

Traditional Parameter Interface

Operation method of Traditional Parameter Interface:

- a. Short press or button to adjust the Output Voltage of the controller at any LED Interface.
- b. Enter or exit the Basic Parameters Interface by long press button, and switch among the basic parameters by short press button, and adjust parameter's value by short press or button.
- c. Enter or exit the Advanced Parameters Interface by long press and button, and switch among the advanced parameters by short press button, and adjust parameter's value by short press or button.
- d. Short press button to start or stop output of controller, and long press button to lock or unlock keypad.
- e. At LED interface of default setting restore parameter, Long press button until is displayed on the LED to switch to traditional parameter interface, or long press button until is displayed on the LED to switch to modern parameter interface.
- f. SDVC21S defaults to the traditional parameter interface, SDMC20S defaults to the modern parameter interface.

	Definition	Symbol	Range	Default
Common parameter	Output Voltage		0~250 V	150
Basic Parameter	Output Frequency		FULL, HALF	FULL
	On Delay of the Intelligent Photoelectric Sensor		0.0~9.9 s	0.2
	Off Delay of the Intelligent Photoelectric Sensor		0.0~9.9 s	0.2
	Soft Startup		0.0~9.9 s	1.0
Advanced Parameter	On Delay of the NPN Switch Sensor		0.0~9.9 s	--- same as J
	Off Delay of the NPN Switch Sensor		0.0~9.9 s	--- same as L
	On Delay of the second NPN Switch Sensor		0.0~9.9 s	--- same as J
	Off Delay of the second NPN Switch Sensor		0.0~9.9 s	--- same as L
	Logical Direction of the Intelligent Photoelectric Sensor		Normal Close _ _ _ , Normal Open _ - _	---
	Logical Direction of the NPN Switch Sensor		Normal Close _ _ _ , Normal Open _ - _	---
	Logical Direction of the second NPN Switch Sensor		Normal Close _ _ _ , Normal Open _ - _	---
	Logical Direction of the second NPN Switch Sensor		Normal Close _ _ _ , Normal Open _ - _	---
	Logical Relation of the Control Signal		or , And , Hor	- -
	Maximum Output Voltage		0~250 V	220
	Intelligent photoelectric sensor sensitivity		0~1000	80
	Default Settings Restore		---	---

Modern Parameter Interface

Operation method of Modern Parameter Interface:

- a. Short press or button to adjust the Output Voltage of the controller under standby Interface.
- b. Enter or exit the Basic Parameters Interface by long press button, and switch among the basic parameters by short press or button, and adjust parameter's value by short press or button.
- c. Enter or exit the Advanced Parameters Interface by long press and button, and switch among the advanced parameters by short press or button, and adjust parameter's value by short press or button.
- d. Enter or exit the Monitoring Parameters Interface by long press and button, and switch among the monitoring parameters by short press or button, but parameter's value can't be adjusted.
- e. Short press button to start or stop output of controller, and long press button to lock or unlock keypad.
- f. At LED interface of default setting restore parameter, Long press button until is displayed on the LED to switch to traditional parameter interface, or long press button until is displayed on the LED to switch to modern parameter interface.

	Definition	Symbol	Range	Default
Common parameter	Output Voltage		0~250 V	150
	Set Speed (only when SF is set to 2)		0~999	150
Basic Parameter	Output Frequency (adjustable only for SDVC21S)		FULL, HALF	FULL
	On Delay of the Intelligent Photoelectric Sensor		0.0~99.9 s	0.2
	Off Delay of the Intelligent Photoelectric Sensor		0.0~99.9 s	0.2
	Soft Startup		0.0~10.0 s	1.0
	Soft Shutdown		0.0~10.0 s	1.0
Advanced Parameter	On Delay of Port D		0.0~99.9 s	--- same as J
	Off Delay of Port D		0.0~99.9 s	--- same as L
	On Delay of Port A		0.0~99.9 s	--- same as J
	Off Delay of Port A		0.0~99.9 s	--- same as L
	The first signal source of Main output		0, 1, E, -E, d, -d, A, -A, oC, -oC, oq(main output status), -oq, SA, -SA, Sb, -Sb	E
	The second signal source of Main output		0, 1, E, -E, d, -d, A, -A, oC, -oC, oq(main output status), -oq, SA, -SA, Sb, -Sb	d
	The third signal source of Main output		0, 1, E, -E, d, -d, A, -A, oC, -oC, oq(main output status), -oq, SA, -SA, Sb, -Sb	A
	Logic operation of signal sources of Main output		And, or, Hor, rS	or
	On Delay of Main output		0.0~99.9 s	0.0
	Off Delay of Main output		0.0~99.9 s	0.0
	Output Mode of Main output		dLy (Delay Mode), HLd (Hold Mode)	dLy
	Logic direction of Main output		- - - (Same phase), - - - (Reverse) on (always active), oFF (always inactive)	- - -
	The first signal source of Control output		0, 1, E, -E, d, -d, A, -A, oC, -oC, oq(main output status), -oq, SA, -SA, Sb, -Sb	0
	The second signal source of Control output		0, 1, E, -E, d, -d, A, -A, oC, -oC, oq(main output status), -oq, SA, -SA, Sb, -Sb	0

