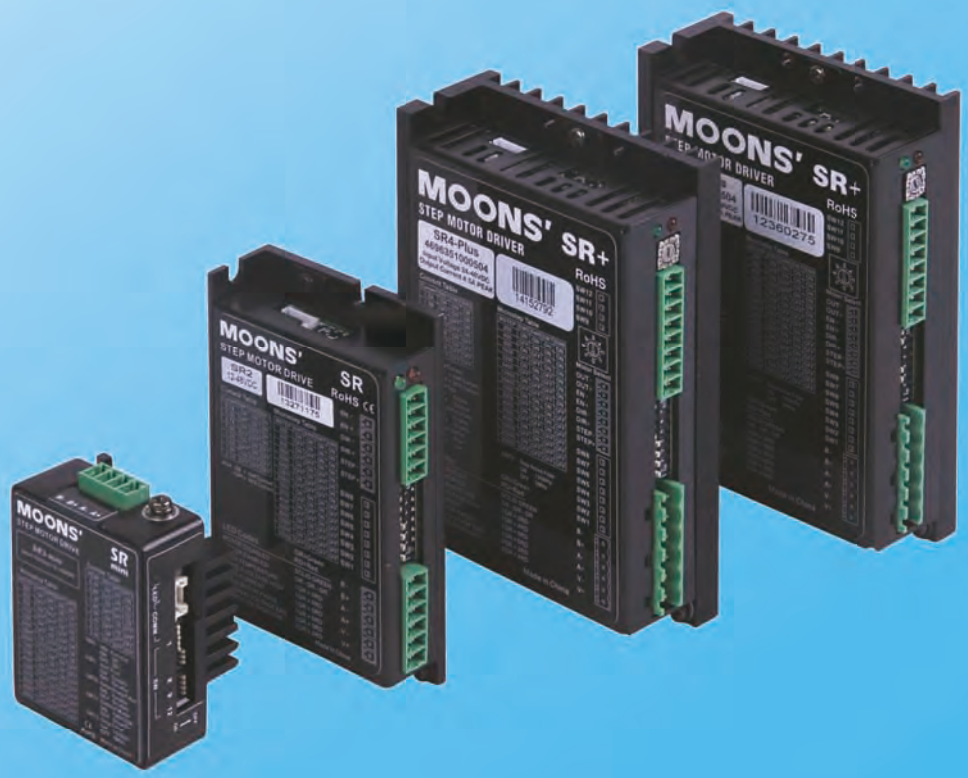
MOONS'
moving in better ways

SR

Digital Pulse Direction Stepper Drive

The SR series drives are compact, powerful, digital stepper drives feature advanced microstepping performance and sophisticated current control.All drive setup is done via dip or rotary switches.

- Advanced Current Control
- Anti-Resonance
- Torque Ripple Smoothing
- Microstep Emulation



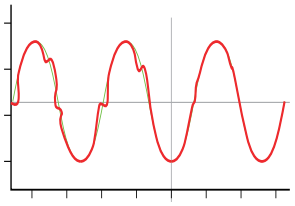
CE RoHS Compliant

www.motiontech.com.au

Features

Anti-Resonance

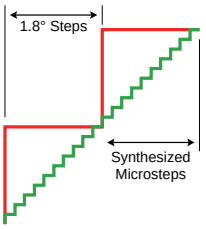
Step motor systems have a natural tendency to resonate at certain speeds. The serials of SR drive automatically calculates the system's natural frequency and applies damping to control the algorithm. this greatly improves midrange stability, allows for higher speeds, greater torque utilization and also improves settling times.



Provides better motor performance and higher speeds

Microstep Emulation

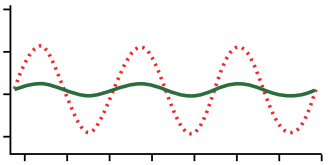
With Microstep Emulation, low resolution systems can still provide smooth motion. The drive can take low resolution step pulses and create fine resolution motion.



Deliver smoother motion in any application.

Torque Ripple Smoothing

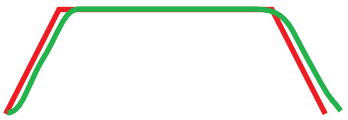
All step motors have an inherent low speed torque ripple that can affect the motion of the motor. By analyzing this torque ripple the system can apply a negative harmonic to negate this effect, which gives the motor much smoother motion at low speed.



Produces smoother motion at low speeds

Command Signal Smoothing

Command signal smoothing can soften the effect of immediate changes in velocity and direction, making the motion of the motor less jerky. An added advantage is that it can reduce the wear on mechanical components.



Improves overall system performance

Auto Setup & Self Test

At start-up the drive measures motor parameters, including the resistance and inductance, then uses this information to optimize system performance. The drive can also detect open and short circuits.

