INOVANCE

SV660P - Single-Axis Pulse Servo Drive

Performance and flexibility in a compact footprint

- User friendly installation
- Easy set-up and tuning
- CANopen (C) and CANlink (A) variants also available

CANlink CANopen

CE UL RoHS COMPLIANT

SV660P/C/A

Product family overview

Product variants:

SV660P - pulse control variant
Pulse interface for position control (4 MHz maximum input frequency).

SV660C - CANopen variant
Compliant with CiA 402 device profile (IEC 61800-7-201/301), supporting several operation modes.

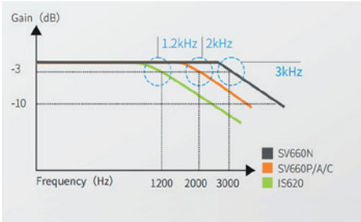
SV660A - CANlink variant
Uses the Inovance proprietary protocol, in combination with Inovance controller products.

CANopen operation modes
■ Profile Position Mode (PP)
■ Profile Velocity Mode (PV)
■ Profile Torque Mode (PT)
■ Homing Mode (HM)
■ Interpolation Mode (IP)

Speed loop bandwidth*
A speed loop response bandwidth of 2 kHz gives significantly improved performance compared to the previous generation of Inovance products.

	SV660
Carrier frequency	12 kHz
Current loop cycle time	62.5 µs
Speed loop cycle time	125 µs
Position loop cycle time	250 µs

Speed loop response graph



*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/Os: 7x DI, 5x DO

Built-in RS232 port (for PC connection) and RS485 port (Modbus RTU communication protocol)

Position, speed, torque, compound control

Built-in position control function

- 16x multi-position registers for point-to-point and sequential motion
- Homing sequence
- Interrupt positioning
- Position comparison

Notch filter for mechanical resonance suppression

High resolution feedback encoder
23 bit serial single/multi-turn absolute encoder provides 8,388,608 pulses within one mechanical turn. Multi-turn absolute information can be also saved at power down, avoiding the need to perform machine homing at every power-up.

Short output winding
Standard, built-in, *short output winding* ensures safe braking if the drive is unexpectedly disabled – even in the case of a failure in the motor holding brake.

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.

Reduced panel size
SV660 offers a compact footprint and increased power density, with an average 30% smaller footprint than the previous generation.

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 stiffness level
- ETune automatically adjusts the optimal gain parameters of the servo drive to deliver the best performance

Easy cloning of drive parameters
Parameters of all SV660 drives in a machine can be cloned in one go using the commissioning software.

Guided PC commissioning with advanced software wizard
A graphical user interface means specialist technical skills are not required for drive commissioning, freeing up skilled engineering personnel for other tasks.

