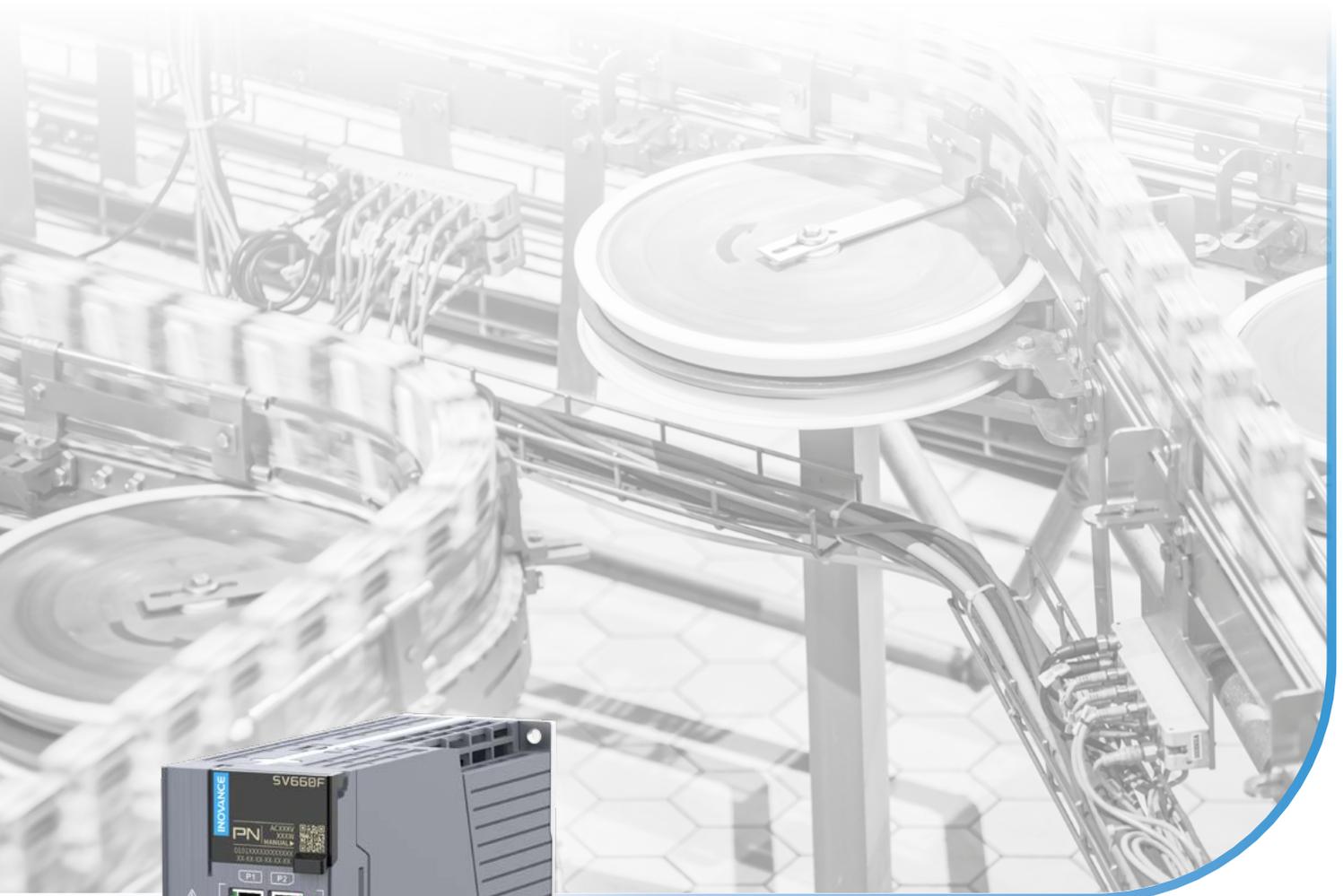


# INOVANCE

## SV660F – Single-Axis PROFINET Servo

High dynamic performance with a compact footprint:  
the SV660F servo solution for industrial automation applications



- User friendly installation
- Easy set-up and tuning
- Ultra-fast 4.5 kHz current loop
- Safe Torque Off - SIL3



Pending



# The SV660F

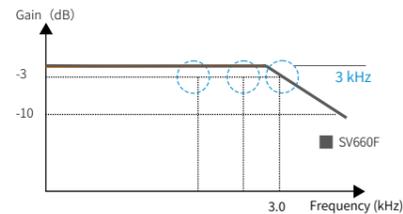
## Product overview

### Improved performance with ultra-fast current loop

SV660F's 4.5 kHz current loop bandwidth allows the motor to follow the motion profile with minimal error. The drive achieves a radically improved system performance with a shorter settling time and higher throughput. In case of mechanical resonance, high performance can be ensured through use of notch filters (up to four notch filters are available for simultaneous use if necessary).

