STEPPER DRIVES
HIGH PERFORMANCE STEP AND DIRECTION DRIVES

NEW®

STR Series

1 YEAR WARRANTY

STR4 shown actual size.

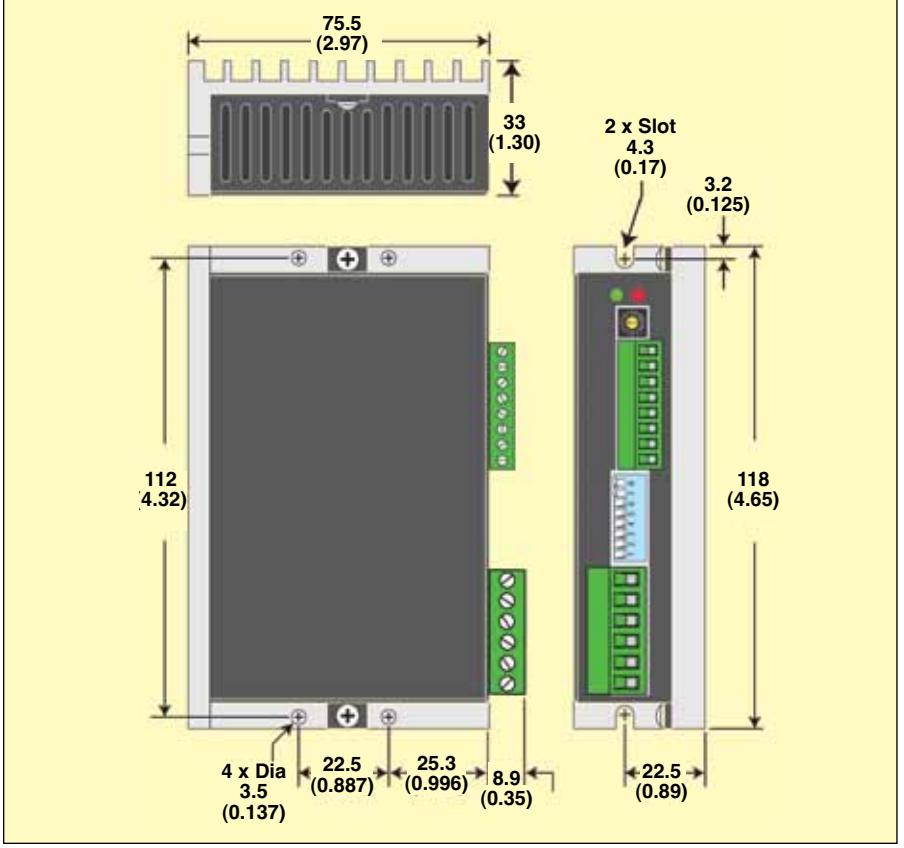
- **Sophisticated Current Control;**
  STR2: 2A/phase
  STR4: 4A/phase
  STR8: 8A/phase
- **Anti-Resonance for Optimized Torque and Smoothness Over a Wide Speed Range**
- **Microstep Emulation for Creating Smooth Motion Even with Low-Resolution Step Signals**
- **Up to 20,000 Steps/Revolution**
- **Step and Direction or CW/CCW Pulse Operation**
- **Built-In Noise Filter on STEP and DIR Inputs**
- **Large Family of Compatible 2-Phase Stepper Motors**

The STR series stepper drive is a compact, powerful, digital step and direction drive available in three power ranges: 2 A/phase, 4 A/phase and 8 A/phase. The STR series is ideal for applications requiring basic step and direction control of a 2-phase step motor.

All setup is done via dip switches and a rotary switch on the side of the drive, including motor selection, running current, idle current, and step resolution.

STR drives are available with a large family of compatible 2-phase step motors, selected to optimize performance of both the drive and motor.

Dimensions mm (inch)



Order Power Supplies Separately. See omega.com for details

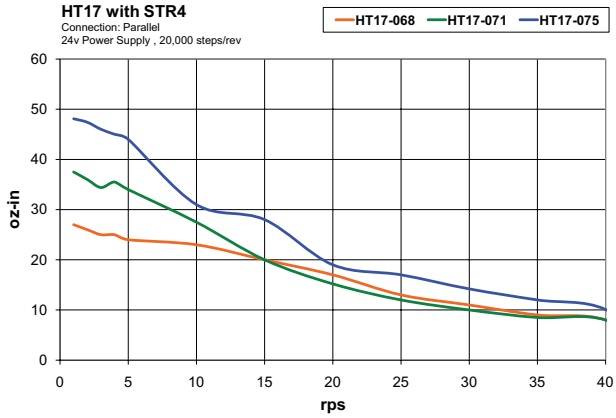
OMHT Series, visit omega.com/omht_series for details. All models shown smaller than actual size.