Specification	
Speed range	Up to 50 rps
Ambient temp	0 - 40°C
Ambient humidity	90% or less(non-condensing)
Shock	5.9m/s² maximum
Storage temp	-10 - 70°C
Cooling way	Natural cooling or forced cooling
Environment	Avoid dust,oil mist and corrosive gas
Mass	SR2/SR2-Plus/SR3-mini: Approx.120g
	SR4/SR4-Plus/SR8/SR8-Plus/3SR8/3SR8-Plus: Approx.310g
Certicification	RoHS， CE (EMC): EN 61800-3:2004
Feature	
Idle current	Automatically reduce motor current after 1 second when motor stop, dip switch for setting: 50% or 90% of rated current
Anti-resonance	Drive controls motor current by using the parameter of selectable motor and ratio of inertias For improving system stability and smoothing speed, switch for setting
Control mode	Step & Direction or CW / CCW Pulse control mode by internal jumper setting (Only SR3-mini can be set the control mode by DIP switch on the interface)
Input signal filter	Filter the input signal noise for protecting wrong moving, switch for setting: 2MHz or 150KHz (for SR3-mini, 500KHz or 150KHz)
Microstep emulation	Switch selectable microstep emulation provides smoother, more reliable motion
Rotating switch for matching motor	Switch selectable matched motors
Self-Test	Switch selectable automatic self test, while self test, drive will rotate the motor back and forth, two turns in each direction
Fault output	Optically isolated,30VDC max, 100mA max

Characteristic									
	SR2	SR2-Plus	SR3-mini	SR4	SR4-Plus	SR8	SR8-Plus	3SR8	3SR8-Plus
Idle current	√	√	√	√	√	√	√	√	√
Anti-resonance	√	√	√	√	√	√	√	√	√
Control mode	√	√	√	√	√	√	√	√	√
Input signal filter	√	√	√		√		√		√
Microstep emulation	√	√	√		√		√		√
Selecting motor by rotatable switch				√	√	√	√	√	√
Self-test	√	√	√	√	√	√	√	√	√
Fault output		√		√	√	√	√	√	√

Electrical Specifications

SR2

Drive parameter	Min.	Typ.	Max.	Unit
Supply voltage	12	-	48	VDC
Output current(peak)	0.3	-	2.2	Amps
Cost current of digital input signal	6	10	15	mA
Step frequency	2	-	2M	Hz
STEP minimum pulse width	250	-	-	ns
DIR minimum pulse width	80	-	-	us
Under-voltage protection	-	10	-	VDC
Over-voltage protection	-	52	-	VDC
Input signal voltage	4	-	28	VDC
Initialization time	-	-	2.5	S

SR2-Plus

Drive parameter	Min.	Typ.	Max.	Unit
Supply voltage	12	-	48	VDC
Output current(peak)	0.3	-	2.2	Amps
Cost current of digital input signal	6	10	15	mA
Step Pulse frequency	2	-	2M	Hz
Step Pulse width	250	-	-	ns
Direct pulse width	80	-	-	us
Under-voltage protection	-	10	-	VDC
Over-voltage protection	-	52	-	VDC
Input signal voltage	4	-	28	VDC
Initialization time	-	-	2.5	S
Output current	-	-	100	mA
Output voltage	-	-	30	VDC

Specification

SR4

Drive parameter	Min.	Typ.	Max.	Unit
Supply voltage	24	-	48	VDC
Output current(peak)	1	-	4.5	Amps
Cost current of digital input signal	6	10	15	mA
Step Pulse frequency	2	-	2M	Hz
Step Pulse width	250	-	-	ns
Direct pulse width	80	-	-	us
Under-voltage protection	-	20	-	VDC
Over-voltage protection	-	60	-	VDC
Input signal voltage	4	-	28	VDC
Initialization time	-	-	2.5	S
Output current	-	-	100	mA
Output voltage	-	-	30	VDC

SR8

Drive parameter	Min.	Typ.	Max.	Unit
Supply voltage	24	-	75	VDC
Output current(peak)	2.4	-	7.8	Amps
Cost current of digital input signal	6	10	15	mA
Step Pulse frequency	2	-	2M	Hz
Step Pulse width	250	-	-	ns
Direct pulse width	80	-	-	us
Under-voltage protection	-	20	-	VDC
Over-voltage protection	-	85	-	VDC
Input signal voltage	4	-	28	VDC
Initialization time	-	-	2.5	S
Output current	-	-	100	mA
Output voltage	-	-	30	VDC

SR3-mini

Drive parameter	Min.	Typ.	Max.	Unit
Supply voltage	12	-	48	VDC
Output current(peak)	0.4	-	3	Amps
Cost current of digital input signal	6	10	15	mA
Step Pulse frequency	2	-	500K	Hz
Step Pulse width	1000	-	-	ns
Direct pulse width	80	-	-	us
Under-voltage protection	-	10	-	VDC
Over-voltage protection	-	53	-	VDC
Input signal voltage	4	-	28	VDC
Initialization time	-	-	2.5	S

