

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
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

Encoder cables

Motor Model			Cable Model	Cable Length (m)
MS1H1/MS1H4 terminal-type motor	Front outlet	Single-turn absolute encoder	S6-L-P114-3.0(-T)-INT	3
			S6-L-P114-5.0(-T)-INT	5
			S6-L-P114-10.0(-T)-INT	10
		Multi-turn absolute encoder	S6-L-P124-3.0(-T)-INT	3
			S6-L-P124-5.0(-T)-INT	5
	Rear outlet	Single-turn absolute encoder	S6-L-P124-10.0(-T)-INT	10
			S6-L-P115-3.0(-T)-INT	3
			S6-L-P115-5.0(-T)-INT	5
		Multi-turn absolute encoder	S6-L-P115-10.0(-T)-INT	10
			S6-L-P125-3.0(-T)-INT	3
			S6-L-P125-5.0(-T)-INT	5
			S6-L-P125-10.0(-T)-INT	10

Accessories

Description	Model	Outline Drawing
CN1 connector (DB26)	S6-C74	
SV670N CN1 IO DB26 to 14 push-in adapter	S6-C220	
CN1 connector (DB44)	S6-C8	
CN7 connector (DB15)	S6-C6	
Shield bracket	S6-C25 (optional for sizes A and C) S6-C27 (optional for size D to size E)	
Battery box kit (without battery)	S6-C4A-NB	
Battery kit	S6-C4A	

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
MS1H3 motors of 2.9 kW	Without brake	S6-L-M011-10.0(-T)-INT	10
		S6-L-M112-3.0(-T)-INT	3
		S6-L-M112-5.0(-T)-INT	5
	With brake	S6-L-M112-10.0(-T)-INT	10
		S6-L-B112-3.0(-T)-INT	3
MS1H3 motors of 4.4 kW and above	Without brake	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-B022-10.0(-T)-INT	10

Motor Model		Cable Model	Cable Length (m)
MS1H2/MS1H3 motor	Single-turn absolute encoder	S6-L-P111-3.0(-T)-INT	3
		S6-L-P111-5.0(-T)-INT	5
		S6-L-P111-10.0(-T)-INT	10
	Multi-turn absolute encoder	S6-L-P121-3.0(-T)-INT	3
		S6-L-P121-5.0(-T)-INT	5
		S6-L-P121-10.0(-T)-INT	10

Note: [1] -T means flexible cable is optional.
[2] Power cable and encoder cable come with shielding as standard.

Ordering code

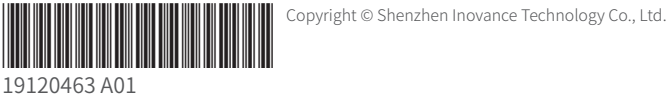
SV670 ① N ② S ③ 2R8 ④ I ⑤ - FS ⑥ - INT ⑦

① Product series SV670: SV670 general-purpose servo drive	④ Rated output current S: 200V ~ 240V T: 380V ~ 480V 1R6: 1.6 A 2R8: 2.8 A 5R5: 5.5 A 7R6: 7.6 A 012: 12.0 A 018: 18.0 A 022: 22.0 A 027: 27.0 A	⑤ Model configuration I: Standard type ⑥ Optional configuration FS: with STO None: without STO ⑦ Model configuration INT: International Version
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MS1 H1- 75B 30C B - A3 3 1 R - * - INT ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪

① MS1 series servo motor	④ Rated speed (rpm) Comprised of a letter and two digits B: x 10 C: x 100 Example: 30C: 3000 rpm	⑦ Shaft connection mode 3: Solid and keyed, with threaded hole in the shaft center
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	⑤ Voltage class B: 200V D: 400V	⑧ Brake or 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
③ Rated power (W) Comprised of a letter and two digits B: x 10 C: x 100 Example: 75B: 750 W	⑥ Encoder type Comprised of a letter and a digit A3: 23-bit multi-turn absolute encoder V3: 23-bit multi-turn absolute battery-less encoder	⑨ Sub-series No. R: R series
		⑩ Customization information .: Standard type -S: Flying leads type -**: Other customized types
		⑪ Model type INT: International Version

Note: [1] H1 type motors with a 40mm flange size are not equipped with an oil seal.
[2] Battery-less encoder motors do not have 40mm frame-size options (with powers of 50W and 100W).



