

Sensor Technical Specifications

Reyocto Agrimation Private Limited

3rd Floor, No.33, Sana Enclave, 17th Cross, MC Layout, Vijayanagar- Bangalore-560040.

Phone: +91 80 43711222. Email: contact@reyocto.com

Salinity Sensor



Measurement cell	Graphite
Measuring range	0-100,000 mg/L
Working conditions	0~100℃ , 1.0MPa
Output Method	RS-485(Mod bus/RTU)
Outer material	PPS
Protection Level	IP68
Cable length	Adjusted according to the requirement of user
Installation thread	3/4 pipe thread, 1/2 pipe thread or other thread

For the cable, there are four wires
 Red wire and Black wire are 12V power
 Yellow wire and Green wire are RS485 output
 Green ----- RS485 +
 Yellow ----- RS485 -
 Red ----- 12V +
 Black ----- 12V -

Reyocto Agrimation Private Limited

3rd Floor, No.33, Sana Enclave, 17th Cross, MC Layout, Vijayanagar- Bangalore-560040.

Phone: +91 80 43711222. Email: contact@reyocto.com

Protocol Type: MODBUS -RTU

Slave ID: Salinity sensor default= 4 (programmable)

Parameters: 9600,8, N,1

Physical Layer: Serial RS485

Format:

ID	function code	Register NO.	LENGTH OF DATA	CRC
04	04	00 00	00 10	F1 C6

The receive data is:04 04 XX XX —XX XX CRC

XX XX —XX XX detail Analysis as below table

function code	Register address	Register name	range	High byte	Low byte
Received data Function code 04 read	0000H	CON value	0~20.00uS 0~200.0uS 0~2000uS	16-bit integer data 0~2000	
	0001H	Decimal point and unit	0~20.00mS 0~200.0mS	Decimal	Unit(depend on range)
	0002H	TDS value	0~10.00ppm 0~100.0ppm 0~1000ppm	16-bit integer data 0~1000	
	0003H	Decimal point and unit	0~10.00ppt 0~100.0ppt	Decimal	Unit(depend on range)
	0004H	CON value (no compensation)	-10.0°C~130.0°C	16-bit integer data 0~2000	
	0005H	Decimal point and unit		Decimal	Unit(depend on range)
	0006H	Salinity value		16-bit integer data -100~1300	
	0007H	Decimal point and unit			
	0008H	Temperature value		16-bit integer data -100~1300	
	0009H	Decimal point and unit		Decimal	Unit °C

Unit query form

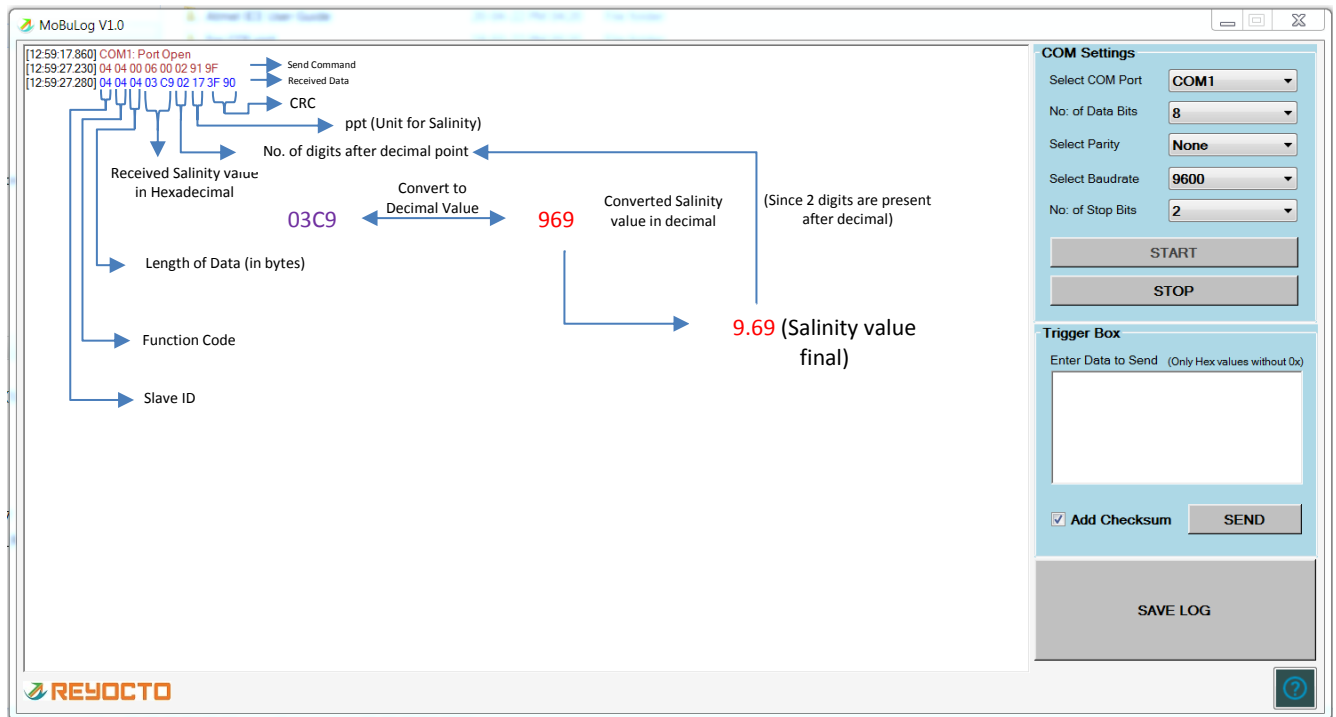
data	0X00	0X01	0X02	0X03	0X04	0X05	0X06
unit	mV	nA	uA	mA	Ω	KΩ	MΩ
data	0X07	0X08	0X09	0X0A	0X0B	0X0C	0X0D
unit	uS	mS	S	pH	°C	°F	ug/L
data	0X0E	0X0F	0X10	0X11	0X12	0X13	0X14
unit	mg/L	g/L	ppb	ppm	ppt	%	mbar
data	0X15	0X16	0x17				
unit	bar	mmHg	ppt				

