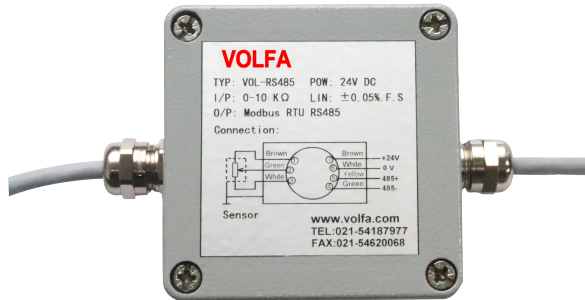


VOL Series

Transmitter Module



Feature:

- Wide operating voltage range.
- Linearity $\leq 0.1\%$.
- Maximum response rate: 50 times per second.
- Extremely low temperature drift, typical temperature drift value (25 ppm/K).
- Long transmission distance, suitable for multi-point measurement on a bus.
- Communication parameters can be set through the debugging software.

Details:

- Installation method: Standard 35mm rail snap-fit fixation
- Working condition: Equipped with power indicator light and reverse connection protection
- Power isolation: Power supply for the working unit is isolated from the input signal terminals
- Protection: Anodized aluminum housing, IP66 rating
- Electrical connection: Direct leads at both ends, each 1 meter long

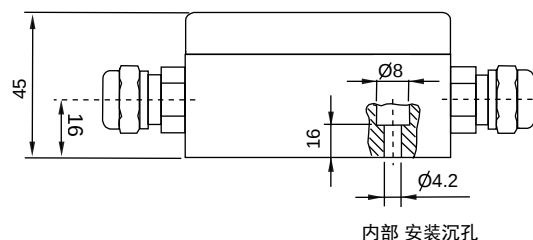
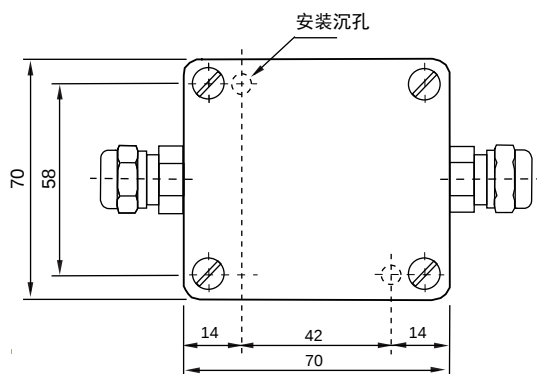
Usages:

- Experimental analysis, mechanical manufacturing
- Provide RS485 signals to PLC/Single-chip microcomputer (Modbus RTU protocol)
- Quality management, industrial data analysis
- Communication conversion device specifically configured for potentiometer-type sensors

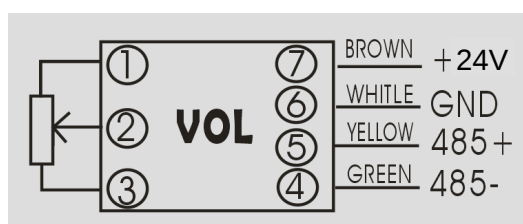
Parameters:

- Working voltage: 24V DC (8 - 40) V
- Operating temperature: -20 - 85 °C
- Input signal: 0 - 1K/5K/10K potentiometer
- Full scale, zero point, station address, and baud rate can all be set

Dimensions:



Instructions:



Input terminal: 3-core shielded cable
Brown and white wires: Connect to terminals 1 and 3 of the potentiometer
Green wire: Connect to terminal 2 of the potentiometer
Output terminal: 4-core shielded cable
Brown wire: Connect to +24V of DC
White wire: Connect to 0V of DC
Yellow wire: Connect to 485+
Green wire: Connect to 485-
(1 and 3 can be swapped to change the trend of the signal.
The 485 communication signal cable of the module should not be run together with the strong current cable. It may cause communication interruption. When the cable exceeds 100 meters and multiple bus modules are used together, it is also necessary to pay attention to adding a terminal resistor (120Ω).)

