# Traditional Parameter Interface (SDVC31-S/M Default)

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.

| | Definition | Symbol | Range | Default |
|---|---|---|---|---|
| Common parameter | Output Voltage | U | 0~260 V | 150 |
| Basic Parameter | Output Frequency | E | 40.0~400.0 Hz | 50.0 |
| | On Delay of the Intelligent Photoelectric Sensor | J | 0.0~20.0 s | 0.2 |
| | Off Delay of the Intelligent Photoelectric Sensor | L | 0.0~20.0 s | 0.2 |
| | Soft Startup | t | 0.0~10.0 s | 0.5 |
| Advanced Parameter | Off Delay of the NPN Switch Sensor | L- | 0.0~20.0 s | L---- same as L |
| | On Delay of the NPN Switch Sensor | J- | 0.0~20.0 s | J---- same as J |
| | Logical Direction of the Intelligent Photoelectric Sensor | F1 | Normal Close _ _ _, Normal Open _ - _ | --- |
| | Logical Direction of the Switch Sensor | F2 | Normal Close _ _ _, Normal Open _ - _ | --- |
| | Logical Direction of the Controlling Output | F3 | Normal Close _ _ _, Normal Open _ - _ | --- |
| | Main control separation Parameter | F4 | Related _ _ _: Main output is controlled by Port C, Port D is controlled by Port B _ _ _<br>Separate _ - _: Main output is controlled by Port B, Port D is controlled by Port C | --- |
| | Logical Relation of the Control Signal | n | or, And _ - _, Hor - - - | _ - _ |
| | Maximum Output Voltage | h | 0~260 V | 260 |
| | Acceleration Index | y | 100~150 | 150 |
| | Waveform Index | r | 0~100 | 100 |
| | Intelligent photoelectric sensor sensitivity | P | 0~1000 | 80 |
| | Port C Sensor Type | rA | nPn, PnP<br>ut1 (Single scan), ut0 (Continuous scan) | nPn |
| | Temperature | C | -20~85 ℃ | —— |
| | Default Settings Restore | 88888 | —— | —— |



# Modern Parameter Interface (SDVC311-S/M Default)

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 | U | 0~260 V | 150 |
| Basic Parameter | Output Frequency * | E | 5.0~400.0 Hz | 50.0 |
| | On Delay of the Intelligent Photoelectric Sensor | J | 0.0~99.9 s | 0.2 |
| | Off Delay of the Intelligent Photoelectric Sensor | L | 0.0~99.9 s | 0.2 |
| | Soft Startup | t | 0.0~10.0 s | 0.5 |
| | Breaking cycles/Soft Shutdown * | J | -100~0 cycle (number of breaking cycles)<br>0.0~10.0 s (Soft Shutdown) | 0.0 |
| | Output Voltage | U | 0~260 V | 150 |
| Advanced Parameter | Intelligent photoelectric sensor sensitivity | P | PnP, nPn, 1~1000 | 80 |
| | Port C Sensor Type * | rA | nPn, PnP<br>ut1 (Single scan), ut0 (Continuous scan) | ut0 |
| | On Delay of Port C | J- | 0.0~99.9 s | J---- same as J |
| | Off Delay of Port C | L- | 0.0~99.9 s | L---- same as L |
| | The first signal source of Main output * | Ed | 0, 1, b, -b, C, -C, od, -od, oq, -oq | b |
| | The second signal source of Main output * | Ed | 0, 1, b, -b, C, -C, od, -od, oq, -oq | C |
| | Logic operation of signal sources of Main output * | nd | And, or, Hor, rS | or |
| | On Delay of Main output | Jd | 0.0~99.9 s | 0.0 |
| | Off Delay of Main output | Ld | 0.0~99.9 s | 0.0 |
| | Output Mode of Main output | Fd | dLy (Delay Mode), HLd (Hold Mode) | dLy |
| | Logic direction of Main output | Jd | --- (Same phase), _ - _ (Reverse)<br>on (always active), oFF (always inactive) | _ - _ |
| Advanced Parameter | The first signal source of Control Port D * | Ed | 0, 1, b, -b, C, -C, od (Output state of Port D), -od, oq (Output state of Main output), -oq | 0 |
| | The second signal source of Control Port D * | Ed | 0, 1, b, -b, C, -C, od (Output state of Port D), -od, oq (Output state of Main output), -oq | oq |
| | Logic operation of signal sources of Control Port D * | nd | And, or, Hor, rS | or |
| | On Delay of Port D | Jd | 0.0~99.9 s | 0.0 |
| | Off Delay of Port D | Ld | 0.0~99.9 s | 0.0 |
| | Output Mode of Port D | Fd | dLy (Delay Mode), HLd (Hold Mode) | dLy |
| | Logic direction of Port D | Jd | --- (Same phase), _ - _ (Reverse)<br>on (always active), oFF (always inactive) | --- |
| | Control Output Type | Fd | nPn, PnP, PSP (Push & Pull) | nPn |
| | Maximum output voltage limit * | h | 0~260 V | 260 |
| | Acceleration Index * | y | 100~150 | 150 |
| | Waveform Index * | r | 0~100 | 100 |
| | Parameter Range of Disable Adjustment function | F | 0~9999 | 0 |
| | Lock of Disable Parameter Adjustment function | F | 0~9999 | 0 |
| | Default setting restoration | 88888 | —— | —— |
| Monitoring Parameter | Temperature | C | -20~85 ℃ | —— |
| | Internal Bus Voltage | PU | 0~400 V | —— |
| | Bus Ripple Voltage | rU | 0~200 V | —— |
| | Output Current | AC | 0.00~1.60 A -SDVC31S/SDVC311S<br>0.00~3.20 A -SDVC31M/SDVC311M | —— |
| | Signal Voltage of Port A | AU | 0.00~5.00 V | —— |
| | Signal Voltage of Port B | bU | 0.00~5.00 V | —— |
| | Signal Voltage of Port C | cU | 0.0~28.0 V | —— |
| | Signal Voltage of Port D | dU | 0.0~28.0 V | —— |
| | Real time voltage of 24V Port | nU | 0.0~28.0 V | —— |
| | Control board software version | uc | —— | —— |
| | Power board software version | u9 | —— | —— |