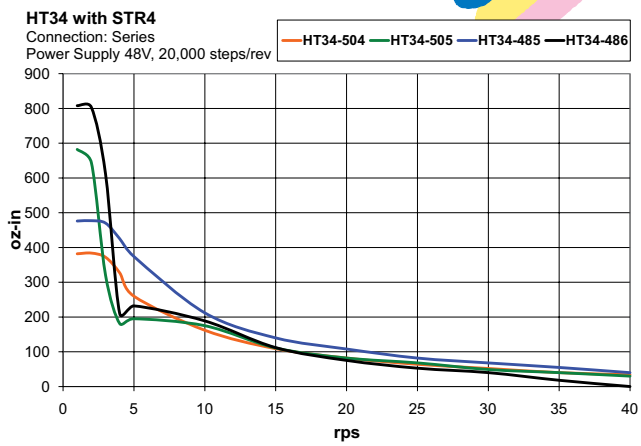
RECOMMENDED MOTORS

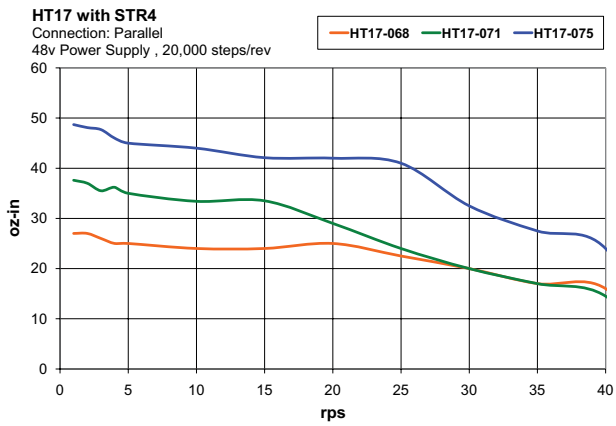
MODEL NO.	DESCRIPTION
RECOMMENDED MOTORS FOR STR2	
OMHT11-013	NEMA 11 stepper motor, 15 oz-in holding torque, 1.0 A/phase
OM5014-842	NEMA 14 stepper motor, 26 oz-in holding torque, 1.0 A/phase
OMHT17-075	NEMA 17 stepper motor, 62.8 oz-in holding torque, 1.7 A/phase, parallel connection
OMHT17-275	NEMA 17 stepper motor, 62.8 oz-in holding torque, 1.7 A/phase, parallel connection
RECOMMENDED MOTORS FOR STR4/STR8	
OMHT17-075	NEMA 17 stepper motor, 62.8 oz-in holding torque, 1.7 A/phase, parallel connection
OMHT17-275	NEMA 17 stepper motor, 62.8 oz-in holding torque, 1.7 A/phase, parallel connection
OMHT24-100	NEMA 24 stepper motor, 123 oz-in holding torque, 2.8 A/phase
OMHT24-105	NEMA 24 stepper motor, 177 oz-in holding torque, 4.0 A/phase
OMHT24-108	NEMA 24 stepper motor, 354 oz-in holding torque, 4.0 A/phase
OMHT34-485	NEMA 34 stepper motor, 650 oz-in holding torque, 4.3 A/phase, series connection
OMHT34-486	NEMA 34 stepper motor, 1200 oz-in holding torque, 4.1 A/phase, series connection
OMHT34-504	NEMA 34 stepper motor, 396 oz-in holding torque, 3.18 A/phase, series connection
OMHT34-505	NEMA 34 stepper motor, 849 oz-in holding torque, 3.18 A/phase, series connection
RECOMMENDED MOTORS FOR STR8	
OMHT34-485	NEMA 34 stepper motor, 650 oz-in holding torque, 8.6 A/phase, parallel connection
OMHT34-486	NEMA 34 stepper motor, 1200 oz-in holding torque, 8.1 A/phase, parallel connection
OMHT34-487	NEMA 34 stepper motor, 1845 oz-in holding torque, 9.01 A/phase, parallel connection
OMHT34-504	NEMA 34 stepper motor, 396 oz-in holding torque, 6.3 A/phase, parallel connection
OMHT34-505	NEMA 34 stepper motor, 849 oz-in holding torque, 6.3 A/phase, parallel connection
OMHT34-506	NEMA 34 stepper motor, 1260 oz-in holding torque, 5.6 A/phase, parallel connection

