

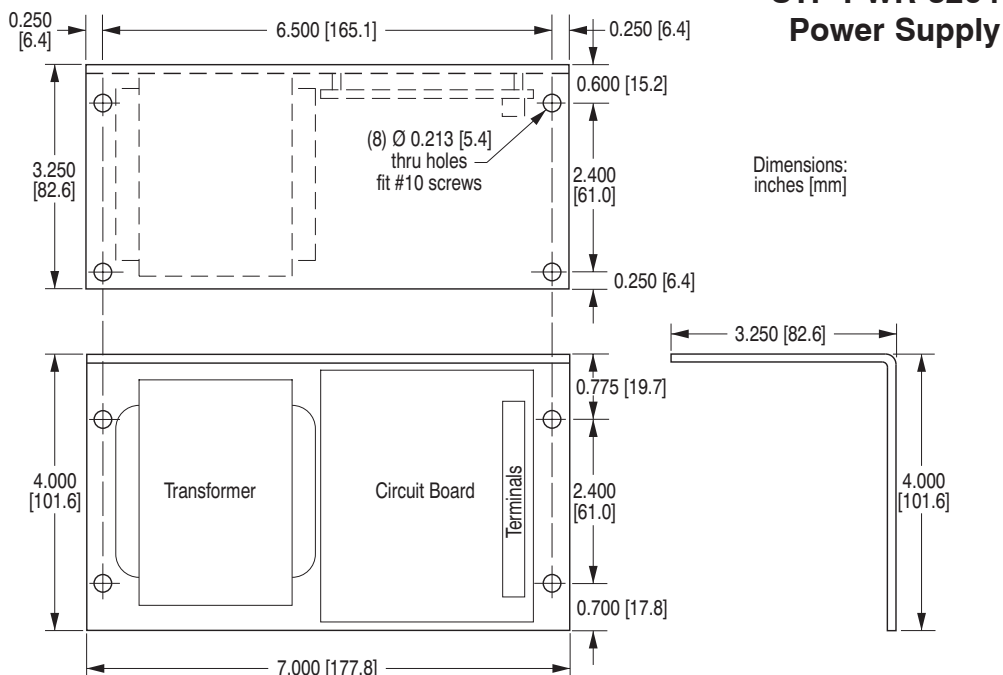
# SureStep® Stepping System Power Supplies

## SureStep® Power Supplies

Sure Step Series Specifications – Stepping System Power Supplies				
Power Supply	STP-PWR-3204	STP-PWR-4805	STP-PWR-4810	STP-PWR-7005
Price	\$120.00	\$140.00	\$178.00	\$178.00
Input Power (fuse protected *)	1-phase, 120/240 VAC, 50/60 Hz, 150 VA Fuse*: 3A	1-phase, 120/240 VAC, 50/60 Hz, 350 VA Fuse*: 5A	1-phase, 120/240 VAC, 50/60 Hz, 650 VA Fuse*: 8A	1-phase, 120/240 VAC, 50/60 Hz, 500 VA Fuse*: 7A
Input Voltage Range (switch selectable)	120/240 VAC ±10% (Voltage range switch is set to 240 VAC from factory)			
Inrush Current	120 VAC < 12 A / 240 VAC < 14 A	120 VAC < 20A / 240 VAC < 24A	120 VAC < 40A / 240 VAC < 50A	
Motor Supply Output (linear unregulated, fuse protected *, and power on LED indicator)	32 VDC @ 4A (fully loaded) 35 VDC @ 1A load 41 VDC @ no load Fuse*: 6A (Electrically isolated from Logic Supply Output)	46.5 VDC @ 5A (fully loaded) 52 VDC @ 1A load 57.5 VDC @ no load Fuse*: 8A	46.5 VDC @ 10A (fully loaded) 50 VDC @ 1A load 57.5 VDC @ no load Fuse*: 15A	70 VDC @ 5A (fully loaded) 79 VDC @ 1A load 86.5 VDC @ no load Fuse*: 8A
Logic Supply Output (regulated and power on LED indicator)	5 VDC ±5% @ 500 mA (Electronically Overload Protected) (Electrically isolated from Motor Supply Output)			
Watt Loss	13W	25W	51W	42W
Storage Temperature Range	-55 to 85 °C [-67 to 185 °F]			
Operating Temperature Range	0 to 50 °C [32 to 122 °F] full rated; derate current 1.1% per degree above 50°C; 70 °C [158 °F] maximum			
Humidity	95% (non-condensing) relative humidity maximum			
Cooling Method	Natural convection (mount power supply to metal surface if possible)			
Dimensions (in [mm])	4.00 x 7.00 x 3.25 [101.6 x 177.8 x 82.6]	5.00 x 8.10 x 3.88 [127.0 x 205.7 x 98.6]	5.62 x 9.00 x 4.62 [142.7 x 228.6 x 117.3]	
Mounting	Mount on either wide or narrow side with machine screws per dimension diagrams			
Weight (lb [kg])	6.5 [2.9]	11 [4.9]	18 [8.3]	16 [7.2]
Connections	Screw Terminals			
Agency Approvals	UL (file # E181899), CSA, CE			

\* Fuses to be replaced by qualified service personnel only. Use (1-1/4 x 1/4 in) ceramic fast-acting fuses (Edison type ABC from AutomationDirect, or equivalent).

