Selection chart

Motor base speed (rpm)	Motor max. speed (rpm)	Motor power (W)	Motor rated torque (N.m)	Motor peak torque (N.m)	Motor frame size (mm)	Rotor inertia (kg·cm²)	MS1 motor model[1] [2]	SV630 drive model	SV630 rated current (A)	SV630 peak current (A)	SV630 frame size	SV630 drive mass (kg)	MS1 motor mass (kg)
For 1PH 220V Servo Drive													
3000	6000	50	0.16	0.56	40×40	0.018	MS1H1-05B30CB-T330(/2)R-INT	SV630*S1R6I-INT	1.6	5.80	A	0.8	0.26
3000	6000	100	0.32	1.12	40×40	0.0316	MS1H1-10B30CB-T330(/2)R-INT	SV630*S1R6I-INT	1.6	5.80	A	0.8	0.35
3000	6000	50	0.16	0.56	40×40	0.038	MS1H4-05B30CB-T331(/4)R-INT	SV630*S1R6I-INT	1.6	5.80	A	0.8	0.26
3000	6000	100	0.32	1.12	40×40	0.072	MS1H4-10B30CB-T331(/4)R-INT	SV630*S1R6I-INT	1.6	5.80	A	0.8	0.32
3000	6000	200	0.64	2.24	60×60	0.22	MS1H4-20B30CB-T331(/4)R-INT	SV630*S1R6I-INT	1.6	5.80	A	0.8	0.78
3000	6000	400	1.27	4.45	60×60	0.43	MS1H4-40B30CB-T331(/4)R-INT	SV630*S2R8I-INT	2.8	10.10	A	0.8	1.11
3000	6000	550	1.75	6.13	80×80	1.12	MS1H4-55B30CB-T331R-INT	SV630*S5R5I-INT	5.5	16.90	B	1.0	1.85
3000	6000	750	2.39	8.37	80×80	1.78	MS1H4-75B30CB-T331(/4)R-INT	SV630*S5R5I-INT	5.5	16.90	B	1.0	2.18
For 1/3PH 220V Servo Drive													
3000	6000	1000	3.18	9.54	100×100	1.78	MS1H2-10C30CB-T331(/4)R-INT	SV630*S7R6I-INT	7.6	23.00	C	1.3	3.85
1500	3000	850	5.39	13.50	130×130	13.56	MS1H3-85B15CB-T331(/4)R-INT	SV630*S7R6I-INT	7.6	23.00	C	1.3	5.80
3000	6000	1000	3.18	9.54	80×80	1.87	MS1H4-10C30CB-T331(/4)R-INT	SV630*S7R6I-INT	7.6	23.00	C	1.3	2.55
3000	5000	1500	4.90	14.70	100×100	2.35	MS1H2-15C30CB-T331(/4)R-INT	SV630*S012I-INT	12.0	32.00	D	1.8	4.65
3000	5000	2000	6.36	15.50	100×100	2.92	MS1H2-20C30CB-T331(/4)R-INT	SV630*S012I-INT	12.0	32.00	D	1.8	5.50
1500	3000	1300	8.34	20.85	130×130	19.25	MS1H3-13C15CB-T331(/4)R-INT	SV630*S012I-INT	12.0	32.00	D	1.8	7.10
1500	3000	1800	11.50	28.75	130×130	24.9	MS1H3-18C15CB-T331(/4)R-INT	SV630*S012I-INT	12.0	32.00	D	1.8	8.50
For 3PH 400V Servo Drive													
3000	6000	1000	3.18	9.54	100×100	1.78	MS1H2-10C30CD-T331(/4)R-INT	SV630*T3R5I-INT	3.5	11.00	C	1.3	3.85
1500	3000	850	5.39	13.50	130×130	13.56	MS1H3-85B15CD-T331(/4)R-INT	SV630*T3R5I-INT	3.5	11.00	C	1.3	5.80
3000	5000	1500	4.90	14.70	100×100	2.35	MS1H2-15C30CD-T331(/4)R-INT	SV630*T5R4I-INT	5.4	14.00	C	1.3	4.65
1500	3000	1300	8.34	20.85	130×130	19.25	MS1H3-13C15CD-T331(/4)R-INT	SV630*T5R4I-INT	5.4	14.00	C	1.3	7.10
3000	5000	2000	11.50	28.75	100×100	2.92	MS1H2-20C30CD-T331(/4)R-INT	SV630*T8R4I-INT	8.4	20.00	D	1.8	5.50
1500	3000	1800	11.50	28.75	130×130	24.90	MS1H3-18C15CD-T331(/4)R-INT	SV630*T8R4I-INT	8.4	20.00	D	1.8	8.50
3000	5000	2500	7.96	23.90	100×100	3.49	MS1H2-25C30CD-T331(/4)R-INT	SV630*T012I-INT	12.0	29.75	D	1.8	6.30
3000	5000	3000	9.80	29.40	130×130	6.40	MS1H2-30C30CD-T331(/4)R-INT	SV630*T012I-INT	12.0	29.75	D	1.8	10.00
1500	3000	2900	18.60	46.50	180×180	44.70	MS1H3-29C15CD-T331(/4)R-INT	SV630*T012I-INT	12.0	29.75	D	1.8	13.80
3000	5000	4000	12.60	37.80	130×130	9.00	MS1H2-40C30CD-T331(/4)R-INT	SV630*T017I-INT	17.0	41.25	E	3.6	13.20
1500	3000	4400	28.40	71.10	180×180	64.90	MS1H3-44C15CD-T331(/4)R-INT	SV630*T017I-INT	17.0	41.25	E	3.6	17.40
3000	5000	5000	15.80	47.40	130×130	11.60	MS1H2-50C30CD-T331(/4)R-INT	SV630*T021I-INT	21.0	52.12	E	3.6	16.35
1500	3000	5500	35.00	87.60	180×180	86.90	MS1H3-55C15CD-T331(/4)R-INT	SV630*T021I-INT	21.0	52.12	E	3.6	21.70
1500	3000	7500	48.00	119.00	180×180	127.50	MS1H3-75C15CD-T331(/4)R-INT	SV630*T026I-INT	26.0	64.25	E	3.6	29.00

