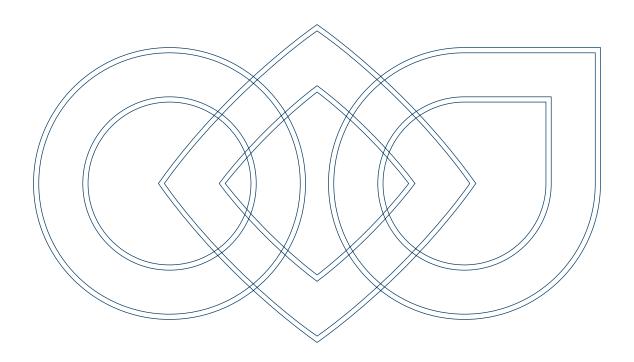


S2U IP66

Variable Frequency Drive







Variable frequency drive: the ideal drive for your lean application projects

Bonfiglioli S2U IP66 drives are designed to be fast to install.

Compact and cost effective, S2U IP66 is suitable for a wide range of machinery applications requiring extreme conditions such as dust, moisture and cleaning chemicals.

S2U IP66 range is made of 3 frame sizes and kW rating from 0.4 kW up to 18.5 kW.

The integrated Keypad makes setup and commission easier.

Thanks to its integrated PLC functions and Ladder language complying with standard IEC61131, S2U IP66 allows the machines to be customised.

Moreover, it can be easily integrated into any control architecture thanks to the builtin Modbus port and the wide range of standard communication configuration protocols available.

Easy Plug in of PC Vplus with S2U Manager is granted via the integrated RJ45 connector for high level commissioning.



Mechatronics - The **Challenge** to build **your Success**

Faster, better and cheaper - this is the new challenge for machine designers!

Increasing demands regarding the productivity of complex system machines, and thus more flexible machines which run at highest efficiency levels, now require new intelligent technical solutions that enhance future growth.

Bonfiglioli has implemented a detailed strategy to precisely achieve this objective!

Mechatronic Drives & Solutions division is born with the mission to improve profitability by acting as a reliable partner and a provider of energy-efficient solutions over the total lifecycle in the field of industrial automation.







Type of applications

- High environmental immunity
- High braking ability without braking resistor
- High torque at low speed
- Heat sink designed for dusty environments





FANS, PUMPS AND MIXERS



TEXTILE MACHINES



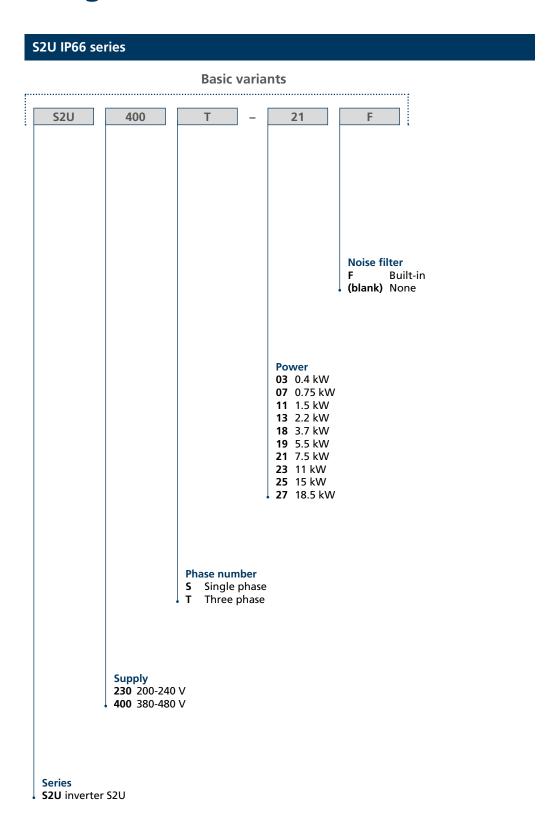
MATERIALS HANDLING



WOOD PROCESSING



Designation



6

Features

- Sensorless Vector and V/f control
- Motor Auto-tuning function
- Integrated braking transistor for all series
- RTU Modbus RS485 interface through RJ45
- 150% starting torque at 1 Hz
- Carrier frequency: 1~16 kHz
- Firemode
- Accl.and Decel. Control: 4 S curve setting
- 16 preset speeds
- Buil-in PID controller
- Pulse train frequency reference
- Emergency stop function built-in complying with global standard
- Internal PLC functions with Ladder language
- 32 bit CPU
- Integrated EMC filter
- Torque compensation
- Slip compensation