3SR8-Plus

Drive parameter	Min.	Typ.	Max.	Unit
Supply voltage	24	-	75	VDC
Output current(peak)	2.4	-	7.8	Amps
Cost current of digital input signal	6	10	15	mA
Step Pulse frequency	2	-	2M	Hz
Step Pulse width	250	-	-	ns
Direct pulse width	80	-	-	us
Under-voltage protection	-	20	-	VDC
Over-voltage protection	-	85	-	VDC
Input signal voltage	4	-	28	VDC
Initialization time	-	-	2.5	S
Output current	-	-	100	mA
Output voltage	-	-	30	VDC

SR4-Plus

Drive parameter	Min.	Typ.	Max.	Unit
Supply voltage	24	-	48	VDC
Output current(peak)	1	-	4.5	Amps
Cost current of digital input signal	6	10	15	mA
Step Pulse frequency	2	-	2M	Hz
Step Pulse width	250	-	-	ns
Direct pulse width	80	-	-	us
Under-voltage protection	-	20	-	VDC
Over-voltage protection	-	60	-	VDC
Input signal voltage	4	-	28	VDC
Initialization time	-	-	2.5	S
Output current	-	-	100	mA
Output voltage	-	-	30	VDC

SR8-Plus

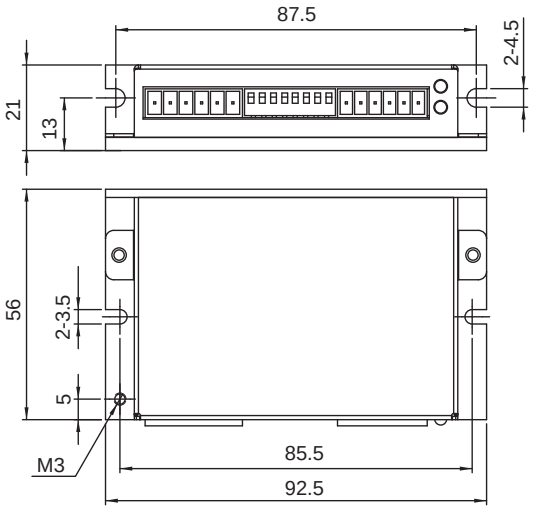
Drive parameter	Min.	Typ.	Max.	Unit
Supply voltage	24	-	75	VDC
Output current(peak)	2.4	-	7.8	Amps
Cost current of digital input signal	6	10	15	mA
Step Pulse frequency	2	-	2M	Hz
Step Pulse width	250	-	-	ns
Direct pulse width	80	-	-	us
Under-voltage protection	-	20	-	VDC
Over-voltage protection	-	85	-	VDC
Input signal voltage	4	-	28	VDC
Initialization time	-	-	2.5	S
Output current	-	-	100	mA
Output voltage	-	-	30	VDC

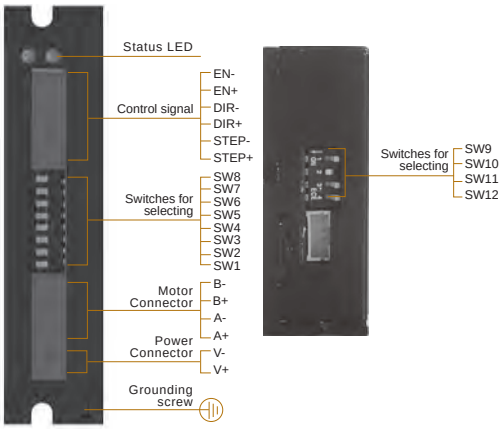
3SR8

Drive parameter	Min.	Typ.	Max.	Unit
Supply voltage	24	-	75	VDC
Output current(peak)	2.4	-	7.8	Amps
Cost current of digital input signal	6	10	15	mA
Step Pulse frequency	2	-	2M	Hz
Step Pulse width	250	-	-	ns
Direct pulse width	80	-	-	us
Under-voltage protection	-	20	-	VDC
Over-voltage protection	-	85	-	VDC
Input signal voltage	4	-	28	VDC
Initialization time	-	-	2.5	S
Output current	-	-	100	mA
Output voltage	-	-	30	VDC

