

# NEW PRODUCT BULLETIN

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## SureStep™ Stepping Systems



### 5 New Stepping Motors

The range of bi-polar stepping motors has been extended in each frame size with three larger (super-high torque) NEMA size 34 motors, one additional NEMA size 23 motor, and one smaller NEMA size 17 motor. Combined with the existing 4 motor lineup, a total of 9 bipolar stepping motors is now offered with output torque ranging from 61 oz-in. to 1291 oz-in. Phase currents range from 1.7A to 6.3 A.

#### Features

- Pigtail w/Locking Connector for Easy Hook-up
- Standard NEMA Sizes (17, 23, & 34)
- Basic Step Angle 1.8° (200 Steps per Revolution)
- CE Compliant - EN55014-1 (1993) & EN60034-1.5.11



### 3 New Linear Power Supplies

Three additional power supplies are now offered to augment the existing 32 volt SureStep power supply. These unregulated linear power supplies offer full load outputs of 48VDC/5A, 48VDC/10A, and 70VDC/5A. Less expensive than regulated supplies, they are perfectly suited to power SureStep drives and motors.

#### Features

- Motor supply outputs of 32, 48, and 70 VDC now available
- Regulated 5VDC @ 500mA for Logic
  - Electronically overload protected
  - Electrically isolated from motor supply output
- Screw terminal connections
- Power-On LED indicators for motor supply and logic power
- Fast acting, 3AG fuses on both input and output

### 2 New Stepping Drives

With the original SureStep drive you just set a few DIP switches, hook up a motor and connect to a PLC (or other controller) – it couldn't be easier, and it's a great fit for many simple applications. However, some customers have asked for more functionality, and higher current capability. Take a look at these two new Advanced Programmable SureStep Drives. With software-selectable resolution up to 51,200 steps per rev for smoother, more accurate motion and power capability up to 10 A/phase, these drives take SureStep to the next level.



These new drives accept step and direction, CW/CCW pulse inputs, A/B quadrature inputs, 12 bit analog input for analog velocity mode, discrete speed command (oscillator mode), a joystick mode, and they even have a built-in indexer. With the built-in indexer you can teach the drive several motion profiles, and then initiate these predefined moves with discrete inputs or trigger them via the serial port. You can also use serial communications to configure and execute motion profiles on the fly. The drives come with a serial cable for setup and programming, and the SureStep Pro Software is a free download.

#### Features

- Auto setup
- Self test mode
- Convection cooling
- Multiple mounting options
- Anti-resonance (electronic damping)
- Waveform (command signal) smoothing
- Microstepping resolution: 200 - 51,200 (in 2 step/rev. Increments)
- Idle current reduction: 0-90% with adjustable delay (in ms)
- Non-volatile memory storage for drive parameters
- Adjustable phase current:
  - 0.1 – 5.0A in 0.01A increments (STP-DRV-4850)
  - 0.1 – 10A in 0.01A increments (STP-DRV-80100)
- Torque ripple smoothing (allows fine phase adjustment from 0.25 to 1.5 rps)

Standards and Agency Approvals:  

For complete specifications and ordering information please visit: [www.automationdirect.com/stepper\\_systems](http://www.automationdirect.com/stepper_systems)

# SureStep™ Stepping Systems

The charts below include ALL SureStep products (the NEW part numbers are shown in bold).



## System Limitations

- Motors must be matched with the correct extension cables
- The power supply output voltage must not exceed the max. input voltage of the drive
- All motors can be used with any drive/power supply combo, but using less than rated current will result in less than maximum torque

SureStep™ Bipolar Stepping Motors Specifications												
Part Number	NEMA Size	Maximum Holding Torque			Rotor Inertia		Rated Current (A/phase)	Resistance (Ω/phase)	Inductance (mH/phase)	Weight (lbs)	Accessory Extension Cable (20 foot length)	Price
		lb · in	oz · in	N·m	oz · in <sup>2</sup>	kg · cm <sup>2</sup>						
STP-MTR-17040	17	3.84	61.4	0.44	0.28	0.051	1.7	1.6	3.03	0.6	STP-EXT-020	\$17
STP-MTR-17048	17	5.19	83	0.59	0.45	0.082	2.0	1.4	2.65	0.7		\$19
STP-MTR-23055	23	10.37	166	1.17	1.48	0.271	2.8	0.75	2.36	1.5		\$29
STP-MTR-23079	23	17.25	276	1.95	2.60	0.475	2.8	1.10	3.82	2.2		\$39
STP-MTR-34066	34	27.1	434	3.06	7.66	1.40	2.8	1.11	7.70	3.85		\$99
STP-MTRH-23079	23	17.9	287	2.03	2.60	0.476	5.6	0.40	1.18	2.2	STP-EXTH-020	\$44
STP-MTRH-34066	34	26.7	428	3.02	7.66	1.4	6.3	0.25	1.52	3.85		\$105
STP-MTRH-34097	34	50.2	803	5.67	14.80	2.71	6.3	0.30	2.07	5.94		\$130
STP-MTRH-34127	34	80.7	1292	9.12	21.90	4.01	6.3	0.49	4.14	8.44		\$155