Features



	Features	Benefits
Performance	32 bit Processor with advanced IGBT power switching frequency.	Advanced and accurate sensorless vector control providing high starting torque at low speed.
Intelligence	Built-in PLC functions and PID controller.	Provide accurate control and regulation for frequency, Pressure, Air volume in applications such as HVAC without PLC Programing.
Robustness	IP66 degree protection version rating up to 18.5 kW	Suitable for harsh environment protecting machine from high Pressure water jets from any direction.
Reliability	Built-in EMC filter in compliance with IEC/EN61800-3	Lower electromagnetic interference allowing a safe machine environment.

200 V Class: Single phase

Model: S2U230S-── F IP66	03	07	11	13			
Suitable motor capacity [kW]	0.4	0.75	1.5	2.2			
Rated output current [A]	3.1	4.5	7.5	10.5			
Rated capacity [KVA]	1.2	1.7	2.90	4.00			
Input voltage range [V]	Single Phase: 200~240 V, 50/60 Hz						
Allowable voltage fluctuation	+10%-15%						
Output voltage range [V]	Three phase: 0~240 V						
Input current [A]*	8.5	12	16	23.9			
Inverter net weight [kg]	1.65	1.65	2.5	2.5			
Allowable momentary power loss time [s]	2.0	2.0	2.0	2.0			
Enclosure		IP20/NEMA18	IP66/NEMA4X				

^{*} The input current is calculated value at full rated output current.

400 V Class: Three phase

Model: S2U400T-Ⅲ F IP66	07	11	13	18			
Suitable motor capacity [kW]	0.75	1.5	2.2	3.7			
Rated output current [A]	2.3	3.8	5.2	8.8			
Rated capacity [KVA]	1.7	2.9	4.0	6.7			
Input voltage range [V]	Three phase: 380~480 V, 50/60 Hz						
Allowable voltage fluctuation	+10%-15%						
Output voltage range [V]	Three phase: 0~480 V						
Input current [A]*	4.2	5.6	7.3	11.6			
Inverter net weight [kg]	1.7	1.7	2.5	2.5			
Allowable momentary power loss time [s]	2.0	2.0	2.0	2.0			
Enclosure		IP20/NEMA18	IP66/NEMA4X				

^{*} The input current is calculated value at full rated output current.

400 V Class: Three phase

Model: S2U400T-── (F) IP66	19	21	23	25	27			
Suitable motor capacity [kW]	5.5	7.5	11	15	18.5			
Rated output current [A]	13.0	17.5	24	32	40			
Rated capacity [KVA]	9.9	13.3	19.1	24	30.5			
Input voltage range [V]	Three phase: 380~480 V, 50/60 HZ							
Allowable voltage fluctuation	+10%-15%							
Output voltage range [V]	Three phase: 0~480 V							
Input current [A]*	17	23	31	38	48			
Inverter net weight [kg]	6.7	6.7	6.7	13.7	13.7			
Allowable momentary power loss time [s]	2.0	2.0	2.0	2.0	2.0			
Enclosure		IP20/N	NEMA1&IP66/NEI	MA4X				

^{*} The input current is calculated value at full rated output current.

IP66 / NEMA 4X Type

Model	Supply voltage (Vac)	(kW)	Filter	Switch	Frame Size
S2U230S-03 F IP66	1 nh	0.4	V	V	1
S2U230S-07 F IP66	1 ph 200~240 V	0.75	V	V	1
S2U230S-11 F IP66	+10%-15%	1.5	V	V	2
S2U230S-13 F IP66	50/60 Hz	2.2	V	V	2
S2U400T-07 F IP66		0.75	V	V	1
S2U400T-11 F IP66		1.5	V	V	1
S2U400T-13 F IP66		2.2	V	V	2
S2U400T-18 F IP66	3 ph	3.7	V	V	2
S2U400T-19 F IP66	380~480 V +10%-15%	5.5	V	V	3
S2U400T-21 F IP66	50/60 Hz	7.5	V	V	3
S2U400T-23 F IP66		11	V	V	3
S2U400T-25 IP66		15	-	-	3
S2U400T-27 IP66		18.5	-	-	3