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INOVANCE

SV670 Series Servo Drive

Performance, enhanced functionality, and flexibility



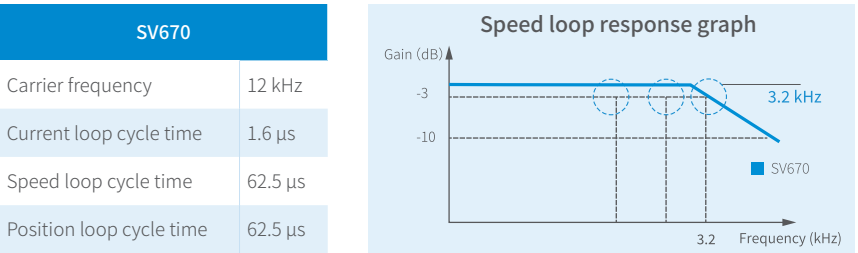
- User friendly installation
- Easy set-up and tuning
- DDL & DDR support
- Pulse, CANopen and CANlink available on P model
- Safe Torque Off - SIL 3
- Wide voltage range: T model 3PH 380V~480V

Scan the QR code for the manual of SV670-INT; For more information, please contact our local offices.

Product family overview

Speed loop bandwidth*

A speed loop response bandwidth of 3.2 kHz gives significantly improved performance compared to the previous generation of Inovance products.



*Please note: The phrase ‘speed loop bandwidth’ refers to the highest frequency speed command change that the servo system can respond to.

Control signals I/O:

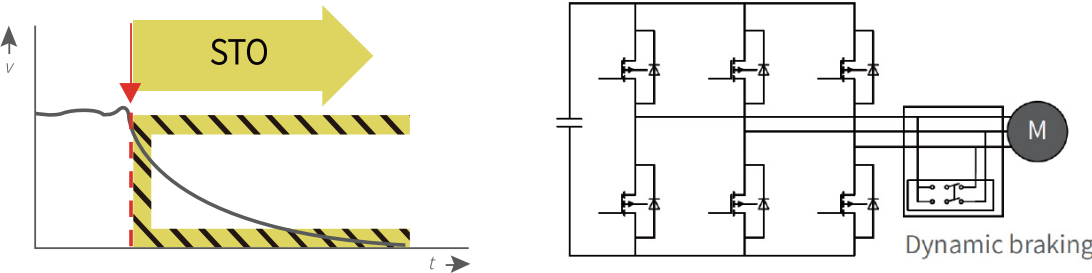
- P model: 2×AI (12 bits), 1×AO, 8×DI, 5×DO
N model: 2×AI (12 bits), 1×AO, 5×DI, 2×DO
- Built-in USB-C port (for PC connection) + RS485 port (Modbus) on P model / EtherCAT port on N model
 - Drive’s control circuit can be supplied from the USB-C port, allowing an easy parameter upload/download and firmware upgrade, with no requirement to provide any additional power supply.

Notch filter for mechanical resonance suppression

- Equipped with 5 notch filters broadly covering 50~8000Hz, precisely suppressing interference;
- 2 of the notch filters support adaptive settings, intelligently adapting to complex environments, ensuring more stable anti-interference performance with higher efficiency.

Safety Assurance

- SV670-FS-INT is equipped with STO(compliant with SIL 3 acc. to EN 61800-5-2/EN 61508), which prevents electric shock or mechanical injury under fault conditions without using additional contactors.
- Built in dynamic braking ensures safe stops if the drive is unexpectedly disabled