SV660P/C/A Selection Chart

Power supply voltage	Motor base speed (RPM)	Motor maximum speed (RPM)	Motor power (W)	Motor rated torque (N·m)	Motor peak torque (N·m)	Motor frame size (mm)	Rotor inertia (0.0001x kg·m2)	MS1 motor type	SV660x type Where "x" can be the P (pulse), C (CANopen) or A (CANlink) variants	SV660x rated current (A)	SV660x peak current (A)	Size	Dimensions H x W x D (mm)	Connector kit
1PH 220 V	3000	6000	50	0.16	0.56	40X40	0.026	MS1H1-05B30CB-A330Z	SV660xS1R6I-INT	1.6	5.80	A	170X40X150	S6-C22
	3000	6000	100	0.32	1.12	40X40	0.041	MS1H1-10B30CB-A330Z	SV660xS1R6I-INT	1.6	5.80	A	170X40X150	S6-C22
	3000	6000	200	0.64	2.24	60X60	0.207	MS1H1-20B30CB-A331Z	SV660xS1R6I-INT	1.6	5.80	A	170X40X150	S6-C22
	3000	6000	400	1.27	4.46	60X60	0.376	MS1H1-40B30CB-A331Z	SV660xS2R8I-INT	2.8	10.10	A	170X40X150	S6-C22
	3000	6000	400	1.27	4.46	60X60	0.657	MS1H4-40B30CB-A331Z	SV660xS2R8I-INT	2.8	10.10	A	170X40X150	S6-C22
	3000	6000	550	1.75	6.13	80X80	1.06	MS1H1-55B30CB-A331Z*	SV660xS5R5I-INT	5.5	16.90	B	170X50X173	S6-C22
	3000	6000	750	2.39	8.36	80X80	1.38	MS1H1-75B30CB-A331Z	SV660xS5R5I-INT	5.5	16.90	B	170X50X173	S6-C22
	3000	6000	750	2.39	8.36	80X80	2	MS1H4-75B30CB-A331Z	SV660xS5R5I-INT	5.5	16.90	B	170X50X173	S6-C22
1/3 PH 220 V	1500	3000	850	5.39	13.50	130X130	13.3	MS1H3-85B15CB-A331Z	SV660xS7R6I-INT	7.6	23.00	C	170X55X173	S6-C29
	3000	6000	1000	3.18	9.12	80X80	1.75	MS1H1-10C30CB-A331Z*	SV660xS7R6I-INT	7.6	23.00	C	170X55X173	S6-C22
	3000	6000	1000	3.18	11.10	80X80	1.75	MS1H1-10C30CB-A331Z*	SV660xS012I-INT	11.6	32.00	D	170X80X183	S6-C22
	3000	6000	1000	3.18	9.54	100X100	1.87	MS1H2-10C30CB-A331Z	SV660xS7R6I-INT	7.6	23.00	C	170X55X173	S6-C29
	1500	3000	1300	8.34	20.85	130X130	17.8	MS1H3-13C15CB-A331Z	SV660xS012I-INT	11.6	32.00	D	170X80X183	S6-C29
	3000	5000	1500	4.9	14.70	100X100	2.46	MS1H2-15C30CB-A331Z	SV660xS012I-INT	11.6	32.00	D	170X80X183	S6-C29
3 PH 400 V	3000	6000	1000	3.18	9.54	100X100	1.87	MS1H2-10C30CD-A331Z	SV660xT5R4I-INT	5.4	14.00	C	170X55X173	S6-C29
	3000	5000	1500	4.9	14.70	100X100	2.46	MS1H2-15C30CD-A331Z	SV660xT5R4I-INT	5.4	14.00	C	170X55X173	S6-C29
	3000	5000	2000	6.36	19.10	100X100	3.06	MS1H2-20C30CD-A331Z	SV660xT8R4I-INT	8.4	20.00	D	170X80X183	S6-C29
	3000	5000	2500	7.96	19.12	100X100	3.65	MS1H2-25C30CD-A331Z	SV660xT8R4I-INT	8.4	20.00	D	170X80X183	S6-C29
	3000	5000	2500	7.96	23.90	100X100	3.65	MS1H2-25C30CD-A331Z	SV660xT012I-INT	11.9	29.75	D	170X80X183	S6-C29
	3000	5000	3000	9.8	29.16	130X130	7.72	MS1H2-30C30CD-A331Z	SV660xT012I-INT	11.9	29.75	D	170X80X183	S6-C29
	3000	5000	3000	9.8	29.40	130X130	7.72	MS1H2-30C30CD-A331Z	SV660xT017I-INT	16.5	41.25	E	250X90X230	S6-C29
	3000	5000	4000	12.6	37.80	130X130	12.1	MS1H2-40C30CD-A331Z	SV660xT017I-INT	16.5	41.25	E	250X90X230	S6-C29
	3000	5000	5000	15.8	40.91	130X130	15.4	MS1H2-50C30CD-A331Z	SV660xT017I-INT	16.5	41.25	E	250X90X230	S6-C29
	3000	5000	5000	15.8	47.60	130X130	15.4	MS1H2-50C30CD-A331Z	SV660xT021I-INT	20.8	52.12	E	250X90X230	S6-C29
	1500	3000	850	5.39	13.50	130X130	13.3	MS1H3-85B15CD-A331Z	SV660xT3R5I-INT	3.5	11.00	C	170X55X173	S6-C29
	1500	3000	1300	8.34	20.85	130X130	17.8	MS1H3-13C15CD-A331Z	SV660xT5R4I-INT	5.4	14.00	C	170X55X173	S6-C29
	1500	3000	1800	11.5	28.75	130X130	25	MS1H3-18C15CD-A331Z	SV660xT8R4I-INT	8.4	20.00	D	170X80X183	S6-C29
	1500	3000	2900	18.6	37.20	180X180	55	MS1H3-29C15CD-A331Z	SV660xT012I-INT	11.9	29.75	D	170X80X183	S6-C39
	1500	3000	4400	28.4	71.10	180X180	88.9	MS1H3-44C15CD-A331Z	SV660xT017I-INT	16.5	41.25	E	250X90X230	S6-C39
	1500	3000	5500	35	87.60	180X180	107	MS1H3-55C15CD-A331Z	SV660xT021I-INT	20.8	52.12	E	250X90X230	S6-C39
	1500	3000	7500	48	117.63	180X180	141	MS1H3-75C15CD-A331Z	SV660xT026I-INT	25.7	64.25	E	250X90X230	S6-C39

*Brake option not available.
All MS1 motors are CE certified and UL listed.
For detailed motor dimension data please contact your local Inovance representative or refer to the IS620 brochure.

For more information, please contact our local offices.

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