

SIMULATOR ADJUSTOR



"ONE BUS"



0-10V, 4-20 mA



Main characteristics:

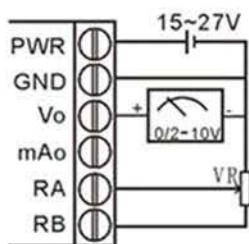
1. Rated supply voltage range: DC 15~27V;
2. 1 way analog output, Optional voltage type (output range: 0/2-10V) or current type (output range: 0/4-20mA).
3. Voltage type output load impedance requirement $\geq 2K\Omega$, current type output load impedance requirement $\leq 500\Omega$.
4. In addition to the button given (all equipped), there are a variety of options: resistance potentiometer setting, RS485 communication setting, digital quantity setting (external button or encoding knob can be used to adjust the given value).
5. "With RS485 communication given version" uses the standard Modbus-RTU protocol.
6. Mechanical Dimensions: 79×43×25mm; Mounting hole: 76.5×39.5mm.

Indicator light, signal description

1. **Indicator light:** Only "with RS485 communication given version" is useful, RX (green) communication receives timing data indication; TX (yellow) communication gives timing data indication; STA is not used.
2. **Port signal description**

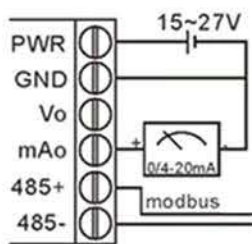
Signal		Description	Signal		Description
PWR		Connect DC 15~27V power supply +	With RS485 communication given version	485+	RS485 signal +
GND		Power and signal ground		485-	RS485 signal -
Vo		Voltage type analog output interface	With digital given version	DUP	Digital given increase signal or coded knob A
mAo		Current analog output interface		DDW	Digital given increase signal or coded knob B
With potentiometer given version	RA	Connect the potentiometer sliding end			
	RB	Potentiometer fixed end			

3. Wiring diagram:



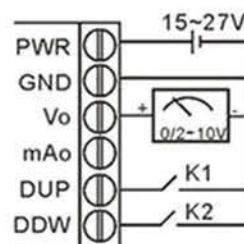
POTENTIO Y-VALVE VALUME ADJUST

ONEBUS-VR



RS485 LINK MODBUS RTU ADJUST

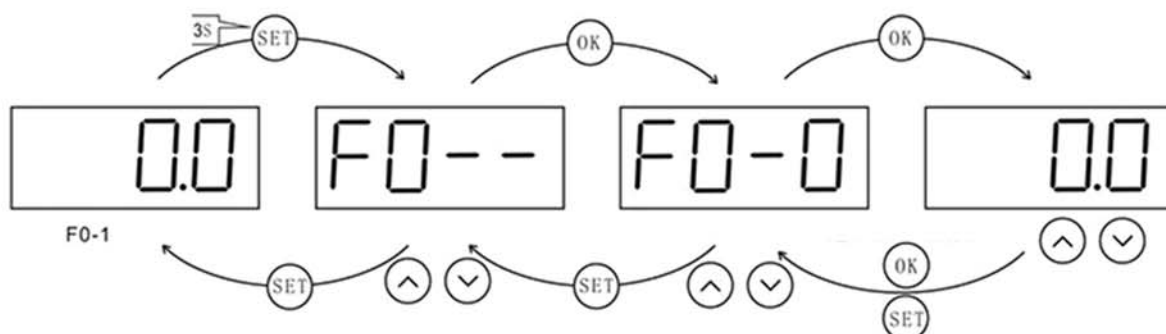
ONEBUS-485



DIGITAL TRIGGER ADJUST

ONEBUS-DI

4. Button and digital tube display state transition diagram:



Special Note: In the third level menu, click OK to save the modified parameter value, and return to the previous menu, the parameter number is automatically increased by one; and clicking the SET button directly returns to the previous menu without saving the modified parameter value.

Press $\uparrow$ or $\downarrow$, Can make the adjustment value change rapidly.