—. MODBUS communication protocol

MODBUS-RTU MODE Protocol

1 start bit, 8 data bits, 1 stop bit, no parity check bit

The upper computer requires the reading of general data (a total of 8 bytes)				
Address	Function	Start_Address	Point	CRC16
8-bits	8-bits	16-bits	16-bits	16-bits(LO, HI)
XXH	03H	XXH, XXH	XXH, XXH=N	XXH, XXH

Lower-level machine response (total 5 + n bytes)				
Address	Function	bytes	DATA	CRC16
8-bits	8-bits	8-bits	N x 8-bits	16-bits(LO, HI)
XXH	03H	XXH=N	XXH, XXH...	XXH, XXH

40001: Write command (11 is reset to zero)

40002: Display the high digit (Note: It is displayed as a signed number, and for negative numbers, its complement code is taken)

40003: Display the lower digit (display = 40002 value *65536+40003 value)

40004: Linear correction displays the high bits (Note: Displayed as signed numbers, negative numbers are taken as their complement codes)

40005: Linear correction shows the lower digit (display = 40002 value *65536+40003 value)

40006: Maximum display setting (Setting range: 0- 60,000)

40007: Minimum display Setting (Setting range: 0-60000)

40008: Baud rate (1:2400; 2:4800; 3:9,600 4:19200; 5:38 400) 40009:

Communication address (Set range: 1- 254,255 is a public address, default is 50, will be allocated when multiple sets are ordered and shipped)

example: for example, 40001 items written 11 implementation qing 0 function.

Send the following command: 031 006 000 000 000 011 203 179

The upper computer requires general data writing (a total of 8 bytes).				
Address	Function	Start_Address	Point	CRC16
8-bits	8-bits	16-bits	16-bits	16-bits(LO, HI)
031	006	000,000	000,011	203,179

Interface to debug the software

二. 调试软件界面

Software setting instructions:

Software operation interface:

VOL

Serial port selecting 串口选择 Baud rate selecting 波特率选择 parity check bit 奇偶校验位 延时时间1000代表1S中发射一次

通讯开始 Begin Port COM3 Baud 9600 Parity N Delay 1000

通讯关闭 Close/OP Data bits 8 Stop bits 1 Address 255 Reset

correcting options: 调试部分: 清零按钮 CLEAR data clear button

displaying value 显示值 15800.8

linear correction 线性校正 13334.8

AD_TOTO 206612

AD_GAIN 257002

AD_OFFT 4999

清零复位按钮 RESET data clear reset button

setting options: 设定部分:

DS_H 20000 plus display setting 正显示设定

DS_L 1000 minus display setting 负显示设定

BAUD 3 baud rate setting 波特率设定

ADD 50 address setting 地址设定

SAVE

BAUD: 1:2400 2:4800 3:9600 4:19200 5:38400 frequ 11 mode 132

AD转换标志 ☒ AD校准标志 ☐ AD转换结束 ☒ SIN3限幅标志 ☐ 快速滤波限幅 ☐ 校准结束标志 ☐ AD错误标志 ☐ AD超越标志 ☐

AD tranfer sign AD calibrating sign AD transfer ending sign SIN3 limit range sign quick smoothing limit range sign calibration ending sign AD wrong sign AD overload sign

Set up the correct data group 设置校正组

R_1 ONE TWO THREE gather

R_2 0 0 0

R_3 0 0 0

R_4 0 0 0

R_5 每组中对应 非线性数据 non-linear values

SAVE SAVE_ALL

check data setting 查看设定的数据

save the data 保存数据

单片机AD状态 status of singlechip AD

Time 2009-5-14 15:18:45

将设定非线性值保存

Save the set non-linear values

non-linear values for every group

Instructions:

VOL - RS485 Modbus RTU Protocol