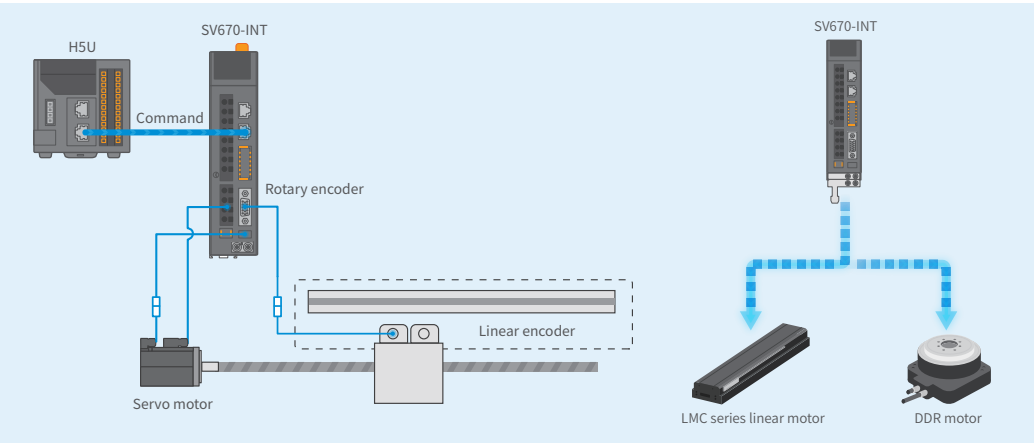
Robust and reliable – designed for harsh environments

Isolated cooling channel prevents dust contamination of internal electrical components. Conformally coated PCBs are resistant to 3S2 and 3C3 environments (acc. to IEC 60721-3-3), providing further protection.



Function Improvements

- Supports ABZ orthogonal pulse full closed-loop to ensure the positioning accuracy of the device
- Supports linear motors + DDR motor, meeting a wide range of application scenarios



Easy installation and fast commissioning

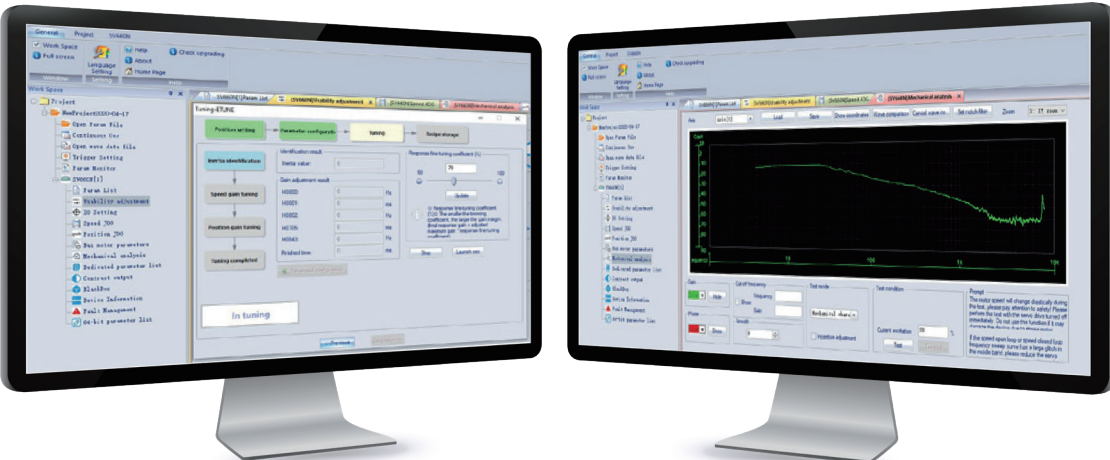
- Pluggable connectors for both signal and power allow avoidance of wiring mistakes. Fine tuning is possible using the STune and ETune software functions, which are both designed for use in applications with small load inertia changes:
- STune obtains the gains using a calculation based on the set rigidity level
 - ETune automatically adjusts the optimal gain parameters of the servo drive to deliver the best performance

Easy cloning of drive parameters

EOE function support: For servo drive parameter replication over the EtherCAT, parameters for all SV670N-INT in one device can be uploaded and downloaded at a time with the commissioning software over EtherCAT.

Guided PC commissioning software

- All-new InoDriverShop commissioning software, lowers the threshold for servo usage. With guided instructions and graphical parameter configuration, servo parameter setup is easily completed.
- Software is included free of charge
- Connect to a PC using standard USB-C cable