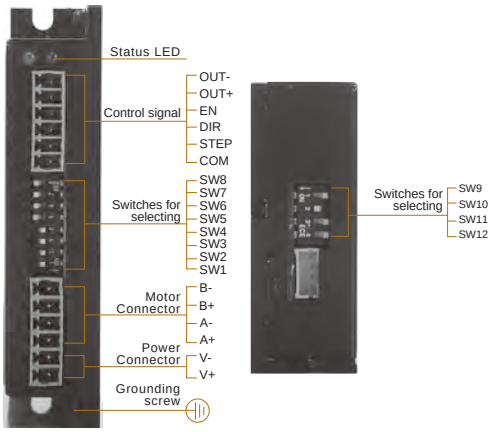
Unit:mm

SR2

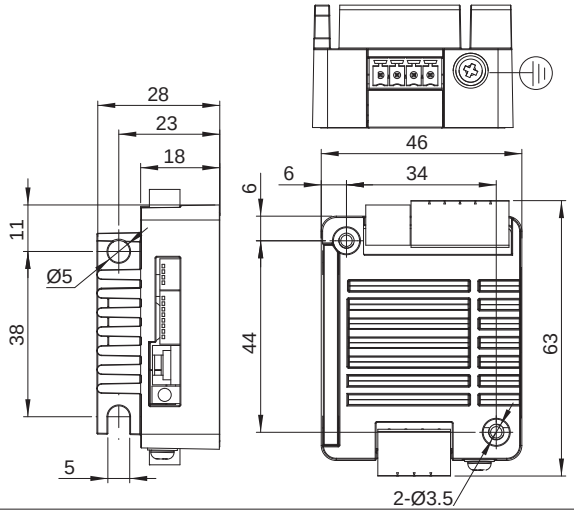


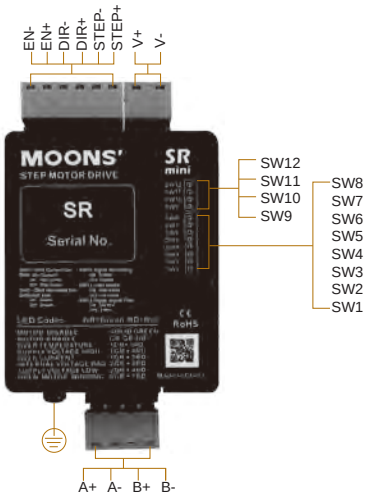


SR2-Plus



SR3-mini

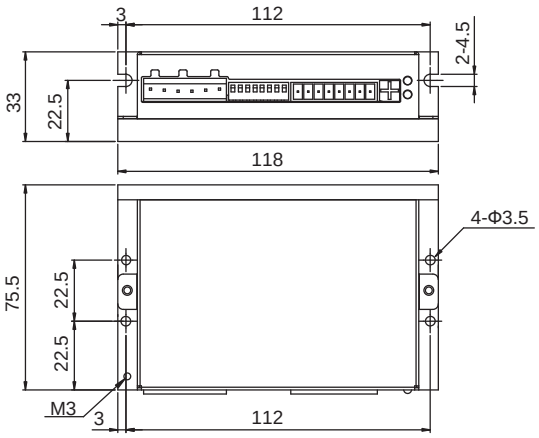


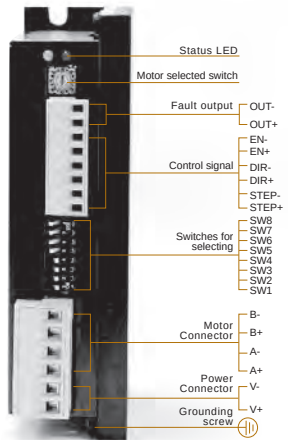


Mechanical Dimension

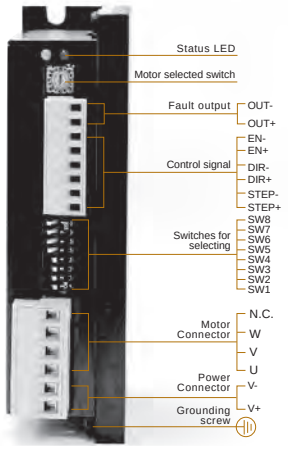
Unit:mm

SR4/SR8

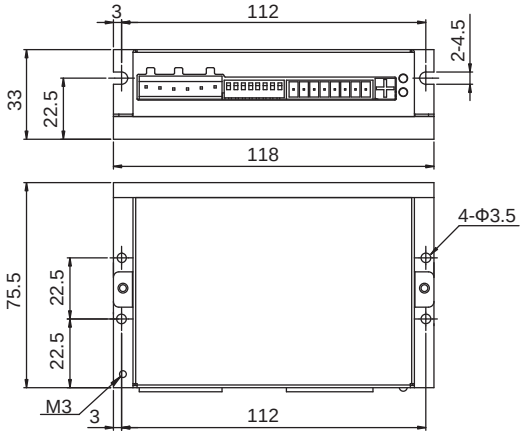


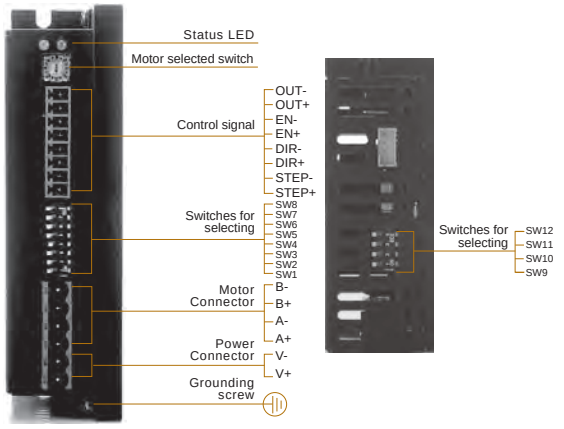


3SR8

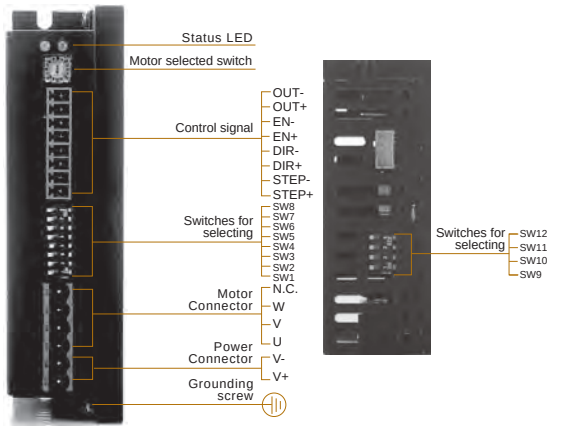


SR4-Plus/ SR8-Plus





3SR8-Plus



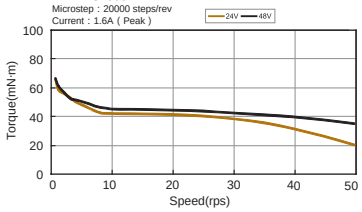
Matching drive		Model	Shaft	Step angle	Leads	Length	Holding torque	Current ※	Resistance	Rotor inertia	Motor mass	Dielectric strength
						mm	N·m	A/Phase	Ω/Phase	g·cm²	Kg	
2 phase drive	SR2 / SR2-Plus / SR3-mini	AM11HS1008-07	single shaft	1.8	4	31	0.072	1.0	2.5	9	0.1	500VAC 1 minute
		AM11HS3007-02	single shaft			40	0.082		1.7	12	0.15	
		AM11HS5008-01	single shaft			51	0.125		3.5	18	0.2	
		AM14HYB401-03	single shaft			40	0.2		4.3	20	0.21	
		AM17HD4452-02N	single shaft			34.3	0.285	1.5	1.5	38	0.23	
		AM17HD4452-01N	double shaft									
		AM17HD2438-02N	single shaft			39.8	0.46		1.9	57	0.28	
		AM17HD2438-01N	double shaft									
		AM17HD6426-06N	single shaft			48.3	0.59		2.3	82	0.36	
		AM17HD6426-05N	double shaft									
		AM17HDB410-01N	single shaft			62.8	0.85	1.4	3.2	123	0.6	
		AM17HDB410-02N	double shaft									
		AM23HS0420-01	single shaft			41	0.72	1.8	1.8	135	0.42	
		AM23HS0420-02	double shaft									
		AM23HS2449-01	single shaft			54	1.25		2.4	260	0.6	
		AM23HS2449-02	double shaft									
		AM23HS3454-01	single shaft			76	2.1		2.9	460	1	
		AM23HS3454-02	double shaft									
		AM23HS04A0-01	single shaft			39	0.82	1.8	1.8	105	0.4	
		AM23HS04A0-02	double shaft									
		AM23HS84A0-01	single shaft			55	1.5		2.4	215	0.6	