SV660F	
Carrier frequency	12 kHz
Current loop cycle time	1.6 μs
Speed loop cycle time	62.5 μs
Position loop cycle time	62.5 μs

Speed loop response graph



### PROFINET RT and IRT communication

PROFINET RT handles the exchange of time-critical data. It meets the vast majority of industry timing requirements, with a cycle time down to 1ms. PROFINET IRT goes one step further than PROFINET RT. It eliminates communication delays allowing deterministic and synchronized communication with cycle times down to 500 μs. PROFINET IRT is optional and only required in specific high-performance applications.

### Supports PROFIdrive device profile

The PROFIdrive implementation in the SV660F supports the following application classes:

- AC1 adjustable-speed drives with/without technology function
- AC3 drives with positioning function
- AC4 synchronous servo applications and high-performance motion control applications, with the possibility of using dynamic servo control (DSC), which improves dynamic performance by transferring the position control loop to the drive side

Depending on the application class, the SV660F supports the telegrams 1, 2, 3, 102, 111, 105, 750.

### Functional safety – STO SIL3 EN/IEC 61800-5-2 compliant\*1

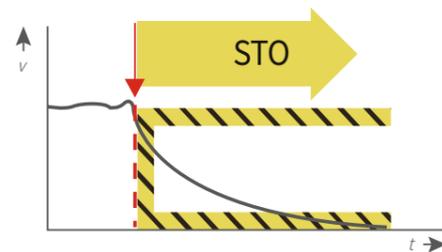
The STO function guarantees safe machine stop without using additional contactors.

### 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 3C2 environments (acc. to IEC 60721-3-3), providing further protection.

### Comprehensive data storage in case of failure

Allows for thorough failure analysis.

### Reduced panel size

SV660F 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 allows 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 SV660F drives in a machine can be cloned in one go using the commissioning software and the PROFINET network.

### Guided PC commissioning software with advanced wizard

- Graphical user interface means specialist skills not needed for commissioning
- Software included free of charge
- Allows to connect through RS232 or PROFINET ports
- Optional communication cable (S6-L-T00-3.0) required when connecting through RS232 port



\*1 STO is supplied in the standard FS version. A non-STO version is also available.



