



S2U SERIES

Variable Frequency Drive

 **Bonfiglioli**

VARIABLE FREQUENCY DRIVE:

THE IDEAL DRIVE FOR YOUR LEAN APPLICATION PROJECTS

Intuitive and simple, but powerful and effective, S2U is Bonfiglioli compact inverter for efficient speed and torque control of electric motors.

S2U range is made of 2 frame sizes and kW rating from 0.20 kW up to 2.2 kW.

The simple installation and use, together with connectivity and outstanding range of functions, make it the perfect drive for the control of those applications where productivity and short time to market are critical.

S2U can be easily integrated into any control architectures thanks to the built-in Modbus port and the wide range standard communication configuration protocols available. Easy plug in of PC VPlus software is granted via the integrated RJ45 connector in the front of the drive.

Comprehensive service for product dimensioning and selection is available in any Bonfiglioli branch office or distributor all around the world. Cabling is made easier by spring terminals and clear terminals marking.



MECHATRONICS

THE CHALLENGE TO BUILD YOUR SUCCESS

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

Increasing demands on the productivity of complex system machines, more flexible machines which run at highest efficiency level are requiring now new intelligent technical solutions that enhance growth tomorrow. Bonfiglioli has implemented a precise and detailed strategy to precisely achieve this objective!

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



SYSTEM
INTEGRATION



EXPERTISE



ENERGY
SAVING

TYPE OF APPLICATIONS

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



PACKAGING
INDUSTRY



FANS, PUMPS
AND MIXERS



TEXTILE
MACHINES



MATERIAL
HANDLING

DESIGNATION

S2U series

Basic variants

S2U	230	S	03	F	-
					Protection degree - (default)
					EMC filter F with standard filter (default)
					Size 1 02 0.20 kW 03 0.40 kW 07 0.75 kW Size 2 11 1.5 kW 13 2.2 kW
					Phase number S Single phase
					Supply 230 200-240V

Series
S2U inverter S2U

FEATURES

- 32 bit CPU design strengthens the software's functionality, increases A/D responding speed, and enables automatic torque compensation
- Output frequency up to 650 Hz
- Modbus RS485 communication built-in for one-to-one and one-to-many control
- Links with Profibus, Devicenet, CANopen, Ethernet (TCP/IP) through gateways
- Built-in standard keypad including potentiometer for easy speed adjustment
- Links with PC VPlus software through RJ45
- EMI filter built-in for magnetic interference suppression complying with (IEC) EN61800-3 standard
- Micro size for easy installation including side-by-side and Dinrail mounting option
- PID feedback control built-in
- Suitable for conveyors, automated knitting machines, food packing machines, simple windmills and pumps
- Full protective functions
- Fanless design can effectively extend product life
- Emergency stop function built-in complying with global standard
- Panel mounting by heatsink or Dinrail option
- Earthing terminals built-in into heatsink to effectively provide grounding protection
- Flip form communication interface for easy link and dust-proof feature, with operational and protective functions

Type	Power kW
S2U230S-02	0.20
S2U230S-03	0.40
S2U230S-07	0.75
S2U230S-11	1.5
S2U230S-13	2.2



Size 1



Size 2

GENERAL TECHNICAL DATA

Item	S2U series
Control mode	V/F control + Auto-torque compensation function
FREQUENCY	
Range	0.01 ... 650 Hz
Setting resolution	Digital input: 0.01 Hz / Analog input: 0.06/60 Hz
Setting	Keypad: Set directly with keys or the VR on the keypad External terminal: AVI (0-10V/2-10V), ACI (0-20mA/4-20mA) input Multifunction input up/down function (group3) communication settings
Frequency limit	The lower and upper limit of frequency 3 jump frequency can be set
RUN	
Operation set	Panel: run, stop button control External terminal: Multi-operation-mode2, 3 wireselection, Jog operation, Communication operation
COMMONLY CONTROL	
V/F curve setting	6 fixed curve, an arbitrary curve
Carrier frequency	1-16 kHz (default 5 kHz)
Acceleration and deceleration control	2 Acc/Dec time can be set 4 S curve can be set
Multifunction input	19 functions (refer to description on group3)
Multifunction output	14 functions (refer to description on group3)
Multifunction analog output	5 functions (refer to description on group3)
Other features	Overload detection, 8 preset speeds, Auto-run, Acc/Dec switch (2stages), Main/Alt run command select, Main/Alt frequency command select, PID control, torque boost, V/F start frequency, abnormality reset and ect.
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 and etc.
Status indicator	Instructions: run, stop, forward, reverse, and etc.
PROTECTIVE FUNCTIONS	
Overload protection	The relays to protect the motor and the inverter
Over voltage	Over 410 V dc
Under voltage	Under 190 V dc
Momentary power loss restart	Inverter can auto-restart after power instantaneously loss
Stall prevention	Stall prevention for Acc/Dec operation
Short-circuit output terminal	Electronic circuit protection
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, for direct start after power up and error recovery parameter lock up
ENVIRONMENT	
Communication control	Built-in RS485 modbus, one to one or one to many control
Operating temperature	-10°C ... 50°C
Storage temperature	-20°C ... 60°C
Humidity	95% RH or less (no condensation)
Shock	20 Hz or less 1G (9.8 m/s ²) 20-50 Hz 0.6G (5.88 m/s ²)
Protection class	IP20