**Note1:** The parameter with * symbol can be locked by F. All parameters with * symbol of the controller are locked, when F is 9999.

**Note2:** Under the default setting, the intelligent photoelectric on/off delay controls the main output on/off delay. If the logical direction of main output is the same phase or the reverse signal source, the intelligent photoelectric on/off delay meaning exchange. The C port on/off delay is consistent with the intelligent photoelectric on/off delay.

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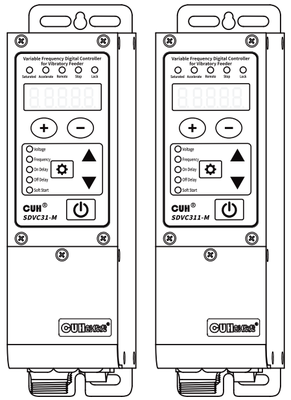
# Simplified User Manual of SDVC31 Series

## *Variable Frequency Digital Controller for Vibratory Feeder*



Applicable controller models:

SDVC31-S（1.5A）
SDVC31-M（3.0A）
SDVC311-S（1.5A）
SDVC311-M（3.0A）

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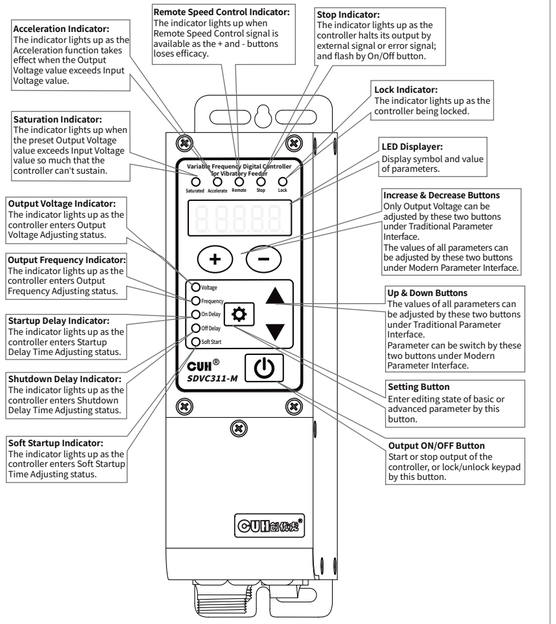
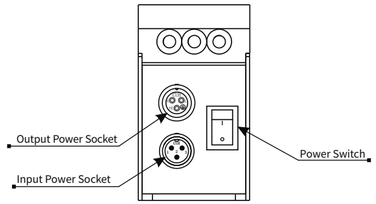
Document No.: IDP1000360_B.1