Reyocto Agrimation Private Limited

3rd Floor, No.33, Sana Enclave, 17th Cross, MC Layout, Vijayanagar- Bangalore-560040.

Phone: +91 80 43711222. Email: contact@reyocto.com

Sample Reading from the Tool:



CON/salinity Calibration instructions and procedures

Set the instruction:

- 04 06 00 20 00 00 CRCH CRCL-----send this command to enter the manual temperature compensation mode
- 04 06 00 21 00 FA CRCH CRCL-----send this command to set the manual temperature compensation value
- 04 06 00 20 00 01 CRCH CRCL-----send this command to enter the automatic TEMP compensation mode
- 04 06 00 21 00 10 CRCH CRCL-----send this command to set the automatic temperature compensation offset
(Automatic temp. measurement of the amount of offset to offset 1.0 °C as an example)
- 04 06 00 23 00 00 CRCH CRCL-----send this command to set conductivity sensor constant k=0.01
- 04 06 00 23 00 01 CRCH CRCL-----send this command to set conductivity sensor constant k=0.1
- 04 06 00 23 00 02 CRCH CRCL-----send this command to set conductivity sensor constant k=1
- 04 06 00 23 00 03 CRCH CRCL-----send this command to set conductivity sensor constant k=10

The measurement range must be selected after setting the constant K value, the default is constant k=1 and medium range if the constant and range are not set

Reyocto Agrimation Private Limited

3rd Floor, No.33, Sana Enclave, 17th Cross, MC Layout, Vijayanagar- Bangalore-560040.

Phone: +91 80 43711222. Email: contact@reyocto.com

04 06 00 24 00 01 CRCH CRCL-----send this command to set low range

for k=0.01, low range is 0~2us/cm

for k=0.1, low range is 0~20us/cm

04 06 00 24 00 02 CRCH CRCL-----send this command to set medium range

for k=0.01, medium range is 0~20us/cm

for k=0.1, medium range is 0~200us/cm

for k=1, medium range is 0~2000us/cm

for k=10, medium range is 0~20000us/cm

04 06 00 24 00 03 CRCH CRCL-----send this command to set high range

for k=1, high range is 0~20000us/cm

for k=10, high range is 0~200000us/cm

04 06 00 25 00 B4 CRCH CRCL-----send this command to set the reference temperature (18.0°C etc)

04 06 00 26 00 C8 CRCH CRCL-----send this command to set the temperature compensation factor (2.00% etc)

04 06 00 27 00 2D CRCH CRCL-----send this command to set the TDS conversion factor (0.45 etc)

Calibration process:

04 06 00 40 00 60 CRCH CRCL-----send this command to enter calibration mode

04 06 00 41 05 85 CRCH CRCL-----send this command to set the calibration point (this point is 1413uS/cm), it need to be converted hexadecimal for 145us/cm, 12.88ms/cm

Reset

0406 00 40 00 50 CRCH CRCL-----send this command to **enter the data initialization**

0406 00 41 00 ff CRCH CRCL-----send this command to **recover data initialization**

Reyocto Agrimation Private Limited

3rd Floor, No.33, Sana Enclave, 17th Cross, MC Layout, Vijayanagar- Bangalore-560040.

Phone: +91 80 43711222. Email: contact@reyocto.com