

SPEDESTAR



Phase Converter Drives

WARNING

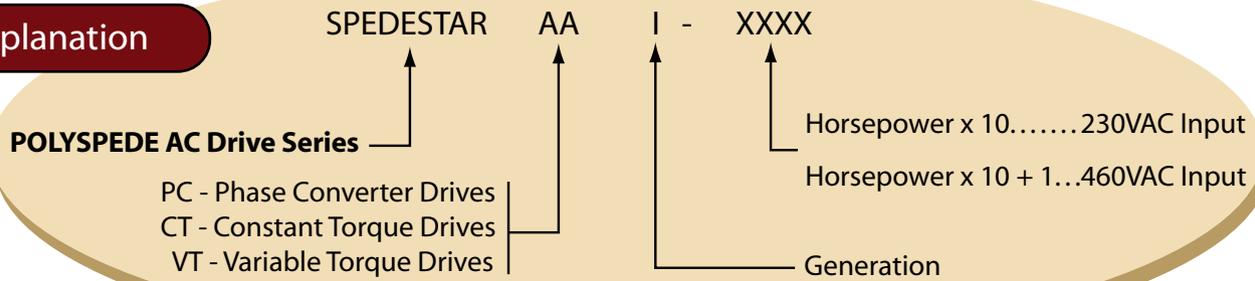
- Read the user manual before operation.
- Do not electrical shock! Wait 15 minutes after removing power before servicing.
- Do not connect AC power to circuit terminals (L1, L2, L3) until WTA.
- Use proper grounding techniques.
- Check to be sure that the voltage of the main AC power supply matches the rated voltage of the motor.

POLYSPEDE

Specifications

SPEDESTAR Series		PC1	
Max Applicable Motor Output Range	230VAC 1-Phase	3.75 - 37.5kW (5 - 50HP)	
	230VAC 3-Phase	N/A	
	460VAC 3-Phase	N/A	
Output	Output Frequency	0.1 - 600Hz	
	Overload Protection	150% of rated current for 1 minute/10 minutes Ta <=40, 200% of rated current for 2 seconds	
	Maximum Output Voltage	Proportional to Input Voltage, 3-Phase	
	Power Factor/Efficiency	Power factor no lower than 0.95. Efficiency no lower than 95% at full load	
Control Characteristics	Control System	SPWM (Sinusoidal Pulse Width Modulation), V/F control and Sensorless Vector Control	
	Output Frequency	0.1 - 600Hz, Programable	
	Output Frequency Resolution	0.01Hz	
	PWM Carrier Frequency	1kHz - 18kHz Adjustable (Some models are limited)	
	Torque Characteristics	Including the auto-torque, auto-slip compensation, starting torque can be 150% at 1.0Hz	
	Skip Frequency	Setting range 0.1-600Hz, Max. 3 points	
	Accel/Decel Time	0.1-6000 seconds (2 Independent settings for Accel/Decel Time)	
	Staff Prevention Level	10 to 250%, Setting of Rated Current. Setting range 0.1-600Hz while stop	
	DC Braking	DC Braking Current Level: 0 to 125% of rated output current. DC Braking time: 0 to 60 seconds. Start-Point for DC Braking: 0.1-600Hz both when start up and stop.	
	Braking Torque	Approx. 20%. Dynamic Brake chopper built-in in Frame code: G1-A and G1-B. Others can be built-in as an option. All models can connect to external Dynamic Brake Unit (DBU)	
Operating Characteristics	V/F Pattern	Adjustable V/F curve using 4 independent points	
	Frequency Setting	Keypad	By a rotary encoder (setting resolution 0/01 Hz/step)
		External Signal	0~+10VDC((Input impedance 20kΩ), -10VDC((Input Impedance 10kΩ), 4 ~20mA dc ((Input impedance, Multi-Function Inputs 1~6 (15 Steps Jog, up/down), PLC run, RS-485 Interface MODBUS protocol
	Operation Setting	Keypad	Set by RUN, STOP and JOG
		External Signal	FWD, REV, MI1 to MI6 can be combined to offer various modes of operation, RS-485 serial interface MODBUS protocol
	Multi-Function Input Signal (6 signals)	Multi-step selection 0 to 15, first to second Accel/Decel switches, Accel/Decel inhibit, EF Input, Emergency Stop, Auxiliary Motor Control is Invalid, ACI/AV/AUI Speed Command Selection, Reset, PLC Run, Jog, Up/Down command, Sink/Source Selection	
	Multi-Function Output Indications (5 Indications)	Drive Operating, Frequency Attained, Non-zero, Base Block, Fault Indication, Local/Remote indication, PLC Operation Indication, and Auxiliary Motor Output	
	Analog Output Signal	Analog Signal Output. Proportional to Output Frequency, Output Current, Voltage, Frequency Command, Sink Source Selection	
Fault Indication	The output will be activated when faults occur (1 Relay contact point RA, RB, RC or 2 Open-collector output)		
Fault Indications Other Functions	PID feedback control, automatic voltage regulation, Momentary Power Loss restart, S-Curve, External Fault, Fault Reset, Auto Restart, Fault Records, Prevention, Frequency Limits, Fan & Pump control, Parameter Lock/Reset, Auto Tuning, Reverse inhibition, Over-Voltage/Over-Current Stall Prevention, automatic energy-saving, DC Braking, Speed Search during Start-up, PLC, MODBUS Communication		
Protection	Self-testing, AC source Over-Voltage, Over Voltage, Over Current, Under Voltage, Over Load, Overheating, External Fault, Electronic Thermal, Ground Fault, Stall Prevention, Output short circuit, IGBT		
Digital Keypad	Eight Function Keys: Access Run, Stop, Reset/Digit Shift, Forward/Reverse Run, Display Mode, Keypad Enable, Programming data and Job operation.		
	One 360 degree Rotary Encoder: Sets the parameter number and changes the numerical data		
	One 6 digits 7 segment display: Display the Setting Frequency/Actual Operation Frequency, Output Current/Voltage, User Defined Unit		
	Six LED Display for status indication: Display the Drive Run/Stop Status, Forward/Reverse Run Status, Keypad Enable, and Frequency command source		
Removable Keypad, Remote Control Distance Up To 150 Meters			
Environment	Temperature	Ambient: -10°C ~ +40°C (Non-Condensing and Not Frozen) Storage: 20°C ~ + 60°C	
	Humidity	Below 90% RH (Non-Condensing)	
	Vibration	Below 20Hz: 1G, Above 20Hz: 0.6G	
	Installation Location	Altitude 1,000m or lower, keep away from corrosive gasses, liquid and dust	