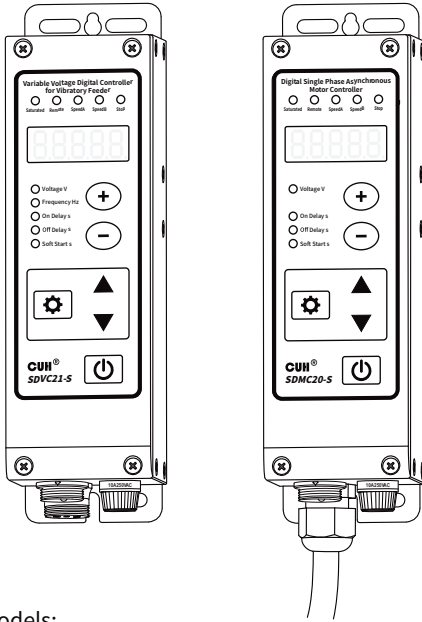
	Definition	Symbol	Range	Default
Advanced Parameter	The third signal source of Control output		0, 1, E, -E, d, -d, A, -A, oC, -oC, oq(main output status), -oq, SA, -SA, Sb, -Sb	oq
	Logic operation of signal sources of Control output		And, or, Hor, rS	or
	On Delay of Control output		0.0~99.9 s	0.0
	Off Delay of Control output		0.0~99.9 s	0.0
	Output Mode of Control output		dLy (Delay Mode), HLd (Hold Mode)	dLy
	Logic direction of Control output		- - - (Same phase), - - - (Reverse) on (always active), oFF (always inactive)	- - -
	Control Output Type		nPn, PnP, PSP (Push & Pull), In	nPn
	Maximum output voltage limit		0~250 V	220
	Sensor Type		nPn, PnP ut1 (Single scan), ut0 (Continuous scan)	ut0
	Intelligent photoelectric sensor sensitivity		0~1000	80
	Maximum Speed		0~999	300
	Speed adjustment scale factor		0~999	70
	Speed adjustment integral coefficient		0~999	180
	Speed adjustment differential coefficient		0~999	50
	Motor Minimum Speed		0~999	70
	Control Object		0: vibratory feeder, 1: Motor (speed open loop), 2: Motor (speed closed loop)	SDVC21S: 0 SDMC20S: 2
Monitoring Parameter	Parameter Range of Disable Adjustment function		0~9999	0
	Lock of Disable Parameter Adjustment function		0~9999	0
	Default setting restoration		---	---
	Voltage of Port F		0.0~5.0 V	---
	signal difference of Port E		1~1000	---
	Signal Voltage of Port A		0.0~28.0 V	---
	Signal Voltage of Port D		0.0~28.0 V	---
	Output Voltage of Port C		0.0~28.0 V	---
	Voltage of 24V Port		0.0~28.0 V	---
	Speed reference value		0~999	---

Note: The parameter with * symbol can be locked by 3 .
All parameters with * symbol of the controller are locked, when 3 is 9999.



Simplified User Manual of
SDVC21S & SDMC20S

Variable Voltage Digital Controller for Vibratory Feeder
Digital Single Phase Asynchronous Motor Controller

