Online Self-cleaning Chlorophyll Sensor

User Manual（Version V1.0）

d

iSweek www.isweek.com
Add: 16/F, Bldg. #3, Zhongke Mansion, No.1 Hi-Tech S. Rd, Hi-Tech Park South, Shenzhen, Guangdong, 518067 P.R.China
Tel: + 86-755-83289036 Fax: + 86-755-83289052 E-mail: sales@isweek.com

Y514-A Chlorophyll Sensor

Y514-A Chlorophyll Sensor

0~400ug/L Chl or 0~100RFU

Accuracy 0.09ug/L Chl

0~50 ℃; IP68 rating, 10m underwater

Fluorometric method

RS-485; MODBUS protocol compatible

One or two point user calibration

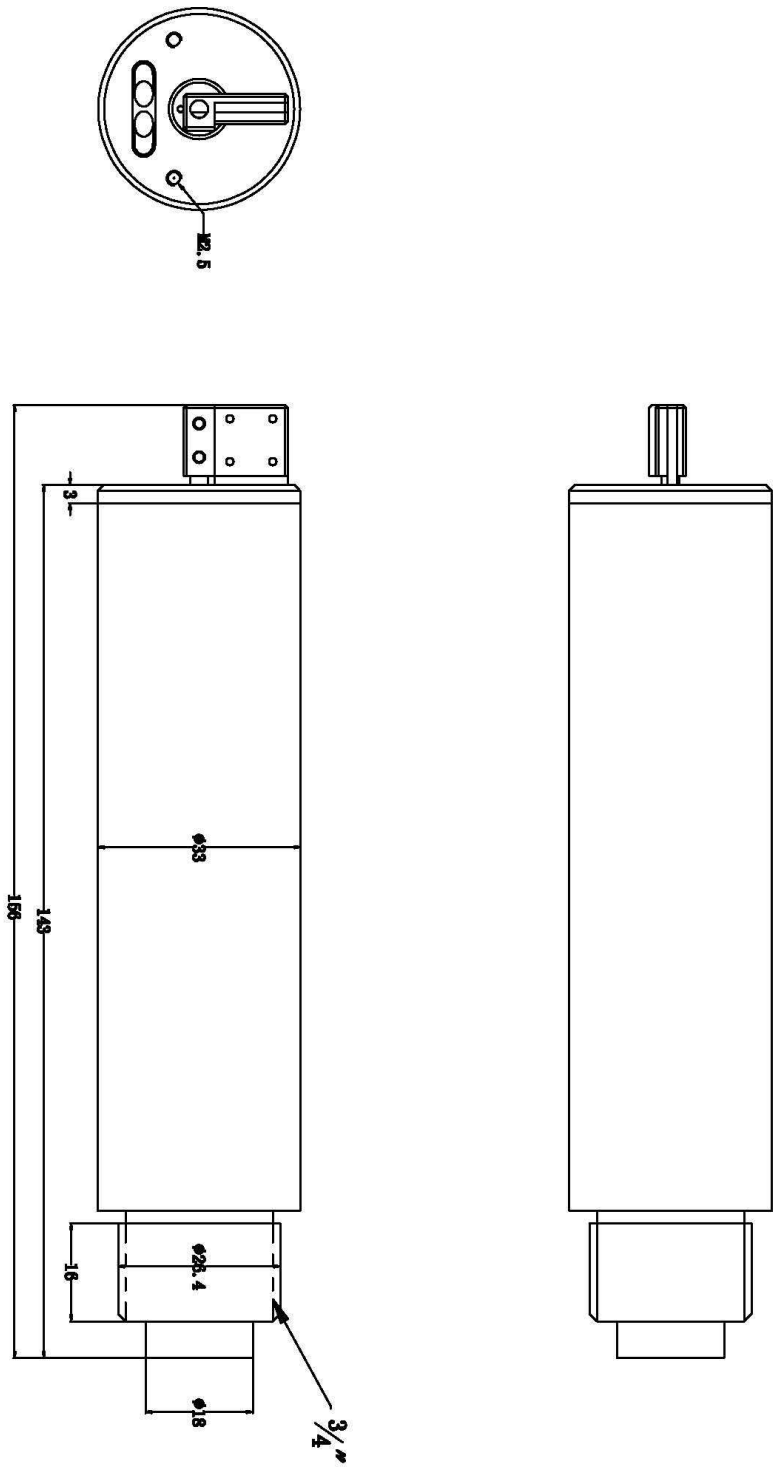
With automatic cleaning wiper, effectively eliminate the bubbles, reducing contamination without interference by the light interference from the outside world

