Content

I.Overview

CID-3041 digital induction conductivity sensor，It is a digital on-line analysis sensor that integrates measurement and communication with the instrument embedded in the sensor。The sensor directly outputs the RS485 digital signal(final net data)，Can realize the data transmission without distortion to the industrial control machine, PLC, touch screen, etc.. Digital sensor will be directly integrated into the Internet + system。

Induction sensors have the anti-pollution ability for the medium containing oil pollution and process coating. The sensor does not have direct contact with the test solution of the polar plate, and there is no polarization phenomenon, and it is not affected by the coating or film form. Sensor material has the advantages of anti-pollution, high temperature and corrosion resistance；

Figure 1.Appearance of Digital Induction Conductivity Sensor

1.1 Performance characteristics

- Microencapsulation technology embeds measurement units in sensor connectors
- Facing the demand of Internet + era, realize the on-line measurement without intermediate link
- Measurement conversion within the sensor, direct output of measurement data(no instrument required)
- Modabus RTU protocol, no conversion distortion

- Direct communication with computers, configuration systems, wireless modules, PLCs
- Visualize the upper computer setting software, address, baud rate setting
- Direct multi-parameter display and control with the company's general multi-path, multi-function controller
- Unbeatable application convenience and high value for money; Equipped with upper computer calibration & amp; Setting software