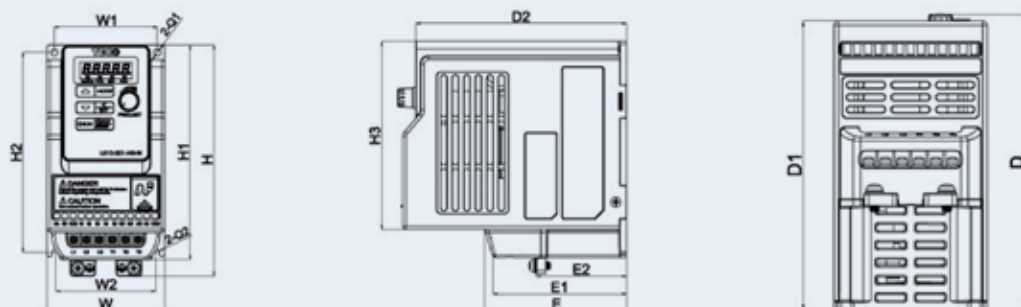


TECHNICAL DATA

S2U230S-		02	03	07	11	13
Max applicable motor output	kW	0.2	0.4	0.75	1.5	2.2
Rated output current	A	1.8	2.6	4.3	7.5	10.5
Rated capacity	kVa	0.68	1.0	1.65	2.9	4.0
Max input voltage	-	Single phase 200-240V / 50-60 Hz (+10%/-15%)				
Max output voltage	-	Three phase 0-240V				
Input current	A	4.9	7.2	11	15.5	21
Allowable momentary power loss time	-	1 second			2 seconds	
Protection level	-	IP20				

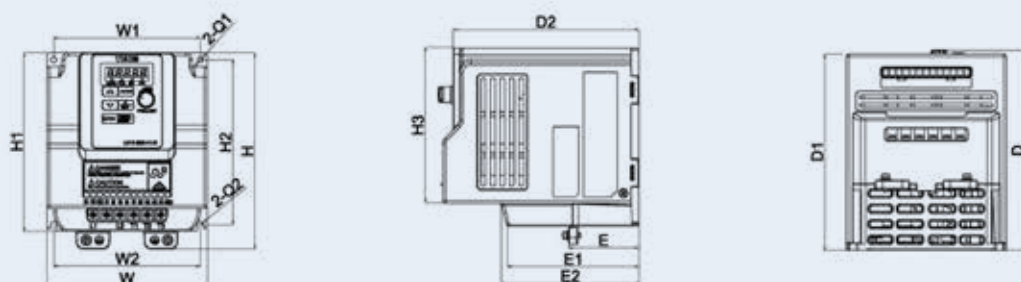
DIMENSIONS

Size 1



Type	W	W1	W2	H	H1	H2	D	D1
[mm]								
S2U230S-02 F	72	63	61	141	131	122	139.2	136
S2U230S-03 F	72	63	61	141	131	122	139.2	136
S2U230S-07 F	72	63	61	141	131	122	139.2	136

Size 2



Type	W	W1	W2	H	H1	H2	D	D1
[mm]								
S2U230S-11 F	118	108	108	144	131	121	147.3	144.2
S2U230S-13 F	118	108	108	144	131	121	147.3	144.2

OUR GLOBAL PRESENCE

Thanks to an international network of closely interconnected commercial and production sites, we can guarantee the same high standards of Bonfiglioli quality anywhere at any given time. We know that our direct presence in local markets is the key to long-lasting success, so our family includes 20 production sites, 26 commercial sites and more than 550 distributors around the world.

Our organization is always close by, offering complete and efficient solutions and supporting our customers with dedicated services, co-engineering and after-sales assistance.



20
PRODUCTION SITES



26
COMMERCIAL SITES



80
COUNTRIES



550
DISTRIBUTORS



~4,800
PEOPLE

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

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