		AM23HS84A0-02	double shaft									
		AM23HSA4A0-01	single shaft			77	2.3		3	365	1	
		AM23HSA4A0-02	double shaft									
	SR4 / SR4-Plus	AM23HS0421-01	single shaft			41	0.72	3.7	0.48	135	0.42	
		AM23HS0421-02	double shaft									
		AM23HS2450-01	single shaft			54	1.25		0.63	260	0.6	
		AM23HS2450-02	double shaft									
		AM23HS3455-01	single shaft			76	2.1		0.75	460	1	
		AM23HS3455-02	double shaft									
		AM23HS04B0-01	single shaft			39	0.82	3.7	0.48	105	0.4	
		AM23HS04B0-02	double shaft									
		AM23HS84B0-01	single shaft			55	1.5		0.63	215	0.6	
		AM23HS84B0-02	double shaft									
		AM23HSA4B0-01	single shaft			77	2.3		0.75	365	1	
		AM23HSA4B0-02	double shaft									
		AM24HS2402-08N	single shaft			54	1.57	4.0	0.43	450	0.83	
		AM24HS2402-11N	double shaft									
		AM24HS5401-10N	single shaft			85	3.2		0.65	900	1.4	
		AM24HS5401-24N	double shaft									
	SR8 / SR8-Plus	AM34HD0404-08	single shaft			66.5	3.7	6.3	0.25	1100	1.6	
		AM34HD0404-09	double shaft									
		AM34HD1404-06	single shaft			96	6.7		0.35	1850	2.7	
		AM34HD1404-07	double shaft									
		AM34HD2403-07	single shaft			125.5	9.4	5.6	0.49	2750	3.8	
		AM34HD2403-08	double shaft									
		AM34HD3402-01	single shaft			156.0	11.5		0.63	4400	5.2	
		AM34HD3402-02	double shaft									
3 phase drive	3SR8 / 3SR8-Plus	AM24HC4306-01	single shaft	1.2	3	45.5	0.58	5.8	0.33	180	0.5	
		AM24HC2306-01	single shaft			54.5	0.9		0.4	260	0.8	
		AM24HC3306-03	single shaft			76.5	1.7		0.63	460	1.3	
		AM24HC4306-03	single shaft			45.5	0.58		0.33	180	0.5	
		AM24HC2308-02	single shaft			54.5	0.9		0.4	260	0.8	
		AM24HC3306-07	single shaft			76.5	1.7		0.63	460	1.3	
		AM34HC0305-01	single shaft			66.5	2.4	5.8	0.53	1100	1.6	
		AM34HC1305-01	single shaft			96	4.3		0.58	1850	2.7	
		AM34HC2306-01	single shaft			125.5	6.1		0.9	2750	3.8	