# SV660F Selection Chart

Drive supply voltage	Motor base speed (rpm)	Motor maximum speed (rpm)	Motor rated power (W)	Motor rated torque (N·m)	Motor peak torque (N·m)	Motor frame size (mm)	Rotor inertia without brake (10 <sup>-4</sup> kg·m <sup>2</sup> )	MS1 motor type (please refer to below notes)	SV660F-FS Type	Material code of SV660F-FS	SV660 rated current (A)	SV660 peak current (A)	Drive size	Drive dimensions H x W x D (mm)	Connector kit
1 PH 220V	3000	7000	50	0.16	0.56	40X40	0.018	MS1H1-05B30CB-A33zR-INT	SV660FS1R6I-FS-INT	01054386	1.6	5.8	A	170x40x150	S6-C22
	3000	7000	50	0.16	0.56	40X40	0.038	MS1H4-05B30CB-A33zR-INT	SV660FS1R6I-FS-INT	01054386	1.6	5.8	A	170x40x150	S6-C22
	3000	7000	100	0.32	1.12	40X40	0.0316	MS1H1-10B30CB-A33zR-INT	SV660FS1R6I-FS-INT	01054386	1.6	5.8	A	170x40x150	S6-C22
	3000	7000	100	0.32	1.12	40X40	0.072	MS1H4-10B30CB-A33zR-INT	SV660FS1R6I-FS-INT	01054386	1.6	5.8	A	170x40x150	S6-C22
	3000	7000	200	0.64	2.24	60X60	0.094	MS1H1-20B30CB-yn3zR-INT	SV660FS1R6I-FS-INT	01054386	1.6	5.8	A	170x40x150	S6-C22
	3000	7000	200	0.64	2.24	60X60	0.22	MS1H4-20B30CB-yn3zR-INT	SV660FS1R6I-FS-INT	01054386	1.6	5.8	A	170x40x150	S6-C22
	3000	7000	400	1.27	4.45	60X60	0.145	MS1H1-40B30CB-yn3zR-INT	SV660FS2R8I-FS-INT	01054370	2.8	10.1	A	170x40x150	S6-C22
	3000	7000	400	1.27	4.45	60X60	0.43	MS1H4-40B30CB-yn3zR-INT	SV660FS2R8I-FS-INT	01054370	2.8	10.1	A	170x40x150	S6-C22
	3000	7000	550	1.75	6.13	80X80	0.55	MS1H1-55B30CB-yn31R-INT*	SV660FS5R5I-FS-INT	01054374	5.5	16.9	B	170x50x173	S6-C22
	3000	7000	550	1.75	6.13	80X80	1.12	MS1H4-55B30CB-yn31R-INT*	SV660FS5R5I-FS-INT	01054374	5.5	16.9	B	170x50x173	S6-C22
	3000	7000	750	2.39	8.36	80X80	0.68	MS1H1-75B30CB-yn3zR-INT	SV660FS5R5I-FS-INT	01054374	5.5	16.9	B	170x50x173	S6-C22
	3000	7000	750	2.39	8.37	80X80	1.46	MS1H4-75B30CB-yn3zR-INT	SV660FS5R5I-FS-INT	01054374	5.5	16.9	B	170x50x173	S6-C22
1/3 PH 220V	1500	4500	850	5.39	13.50	130X130	13.56	MS1H3-85B15CB-yn3zR-INT	SV660FS7R6I-FS-INT	01054381	7.6	23.0	C	170x55x173	S6-C29
	3000	7000	1000	3.18	10.67	80X80	0.82	MS1H1-10C30CB-yn3zR-INT	SV660FS7R6I-FS-INT	01054381	7.6	23.0	C	170x55x173	S6-C22
	3000	7000	1000	3.18	10.67	80X80	1.87	MS1H4-10C30CB-yn3zR-INT	SV660FS7R6I-FS-INT	01054381	7.6	23.0	C	170x55x173	S6-C22
	3000	7000	1000	3.18	11.13	80X80	0.82	MS1H1-10C30CB-yn3zR-INT	SV660FS012I-FS-INT	01054372	11.6	32.0	D	170x80x183	S6-C22
	3000	7000	1000	3.18	11.13	80X80	1.87	MS1H4-10C30CB-yn3zR-INT	SV660FS012I-FS-INT	01054372	11.6	32.0	D	170x80x183	S6-C22
	3000	6000	1000	3.18	9.54	100X100	1.78	MS1H2-10C30CB-yn3zR-INT	SV660FS7R6I-FS-INT	01054381	7.6	23.0	C	170x55x173	S6-C29
	1500	4500	1300	8.34	20.85	130X130	19.25	MS1H3-13C15CB-yn3zR-INT	SV660FS012I-FS-INT	01054372	11.6	32.0	D	170x80x183	S6-C29
	3000	6000	1500	4.9	14.70	100X100	2.35	MS1H2-15C30CB-yn3zR-INT	SV660FS012I-FS-INT	01054372	11.6	32.0	D	170x80x183	S6-C29
3 PH 400V	1500	4500	850	5.39	13.50	130X130	13.56	MS1H3-85B15CD-yn3zR-INT	SV660FT3R5I-FS-INT	01054387	3.5	11.0	C	170x55x173	S6-C29
	3000	6000	1000	3.18	9.54	100X100	1.78	MS1H2-10C30CD-yn3zR-INT	SV660FT3R5I-FS-INT	01054387	3.5	11.0	C	170x55x173	S6-C29
	1500	4500	1300	8.34	20.85	130X130	19.25	MS1H3-13C15CD-yn3zR-INT	SV660FT5R4I-FS-INT	01054445	5.4	14.0	C	170x55x173	S6-C29
	3000	6000	1500	4.9	14.70	100X100	2.35	MS1H2-15C30CD-yn3zR-INT	SV660FT5R4I-FS-INT	01054445	5.4	14.0	C	170x55x173	S6-C29
	1500	4500	1800	11.5	28.75	130X130	24.9	MS1H3-18C15CD-yn3zR-INT	SV660FT8R4I-FS-INT	01054448	8.4	20.0	D	170x80x183	S6-C29
	3000	6000	2000	6.36	19.10	100X100	2.92	MS1H2-20C30CD-yn3zR-INT	SV660FT8R4I-FS-INT	01054448	8.4	20.0	D	170x80x183	S6-C29
	3000	6000	2500	7.96	18.38	100X100	3.49	MS1H2-25C30CD-yn3zR-INT	SV660FT8R4I-FS-INT	01054448	8.4	20.0	D	170x80x183	S6-C29
	3000	6000	2500	7.96	23.90	100X100	3.49	MS1H2-25C30CD-yn3zR-INT	SV660FT012I-FS-INT	01054377	11.9	29.7	D	170x80x183	S6-C29
	1500	4500	2900	18.6	46.42	180X180	44.7	MS1H3-29C15CD-yn3zR-INT	SV660FT012I-FS-INT	01054377	11.9	29.7	D	170x80x183	S6-C39
	3000	6000	3000	9.8	29.40	130X130	6.4	MS1H2-30C30CD-yn3zR-INT	SV660FT012I-FS-INT	01054377	11.9	29.7	D	170x80x183	S6-C29
	3000	6000	4000	12.6	36.64	130X130	9	MS1H2-40C30CD-yn3zR-INT	SV660FT017I-FS-INT	01054384	16.5	41.2	E	250x90x230	S6-C29
	1500	4500	4400	28.4	69.75	180X180	64.9	MS1H3-44C15CD-yn3zR-INT	SV660FT017I-FS-INT	01054384	16.5	41.2	E	250x90x230	S6-C39
	3000	6000	5000	15.8	47.04	130X130	11.6	MS1H2-50C30CD-yn3zR-INT	SV660FT021I-FS-INT	01054392	20.8	52.1	E	250x90x230	S6-C29
	1500	4500	5500	35	87.60	180X180	86.9	MS1H3-55C15CD-yn3zR-INT	SV660FT021I-FS-INT	01054392	20.8	52.1	E	250x90x230	S6-C39
	1500	4500	7500	48	117.54	180X180	127.5	MS1H3-75C15CD-yn3zR-INT	SV660FT026I-FS-INT	01054391	25.7	64.2	E	250x90x230	S6-C39