Parameter Description:

The "Read Only" parameter can only be viewed and cannot be modified. The "Read and Write" parameter can be viewed and modified. The parameters are as follows:

1. F0 parameter group

Parameter	Parameter name	Range and description	Defaults	Read and write
F0-0	Setpoint monitoring	Monitors the percentage given by the current analog output. 0.0%~100.0% corresponds to 0-10V/0-20mA or 2-10V/4-20mA.		Read
F0-1	Display value monitoring	The displayed value in the "Monitor Menu" is calculated from F0-0, F0-5~F0-7.		Read
F0-2	Given type selection	0: The up and down buttons of the button are directly given; 1: the up and down buttons of the button and the OK button are given; 2: The up and down buttons of the button select the preset value given in F2; 3: the potentiometer is given; 4: RS485 communication is given; 5: digital signal is given; 6: The digital signal is selected according to the preset value in F2; 7: The up and down buttons of the button are directly given, and the long press is incremented or decremented by F0-9; 8: The digital signal is given, and the long press is incremented or decremented by F0-9; 9: The coding knob is given (available with a given version of the digital version, software version V1.05 or higher), and the adjustment step is set by F0-9.	0	Read and write
F0-3	Output type selection	0:0~100.0% corresponds to 0~10V;1:0~100.0% corresponds to 0~20mA; 2:0~100.0% corresponds to 2~10V;3:0~100.0% corresponds to 4~20mA.	0	Read and write
F0-4	Output ramp control	Range: 0~10.00s. The time required to output from 0% to 100.0% (or 100.0% to 0%) is used to achieve a slow change in output.	0.000	Read and write
F0-5	Display accuracy	The number of decimal places for the value displayed in the "Monitor Menu", range: 0-3	1	Read and write



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F0-6	Display minimum	In the "Monitor Menu", the value corresponding to "Setpoint" is displayed as 0%, and the range is -1999~9999.	0	Read and write
F0-7	Display maximum	In the "Monitor Menu", the value corresponding to "Setpoint" is displayed as 100.0%, and the range is -1999~9999.	1000	Read and write
F0-8	Power-on initial setpoint selection	This setting is valid when F0-2 is set to 0, 1, 4, 5, 7, or 8 given mode. 0: The initial value is 0 when the power is turned on; 1: The initial set value at power-on is the set value at the time of the last power-off (the set value is powered off). 2: The initial value is the F2-0 parameter value at power-on.	0	Read and write
F0-9	Long press the addition and subtraction interval time or the coding knob to adjust the step	When F0-2 is 7 or 8, this parameter is the long press plus or minus interval time. Range: 0.01-10.00s. When F0-2 is 9, it is used to set the coding knob to adjust the step, the range is 1-1000.	0.10	Read and write

2. F1 parameter group

Parameter	Parameter name	Range and description	Defaults	Read and write
F1-0	Voltage output gain	Range: 0~1000.0%.	100.0	Read and write
F1-1	Voltage output bias	-99.9~99.9%, 100.0% at 10V or 20mA.	0.0	Read and write
F1-2	Current output gain	Range: 0~1000.0%.	100.0	Read and write
F1-3	Current output bias	-99.9~99.9%, 100.0% at 10V or 20mA.	0.0	Read and write
F1-4	Communication timeout analog output selection	keeps the set value before the timeout unchanged; 1: the output set value is set to 0.0%; 2: The output setpoint is set to 0.0% and the output value is set to 0V (or 0mA). For the case where F0-3 is set to 2-10V or 4-20mA output. The timeout period is set in F7-4.	0	Read and write
F1-5	Potentiometer given filter	The resistance potentiometer gives a filter time, ranging from 0 to 10.000s. The larger the filtering time, the stronger the filtering.	0.500	Read and write
F1-6	Potentiometer given gain	Range: 0~1000.0%.	100.0	Read and write
F1-7	Potentiometer given bias	-99.9~99.9%, 100% at 10V or 20mA.	0.0	Read and write

1. The output gain and offset are expressed as: adjustment result = set value $\times$ gain + offset.

2. The potentiometer gives the gain and offset using the formula: adjustment result = (original value + offset) $\times$

gain

3. When F0-3 is 0, 2, the voltage type gain offset is enabled. When it is 1, 3, the current type gain offset is enabled.

4. F1-4 is the parameter with "communication given version";

5. F1-5~F1-7 is the "given version with potentiometer" parameter; the default use of 10K Ω potentiometer, using other resistance potentiometers, can be adjusted by the parameters F1-6, F1-7 to meet the range requirements.