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	SV670 drive model	SV670 rated current (A)	SV670 peak current (A)	SV670 size	Drive weight (kg)	Motor weight (kg)
For 1/3PH 220V Servo Drive													
3000	7000	50	0.16	0.56	40×40	0.02	MS1H1-05B30CB-A33*R-INT	SV670*-S1R6I(-FS)-INT	1.60	5.80	A	0.96	0.26
3000	7000	100	0.32	1.12	40×40	0.03	MS1H1-10B30CB-A33*R-INT	SV670*-S1R6I(-FS)-INT	1.60	5.80	A	0.96	0.35
3000	7000	200	0.64	2.24	60×60	0.09	MS1H1-20B30CB-A33*R-INT	SV670*-S1R6I(-FS)-INT	1.60	5.80	A	0.96	0.80
3000	7000	400	1.27	4.45	60×60	0.15	MS1H1-40B30CB-A33*R-INT	SV670*-S2R8I(-FS)-INT	2.80	10.10	A	0.96	1.11
3000	7000	550	1.75	6.13	80×80	0.55	MS1H1-55B30CB-A33*R-INT ^[1]	SV670*-S5R5I(-FS)-INT	5.50	16.90	C	1.30	1.88
3000	7000	750	2.39	8.37	80×80	0.68	MS1H1-75B30CB-A33*R-INT	SV670*-S5R5I(-FS)-INT	5.50	16.90	C	1.30	2.22
3000	7000	1000	3.18	11.13	80×80	0.82	MS1H1-10C30CB-A33*R-INT	SV670*-S7R6I(-FS)-INT	7.60	23.00	C	1.30	2.61
3000	6000	1000	3.18	9.54	100×100	1.78	MS1H2-10C30CB-A33*R-INT	SV670*-S7R6I(-FS)-INT	7.60	23.00	C	1.30	3.85
3000	6000	1500	4.90	14.70	100×100	2.35	MS1H2-15C30CB-A33*R-INT	SV670*-S012I(-FS)-INT	12.00	32.00	D	1.80	4.65
1500	4500	850	5.39	13.90	130×130	13.56	MS1H3-85B15CB-A33*R-INT	SV670*-S7R6I(-FS)-INT	7.60	23.00	C	1.30	5.80
1500	4500	1300	8.34	20.85	130×130	19.25	MS1H3-13C15CB-A33*R-INT	SV670*-S012I(-FS)-INT	12.00	32.00	D	1.80	7.10
3000	7000	50	0.16	0.56	40×40	0.04	MS1H4-05B30CB-A33*R-INT	SV670*-S1R6I(-FS)-INT	1.60	5.80	A	0.96	0.24
3000	7000	100	0.32	1.12	40×40	0.07	MS1H4-10B30CB-A33*R-INT	SV670*-S1R6I(-FS)-INT	1.60	5.80	A	0.96	0.32
3000	7000	200	0.64	2.24	60×60	0.22	MS1H4-20B30CB-A33*R-INT	SV670*-S1R6I(-FS)-INT	1.60	5.80	A	0.96	0.78
3000	7000	400	1.27	4.45	60×60	0.43	MS1H4-40B30CB-A33*R-INT	SV670*-S2R8I(-FS)-INT	2.80	10.10	A	0.96	1.11
3000	7000	550	1.75	6.13	80×80	1.12	MS1H4-55B30CB-A33*R-INT ^[1]	SV670*-S5R5I(-FS)-INT	5.50	16.90	C	1.30	1.85
3000	7000	750	2.39	8.37	80×80	1.46	MS1H4-75B30CB-A33*R-INT	SV670*-S5R5I(-FS)-INT	5.50	16.90	C	1.30	2.18
3000	7000	1000	3.18	11.13	80×80	1.87	MS1H4-10C30CB-A33*R-INT	SV670*-S7R6I(-FS)-INT	7.60	23.00	C	1.30	2.55
For 3PH 220V Servo Drive													
3000	6000	2000	6.36	19.10	100×100	2.92	MS1H2-20C30CB-A33*R-INT	SV670*-S018I(-FS)-INT	18.00	45.00	E	3.60	5.50
3000	6000	2500	7.96	23.90	100×100	3.49	MS1H2-25C30CB-A33*R-INT	SV670*-S022I(-FS)-INT	22.00	55.00	E	3.60	6.30
3000	6000	3000	9.80	29.40	130×130	6.40	MS1H2-30C30CB-A33*R-INT	SV670*-S022I(-FS)-INT	22.00	55.00	E	3.60	10.00