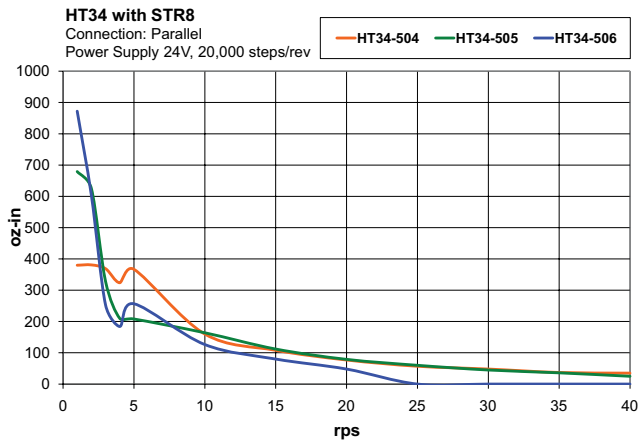
Note: Ratings are with motor connected in parallel.

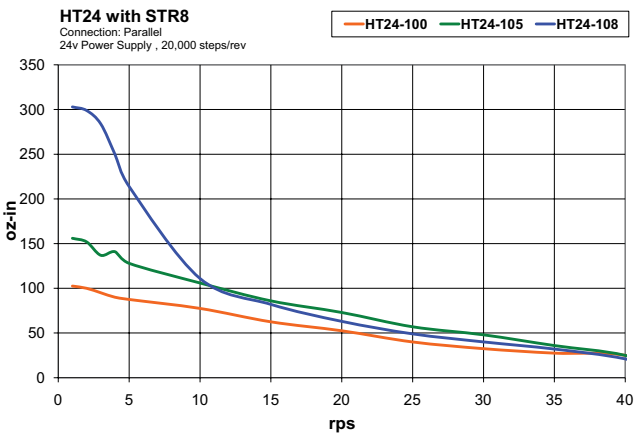
TORQUE-SPEED CURVES

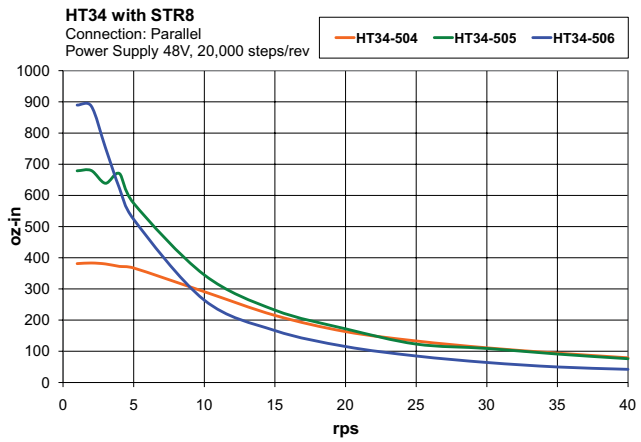


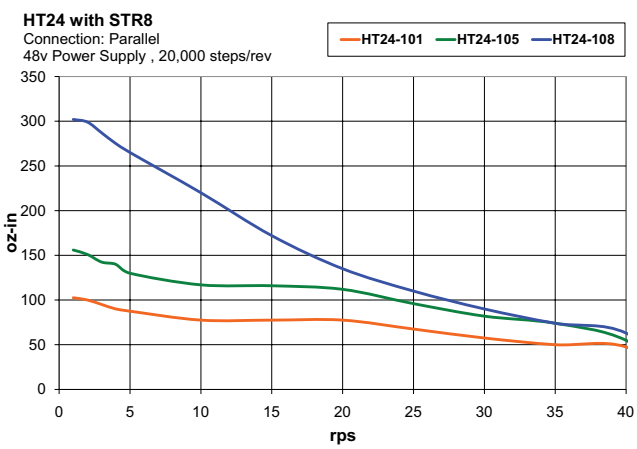


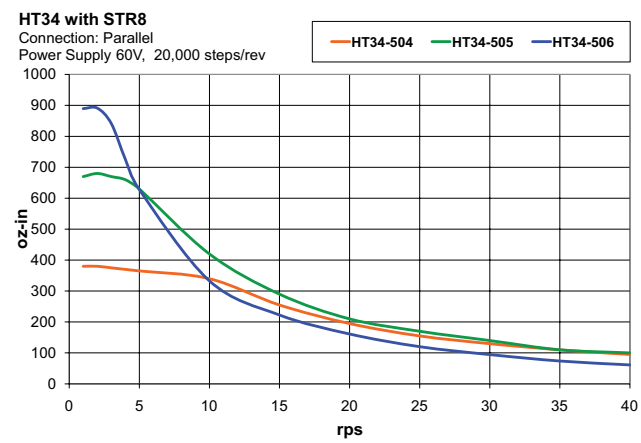












NEW®

OMRC-050 Regen Clamp—For Stepper Drive Power Supply Protection

- Voltage Range 24 to 80 Vdc
- 50 W Power Dissipation
- Regen Present LED
- Power LED
- 76 x 102 x 6.4 mm (3 x 4 x 2.5")

OMRC-050 shown smaller han actual size.

SPECIFICATIONS

Input Power Cont: 50 W
Input Power Peak: 800 W
Voltage Range: 24 to 80 Vdc

Recommended When Using:

NEMA 17 motors @ speeds > 30 rps
NEMA 23 motors @ speeds > 10 rps
NEMA 34 motors @ speeds > 4 rps

Recommended Power Supplies (Order Separately)

OMPS150A24: 24 Vdc at 6.3 A
OMPS300A48: 48 Vdc at 6.7 A

OMPS150A24 shown smaller than actual size.

Order Motors Separately See omega.com for Details

SPECIFICATIONS

POWER AMPLIFIER SECTION (STR4)

Amplifier Type: Mosfet, dual H-bridge, 4 quadrant
Current Control: 4 state Pwm at 20 Khz
Output Current: Up to 4.5 a/phase, depending on motor selection
Switch Selectable % of Maximum Current: 100%, 90%, 80%, 70%
Power Supply: External 24 to 48 Vdc power supply required
Idle Current Reduction: Reduction to 50% or 90%, switch selectable

POWER AMPLIFIER SECTION (STR8)

Amplifier Type: Mosfet, dual H-bridge, 4 quadrant
Current Control: 4 state Pwm at 20 Khz
Output Current: Up to 8 a/phase, depending on motor selection
Switch Selectable % of Maximum Current: 100%, 90%, 80%, 70%
Power Supply: External 24 to 75 Vdc power supply required