Note: [1] SV630 drives and MS1 T3 encoder motors are all CE certificated.
[2] Code 2 or 4 is optional for motor with brake type.

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INOVANCE

SV630 Series Servo Drive

Compact size & easy to use



Simplified design

18-bit encoder ensures accurate control

STO
SV630N model with STO (EN61800-5-2:2017)

Scan the QR code for the manual of SV630-INT; For more information, please contact our local offices.

Power cables

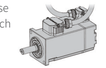
Motor Model		Cable Name	Cable Model	Cable Length (m)
MS1H1/ MS1H4 terminal type motor	Front outlet	Without brake	S6-L-M107-3.0(-T)(-INT)	3
			S6-L-M107-5.0(-T)(-INT)	5
			S6-L-M107-10.0(-T)(-INT)	10
		With brake	S6-L-B107-3.0(-T)(-INT)	3
			S6-L-B107-5.0(-T)(-INT)	5
			S6-L-B107-10.0(-T)(-INT)	10
	Back outlet	Without brake	S6-L-M108-3.0(-T)(-INT)	3
			S6-L-M108-5.0(-T)-INT	5
			S6-L-M108-10.0(-T)(-INT)	10
		With brake	S6-L-B108-3.0(-T)(-INT)	3
			S6-L-B108-5.0(-T)(-INT)	5
			S6-L-B108-10.0(-T)(-INT)	10
MS1H2 motors of 3 kW and below/ MS1H3 motors of 1.8 kW and below		Without brake	S6-L-M111-3.0(-T)(-INT)	3
			S6-L-M111-5.0(-T)(-INT)	5
			S6-L-M111-10.0(-T)(-INT)	10
		With brake	S6-L-B111-3.0(-T)(-INT)	3
			S6-L-B111-5.0(-T)(-INT)	5
			S6-L-B111-10.0(-T)(-INT)	10