Ordering :

Model Description	Model #
Chlorophyll Sensor	Y514-A
Online Controller	Y610-A

iSweek www.isweek.com
Add: 16/F, Bldg. #3, Zhongke Mansion, No.1 Hi-Tech S. Rd, Hi-Tech Park South, Shenzhen, Guangdong, 518067 P.R.China
Tel: + 86-755-83289036 Fax: + 86-755-83289052 E-mail: sales@isweek.com

Y514-A Sensor Structure chart



Y514-A Sensor structure chart

iSweek www.isweek.com
Add: 16/F, Bldg. #3, Zhongke Mansion, No.1 Hi-Tech S. Rd, Hi-Tech Park South, Shenzhen, Guangdong, 518067 P.R.China
Tel: + 86-755-83289036 Fax: + 86-755-83289052 E-mail: sales@isweek.com

Y514-A Technical Parameters

Range	0~400ug/L(Chl) or 0~100RFU
Housing IP Rating	IP68
Deepest Depth	10m underwater
Resolution	0.1ug/L Chl
Temperature Range	0 ~ 50℃
Interface	Support RS-485， MODBUS protocols
User Calibration	one or two point
Power Requirements	DC 5~12V，current<50mA
Sensor OD	33 mm
Sensor Length	156 mm
Cable Length	10m standard，5m、15m or30m optional
Body Materials	POM

iSweek www.isweek.com
Add: 16/F, Bldg. #3, Zhongke Mansion, No.1 Hi-Tech S. Rd, Hi-Tech Park South, Shenzhen, Guangdong, 518067 P.R.China
Tel: + 86-755-83289036 Fax: + 86-755-83289052 E-mail: sales@isweek.com

Y514-A Calibration

Calibration

1, For calibrating the Y514-A chlorophyll sensor, the sensor software(see modbus instruction doc) offers the option of 1-point or 2-points calibration procedures in ug/L of chlorophyll. rhodamine B, a more common dye for environmental studies, can be used to calibrate the sensor.

2, Preparation

2.1 Accurately weigh 0.0500 g of the rhodamine B solid and quantitatively transfer to a 500 mL volumetric flask. Dissolve the solid in purified (distilled or deionized) water and then fill the flask to the top graduation. This solution contains 100 mg of rhodamine B per 1000 mL of water.

2.2 Accurately transfer 5.0 mL of the solution prepared in the above step to a 1000 mL volumetric flask and then fill the flask to the top graduation with purified water. Mix well to obtain a solution, which is 0.5 mg/L in water (a 200:1 dilution of the concentrated solution).

2.3 Store the concentrated standard solution in a darkened glass bottle in a refrigerator to retard decomposition. The dilute standard prepared in the previous step should be used within 24 hours of its preparation.

3, Use

The fluorescence of rhodamine B shows an inverse relationship with temperature.. To properly set the sensitivity of the sensor toward algae at 20° C using the 0.5 mg/L rhodamine B standard, enter the calibration value from the table below corresponding to the temperature of the standard.(Approximate algal chlorophyll equivalent of 0.5 mg/L rhodamine B as a function of temperature)

Temp, °C	µg/L Chl to Enter
30	72.6
28	74.1
26	75.6
24	77.0
22	79.4
20	82.0
18	86.4
16	90.8
14	93.2
12	95.1
10	98.0
8	100.0

Note that use of the Rhodamine B standard is likely to be less accurate than using samples of algae whose chlorophyll has been determined by extractive analysis. Yosemite use rhodamine B from Aldrich Chemical Company (Item # R95-3).

CAUTION: Rhodamine B is listed as a possible carcinogen/mutagen and should be handled with gloves.

iSweek www.isweek.com
Add: 16/F, Bldg. #3, Zhongke Mansion, No.1 Hi-Tech S. Rd, Hi-Tech Park South, Shenzhen, Guangdong, 518067 P.R.China
Tel: + 86-755-83289036 Fax: + 86-755-83289052 E-mail: sales@isweek.com

Y514-A Maintenance

Maintenance schedule and methods

1、Maintenance Schedule

Unlike traditional electrical chemical sensors, the chlorophyll sensors with wiper require low maintenance. There are no need for frequent solution filling and calibrations

Maintenance tasks	Maintenance frequency
Calibration（if required of agency）	Calibration based on required schedule

2、Maintenance methods

Routine Maintenance

1）surface： Wash the outer surface of sensor with tap water, if there is still a clastic residues, using wet soft cloth to wipe, for some stubborn dirt, can add household detergents in tap water to clean.

