Input Liquid Level Transmitter

Product Description

IOT-S300SWL Input liquid level transmitter is used for liquid-level testing and control in industrial process;Testing and control in Hydraulic and Hydropower engineering;Building automation system and constant pressure water supply system;Urban water supply and wastewater treatment;Liquid-level testing and control in other automation systems.

Product Features

●Moisture-proof,anti-sweat,free of leakage troubles,IP68
●Excellent resistance against impact,overload,shock and erosion
●Efficient lightning protection,strong anti RFI&EMI protection
●Advanced digital temperature compensation and wide working temperature scope
●High sensibility, high accuracy,high frequency response and good long-term stability

Applicable Scope

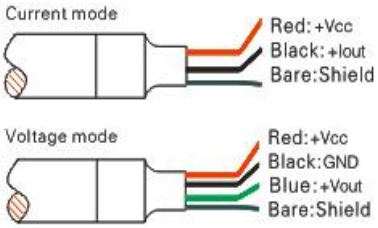
●Liquid-level testing and control in industrial process
●Testing and control in Hydraulic and Hydropower engineering
●Building automation system and constant pressure water supply system
●Urban water supply and wastewater treatment
●Liquid-level testing and control in other automation systems

Technical Index

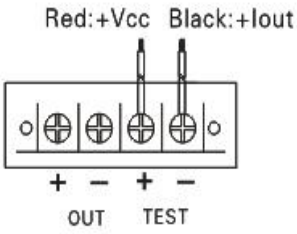
Signal Output：	(4～20) mA	(0～5) V	(0～10) V	RS485
Signal Line Specification：	2 Wire	3 Wire	3 Wire	4Wire
Supply Voltage：	(9～30) VDC	(9～30) VDC	(15～30) VDC	(9～30)VDC
Accuracy	± 0.5%FS ± 1%FS			
Medium Temperature	-10 ～ +85°C			
Medium Compatibility	Various media compatible with 316L stainless steel			
Environmental Protection	IP68			
Pressure Range(mH2O）	0-100			

Electrical Connection and Wiring

RS485:Red:+Vcc Black:GND Green:RS485A White:RS485B



Direct Lead



The internal wiring diagram affer removing the sensor connection cover

● Attention

1 Please check if the product is in good condition or not after opening the package. The approved product manual content is consistent with the product, and please keep the operating manual for at least one year;

2 Please connect wire in strict accordance with wiring diagram, and make the product works in allowed excitation voltage, do not use over-voltage;

3 Please don't beat the product to avoid to damage the appearance and internal structure;

4 Please contact us if the product stop works. No reserve repair parts for customers.

5 Our service is one year maintenance guaranteed for non-man-made damages.(From the date of the shipment until the date of returned to my company for 13 months), Our company will make a quality inspection to judge whether the failure is a normal situation,. If maintenance over the period, our company simply charge a cost, all of our products are under life maintenance;

6 If you have any other question, please check our website or contact us.

Appendix：MODBUS Communication protocol

Basic settings

Transmission mode：MODBUS-RTU

Baud rate：Default 9600bps（1200bps、2400bps、4800bps、9600bps、14400bps、19200bps、28800bps、38400bps、57600bps、115200bps can be setting）、1 start bit、8 data bit、no parity、1stop bit.

Address：Default 123， It can be configured according to user requirements; universal slave address is 200 (Note: if the multi computer communication network, the other can not be the slave address is set to 200)

Holding register

Index	Holding register Address （16 bit）
The real-time pressure （float）	0000H,float standard: A, B, C, D
Address	002FH,unsigned integer representation Default:123
Baud Rate	0030H,defaul 9600，save as 96，by analogy (baud rate must be divided by 100)

Note： 1. Other address is not allowed to access.

2、Pressure, float representation IEEE754, single format, 32 bit

s e[8] f[23]

s e7 e6 e5 e4 e3 e2 e1 e0 f22 f21 f20 f19 f18 f17 f16 f15 f14 f12 f11 f10 f9 f8 f7 f6 f5 f4 f3 f2 f1 f0

Splitting into 4 bytes for Modbus encoding

A: [s e7 e6 e5 e4 e3 e2 e1]

B: [e0 f22 f21 f20 f19 f18 f17 f16]

C: [f15 f14 f12 f11 f10 f9 f8]

D: [f7 f6 f5 f4 f3 f2 f1 f0]

Most masters do use the A, B, C, D representation.

Modbus RTU order

The MODBUS function code support： 0x03、0x06

03H function code example: read pressure sensor pressure data from the machine address is No. 123

★ host query command:

Slave Address	7BH	Slave address
Function	03H	Function code
Starting Address Hi	00H	The starting register address 8 bit-high
Starting Address Lo	00H	The starting register address 8 bit-low
No. of Registers Hi	00H	The number of registers 8 bit-high
No. of Registers Lo	02H	The number of registers 8 bit-low
CRC Check Lo	CFH	CRC code 8 bit-low
CRC Check Hi	91H	CRC code 8 bit-high

★The response from the slave：

Slave Address	7BH	Slave address
Function	03H	Function code
Byte Count	04H	Length of 4 bytes
Data Hi	42H	The pressure is ： 92.5589bar
Data Lo	B9H	
Data Hi	1EH	
Data Lo	33H	
CRC Check Lo	ADH	CRC code 8 bit-low
CRC Check Hi	DCH	CRC code 8 bit-high

The 06H function code example: modify the baud rate (in this case is modified as 57600bps)

★ host query command:

Slave Address	7BH	Slave address
Function	06H	Function code
Starting Address Hi	00H	The baud rate holding register address 000BH
Starting Address Lo	30H	
Data Hi	02H	The baud rate is 57600bps, the register value is 0240H
Data Lo	40H	
CRC Check Lo	82H	CRC code 8 bit-low
CRC Check Hi	CFH	CRC code 8 bit-high

★The response from the slave：

Slave Address	7BH	Slave address
Function	06H	Function code
Starting Address Hi	00H	The baud rate holding register address 000BH
Starting Address Lo	30H	
Data Hi	02H	The baud rate is 57600bps, the register value is 0240H
Data Lo	40H	
CRC Check Lo	82H	CRC code 8 bit-low
CRC Check Hi	CFH	CRC code 8 bit-high

The 06H function code example: modify the slave address (in this case revision 71)

★ host query command:

Slave Address	7BH	Slave address
Function	06H	Function code
Starting Address Hi	00H	The starting register address 8 bit-high
Starting Address Lo	2FH	The starting register address 8 bit-low
Data Hi	00H	The slave address is 71, the register value is 0047H
Data Lo	47H	
CRC Check Lo	F3H	CRC code 8 bit-low
CRC Check Hi	ABH	CRC code 8 bit-high

★The response from the slave：

Slave Address	7BH	Slave address

Function	06H	Function code
Starting Address Hi	00H	The starting register address 8 bit-high
Starting Address Lo	2FH	The starting register address 8 bit-low
Data Hi	00H	The slave address is 71, the register value is 0047H
Data Lo	47H	
CRC Check Lo	F3H	CRC code 8 bit-low
CRC Check Hi	ABH	CRC code 8 bit-high