3. F2 Given a preset value (used when F0-2 is 2 or 6)

Parameter	Parameter name	Range and description	Defaults	Read and write
F2-n (n=0-9)	Given default	Range: -0.1%~100.0%. When it is -0.1%, the parameter and the preset value after the parameter are not added to the preset list.	n $\times$ 10.0	Read and write

This set of parameters works when F0-2 is 2 or 6. For example, F2-0 = 0.0%, F2-1 = 50.0%, F2-2 = 100.0%, F2-3 = -0.1%. Then the first key output is 50.0%, the second upper key output is 100.0%, and the third upper key output is 0.0%. Use the down button to cycle backwards.



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4. F7Communication parameters (F7-0 to F7-4 are "with communication given version" parameters)

Parameter	Parameter name	Range and description	Defaults	Read and write
F7-0	Local address	Range: 1~247	1	Read and write
F7-1	Baud rate	0: 1200bps; 1: 2400bps; 2: 4800bps; 3: 9600bps; 4: 19200bps; 5: 38400bps.	3	Read and write
F7-2	Data Format	0: 8,1,None (8 bit data bits, 1 bit stop bits, no parity); 1: 8,1,Even (8 bit data bits, 1 bit stop bits,Parity check); 2: 8,1,Odd(8 bit data bits, 1 bit stop bits,Odd check); 3: 8,2,None(8 bit data bits, 2 bit stop bits, no parity).	0	Read and write
F7-3	Response delay	The communication response delay time is 0~500 ms.	5	Read and write
F7-4	Communication timeout	Range: 1~5000s.	60	Read and write
F7-5	Parameter recovery	Set to 111 to restore the parameters to factory settings; other values are invalid.	0	Read and write
F7-6	Model code	Model code 0520H.	1312	Read
F7-7	Software version number	Acquisition module software version number, two decimal points. 1.00 corresponding software version number is V1.00.	1.00	Read

四、"Communication protocol with RS485 communication given version"

The communication uses the standard Modbus-RTU protocol, written using the single-write instruction 06H, or can be read using the multi-read instruction 03H. The given Modbus register address is 0000H. The given value range 0~1000 corresponds to 0.0%~100.0%. The format is as follows:

Host sends data		Slave (HXDSBOXA0) response data	
Slave address(F7-0)	01H	Slave address(F7-0)	01H
Modbus Function code	06H	Modbus function code	06H
Register address (high byte)	00H	Register address (high byte)	00H
Register address (low byte)	00H	Register address (low byte)	00H
Written value (high byte)	01H	Written value (high byte)	01H
Written value (low byte)	F4H	Written value (low byte)	F4H
CRC (low byte)	89H	CRC (low byte)	89H
CRC (high byte)	DDH	CRC (high byte)	DDH

The given value sent in the above table is 01F4H, which is 500 in decimal, that is, the given value is 50.0%.

Read the given value using the multi-read instruction 03H: (return value is 60.0%)

Host sends data		Slave (HXDSBOXA0) response data	
Slave address(F7-0)	01H	Slave address(F7-0)	01H
Modbus function code	03H	Modbus function code	03H
Initial address (high byte)	00H	Returns the number of bytes (2 bytes)	02H
Initial address (low byte)	00H	0000H high byte of address content	02H
Read word count (high byte)	00H	0000H low byte of address content	58H
Read word count (low byte)	01H	CRC (low byte)	B8H
CRC (low byte)	84H	CRC (high byte)	DEH
CRC (high byte)	0AH		



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