3000	6000	4000	12.60	31.50	130×130	9.00	MS1H2-40C30CB-A33*R-INT	SV670*-S027I(-FS)-INT	27.00	67.50	E	3.60	13.20
3000	6000	5000	15.80	39.50	130×130	11.60	MS1H2-50C30CB-A33*R-INT	SV670*-S027I(-FS)-INT	27.00	67.50	E	3.60	16.35
1500	4500	1800	11.50	28.75	130×130	24.90	MS1H3-18C15CB-A33*R-INT	SV670*-S012I(-FS)-INT	12.00	32.00	D	1.80	8.50
1500	4500	2900	18.60	46.50	180×180	44.70	MS1H3-29C15CB-A33*R-INT	SV670*-S022I(-FS)-INT	22.00	55.00	E	3.60	13.80
1500	4500	4400	28.40	71.10	180×180	64.90	MS1H3-44C15CB-A33*R-INT	SV670*-S027I(-FS)-INT	27.00	67.50	E	3.60	17.40
For 3PH 400V Servo Drive													
3000	6000	1000	3.18	9.54	100×100	1.78	MS1H2-10C30CD-A33*R-INT	SV670*-T3R5I(-FS)-INT	3.50	11.00	C	1.30	3.85
3000	6000	1500	4.90	14.70	100×100	2.35	MS1H2-15C30CD-A33*R-INT	SV670*-T5R4I(-FS)-INT	5.40	14.00	C	1.30	4.65
3000	6000	2000	6.36	19.10	100×100	2.92	MS1H2-20C30CD-A33*R-INT	SV670*-T8R4I(-FS)-INT	8.40	20.00	D	1.80	5.50
3000	6000	2500	7.96	23.90	100×100	3.49	MS1H2-25C30CD-A33*R-INT	SV670*-T012I(-FS)-INT	12.00	30.00	D	1.80	6.30
3000	6000	3000	9.80	29.40	130×130	6.40	MS1H2-30C30CD-A33*R-INT	SV670*-T012I(-FS)-INT	12.00	30.00	D	1.80	10.00
3000	6000	4000	12.60	37.80	130×130	9.00	MS1H2-40C30CD-A33*R-INT	SV670*-T017I(-FS)-INT	17.00	42.50	E	3.60	13.20
3000	6000	5000	15.80	47.40	130×130	11.60	MS1H2-50C30CD-A33*R-INT	SV670*-T021I(-FS)-INT	21.00	52.50	E	3.60	16.35
1500	4500	850	5.39	13.50	130×130	13.56	MS1H3-85B15CD-A33*R-INT	SV670*-T3R5I(-FS)-INT	3.50	11.00	C	1.30	5.80
1500	4500	1300	8.34	20.85	130×130	19.25	MS1H3-13C15CD-A33*R-INT	SV670*-T5R4I(-FS)-INT	5.40	14.00	C	1.30	7.10
1500	4500	1800	11.50	28.75	130×130	24.90	MS1H3-18C15CD-A33*R-INT	SV670*-T8R4I(-FS)-INT	8.40	20.00	D	1.80	8.50
1500	4500	2900	18.60	46.50	180×180	44.70	MS1H3-29C15CD-A33*R-INT	SV670*-T012I(-FS)-INT	12.00	30.00	D	1.80	13.80
1500	4500	4400	28.40	71.10	180×180	64.90	MS1H3-44C15CD-A33*R-INT	SV670*-T017I(-FS)-INT	17.00	42.50	E	3.60	17.40
1500	4500	5500	35.00	87.60	180×180	86.90	MS1H3-55C15CD-A33*R-INT	SV670*-T021I(-FS)-INT	21.00	52.50	E	3.60	21.70
1500	4500	7500	48.00	119.00	180×180	127.50	MS1H3-75C15CD-A33*R-INT	SV670*-T026I(-FS)-INT	26.00	65.00	E	3.60	29.00

Dimensions

Models without 24V DC backup		Frame size	W (mm)	H (mm)	D (mm)	Mass (kg)
SV670N****I (-FS) -INT	SV670P****I (-FS) -INT					
		SIZE A	45.5	170	150	0.96
		SIZE C	55±1	170	173±1	1.30
		SIZE D	80±1	170	183	1.80
		SIZE E	90	250	230	3.60

Note: Dimensions shown are for the drive module excluding the dimensions of the EMC shield brackets, terminals and DB connectors (refer to user guide).