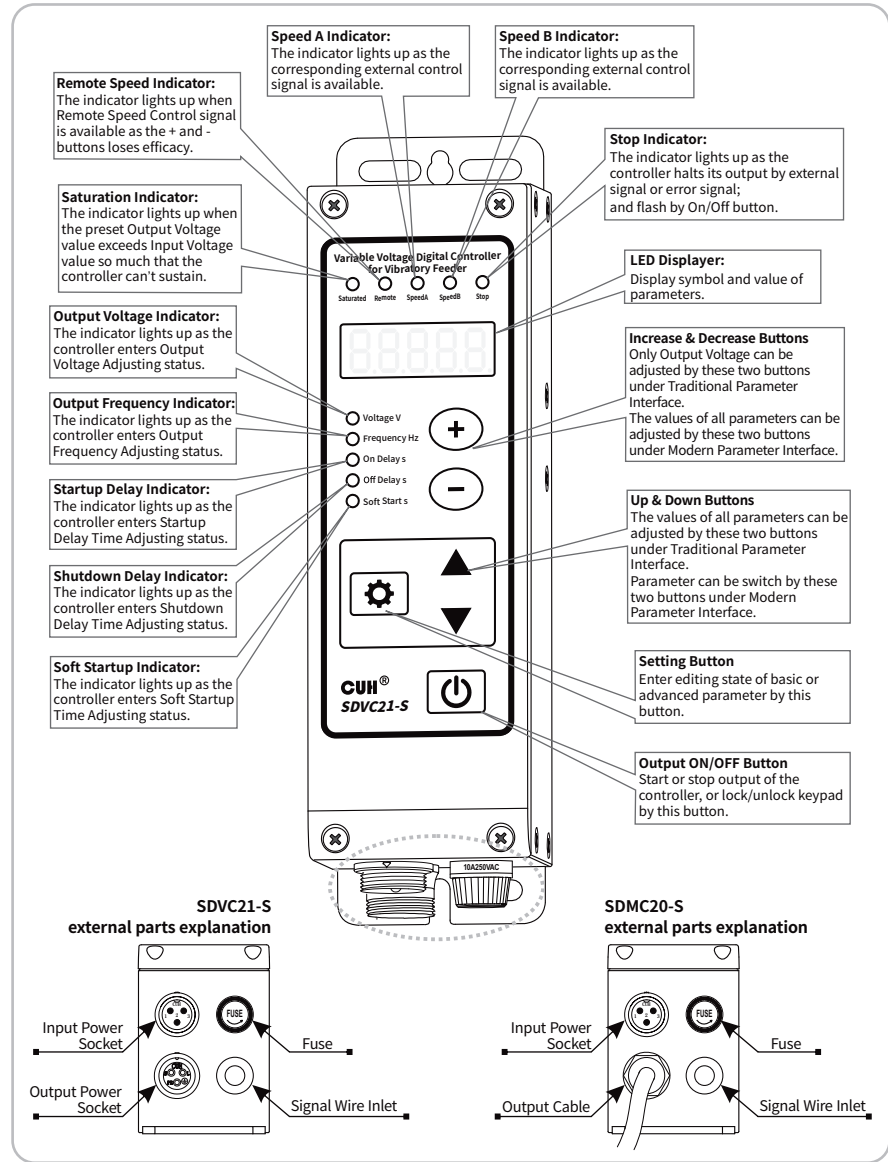


Applicable controller models:

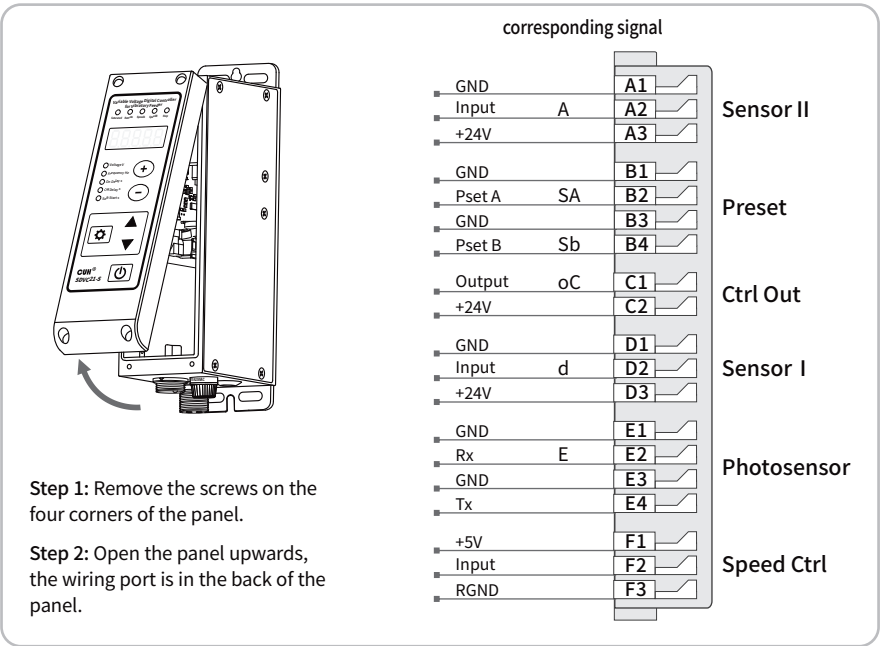
SDVC21-S
SDMC20-S

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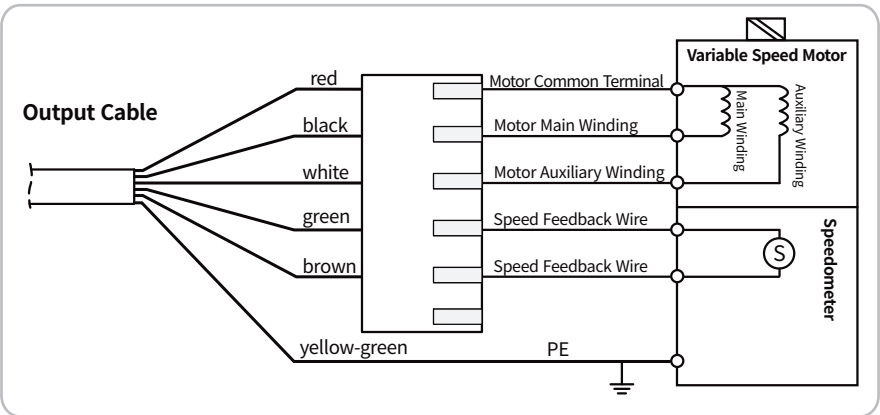
Indicators, Buttons and External Parts Explanation



Wiring Ports Explanation



Motor Wiring Explanation



Technical Specifications

Item	Min	Typical	Max	Unit	Note
Input Voltage	85	220	250	V	AC RMS
Adjustable Output Voltage Range	35	—	Vin-10	V	Half Wave
	45		Vin-5		Full Wave
Voltage Adjustment Accuracy	1			V	
Voltage Regulation Accuracy	—	—	30	V	Vset = 150V △Vin+ = 70V
Voltage Regulation Response Time	0	0.01	0.02	s	
Adjustable Output Current Range	0	—	5	A	
Output Power	0	—	1100	VA	
Output Frequency	45	50/60	65	Hz	Half Wave
	90	100/120	130		Full Wave
Output Waveform	Phase Angle Control				
Soft Start Time	0	—	9.9/10.0 *	s	Default value: 1.0
On/Off Delay Time Range	0	—	9.9/99.9 *	s	Default value: 0.2
On/Off Delay Time Accuracy	0.1			s	
Overheat Protection Trigger Temperature	58	60	66	°C	
DC Control Output Voltage	22	24	26	V	
DC Control Output Current	0	—	400	mA	
Analog Control Signal	1~5/4~20			V/mA	Remote Speed Control signal
Digital Control Signal	24			V	Switching Signal
Adjustment Method	6			Button	
Fuse Capacity	6.3			A	
Standby Power Consumption	—	2	—	W	
Display Method	5			Digit	LED
Ambient Temperature	0	25	40	°C	No Condensation
Ambient Humidity	10	60	85	%	
Storage Ambient Temperature	-20	25	85	°C	

Note: The technical specification values with * symbol, "xxx/xxx" indicates "Traditional Parameter values / Modern Parameter values".

Warning

In a residential environment, this product may cause radio interference in which case supplementary mitigation measures may be required.

Troubleshooting Suggestions and Error Explanations

Error Code	Definition	Troubleshooting Methods
No display after power on		Make sure the power outlet is live Make sure the Input power Cable is reliably connected to the power outlet?
Display normally, but no output		Make sure the Output Cable is reliably connected to the vibrator. Make sure the output voltage is not small. Make sure the Stop Indicator is not light up. Please check whether Normal Close of parameter has been set, causing controller output to stop.
Control signal loses effectiveness		Make sure the control signal is correctly inputted. Make sure the ground wire of the control signal is correctly connected to the controller. Make sure the Logical Relation of the control signals is set correctly as your expectation.
Beat phenomena		Avoid vibration coupling among the vibrators. Heighten the resonant frequency of the vibrators.
Display normally, no output, but sound can be heard		Adjust all parameters as this book instructed.
Err02	Over Current	Reduce output voltage appropriately, then restart the output.
Err03	Over Heat	Install the controller in a well-ventilated environment.
Err05	Internal Communication abnormal	Make sure no extern power supply connect to the 24V power port or contact our technical support.
Err06	Temperature sensor abnormal	Make sure the work temperature not under -20°C or contact our technical support.
Err07	Over Current protection of Port D	Make sure the load of Port D is not short-circuit and the current does not exceed 400mA, then try to restart the output of Port D.
Err10	24V power output abnormal	Make sure 24V port is not short-circuit and the current does not exceed 400mA.
Err11	5V power output of Port A abnormal	Make sure the 5V power of Port A is not short-circuit or not connected to external power voltage more than 5V.
Err20	Input signal logic abnormal of RS Trigger of Main output	Make sure two input signals of RS trigger of Main output are not valid at the same time.
Err21	Input signal logic abnormal of RS Trigger of Control output	Make sure two input signals of RS trigger of Port D are not valid at the same time.
Err22	Motor stall fault	Make sure the motor is not overloaded or the motor is not locked. Make sure that the actual speed of the motor is not lower than the set minimum speed value.