Motor Model	Cable Name	Cable Model	Cable Length (m)
MS1H2 motors of 4 kW/5 kW	Without brake	S6-L-M011-3.0(-T)(-INT)	3
		S6-L-M011-5.0(-T)(-INT)	5
		S6-L-M011-10.0(-T)(-INT)	10
	With brake	S6-L-B011-3.0(-T)(-INT)	3
		S6-L-B011-5.0(-T)(-INT)	5
		S6-L-B011-10.0(-T)(-INT)	10
MS1H3 motors of 2.9 kW	Without brake	S6-L-M112-3.0(-T)(-INT)	3
		S6-L-M112-5.0(-T)(-INT)	5
		S6-L-M112-10.0(-T)(-INT)	10
	With brake	S6-L-B112-3.0(-T)(-INT)	3
		S6-L-B112-5.0(-T)(-INT)	5
		S6-L-B112-10.0(-T)(-INT)	10
MS1H3 motors of 4.4 kW and above	Without brake	S6-L-M022-3.0(-T)(-INT)	3
		S6-L-M022-5.0(-T)(-INT)	5
		S6-L-M022-10.0(-T)(-INT)	10
	With brake	S6-L-B022-3.0(-T)(-INT)	3
		S6-L-B022-5.0(-T)(-INT)	5
		S6-L-B022-10.0(-T)(-INT)	10

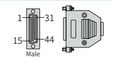
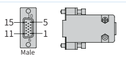
Encoder cables

Motor Model		Cable Model	Cable Length (mm)
MS1H1/MS1H4 terminal-type motor	Front outlet	S6-L-P124-3.0(-T)(-INT)	3
		S6-L-P124-5.0(-T)(-INT)	5
		S6-L-P124-10.0(-T)(-INT)	10
	Rear outlet	S6-L-P125-3.0(-T)(-INT)	3
		S6-L-P125-5.0(-T)(-INT)	5
		S6-L-P125-10.0(-T)(-INT)	10
MS1H2/MS1H3 motor		S6-L-P121-3.0(-T)(-INT)	3
		S6-L-P121-5.0(-T)(-INT)	5
		S6-L-P121-10.0(-T)(-INT)	10

Notes:
[1] Power and encoder cables are made of oil-resistant cables and with shield as standard.
[2] -T means flexible cable is optional.
[3] For a 50W motor, the power cables have to choose the rear outlet model as shown on the right, which is to prevent the mounting flange face from be disturbed by the power cable.



Accessories

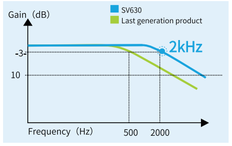
Description	Model	Outline Drawing
Battery kit	S6-C4A	
CN1 connector (DB44) (for SV630P)	S6-C8	
CN1 connector (DB15) (for SV630N)	S6-C6	
PC communication cable	S6-L-T00-3.0	

Product features overview

Delivering stable control with Inovance control algorithm

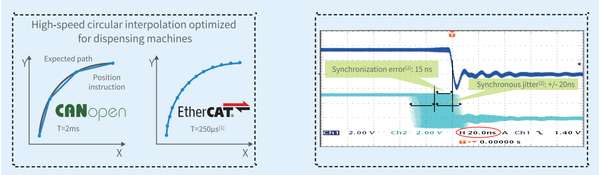
- A speed loop response bandwidth of 2 kHz gives significantly improved performance compared to the previous generation of Inovance products.
- Up to 1ms* position loop cycle,based on torque feedforward high-response control.

*Please note: This data is the data in the optimal state, usually 5-6ms, and the specific performance varies depending on the on-site situation



EtherCAT bus provides fast and accurate response

- Supports 1ms synchronization period on EtherCAT bus model - SV630N servo drive, which can achieve:2 x100 Mbps (full duplex) sata transfer rate, refresh time: 100 axes × 1 μs/axis, latency: 0.1 ms.
- By precise adjustment of EtherCAT distributed clock to achieve the distance of 120 m & 300 nodes, 15ns synchronization error, and ± 20ns synchronization jitter.