※ 1.The rated current of the motor is RMS value. 2.The output current of Moons drive is the peak of sine value. 3.Drive maximum peak current = motor rated current x1.4.

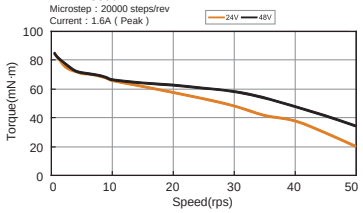
Torque Curves

SR2/SR2-Plus/SR3-mini

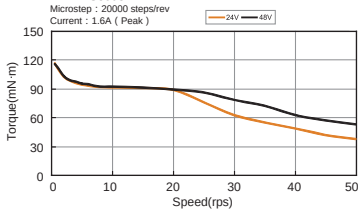
AM11HS1008
Microstep : 20000 steps/rev
Current : 1.6A (Peak)



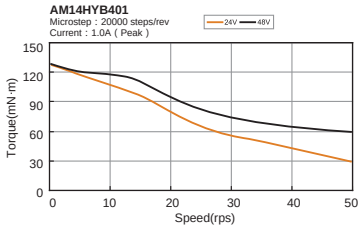
AM11HS3007
Microstep : 20000 steps/rev
Current : 1.6A (Peak)



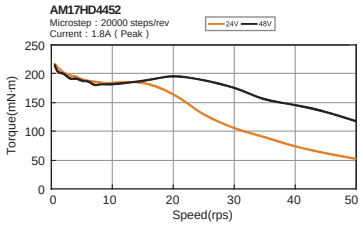
AM11HS5008
Microstep : 20000 steps/rev
Current : 1.6A (Peak)



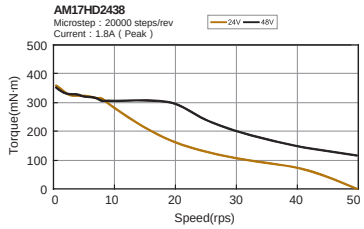
AM14HYB401
Microstep : 20000 steps/rev
Current : 1.0A (Peak)



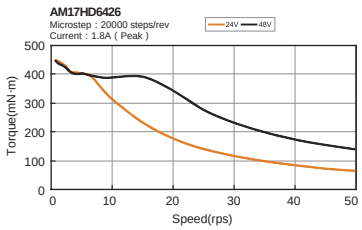
AM17HD4452
Microstep : 20000 steps/rev
Current : 1.8A (Peak)



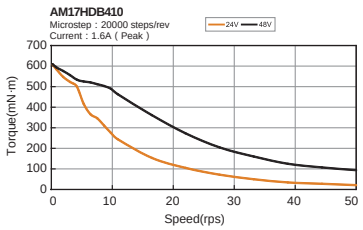
AM17HD2438
Microstep : 20000 steps/rev
Current : 1.8A (Peak)



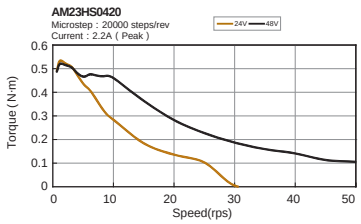
AM17HD6426
Microstep : 20000 steps/rev
Current : 1.8A (Peak)