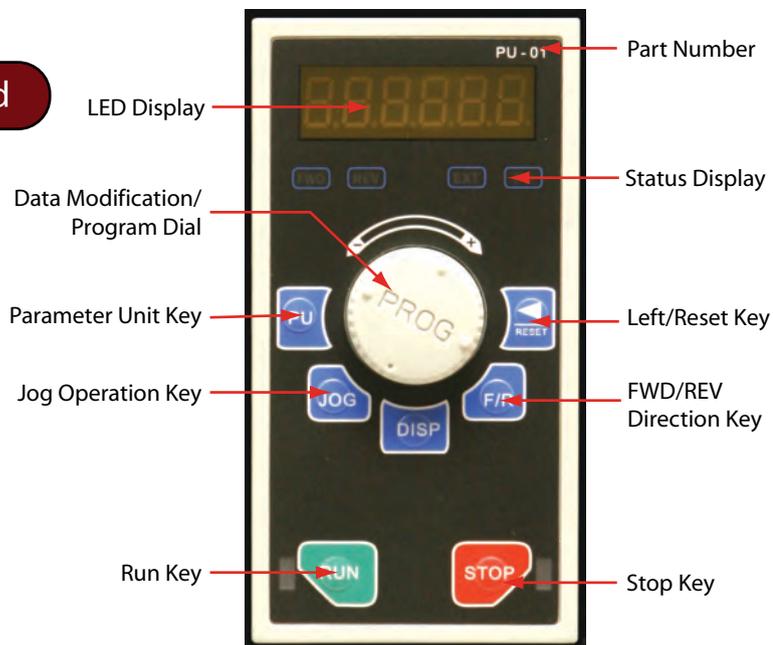
Explanation



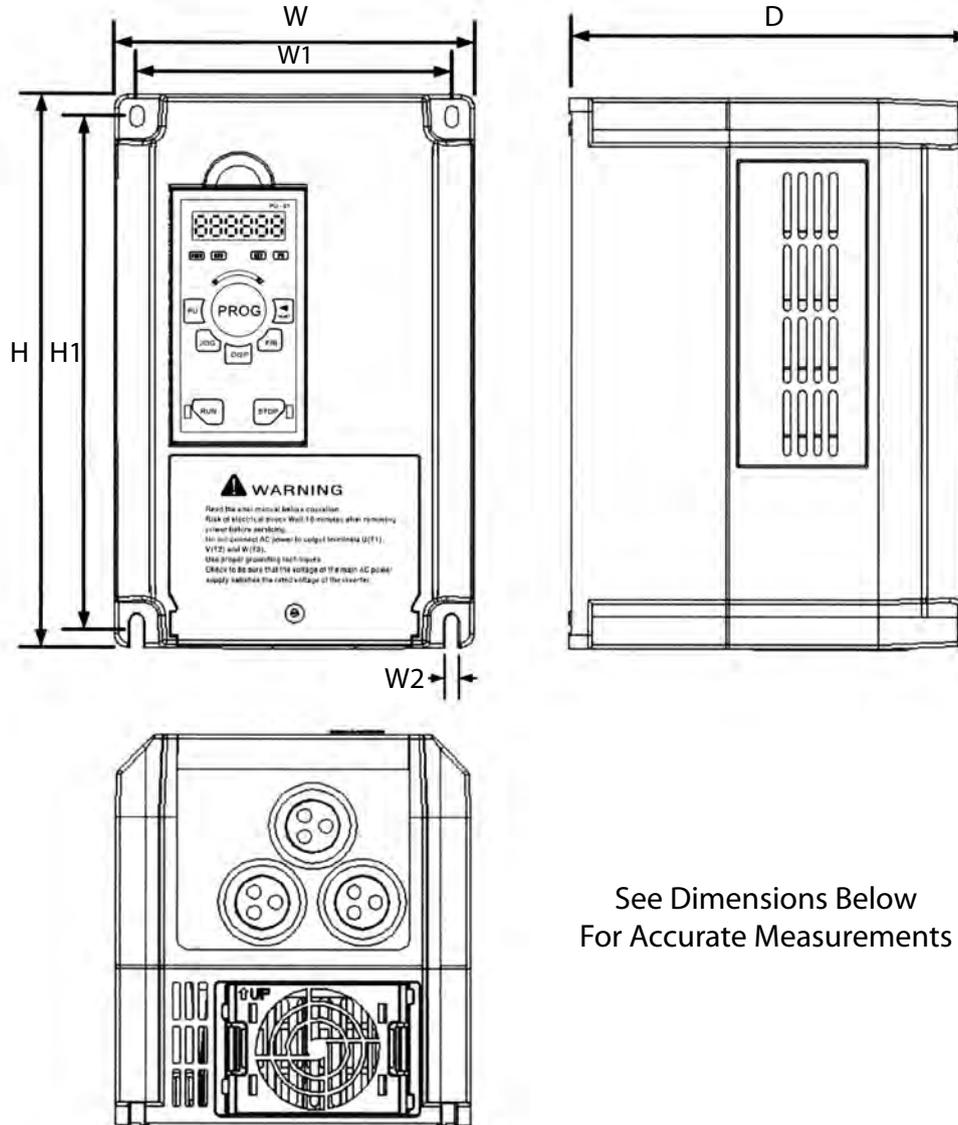
SPEDESTAR PC1 Series: 1-Phase, 200~240VAC (INPUT Range: 180-264VAC, 47~63Hz)

Model	Applicable Motor (230VAC 3-Phase)		Rated Output		230 VAC 1 - Phase Input Current(A)	Weight (lbs)	Frame Size
	Power (kW)	Horsepower (HP)	Capacity (kVA)	Current (A)			
PC1-050	3.75	5	6.1	17	36.3	10.4	B
PC1-075	5.5	7.5	9.4	25	53.9	29.1	C
PC1-100	7.5	10	12.4	33	71.5	29.3	
PC1-150	11	15	17.2	45	99	29.6	
PC1-200	15	20	22.9	60	132	48.6	D
PC1-250	18.5	25	27.8	73	161	49	
PC1-300	22.5	30	34.5	91	200	49.6	
PC1-400	30	40	41.7	110	242	72.2	E
PC1-500	37.5	50	57	150	330	72.3	E

Digital Keypad



Dimensions



See Dimensions Below
For Accurate Measurements

Unit: mm(inch)

FRAME	W	W1	W2	H	H1	D
A	160 (6.30)	140 (5.51)	6 (0.24)	250 (9.84)	230 (9.06)	186 (7.32)
B	200 (7.87)	180 (7.09)	6 (0.24)	275 (10.83)	255 (10.04)	206 (8.11)
C	260 (10.24)	236 (9.29)	6 (0.24)	458 (18.04)	410 (16.14)	242 (9.53)
D	410 (16.14)	369 (14.53)	6 (0.24)	470(18.50)	447 (17.58)	287 (11.30)
E	540 (21.26)	486 (19.13)	6 (0.24)	794 (31.26)	754 (29.70)	347 (13.66)