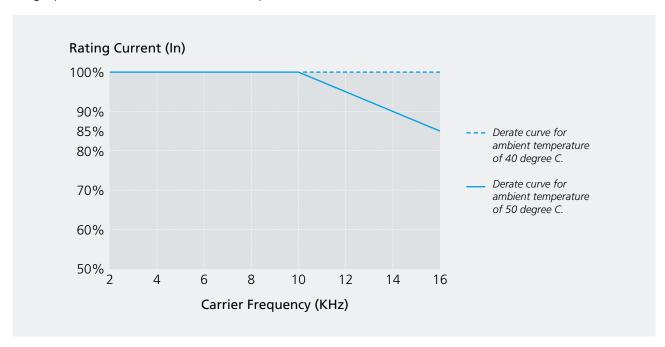
V: Built-in / - : None

De-rating curves

Curves below show the applicable output current de-rate due to setting of carrier frequency and the ambient operating temperatures of 40 and 50 degrees C.

Frame1/2/3/4

(Single phase: 200 V: 0.4 ... 2.2 kW; Three phase: 400 V: 0.75 ... 18.5 kW)



The S2U frequency inverters meet the requirements of the low voltage directive 2006/95/EEC and DIN EN 61800-5-1.
For proper installation of the frequency inverter in order to meet the requirements of EN 61800-3, please comply with the installation instructions in these operating instructions.
The S2U frequency inverters meet the requirements of EN 61800-3 for use in industrial environments.
The frequency inverters are also marked with the UL label according to UL508c, which proves that they also meet the requirements of the CSA Standard C22.2-No. 14.
Storage: -20 60 °C (-4 140 °F) Operation: -10 50 °C (14 122 °F) If several inverters are installed in the same Operator panel, ensure adequate spacing and provide the necessary cooling and ventilation for successful operation.
Operation: 3K3 (EN60721-3-3) Relative humidity: max 95%, no water condensation Notice prevention of inverter freezing up. (Compliance with IEC 60068-2-78).
IP66
1 G. (9.8 m/s²) for 20 Hz and below 0.6 G (5.88 m/s²) from 20 to 50 Hz (Compliance with IEC 60068-2-6)
Storage according to EN 50178 After one year of storage, connect the device to mains voltage for 60 minutes.

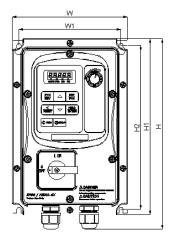
Control Mode		V/F Control, Vector Control				
	Output Frequency	0.01~599.00 Hz				
	Starting Torque	150% / 1 Hz (Vector)				
	Speed Control Range	1:50				
	Setting resolution	Digital input: 0.01 Hz Analog input: 0.06 Hz / 60 Hz				
Frequency		Keypad: Set directly with \blacktriangle \blacktriangledown keys or the VR on the keypad				
	Setting	External Input Terminlas: AI1 (0/2~10 V), AI2 (0/4~20 mA) input Multifunction input up/down function(Group3)				
		Setting frequency by communication method.				
	Frequency limit	Lower and upper frequency limits 3 skip frequency settings.				
Run		Keypad run, stop button				
	Operation set	External terminals: Multi- operation-mode 2 / 3 wire selection Jog operation				
		Run signal by communication method.				
	V / F curve setting	18 fixed curves and one customized curve				
	Carrier frequency	1~16 kHz				
	Acceleration and deceleration control	2 off Acc / Dec time parameters. 4 off S curve parameters.				
Main	Multifunction input	29 functions (refer to description on group 3)				
Control Features	Multifunction output	21 functions (refer to description on group 3)				
	Multifunction analog output	5 functions (refer to description on group 4)				
	Main features	Overload Detection,16 preset speeds, Auto-run, Acc/Dec Switch (2 Stages), Main/Alt run Command select, Main/Alt Frequency Command select, PID control, torque boost, V/F start Frequency, Fault reset, Firemode.				