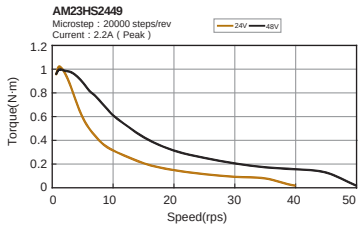
AM17HDB410
Microstep : 20000 steps/rev
Current : 1.6A (Peak)



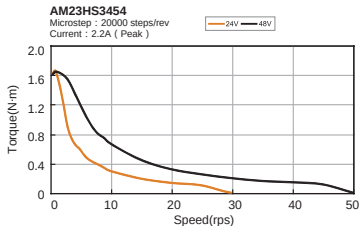
AM23HS0420
Microstep : 20000 steps/rev
Current : 2.2A (Peak)



AM23HS2449
Microstep : 20000 steps/rev
Current : 2.2A (Peak)

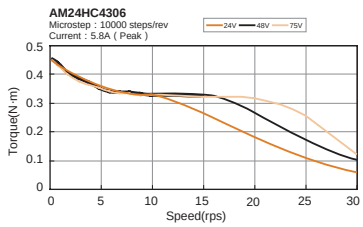


AM23HS3454
Microstep : 20000 steps/rev
Current : 2.2A (Peak)

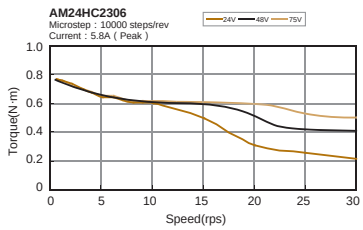


3SR8/3SR8-Plus

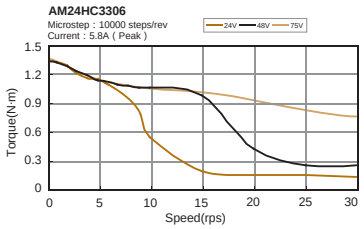
AM24HC4306
Microstep : 10000 steps/rev
Current : 5.8A (Peak)



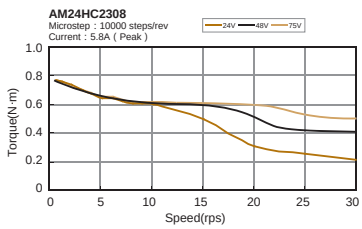
AM24HC2306
Microstep : 10000 steps/rev
Current : 5.8A (Peak)



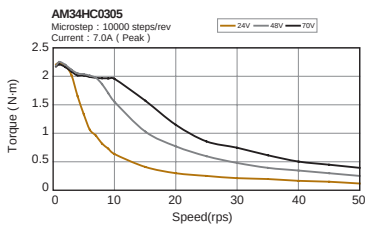
AM24HC3306
Microstep : 10000 steps/rev
Current : 5.8A (Peak)



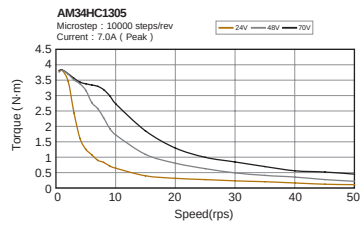
AM24HC2308
Microstep : 10000 steps/rev
Current : 5.8A (Peak)



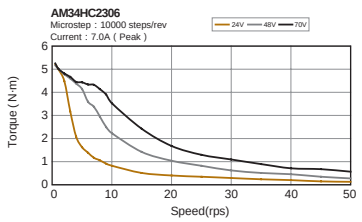
AM34HC0305
Microstep : 10000 steps/rev
Current : 7.0A (Peak)



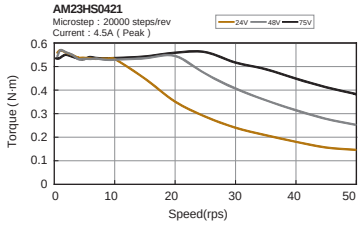
AM34HC1305
Microstep : 10000 steps/rev
Current : 7.0A (Peak)

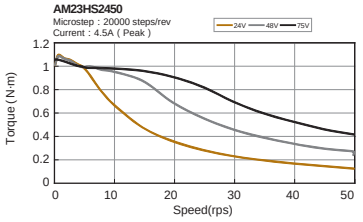


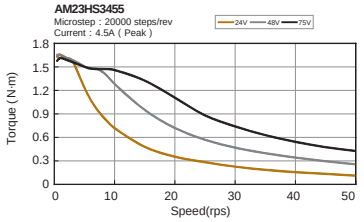
AM34HC2306
Microstep : 10000 steps/rev
Current : 7.0A (Peak)