Note: [1]The instruction update cycle depends on the specification of the upper controller.
[2]Synchronization error refers to the time deviation between any two nodes receiving the synchronization signal; synchronization jitter refers to the variation error of the synchronization signal interval time.

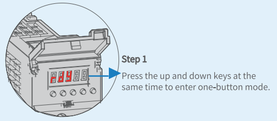
SV630N model designed with STO

- EN61800-5-2:2017 standard.
- STO prevents electric shock or mechanical injury in fault conditions without output contactors.



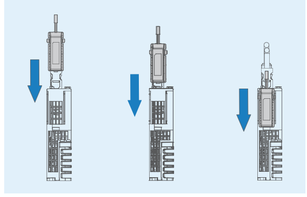
Simple one-click tuning method

- Designed for single-axis servo systems, by using keyboard shortcuts or "Position JOG and Auto-tuning" function on the background software. All you need to do is make simple settings to automatically adjust the load inertia ratio, gain, and resonance parameters, thereby maximizing the performance of the servo.



Designed for easy installation

- The absolute encoder battery is attached to the driver, which simplified the installation.



18-bit absolute encoder ensures stable and accurate control

- 18-bit absolute encoder with 4.94 arcseconds resolution, 262,144 PPR, and absolute position tracking up to 65,535 turns.
- The encoder provides reliable performance with a seismic rating of up to 10G and temperature resistance up to 105°C.
- Over 3 years operating life of encoder battery, which can be directly attached to the servo drive.



MS1-R series servo motor with up to IP67 & IE5 ratings

- Up to IP67, with standard oil seal design. (except for shaft-through and wire-throwing motor connectors)
- The energy efficiency of 550W~7.5kW motors is equal to IE5 level.



Ordering code

Servo Drive

SV630 N S 2R8 I -INT
① ② ③ ④ ⑤ ⑥

① Product series
SV630: SV630 series servo drive

② Communication type
N: EtherCAT type
P: Pulse type

③ Voltage class
S: 200 V to 240 V
T: 380 V to 480 V

④ Rated output current
1R6: 1.6 A
2R8: 2.8 A
3R5: 3.5 A
5R4: 5.4 A
5R5: 5.5 A
8R4: 8.4 A
7R6: 7.6 A
012: 12.0 A
012: 12.0 A
017: 17.0 A
018: 18.0 A
021: 21.0 A
022: 22.0 A
026: 26.0 A
027: 27.0 A

⑤ Model configuration
I: Standard type

⑥ Version
INT: International variant

Servo Motor

MS1 H4- 75B 30C B - T3 3 1 R - INT
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩

① MS1 series servo motor

② Inertia and capacity type
H1: Low inertia, small capacity
H2: Low inertia, medium capacity
H3: Medium inertia, medium capacity
H4: Medium inertia, small capacity

③ Rated power (W)
Comprised of a letter and two digits
B: x 10
C: x 100
Example: 75B: 750 W

④ Rated speed (rpm)
Comprised of a letter and two digits
B: x 10
C: x 100
Example: 30C: 3000 rpm

⑤ Voltage calss (V)
B: 220
D: 380

⑥ Encoder type
Comprised of a letter and a digit
T3: 18-bit multi-turn absolute encoder

⑦ Shaft connection mode
3: Solid and keyed, with threaded hole in the shaft center

⑧ Brake and oil seal[1]
0: Without oil seal or brake
1: With oil seal, without brake
2: Without oil seal, with brake
4: With oil seal and brake

⑨ Sub-series No.
R: R series

⑩ Version
INT: International variant

[1] Note: Flange size 40mm with H1 type motors are not equipped with an oil seal.

Dimensions

SV630P	SV630N	Frame size	L (mm)	H (mm)	D (mm)	Mounting hole	Mass (kg)
		SIZE A	40	170	150	2-M4	0.8
		SIZE B	50	170	173	2-M4	1.0
		SIZE C	55±1	170	173±1	2-M4	1.3
		SIZE D	80±1	170	183	3-M4	1.8
		SIZE E	90	250	230	4-M4	3.6