОК						
		SureServ	0	mN	۸S2-	7

Surevo 2 It's FREE Software*



Multiple Tuning Modes:

- One Touch Auto Tuning the drive tunes the motor without any motion (static motor/system analysis)
- Normal Auto Tuning the drive tunes the load while an external controller or the drive's internal indexer provides point-to-point moves
- Assisted Tuning three modes where the drive tunes the motor while moving. The user can adjust responsiveness while the drive is analyzing the system.
- Manual Tuning more than 20 parameters are available to give power users the ultimate flexibility to tune their systems.

Inertia Estimator

The SureServoPro2 software includes an inertia estimator to help determine the inertia of your load, and to help size the servo motor as precisely as possible.

Built-in Oscilloscope

- Display up to eight channels of data
- Auto range function "zooms in" to find your signals
- Overlay disparate scales to see multiple traces at full resolution
- Scroll back and forth "in time" and save/capture traces
- Compare commanded position to actual position, then
 tweak parameters and watch as response improves



Parameter Setup Wizards

- Organizes all parameters into logical groups
- Define your own parameter groups for fast access
- Upload, edit, save, archive parameters
- Off-line mode allows editing without a drive present

The USB connection provides the drive's CPU with power and allows configuration of drives "on the bench" without connection of AC power to the drive. And a USB power isolator is provided with the configuration cable to defeat this feature if desired.

Communication Options

- Host controller can initiate predefined moves in the drive
- Download dynamic/new motion profiles for future execution
- Exchange parameters and other data with a PLC, motion controller or HMI

RS-485 Built-in (MODBUS RTU)

Use the handy 2-into-1 connector to daisy chain multiple drives



Click here to watch FREE videos on these features! (and more)



MODBUS TCP Option Card

EtherNet/IP Option Card

EDS File Generation

Ethernet/IP support includes Implicit and/or Explicit messaging. And the software can generate a custom EDS file to transfer the exact data required between the PLC/controller and servo drive.

Field Upgradeable Firmware

Ensures the drive and Ethernet cards can always be upgraded to the latest firmware.

For the latest prices, please check AutomationDirect.com.

AC Servo Systems



Drive features

• Power:

- 100W-2kW = single-phase110VAC or single/threephase 220VAC
- 3kW-15kW = three-phase220VAC
- Fully digital with up to 3.1 kHz velocity loop response
- · Easy setup and diagnostics with built-in keypad/display or the SureServo2 Pro PCbased software
- Field upgradeable firmware ensures the drive can always be upgraded to the latest operating system
- Command options include:
- ± 10V torque or velocity command
- Pulse train or master encoder position command (accepts line driver or open collector) with electronic gearing
- Powerful built-in motion controller for position control using 99 preset positions and/or position setpoint with serial Modbus (native), Modbus TCP (option card), or Ethernet/IP (option card) with ability to talk Implicit and Explicit. SureServo2 Pro software can generate a custom EDS file to transfer exactly what you need between the PLC and drive.
- Internal sequencing for position/speed commands, registration (capture/compare), electronic camming, homing (10 different options), Jumps, and arithmetic statements.
- The 3.1 kHz bandwidth allows for high-level

SureServo2 tuning technology

The SureServo2 drive closes the loop on current, velocity, and position (depending on control mode selection). The 3.1 kHz bandwidth in the drive assures precise speed and current control and easy tuning. Proportional gain, integral gain and compensation, feed forward compensation, command low pass filter, and five (5) notch filters for resonance suppression are available. Auto Tuning has been greatly improved and can easily tune systems with as much as 60:1 inertia mismatch.

There is an inertia estimation function that analyzes the motor and load to measure how much inertia is coupled to the motor.

The drive has several tuning methods available:

- One Touch Auto Tuning-the drive tunes the motor without any motion (static motor/ system analysis)
- Normal Auto Tuning-the drive tunes the load while an external controller or the drive's internal indexer provides point-to-point moves
- Assisted Tuning-3 modes where the drive tunes the motor while moving. The user can adjust responsiveness while the drive is analyzing the system
- Manual Tuning-20+ parameters are available to give power users the ultimate flexibility to tune their systems.



automatic tuning. Several modes of tuning are available including Auto Tune that can estimate the load inertia and fine-tune the system when all the loads are attached.