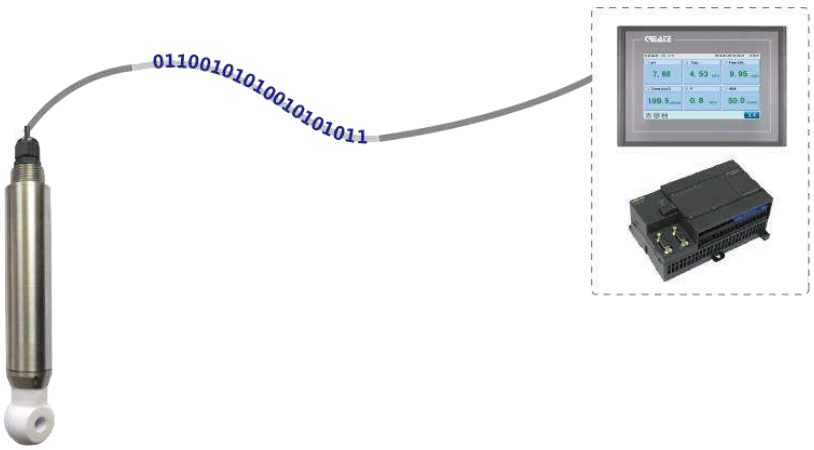

Figure 2. Digital CID-3041 connection diagram with display and PLC

Figure 3. Digital CID-3041 sensor constitutes a variety of systems

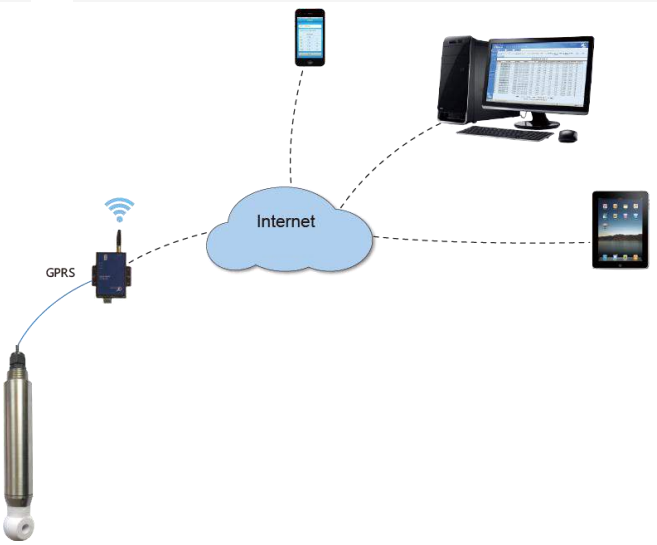

Figure 4. Diagram of Digital CID-3041 Sensor Access to the Internet

1.2 Technical index

Product Name		CID-3041 Digital inductive electrical conductivity on-line analysis sensor
test range	conductivity	500μS/cm ～2000mS/cm
	concentration	1.NaOH：（0-15）% or（25-50）%; 2.HNO_3：（Note the corrosion resistance of probe material），（0-25）% or （36-82）%; 3.User custom concentration curve
	TDS	250.0ppm ～ 1000ppt
	temperature	（0 ～ 120）℃
resolution ratio	conductivity	0.01μS/cm
	concentration	0.01%
	TDS	0.01ppm
	temperature	0.1℃
accuracy	conductivity	（500～1999）μS/cm，±1.5%(FS)
		（2～19.9） mS/cm，±1.0% (FS)
		（20～199）mS/cm，±1.0% (FS)
		（200～2000）mS/cm，±1.0% (FS)
	TDS	1.5级
	temperature	±0.5℃
Temperature compensation	component	Pt1000
	range	(0～120) ℃ Linear compensation
Communication function		RS485 communication(see protocol)
Power supply voltage		DC 24V±4V
Maximum power consumption		≤2W
Protection Level		IP68
work environment		Temperature:(0 ~ 50) °C, humidity: ≤ 95 % RH(no condensation)
Storage conditions		Temperature:(-20 ~ 60) °C, humidity: ≤ 85 % RH(no condensation)
Fixed		Pipe installation / circulation device / immersion

1.3 Connection instructions

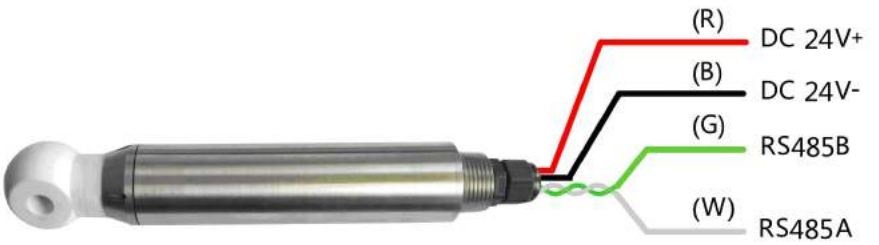

Figure 5. Connections and Colors

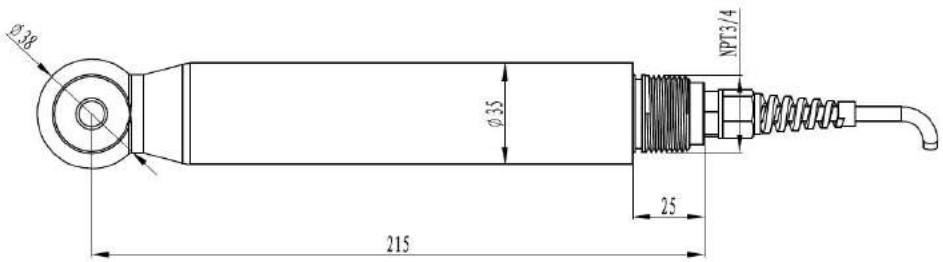

Figure 6. CID-3041Shape dimensions

II.Install

2.1Sensor Installation

2.2 Installation Notes

1. Please purchase suitable installation accessories or methods during construction installation. Improper accessories or installation methods will bring measurement errors;
2. During installation, it is necessary to ensure that liquid flows through the guide hole of the sensor to ensure the real-time measurement;;
3. Pipeline installation shall ensure that the guide hole of the sensor is consistent with the flow direction of the pipeline, and the gap between the sensor and the pipe wall is greater than 20 mm.

4.When installed in a kettle with a stirring device, a flange protection tube is selected to prevent the sensor from shaking the connecting rod due to stirring。

5.When applied to different media measurements, declare the material of the sensor and connectors and accessories according to the appendix table, especially sanitary level requirements or corrosive solutions。

III.Typical application

- Waste leachate, sewage treatment
- Monitoring of Water Quality in Petrochemical, Electric, Pharmaceutical, Chemical, Water Treatment, Semiconductor Manufacturing Industry；

IV.Fault judgment

Problem	Possible causes	Trouble shooting
Unable to communicate	1.DC24V Bad connection 2.misconnection Power 3.Miscommunication	1.check to see if there is 24Vvoltage between power terminals； 2.Check and restore normal power supply； 3.please get professional maintenance
Show instability	1.Unstable water quality	1. Reason for exclusion of module with stable water source
Great reading deviation.	1.Error setting constant 2.Constant changes 3.Installation error	1.Reset the constant; 2.New calibration constant; 3.Install according to installation instructions；

V.Complete set of product

CID-3041 Digital Conductivity Online Analysis Sensor one

(Standard length of sensor cable 5 M, agreed length)

Operating instruction one

Certificate of eligibility one

Installation Accessories one set（optional）

VI.Communication protocol

Download RS485 Modbus RTU communication protocol and host computer calibration & amp; from the company's official website registration Setting software

Website: Http://www.createc.cn