Idle Current Reduction: Reduction to 50% or 90%, switch selectable

CONTROLLER SECTION

Mode Of Operation: Step and direction, Cw/Ccw
Microstep Resolution: Switch selectable: 200, 200 smooth, 400, 400 smooth, 2000, 5000, 12800, 20000 steps/revolution
Speed Range: Depends upon selected resolution amplifier is suitable for speeds up to 50 Rps
Anti Resonance: Raises the system damping ratio eliminates midrange instability and allows stable operation to 50 Rps
Waveform: Allows for fine adjustment of phase current waveform harmonic content to reduce low-speed torque ripple in the range 0.25 to 1.5 Rps
Digital Noise Filter: Step pulse input: 150 Khz or 2 Mhz, jumper selectable
Self TestSwitch Selectable: Rotates motor 2 revolutions in each direction
Control Inputs: Step, direction, enable, optically isolated; 4 to 30 Vdc, 5 to 15 ma.
Step Input: Min pulse width = 250 Ns; max pulse frequency = 2 Mhz
Fault Output: Photodarlington, 80 Ma, 30 Vdc max; voltage drop = 1.2 Vdc max at 80 Ma
Ambient Temperature: 0 to 50°C (32 to 122°F) humidity 90% non-condensing

To Order *Visit omega.com/str for Pricing and Details*

MODEL NO.	DESCRIPTION
STR2	Step and direction stepper drive with 2 A output
STR4	Step and direction stepper drive with 4.5 A output
STR8	Step and direction stepper drive with 8 A output

ACCESSORIES

MODEL NO.	DESCRIPTION
OMPS150A24	Power supply with active PFC filter, 24 Vdc, 6.3 A
OMPS300A48	Power supply with active PFC filter, 48 Vdc, 6.7 A
OMRC-050	Regeneration clamp, 24 to 80 Vdc
POWER CORD-SE	AC power cord with stripped end termination

Ordering Example: STR4, *step and direction stepper drive with 4.5 A output and* ***OMPS150A24,*** *24 Vdc/6.3 A power supply.*