- Optically isolated digital inputs (10) and outputs (6), analog outputs for monitor signals (2), and line driver output for encoder (with scalable resolution).
- Other Features:
 - Secondary/Auxiliary encoder feedback (for true closed loop control)
 - Registration ability
 - Analog positioning
 - Safe Torque Off (STO) included so no need for large, bulky contactors to disconnect power from the drive in E-stop situations
 - Absolute Encoder operation (with optional encoder battery backup)
 - Electronic camming (you can define the cam with SureServo2 Pro software or you can import an Excel spreadsheet)
 - Advanced Scope feature that can monitor a variety of command and status signals, including output speed, torque, power, etc.

Motor features

- · Low inertia models:
- 100W, 200W, 400W, 750W and 1kW
- Speeds up to 6,000 rpm
- Medium inertia models:
 - 1kW, 1.5 kW, 2kW, and 3kW
 - Speeds up to 3,000 rpm
- High inertia models:
- 4.5 kW, 5.5 kW, 7.5 kW, 11kW, and 15kW
- Speeds up to 3,000 rpm
- Permanent magnet 3-phase synchronous motor
- Keyed drive shafts support clamp-on style couplings or key-style couplings
- Integrated encoder with 16,777,216 encoder pulses/revolution plus marker pulse (once per revolution)
- Optional 24 VDC spring-set holding brakes (xxxxB series motors)
- · Standard hook-up cables for motor power, encoder, and brake (separate brake cable for brake motors 5.5kW and larger)
- · Motor cables available in standard or flexrated lengths of 3, 5, 10, and 20m
- Standard 50-pin DIN-rail mounted break-out kit for the drive's CN1 connector (with screw terminal connections), or 20-pin spring clamp terminal block that mounts directly to the drive

SureServo2 Built-in motion controller

While the SureServo2 drives can accept traditional commands from host controls, they can also provide their own internal motion control. For example, up to 99 index moves can be pre-defined and stored in the drive and then selected and executed using digital inputs (inputs as events or inputs used as a multiplexer) or communication (serial Modbus, Modbus TCP, or Ethernet/IP). The index profiles can also be changed while in-process with digital events or via comms. The internal motion can consist of incremental or absolute moves, and can be sequenced internally with delays inbetween the moves or moves can be linked together so they are processed one after the other.

Multi-axis systems can be controlled via digital inputs, or serial/Ethernet communication. The motion can be commanded from a powerful external controller that sends out high speed pulses to each drive, or the motion can be initiated by a low-level controller (the simplest CLICK PLC) since each drive has a powerful motion controller inside. Applications include press feeds, auger fillers, rotary tables, robots for pick and place, test or assembly operations, drilling, cutting, tapping, and similar applications using simple index moves for single or multi-axis motion

SureServo2 **Optional Holding Brake**

Each SureServo2 motor can be ordered with an optional 24VDC spring-set holding brake that holds the motor in place when power is removed.

SureGear[®] Precision **Gearboxes for Servo motors**

Inertia balancing issue in

your design? The SureGear PGA series easily mates to SureServo2 motors.



Everything you need to mount your SureServo2 motor is included!

- Four gear ratios available (5, 10, 15, 25:1)
- Mounting hardware included for attaching to SureServo2 motors
- Industry-standard mounting dimensions
- Thread-in mounting style
- Best-in-class backlash (5 arc-min)
- 5-year warranty



For the latest prices, please check AutomationDirect.com. **AC Servo Drive Specifications**

Servo drive overview

Charge

LED is lit when DC bus is energized (may take several seconds for power to dissipate after incoming power is removed)

Control Power Terminal

Single-phase power 120/220 VAC, 50/60 Hz is connected to L1 and L2

Main Power Terminal

- 100W–2kW systems: Single-phase 120/220 VAC or threephase 220VAC
- 3kW-15kW systems: Three-phase 220VAC

Reaenerative Resistor Terminal

- 1. When the internal regenerative resistor is used, the P3 and D terminal are connected together while the P3 and C connection is left open.
- 2. When an external regenerative resistor is used, it is connected across the P3 and C terminals while the P3 and D connection is left open. See the user manual for recommended resistance and power requirements for each system.

Motor Output Terminal

The servo motor power cable is connected to U, V and W. Use our factory made and tested cables available in 3, 5, 10, or 20 meter lengths for easy and trouble free connection.

LED Display The LED display has 5 full digits and is used to indicate servo status and alarms

JIIIIIII

Safe Torque Off (STO) Connector Port

Keypad

- Five Function keys: • MODE: Press to change mode
- SHIFT: Press to change parameter
- group or move cursor left
- UP: Press to increase values
- DOWN: Press to decrease values
- SET: Press to enter value

USB Connector

Used to connect a PC for configuration with SureServo2 Pro software

Serial Communication Interface

RJ45 connectors for RS485 Modbus communication between drives and controllers. Modbus RTU/ ASCII protocol. Use our factorymade cables for easy connection to the PC or the host controller.

