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S500 Product Range – New Generation of Microclass Inverters from Mitsubishi Electric



Mitsubishi Electric is again proud to announce a new concept in drives technology, which will set a new benchmark for the “Microclass Inverter”.

Mitsubishi’s new inverter has established a clear lead in Microclass Inverters with features and benefits that surpass our nearest competitors. The S500 is compact, easy to use and incorporates excellent specifications that will keep it at the very top end of the market.

Summary of the features and Benefits

- Digital control dial for ease of configuring
- PU/EXT button and also display LED's for mode selection
- Inrush current protection
- DCL choke connection possible
- Current input terminal (4 to 20mA)
- Sink/Source selectable
- High torque ability
- Hardware tripless function
- Intelligent torque boost mode
- Serial comms optional
- Regenerative braking
- Supported by Mx500
- Parameter settings simplified
- RS485 connection for software programming
- Initial parameters established for ease of running
- PU-04 connection
- DU-04 connection
- HMI Terminal connection

The S500 is produced with RS485 optional configuration depending on the model either being Hi-spec that incorporates RS485 communication ports or a standard version that is compatible with a source tool for its communication. The RS485 terminal permits Mitsubishi Mx500 software to set parameters via PC input, thus providing the user with different tools for ease of set-up.

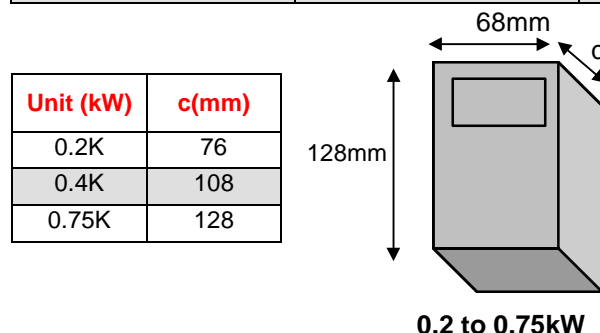
The S500 is the first Mitsubishi Inverter that can be configured through a digital dial, therefore, access to all parameters within the unit is greatly simplified compared to traditional “3-button keypad”.

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Specification and Dimensions (mm)

Power Supply	Power Range	Logic	RS-485
1-ph. 200V	0.2 to 0.75kW	Sink/Source selectable	Available in Hi-spec/standard



Detailed Specifications

Item		Single-phase 200V		
Type FR-S520S-@K-EC(R)		0.2	0.4	0.75
Applicable motor capacity (kW)		0.2	0.4	0.75
Output	Rated Capacity (kVA)	0.5	1.0	1.6
	Rated current (A)	1.4	2.5	4.1
	Overload capacity	150% 60seconds 200% 0.5seconds (inverse time characteristics)		
	Voltage	3-phase 200 to 230V		
Power Supply	Rated input voltage, frequency	Single-phase 200 to 230V 50/60Hz		
	Permissible voltage fluctuation	180 to 253V 50/60Hz		
	Permission freq. Fluctuation	5%		
	Power supply system capacity (kVA)	0.9	1.5	2.5
Protective structure		Enclosed type (IP20)		
Cooling system		Self cooling	Forced air	
Approximate weight (kg)		0.6	1.0	1.7

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Detailed Specification

Control specifications	Output frequency range		0.5 to 120Hz (starting frequency variable between 0 to 60Hz)
	Starting torque		150% or more (6Hz)
	Torque boost		Intelligent torque boost, manual torque boost may be set between 0 to 15%
	Accel./decel. time		0, 0.1 to 999 seconds may be set (accel and decel. Can be set individually), Liner or S-pattern accel./decel. Mode can be selected
	Braking torque	Regenerative	0.2K...150% or more, 0.4K, 0.75K...100% or more
		DC dynamic	Operation frequency (3Hz), operation time (0 to 10s), operation voltage (0 to 10%) variable
	Current stall prevention operation level		Operation current level can be set (0 to 200% variable), presence or absence can be selected
	Voltage stall prevention operation level		Operation level is fixed, presence or absence can be selected
	Input signals	Control panel	Digital dial and 5 buttons (RUN, STOP, MODE, SET, PU/EXT)
		Analogue inputs	2(0-5V, 0-10V, terminals 2 and 4) 4-20mA (inc. PID control)
		Digital inputs	5 Inputs Drive operation, 7 pre-set speeds, 2 nd functions, reset, MRS, PU/EXT mode switching (Sink/Source selectable)
		Serial comms. (R version)	RS-485 (PU-04), DU-04 connector)
	Output signals	Open collector	1 programmable
		FM terminal	1 (output frequency, motor current) 1440 pulsesμA/sec
		Relay	1 changeable
Display	Control panel display	7-segment display	3 segment (output frequency, output current, output speed, alarms, parameters)
		LED-	RUN, PU, EXT
Protective functions			Overcurrent protection (during acceleration, deceleration and constant speed), power failure, overvoltage protection, undervoltage, electronic thermal overload protection, output short circuit, stall prevention, fan overheat, fan operation, parameter error, ground fault detection (on start up). PU leave out detection.