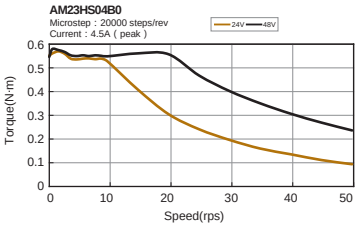


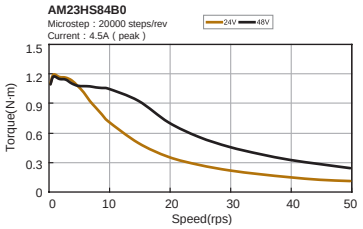
SR4/SR4-Plus

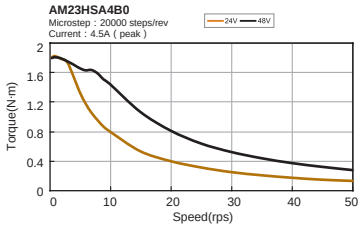


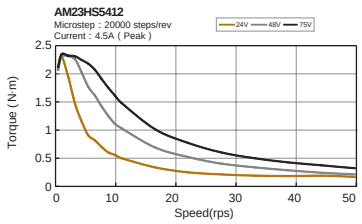


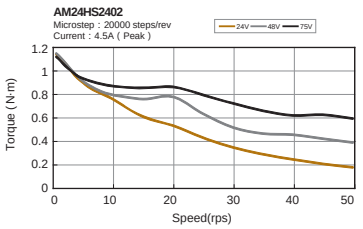


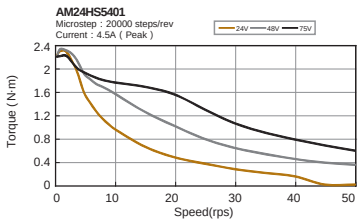




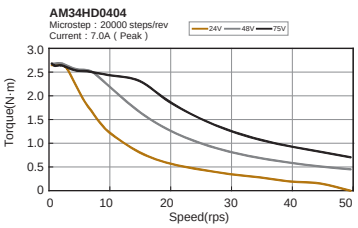


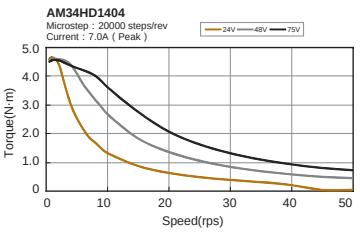


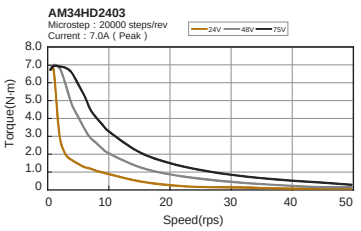




SR8/SR8-Plus







Numbering System

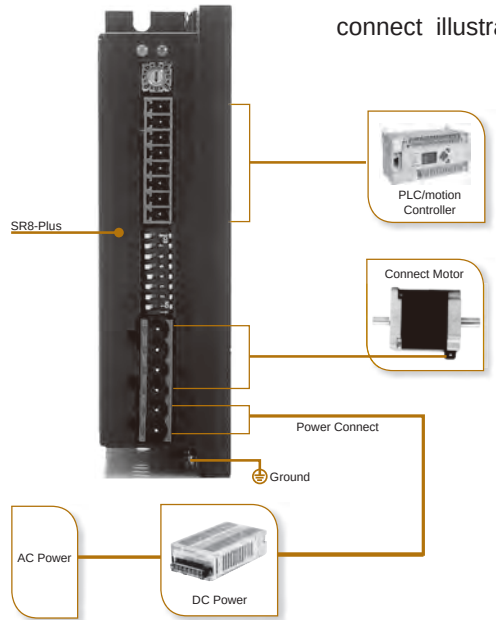
SR 2 - PLUS

Series number

Current
2=2.2A maximum
3=3.0A maximum
4=4.5A maximum
8=7.8A maximum

Blank=standard
plus=strengthen
mini=compact

connect illustration



Ordering Information

Type	Model	Current	Voltage	Selectable Microstep	Selectable Current
2 Phase Drive	SR2	0.3-2.2A	12-48VDC	16 settings	8 settings
	SR2-Plus			16 settings	
	SR3-mini	0.4-3A	12-48VDC	16 settings	
	SR4	1.0-4.5A	24-48VDC	8 settings	
	SR4-Plus			16 settings	
	SR8	2.4-7.8A	24-75VDC	8 settings	
	SR8-Plus			16 settings	
3 Phase Drive	3SR8	2.4-7.8A	24-75VDC	8 settings	
	3SR8-Plus			16 settings	

Distributors for Australia & New Zealand

MOTION TECHNOLOGIES PTY LIMITED

24/22-30 Northumberland Road
Caringbah NSW 2229 Australia
Phone: (02) 9524 4782

sales@motiontech.com.au
www.motiontech.com.au

CHINA / 1ST PRINT / 31ST / JULY / 2018
NO. 32533010001 03 A1

http://www.moonsindustries.com
E-mail: ama-info@moons.com.cn

MOONS'
moving in better ways

- All the specifications, technical parameters of the products provided in this catalog are for reference only, subject to change without notice. For the latest details, please contact our sales department.