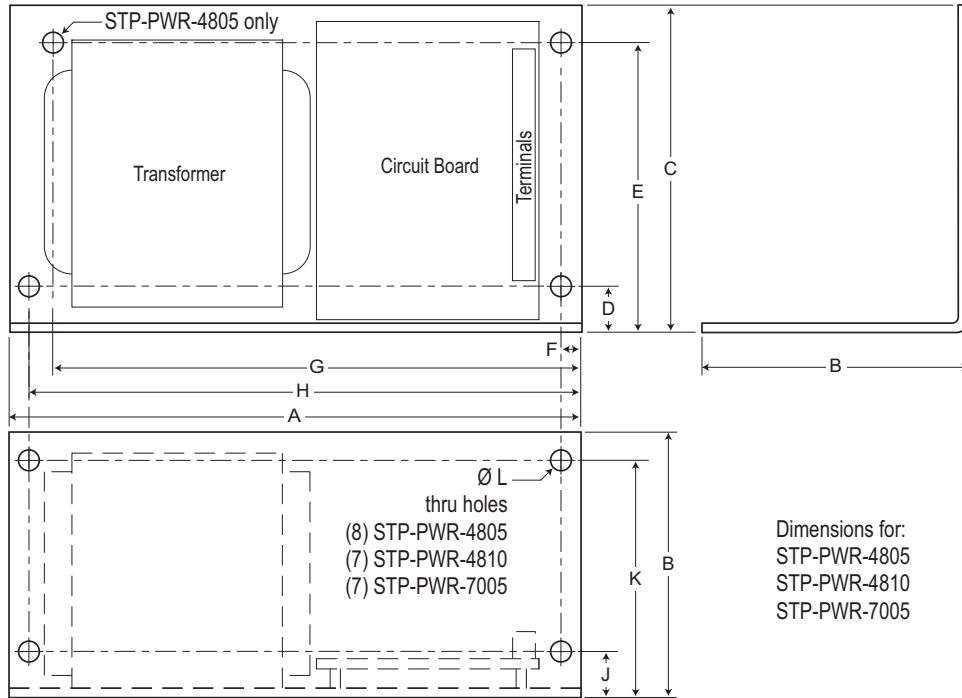
### Power Supply Dimensions



# SureStep® Stepping System Power Supplies

## SureStep® Power Supply Dimensions (continued)

### STP-PWR-4805, -4810, -7005 Power Supplies

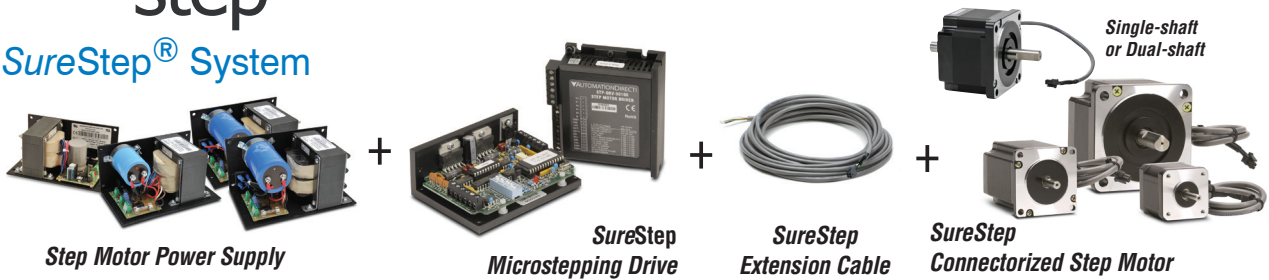


SureStep Series Dimensions – 48V & 70V Power Supplies												
Power Supply Part Number	Dimensions* (in [mm]*)											Mtg Screw
	A	B	C	D	E	F	G	H	J	K	L	
<b>STP-PWR-4805</b>	8.10 [205.7]	3.88 [98.6]	5.00 [127.0]	0.87 [22.1]	4.67 [118.6]	0.25 [6.4]	7.15 [181.6]	7.75 [196.9]	0.50 [12.7]	3.53 [89.7]	0.200 [5.1]	#10
<b>STP-PWR-4810</b> <b>STP-PWR-7005</b>	9.00 [228.6]	4.62 [117.3]	5.62 [142.7]	1.56 [39.6]	4.06 [103.1]	0.35 [8.9]	n/a	8.59 [218.2]	0.50 [12.7]	4.27 [108.5]	9/32 [7.1]	1/4

\* mm dimensions are for reference purposes only.