## Indicators and Buttons Explanation




SDVC31 Series Variable Frequency Digital Controller for Vibratory Feeder

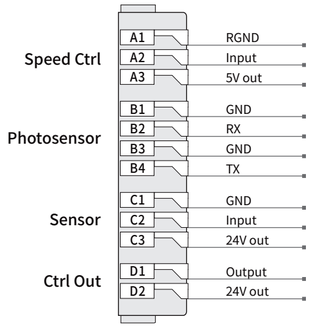
## External Parts Explanation




SDVC31-S、SDVC311-S (1.5A)
SDVC31-M、SDVC311-M (3.0A)

The power output connect to pizeo class load is prohibited otherwise electric shock accident may occur.

## Wiring Ports Explanation




SDVC31 Series Variable Frequency Digital Controller for Vibratory Feeder

## Specification

| Item | Min | Typical | Max | Unit | Note |
|---|---|---|---|---|---|
| Input Voltage | 85 | 220 | 250 | V | AC RMS |
| Adjustable Output Voltage Range | 0 | —— | 260 | V | Lower than 150% of Input Voltage |
| Voltage Adjustment Accuracy | | 1 | | V | |
| Voltage Regulation Accuracy | 0 | —— | 10 | % | ΔVout/ΔVin |
| Adjustable Output Current Range | 0 | —— | 1.5 | A | SDVC31-S/SDVC311-S |
| | | | 3.0 | | SDVC31-M/SDVC311-M |
| Output Power | 0 | —— | 330 | VA | SDVC31-S/SDVC311-S |
| | | | 660 | | SDVC31-M/SDVC311-M |
| Output Frequency | 40.0/5.0 * | —— | 400.0 | Hz | |
| Frequency Adjustment Accuracy | | 0. 1 | | Hz | |
| Output Waveform | | Sine | | | |
| Soft Start Time | 0 | —— | 10 | s | Default value: 0.5 |
| On/Off Delay Time Range | 0 | —— | 20.0/99.9 * | s | Default value: 0.2 |
| On/Off Delay Time Accuracy | | 0. 1 | | s | |
| Overheat Protection Trigger Temperature | 58 | 60 | 66 | °C | |
| DC Control Output Current | 0 | —— | 400 | mA | |
| DC Control Output Voltage | 22 | 24 | 26 | V | |
| Analog Control Signal | | 1~5/4~20 | | V/mA | Remote Speed Control signal |
| Digital Control Signal | | 24 | | V | Switching Signal |
| Adjustment Method | | 6 | | Button | |
| Standby Power Consumption | —— | 3 | —— | 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 "SDVC31 series Parameter values /SDVC311 series Parameter values" .

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

SDVC31 Series Variable Frequency Digital Controller for Vibratory Feeder

## Troubleshooting Suggestions and Error Explanations

| Error Code | Definition | Troubleshooting Methods |
|---|---|---|
| No display after power on | | Make sure the power outlet is live<br>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.<br>Make sure the output voltage is not small.<br>Make sure the Stop Indicator is not light up.<br>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.<br>Make sure the ground wire of the control signal is correctly connected to the controller.<br>Make sure the Logical Relation of the control signals is set correctly as your expectation. |
| Beat phenomena | | Avoid vibration coupling among the vibrators.<br>Heighten the resonant frequency of the vibrators. |
| Display normally, no output, but sound can be heard | | Adjust all parameters as this book instructed. |
| Err01 | Short Circuit | Make sure the load is not short-circuit, then try to restart output of the controller by press Output ON/OFF Button two times or repower the controller. |
| Err02 | Over Current | Reduce output voltage appropriately, then restart the output. |
| Err03 | Over Heat | Install the controller in a well-ventilated environment. |
| Err04 | Over or under voltage | Make sure input voltage between AC 85~250Vac. |
| 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℃ or contact our technical support. |
| Err07 | Short-circuit 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. |

Note: If any Error occur, the TX of port B will shutdown.