**Notes:**

"yn" can be:

A3: 23 bit absolute single/multi-turn encoder; V3: Batteryless 23 bit absolute single/multi-turn encoder

"z" can be (not in all models):

0: W/O oil seal, W/O brake; 1: With oil seal, W/O brake; 2: W/O oil seal, with brake; 4: With oil seal, with brake

\* Indicates that this model is not available with brake

For more detailed information about MS1 servomotors please refer to the corresponding brochure or the selection guide



**INTERNATIONAL OFFICES**

**Hong Kong SAR International Export Office**  
Tel: +852 2751 6080  
info@inovanace.eu

For other country distributors, contact the Hong Kong office.

**Inovanace Technology Companies**  
Shenzhen Inovanace Technology Co. Ltd.  
Suzhou Inovanace Technology Co. Ltd.

**INTERNATIONAL EUROPEAN OFFICES**

**Germany-Stuttgart**  
Tel: +49 (0) 7144 8990  
sales.de@inovanace.eu

**Italy-Milano**  
Tel: +39 (0) 2268 22318  
sales.it@inovanace.eu

**France-Bordeaux**  
Tel: +33 (0) 5594 01050  
sales.fr@inovanace.eu

**Spain-Barcelona**  
Tel: +34 93 504 94 48  
sales.es@inovanace.eu

**Turkey-Istanbul**  
Tel: +90 (216) 466 7600  
sales.tr@inovanace.eu

**South Korea-Seoul**  
Tel: +82 2 3489 8850  
sales.kr@inovanace.eu

**INDIAN OFFICES**

**Head Office Chennai** Tel: +91 (0) 44 4380 0201

**Ahmedabad** Tel: +91 (0) 79 4003 4274

**Mumbai** Tel: +91 (0) 22 4971 5883

**Noida** Tel: +91 (0) 120 404 3522

**Hyderabad** Tel: +91 (0) 40 4951 6431

**Sales Network** in Kolkata, Bengaluru, Pune, Coimbatore, Visakhapatnam, Vadodara, Jaipur  
info@inovanace.ind.in