# SureStep<sup>®</sup> Stepping System Components

## SureStep<sup>®</sup> System



Step Motor Power Supply

SureStep Microstepping Drive

SureStep Extension Cable

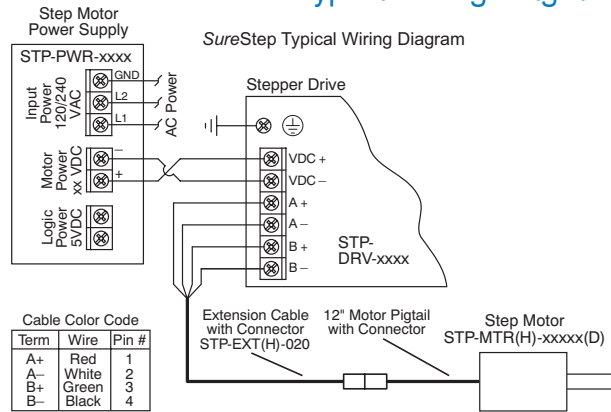
SureStep Connectorized Step Motor

Single-shaft or Dual-shaft

### SureStep stepping system includes:

- Four step motor power supplies
- Two DIP-switch configurable microstepping drives
- Two software configurable advanced microstepping drives
- Two motor extension cables
- Twenty step motors (NEMA 17, 23, 34 frame sizes; single & dual shaft)

### Typical Wiring Diagram



### Standard stepper drive features

#### (STP-DRV-4035 & STP-DRV-6575)

- Low cost, digital step motor driver in compact package
- Operates from Step & Direction signals, or Step CW & Step CCW (jumper selectable)
- Fault output (-6575 only) & Enable input
- Optically isolated I/O
- Digital filters prevent position error from electrical noise on command signals; jumper selectable: 150 kHz or 2MHz (-6575 only)
- Rotary or DIP switch easily selects from many popular motors
- Electronic damping and anti-resonance (-6575 only)
- Automatic idle current reduction to reduce heat when motor is not moving; switch selectable: 50% or 90% of running current
- Switch selectable step resolution: (-DRV-4035) 400–10,000 steps per revolution; (-DRV-6575) 200–20,000 steps per revolution
- Switch selectable microstep emulation provides smoother, more reliable motion in full and half step modes
- Automatic self test (switch selectable)
- Operates from a 24–65 VDC or 12–40 VDC power supply, depending upon model
- Running current from 0.5–7.5A

### Advanced stepper drive features

#### (STP-DRV-4850 & STP-DRV-80100)

- Max 5A, 48V and max 10A, 80V models available
- Software configurable
- Programmable microsteps
- Internal indexer (via ASCII commands)
- Self test feature
- Idle current reduction
- Anti-resonance
- Torque ripple smoothing
- Step, analog, & serial communication inputs
- Serial communications allow point-to-point positioning

### Motor features

- High torque, 2-phase, bipolar, 1.8° per step, 4-lead
- Available in single-shaft and dual-shaft models
- Connectorized
- (6) NEMA 17 motors
- (6) NEMA 23 motors
- (8) NEMA 34 motors

### Power supply features

- Linear, unregulated DC power supplies
- 120/240 VAC selectable input
- 32V, 48V, 70V DC output models available
- All models have additional 5VDC, 500mA regulated logic supply
- Fusing included for both incoming AC and outgoing DC
- 5V supply has electronic overload protection

SureStep Power Supply / Drive Compatibility				
Drive <sup>(1)(2)</sup>	Recommended Power Supply <sup>(1)(2)</sup>			
Model #	STP-PWR-3204	STP-PWR-4805	STP-PWR-4810	STP-PWR-7005
STP-DRV-4035	√	No	No	No
STP-DRV-4850	√	√	√	No
STP-DRV-6575	√	√	√	No
STP-DRV-80100	√	√	√	√

1) Do NOT use a power supply that exceeds the drive's input voltage range. If using a non-STP linear power supply, ensure that the unloaded voltage does not float above the drive's maximum input range.

2) For best performance, use the lowest voltage power supply that supplies the required speed and torque.

SureStep Drive / Motor Compatibility					
Motor <sup>(1)(2)</sup>		Recommended Drive <sup>(1)</sup>			
Model # <sup>(1)(2)</sup>	Rated Amps	STP-DRV-4035 <sup>(1)</sup>	STP-DRV-4850 <sup>(1)</sup>	STP-DRV-6575 <sup>(1)</sup>	STP-DRV-80100 <sup>(1)</sup>
STP-MTR-17040(D)	1.7	√	√	√	
STP-MTR-17048(D)	2.0	√	√	√	
STP-MTR-17060(D)	2.0	√	√	√	
STP-MTR-23055(D)	2.8	√	√	√	
STP-MTR-23079(D)	2.8	√	√	√	
STP-MTR-34066(D)	2.8	√	√	√	
STP-MTRH-23079(D)	5.6			√	√
STP-MTRH-34066(D)	6.3			√	√
STP-MTRH-34097(D)	6.3			√	√
STP-MTRH-34127(D)	6.3			√	√

1) The combinations above will perform according to the published speed/torque curves. However, any STP motor can be used with any STP drive. Using a motor with a current rating higher than the drive's output rating will proportionally limit the motor torque.

2) MTR motors have connectors compatible with the EXT extension cables. MTRH motors have connectors compatible with the EXTH extension cables.