USER MANUAL

UC-100S + CR-300

Online Corrosion Rate Detection System

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Pyxis

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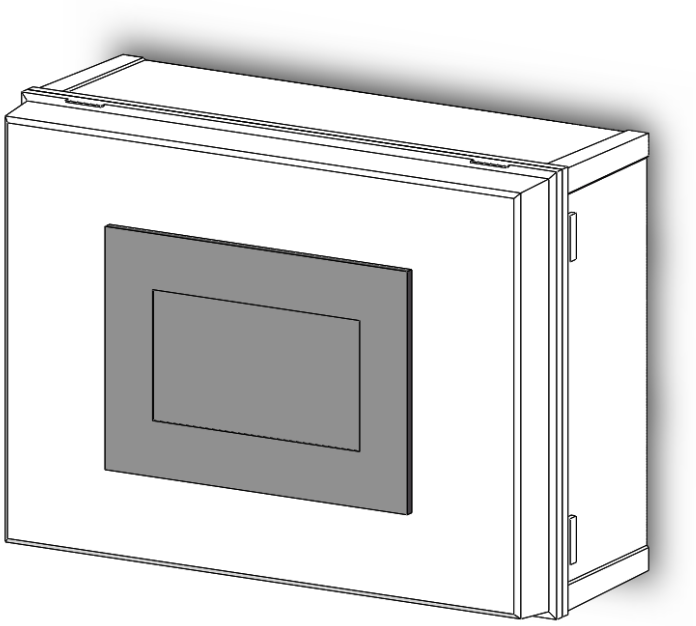
User Manual



May 2022

Ver 1.0

General Information

In no event will the manufacturer be liable for direct, indirect, special, incidental or consequential damages resulting from any defect or omission in this manual. The manufacturer reserves the right to make changes in this manual and the products it describes at any time, without notice or obligation. Revised editions are found on the manufacturer's website.

Safety Information

Please read this entire manual before unpacking, setting up or operating this equipment. Pay attention to all danger, warning and caution statements. Failure to do so could result in serious injury to the operator or damage to the equipment.

To make sure that the protection provided by this equipment is not impaired, do not use or install this equipment in any manner other than that specified in this manual.

Use of Hazard Information

 **DANGER**
Indicates a potentially or imminently hazardous situation which, if not avoided, will result in death or serious injury.

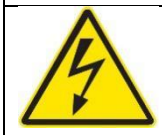
 **WARNING**
Indicates a potentially or imminently hazardous situation which, if not avoided, could result in death or serious injury.

 **CAUTION**
Indicates a potentially hazardous situation that may result in minor or moderate injury.

NOTICE
Indicates a situation which, if not avoided, may cause damage to the instrument. Information that requires special emphasis.

Precautionary Labels

Read all labels and tags attached to the instrument. Physical injury or damage to the instrument could occur if not observed.

	This symbol, if noted on the instrument, refers to the instruction manual for operation and/or safety information.
	This symbol, when noted on a product enclosure or barrier, indicates that a risk of electrical shock and/or electrocution exists.
	Delicate internal electronic components can be damaged by static electricity, resulting in degraded performance or eventual failure.
	Electrical equipment marked with this symbol may not be disposed of in European public disposal systems after 12 August of 2005. In conformity with European local and national regulations (EU Directive 2002/98/EC), European electrical equipment users must now return old or end-of-life equipment to the Producer for disposal at no charge to the user.