*Basic Step Angle: 1.8°, Shaft runout: 0.002", Max Shaft Radial Play (1 lb load): 0.001", Perpendicularity: 0.003", Concentricity: 0.002", Insulation Class B: 130°C [266°F], Operating Humidity Range: 55% to 85% non-condensing, Operating Temp. Range: -20°C to 50°C [-4°F to 122°F] (motor case temp. should be kept below 100°C [212 °F]), Agency Approvals: CE (complies with EN55014-1 (1993) & EN60034-1.5.11)*

SureStep™ Stepping Drives Specifications								
Part Number	Input Voltage (VDC)	Output Current (A/phase)	Configuration Method	Modes of Operation	Suggested Power Supplies	Approx. Weight (oz.)	Dimensions (in [mm])	Price
STP-DRV-4035	12-42	0.4-3.5	Dip Switches	Step & Direction	STP-PWR-3204	9.3	3.0 x 4.0 x 1.5 [76.2 x 101.6 x 38.1]	\$149
STP-DRV-4850	24-48	0.1-5.0	SureStep Pro Software	Step/Dir, CW/CCW, A/B Quadrature, Oscillator, Joystick, Serial Commands	STP-PWR-4805 or STP-PWR-4810	8	3.0 x 3.65 x 1.125 [76.2 x 92.7 x 28.6]	\$199
STP-DRV-80100	24-80	0.1-10.0			STP-PWR-7005			\$249

*Notes: Do not use the STP-PWR-7005 power supply with the 4850 or 4035 drives. Do not use a STP-PWR-48xx power supply with the 4035 drive. These combinations exceed the drives' voltage limit.*

SureStep™ – Linear Power Supplies										
Part Number	Input Power	Inrush Current	Input Fuse Fast-acting	Motor Supply Output (VDC)			Output Fuse Fast-acting	Approx. Weight (lbs)	Dimensions (in [mm])	Price
				Full Load	1 A Load	No Load				
STP-PWR-3204	150 VA	<12 A @120; <14 @240VAC	3 A	32	35	41	6 A	6.5	4.00 x 7.00 x 3.25 [101.6 x 177.8 x 82.6]	\$109
STP-PWR-4805	350 VA	<20 A @120; <24A@240VAC	5 A	46.5	52	57.5	8 A	10.5	5.00 x 8.10 x 3.88 [127.0 x 205.7 x 98.6]	\$119
STP-PWR-4810	650 VA	<40 @120; <50A @240VAC	8 A	46.5	50	57.5	15 A	16	5.62 x 9.00 x 4.62 [142.7 x 228.6 x 117.3]	\$149
STP-PWR-7005	500 VA		6 A	70	79	86.5	8 A			\$149

*Notes: Switch Selectable Input Voltage: 120 or 240VAC (±10% - Single Phase - 50/60Hz), Logic Supply Output: 5 VDC ±5% @ 500 mA (Electronically Overload Protected & Isolated from Motor Supply Output), Agency Approvals: UL, CSA, CE*

SureStep™ – Stepping System Cables					
Part Number	Purpose	Length	Use With	Cable End Connectors	Price
STP-EXT-020	motor to drive extension	20'	STP-MTR-xxxxx	pigtail / Molex 430450412 connector	\$13
STP-EXTH-020	motor to drive extension	20'	STP-MTRH-xxxxx	pigtail / Molex 0039012041 connector	\$26
STP-232RJ11-CBL*	programming/communication	10'	STP-DRV-4850 & STP-DRV-80100	DB9 female / RJ11(6P4C)	\$9

*\* Programming/communication cable is available for spare or replacement purposes. One cable is included with each software programmable drive.*

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