2）Check the cable ： The cable should not be tight when work properly, otherwise it easy to make the internal wire break and the sensor can't work normally.

3） Check the sensor measurement window whether have smudge and cleaning wiper whether is normal or not

4） Check the sensor shell whether is damaged or not.

Attention:

Probe contains sensitive optical components and electronic components. Ensure that the probe far away from severe mechanical impact.

FAQ:

ERROR	POSSIBLE CAUSE	SOLUTION
Unstable chlorophyll reading	connection error	Reconnect controller and cable
	Cable failure	Contact customer service
Measured value is too high, too low or instability	Sensor outside window is attached	Wash the surface

iSweek www.isweek.com
Add: 16/F, Bldg. #3, Zhongke Mansion, No.1 Hi-Tech S. Rd, Hi-Tech Park South, Shenzhen, Guangdong, 518067 P.R.China
Tel: + 86-755-83289036 Fax: + 86-755-83289052 E-mail: sales@isweek.com

Y514-A Cable Definition

1、 chlorophyll Sensor Dimensions

33x156 mm(Φ xL)

2、Power Supply Requirements

Power Supply DC 5~12V +/-5%, Current <50mA

3、Sensor Cable

4 wire AWG-24 OR AWG-26 shielding wire. OD=5mm

1, Red—Power (VCC)

2, White—485 Date_B (485_B)

3, Green ---485 Date_A (485_A)

4, Black --- Ground (GND)

5, Bare wire ---- shield

iSweek www.isweek.com
Add: 16/F, Bldg. #3, Zhongke Mansion, No.1 Hi-Tech S. Rd, Hi-Tech Park South, Shenzhen, Guangdong, 518067 P.R.China
Tel: + 86-755-83289036 Fax: + 86-755-83289052 E-mail: sales@isweek.com

Quality Assurance

Yosemite Technologies online self-cleaning chlorophyll sensor and controller are warranted for one (1) year from date of purchase against any material and manufacturing workmanship.

If there are defects found during the warranty period, Yosemite technologies promises to repair or replace the defective products, or return the payment of product except the charge for the first time for transport and related formalities. In the warranty period, repair or replacement of any product will only enjoy the rest of the original warranty.

This warranty does not apply to consumables, such as the consumption parts (including but not limited to the lamp, piping, etc.).

Contact Yosemite technologies or your agents to start technical support within the guarantee period.

After receiving feedback for the product quality problems from the customer, Yosemite technologies will confirm whether the product need repair within two weeks; It can't be returned without approval to repair the product.

Limitation of Warranty

This warranty does not include the following

- Damage caused due to force majeure, natural disasters, social unrest, war(published or unpublished), terrorism, civil war or any government forced.
- Damage caused due to improper use, negligence, accident, or caused by the improper application and installation.
- Freight for the product shipped back to Yosemite technologies
- Freight for parts or products express or express delivery within the warranty.
- Travel expense for repair in local in warranty

iSweek www.isweek.com
Add: 16/F, Bldg. #3, Zhongke Mansion, No.1 Hi-Tech S. Rd, Hi-Tech Park South, Shenzhen, Guangdong, 518067 P.R.China
Tel: + 86-755-83289036 Fax: + 86-755-83289052 E-mail: sales@isweek.com

Quality Assurance

The quality assurance includes all content of products provided by Yosemite technologies

It constitutes the final, complete and exclusive statement about the quality guarantee, no person or agent is authorized in the name of Yosemite technologies to develop other warranty.

As described above, the remedial measures such as repair, replacement or return the payment for product is not in violation of the warranty, and it aim at our own products only. Based on the strict liability or other legal theory, Yosemite technologies is not responsible for defects or any other damage due to careless operation , including the subsequent damage with a causal connection between these situations.

iSweek www.isweek.com
Add: 16/F, Bldg. #3, Zhongke Mansion, No.1 Hi-Tech S. Rd, Hi-Tech Park South, Shenzhen, Guangdong, 518067 P.R.China
Tel: + 86-755-83289036 Fax: + 86-755-83289052 E-mail: sales@isweek.com