Catalog

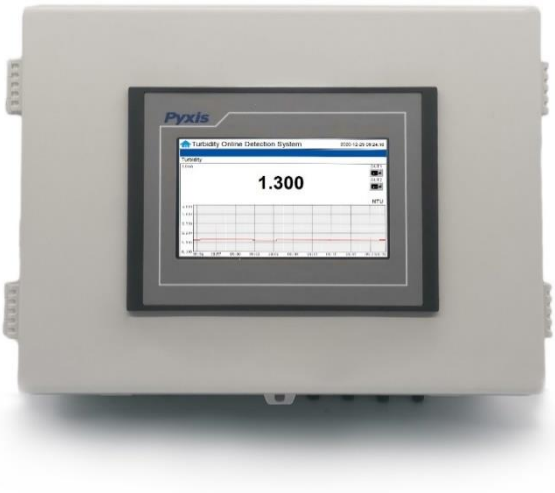
1. Specifications & Overview

UC-100S / UC-100G

PLC Touch Screen Display and Data Logging Terminal

Description

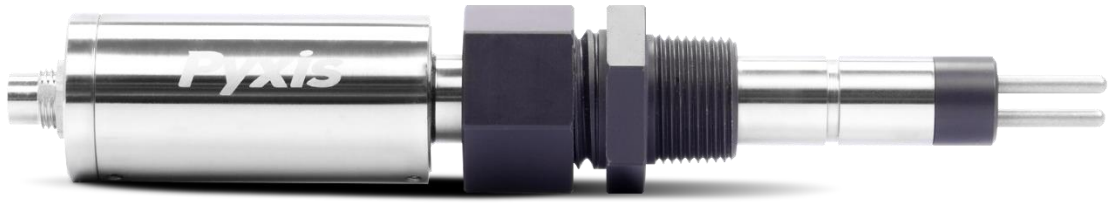
The Pyxis UC-100S and UC-100G are fully customizable color touch screen display and data logging terminals that can connect to up to 6 Pyxis sensors via RS-485. These devices are PLC based and require Pyxis customized coding prior to shipment. When pre-programmed by Pyxis, the UC-100S/G provide live sensor value trend charts for each sensor input as well as sensor calibration interface while logging data for of all inputs via USB download. The UC-100S/G also come equipped with two extra 4-20 mA inputs that can be used to log data from non-Pyxis analog devices. In addition, the UC-100S/G provide a wide array of output options including Modbus-RTU, Modbus-TCP, 2x 4-20 mA and 2x dry contact relay outputs. With the selection of the integrated Pyxis 4G CloudLink™, the UC-100G is a comprehensive data gateway to cloud device for live mobile APP trend view, data download and reporting.



Item	UC-100S	UC-100G
P/N	43047	43045
Power	110/220VAC 50/60 Hz, 30W	
Display	7inch - 4 Wire Resistance Color Touch, 800 x 400 Resolution w/PLC	
Output	2x 4-20 mA / RS-485 Modbus-RTU / Modbus TCP	
Input	2 x 4-20 mA / RS-485 Modbus / 4 x Digital	
Relay	2x Channels Relay Dry Contact – 5 Amps Each Maximum	
Internet	RJ-45 socket, Modbus-TCP	
Data Storage	4G, up to 1 million data entries or events	
USB	1 x USB host, for data downloading and screen upgrade	
Dimension (WxHxD)	15.7 in W x 11.8 in H x 6.7 in D	
Weight	5 kg	
Operation Temperature	32 – 122°F	
Storage Temperature	14 – 140°F	
Humidity	10 – 90% No Condensation	
Protection	IP65	
Regulation	CE / RoHS Marked	
Pyxis 4G CloudLink™	NA	Included
Bands Supported	NA	Global *(B1/2/3/4/5/7/12/13/14/20/28/66/7)*
Protocols Supported	NA	IP/TCP/UDP/HTTP/HTTPS/Modbus
Data Server	NA	*Optional Global Sim Card & AWS Cloud Service Contact - Pyxis Lab for Details*

CR-300

Inline LPR Corrosion Rate Sensor



Description

The use of the LPR corrosion rate represents a valuable tool that can be easily and affordably deployed to provide both general and localized corrosion measurements in an instantaneous format. There is a common industrial misnomer that the use of inline LPR corrosion sensors should be identical to that of corrosion coupons. The LPR corrosion level represents the real-time electrochemical measurement of corrosion. While it may be linear with respect to the corrosion rate obtained from the weight loss of a coupon exposed to water for a long period, the LPR corrosion rate may not necessarily be the same exact value of the latter. The instantaneous nature of the device general corrosion measurement represents a “real-time condition” on a Mils-Per-Year (MPY) scale (1 Mil = 1/1,000 inch) based on the specific metallurgy being assessed and will in many cases vary, in a short time scale, from a corrosion coupon. The LPR data should be used to best understand the linear relationship with coupons and for real-time application performance assessment and adjustment.