I/O Interface

50-pin connector for interfacing the host controller and other types of I/O signals.

- CBL50 + RTB50 = Cable and remote DIN-rail mount module. All I/O pins available.
- LTB20 = Mounted and wired directly at CN1. Most commonly used pins available.
- Command inputs: Pulse and Direction **Encoder Follower** Analog Velocity/Torque
- (10) Digital Inputs
- (6) Digital Outputs
- (2) Analog Monitors
- Encoder Output (scalable)

A+, A-, B+, B-, Z+, Z-

Encoder Interface

Connector for interfacing the servo motor encoder.

Use our factory-made and tested cables available in 3, 5, 10, or 20 meter lengths for easy and trouble free connection.

SureServo2 systems run "out-of-the-box"... but may be reconfigured for many applications!

The SureServo2 drives are fully digital and include over 400 programmable parameters. For convenience, the parameters are grouped into five categories:

- 1. Monitor parameters
- 2. Basic parameters
- 3. Extended parameters
- 4. Communication parameters
- 5. Diagnostic and analog parameters
- 6. Motion control parameters
- 7. PATH definition parameters

All parameters have commonly used default values which allow you to operate the SureServo2 system "out-of-thebox". However, the programmability and large variety of parameters make the SureServo2 systems suitable for a very broad range of applications, including almost all types of general purpose industrial machinery such as assembly, test, packaging, machine tool, and robotics.

The SureServo2 Pro configuration software has Parameter Wizards to quickly and easily guide you through the most common setup routines.

Motion Control

tMNC-216

High Density DB15 Connector CN5: Auxiliary/Secondary

Encoder input. Used for

applications requiring Full Closed

Loop, Linear Measurement, etc.

A . 00





AC Servo Motor Specifications

Servo motor overview



- 7.5kW 180mm flange
- 11kW 220mm flange
- 15kW 220mm flange

With Shaft Seal



AC Servo System Software

The SureServo2 Pro configuration tool logically organizes

all servo drive parameters for viewing and editing using the Parameter Editor screen. 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 setting ranges displayed. Tuning modes and parameters can also be changed using SureServo2 Pro. After the parameters have been defined, the complete setup can be stored and archived. Drive configurations can be uploaded, edited,

Parameter editor



SureServo2 Pro configuration software

SureServo2 Pro is an optional free downloadable configuration software package for the SureServo2 drives. With SureServo2 Pro installed, a PC may be directly connected to the servo drive via a USB programming cable (part# SV2-PGM-USB15 or SV2-PGM-USB30).

Features

- Easy-to-use Parameter Wizards to guide you through the most common setup functions.
- Digital IO/Jog Control 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.
- Parameter Editor 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 backup or future use.
- Edit the drive setup
- View all drive faults
- View drive variable trends in real time
- Create a custom EtherNet/IP EDS file for data transfer to a PLC using pull-down menus
- Motion Programming ability the PR Window lets you cofigure the 99 "Paths" that store the motion and sequencing commands in the drive

USB Programming Cables

Part Number	Price	Description	Length	Drawing	Compatible Drives
SV2-PGM-USB15	\$29.00	Programming cable,	1.5 m	PDF	All SureServo2
SV2-PGM-USB30	\$31.00	USB A to miniB-USB	3m	PDF	drives

SV2-PGM-USB15

Parameter Editor Example Screen

SS2 Pro software even has an "Offline Mode" so you can

configure your drive and program your motion without

saved, and downloaded as often as necessary.

having to be connected to the drive.





AC Servo System Software

SureServo2 Pro configuration software - (continued)

General Setting Example Screen



Digital IO/Jog Control screen

The Digital IO/Jog Control screen 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.