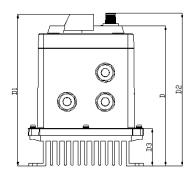
Display	LED	Display: parameter / parameter value / frequency / line speed / DC voltage / output voltage / output current / PID feedback / input and output terminal status / Heat sink temperature / Program Version / Fault Log.			
	LED Status Indicator	Run / Stop / Forward / Reverse ,and etc.			
	Overload Protection	The relays to protect the motor and the inverter. (150%/1min)			
	Over voltage	220 V: >410 V, 380 V: >820 V			
	Under Voltage	220 V: <190 V, 380 V: <380 V			
	Momentary Power Loss Restart	Inverter auto-restart after a momentary power loss.			
	Stall Prevention	Stall prevention for Acceleration/ Deceleration/ Operation.			
Protective	Short-circuit output terminal	Electronic Circuit Protection			
Functions	Grounding Fault	Electronic Circuit Protection			
	Other protection features	Protection for overheating of heat sink. The carrier frequency decreasing with the temperature function, fault output, reverse prohibit, prohibit for direct start after power up and error recovery, parameter lock up			
	All frames include brake	transistor			
Communication control		Standard built-in RS485 communication (Modbus), One to one or One to many control.			

Dimensions

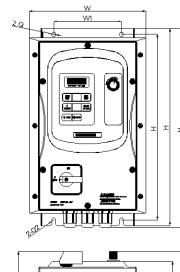
Frame 1

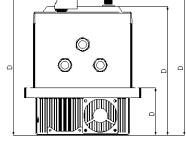






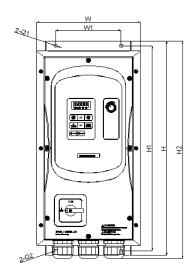
Frame 2 (Weight: 5.98 kg)

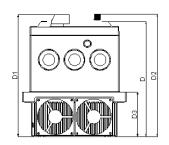




Frame 3

(Weight: 12.68 kg)

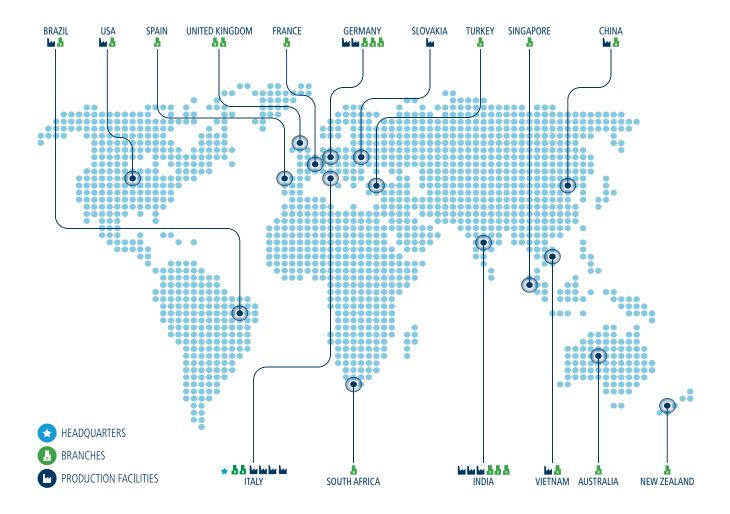




Frame	W	W1	Н	H1	H2	D	D1	D2	D3	Q1	Q2	Q3
[mm]												
1	150.8	133.3	248.7	230.2	214.2	183	200	200	49.5	5.4	5.4	10.6
2	198	115	337.9	335	315	218.4	235.2	235.2	79.8	7	7	5.98
3	222.8	140	466.3	460	440	246.6	266.5	263.5	96	7	7	12.68

Bonfiglioli worldwide presence

Bonfiglioli is located in regions and countries around the world that enable us to provide faster sales and service to customers. **We are around the world, and around the corner.**









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We have a relentless commitment to excellence, innovation and sustainability. Our team creates, distributes and services world-class power transmission and drive solutions to keep the world in motion.







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