The Pyxis CR-Series corrosion rate sensors are ideal for cooling and process water treatment monitoring where robustness and affordability are a must. The sensors utilize the linear polarization resistance (LPR) method to produce a raw signal. The raw signal is conditioned, amplified, and digitized directly in the sensor itself. This avoids the interferences and attenuation of the raw signal caused by long-distance wiring needed for other corrosion probes to a separate signal conditioner or transmitter box. The Pyxis corrosion sensors measure sample water conductivity directly and compensate for the conductivity impact on the LPR measurement up to 10,000 µs/cm. These unique product characteristics make the Pyxis LPR superior in performance and accuracy. In addition to the LPR measurement to obtain the general corrosion rate, the CR-Series sensors also measure electrochemical noise. The measured noise data is used to calculate an index to quantify the localized corrosion rate also referred to as pitting. The **CR-300** is a standalone sensor that can is powered by a 24 VDC power source from the Pyxis UC-100S PLC based display/data logging terminal. The output data signals for both general and localized corrosion are terminated via RS-485 modbus using the provided 8Pin cables with quick adapters.

CR-300 Specifications

Item	CR-300
Part Number	51007
Power Supply	24VDC, 2W
Output	4-20 mA & RS-485 (Dual Outputs)
Dimensions (L x D)	11.1-inch (281.5 mm) L 0.9 in (23.0 mm) D Lower 1.7 in (43.0 mm) D Upper
Weight	687 g
Cable Length	5 ft. (1.5 m) (Extension Cables Available)
General Corrosion Range (4-20mA /RS-485 Output)	0.001–10.000 (MPY Default Based on Metallurgy Selected in uPyxis)
Max General Corrosion Range (4-20mA / RS-485 Output)	0.001–995 (MPY Customizable Via uPyxis)
Localized Corrosion Range (4-20mA / RS-485 Output)	0.001–100 (Index Customizable Via uPyxis)
Max Localized Corrosion Range (4-20mA / RS-485 Output)	0.001–100 (Index Customizable Via uPyxis)
Conductivity Compensation	10 - 10,000 µS/cm
Sample Temperature	-20 - 50°C
Reading Interval	3 to 1440 Minutes (>3 Minutes Required for Localized Corrosion Data)
Resolution	0.001 MPY
Alloy Factor	0 – 3 (Adjustable Default Assigned via uPyxis on Metallurgy UNS Code)
Installation	Flow cell with 1-inch NPT
Enclosure Material	304 stainless steel
Working Pressure	Up to 100 psi (7 bar)
Temperature	Working: -10 - 50 °C Storage: -20 - 70 °C
Protection	IP65
Regulation	CE / RoHS