Digital IO / Jog Control[Device#01] SureServo2					
Edit DI/O Item	Start	🕜 Help			
⊗ Digital Input (DI)	Status	Enable	∀ Digital Output (DO) □ Enable	DO Control	tatus Enable
DI1:[0x00]Disabled (B)		On/Off	DO1:[0x00]Disabled (B)		
DI2:[0x00]Disabled (B)		On/Off	DO2:[0x00]Disabled (B)		
DI3:[0x00]Disabled (B)		On/Off	DO3:[0x00]Disabled (B)		
DI4:[0x00]Disabled (B)		On/Off	DO4:[0x00]Disabled (B)		
DI5:[0x00]Disabled (B)		On/Off	DOS:[0x00]Disabled (B)		
DI6:[0x00]Disabled (B)		On/Off	DO6:[0x00]Disabled (B)		
DI7:[0x00]Disabled (B)		On/Off			
DI8:[0x00]Disabled (B)		On/Off	Remain the DI/O control status	when this winodw is	closed.
DI9:[0x00]Disabled (B)		On/Off	Joa:	Set Servo OFF	Set Servo ON
DI10:[0x00]Disabled (B)		On/Off	Speed (P4.005): 100 rpm		
VDI11:[0x00]Disabled (B)		On/Off	Pavarsa direction		
VDI12:[0x00]Disabled (B)		On/Off			
VDI13:[0x00]Disabled (B)		On/Off			

Alarm Information Example Screen

urrent Alarm	Alarm History	Search	
	AL : 0x 1	Search	
AL001 Overcurrent			
Trigger condition and cause	Condition: main circu Cause: 1. The servo driv 2. Motor wiring i 3. IGBT is abnor 4. Parameter sett 5. Control comm	it current is greater that e output is short-circuit s in error. mal. ing is in error. and setting is in error.	a 1.5 times the maximum instantaneous current of the serve drive.
Checking method and corrective action	 Check the con the metal part described in th If the temperat set value of the setting and the Check if the in function. 	nection between the m of the wiring. Check if is manual. ure of the heat sink is a parameter is much gro n modify the setting gra put control command of	otor and servo drive and make sure that the wire is not short-circuited. Do not expose you have followed the wiring sequence for connecting the motor to the servo drive as abnormal, send your servo drive back to the distributor or contact Delta. Check if the aster than the default. It is recommended to reset the parameters to the factory default dually. hanges greatly. If so, modify the rate of change in the command or enable the filter
How to clear the alarm?	DLARST		

PR Mode Setting Example Screen

F PR Mode Editor[Device#01] S	iureServo2					- • •
📰 🚅 🗋 📲 📲 🚱 👶 👰	SureServo2	Ver: 10003 Sub: 519	•			
Show currrent PR. Path	•	Run PR. Path	Stop PR. Path	Forced Srv ON	Indexing Coordinates Wizard	
Speed and Time Setti.	Speed/Time Sett	ing Chart State	ments User Variabi	e		
Accel / Decel Time	× P5.020≁P5	.035: Accel / Dec	el Time			
Delay Time	AC00	200	(ms) (P5.020) (1~65500)		
Internal Target Speed	AC01	300	(ms) (P5.021) (1~65500)		
General Parameter S.,	AC02	500	(ms) (P5.022) (1~65500)		
Electronic Gear Ratio	AC03	600	(ms) (P5.023) (1~65500)		
Software Limit	AC04	800	(ms) (P5.024) (1~65500)		
Deceleration Time for A	AC05	900	(ms) (P5.025) (1~65500)		
Event ON/OFF Setting	AC06	1000	(ms) (P5.026	(1~65500)		
Homing Setting	AC07	1200	(ms) (P5.027) (1~65500)		
Homing Mode	AC08	1500	(ms) (P5.028) (1~65500)		
Homing Speed Setting	AC09	2000	(ms) (P5.029) (1~65500)		
Homing Definition	AC 10	2500	(ms) (P5.030) (1~65500)		
PR Mode Setting	AC11	3000	(ms) (P5.031) (1~65500)		
(PRW01) TIO	AC12	5000	(ms) (P5.032) (1~65500)		
(PR #02) 110	AC13	8000	(ms) (P5.033) (1~65500)		
(Red) To	AC14	50	(ms) (P5.034) (1~1500)		
(PRING) 1.0	AC15	30	(ms) (P5.035) (1~1200)		
(PR#05) T:0	» P5.040~P5	.055: Delay Time				
(mcade) 110	» P5.060~P5	.075: Internal Ta	rget Speed			
[PR#07] 1:0						
(70 e00) T-0						
(mean) To						
(read) the						
(execution of the second secon						
[PR#12] 110						
[PK#13] 110						
[PR#14] T:0						
[MC#15] 110						
[PR#16] T:0				V Download		
[PR#17] T:0 ¥					-	

Scope

SureServo2 Pro includes a powerful scope function that allows the user to have as many as eight channels of data displayed simultaneously. Each channel has a drop-down table to select the data to be displayed. The scope has the ability to save traces to a file and load those traces for offline review/analysis. This function is a valuable tool for tuning SureServo2 drives.