2. Structure Description & Dimension

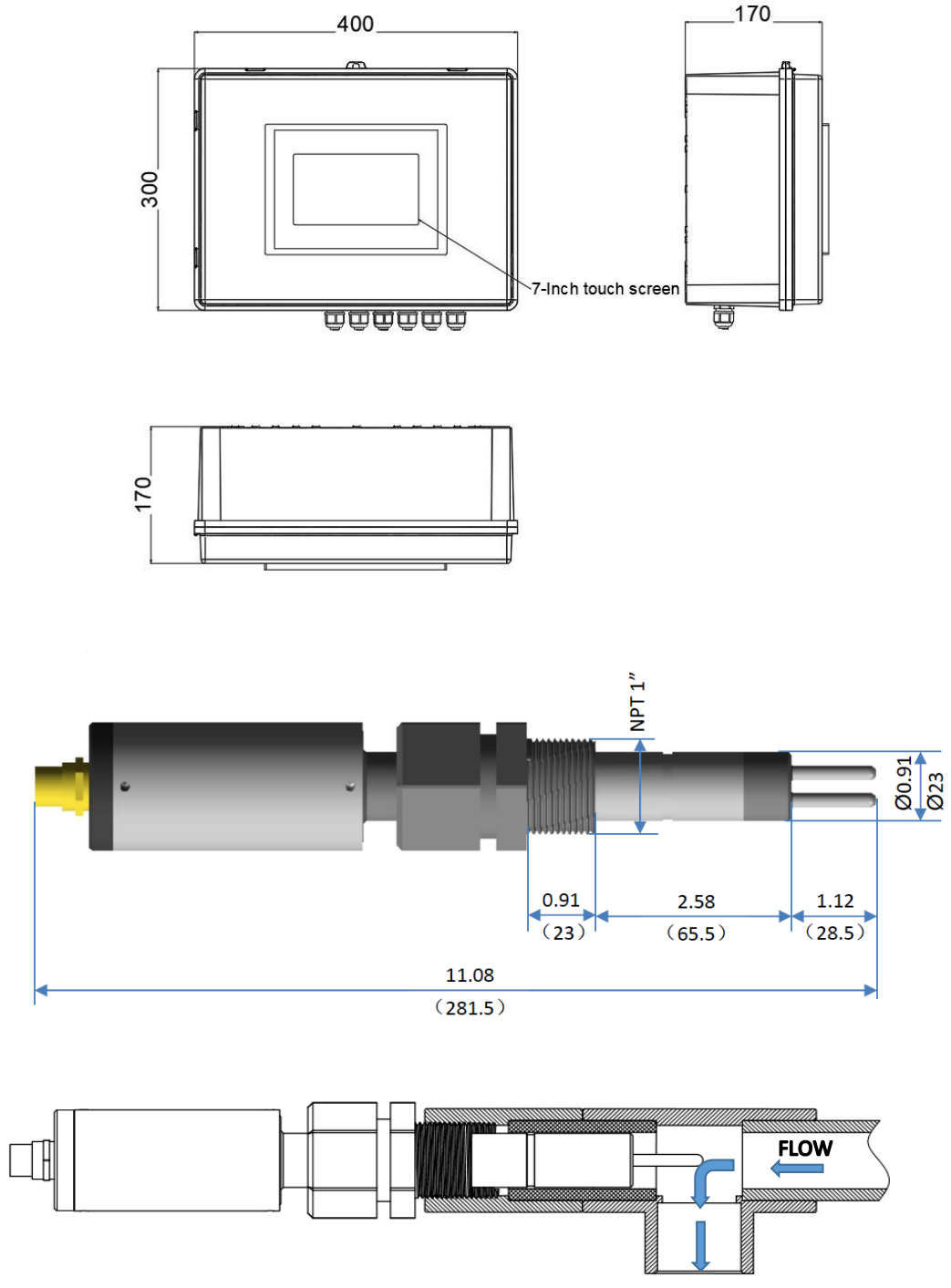


Figure 1 - UC-100S Dimension / CR-300 Dimension / CR-300 Installation Format

3. Installation and Connection

3.1. Installation Requirements

Power Supply: 100~240V AC 50/60Hz all the way.

Equipment Installation: on-site wall-mounted installation of monitoring device; flatness of wall surface should be less than 0.5cm/m^2.

Equipment Weight: 10kg, fixed by expansion screws on the wall. At least 0.5m operation space should be reserved around the equipment installation.

3G/4G Network Signal: The 3G/4G network signal in the equipment installation area should be normal, valided if a mobile phone/device on site can receive calls and surf the Internet normally.

3.2. Equipment Installation

It is recommended that the equipment be installed on a solid wall for easy installation and maintenance.Punch holes and prepare expansion screws before installation. The dimensions given may vary slightly depending on the location of the installation.

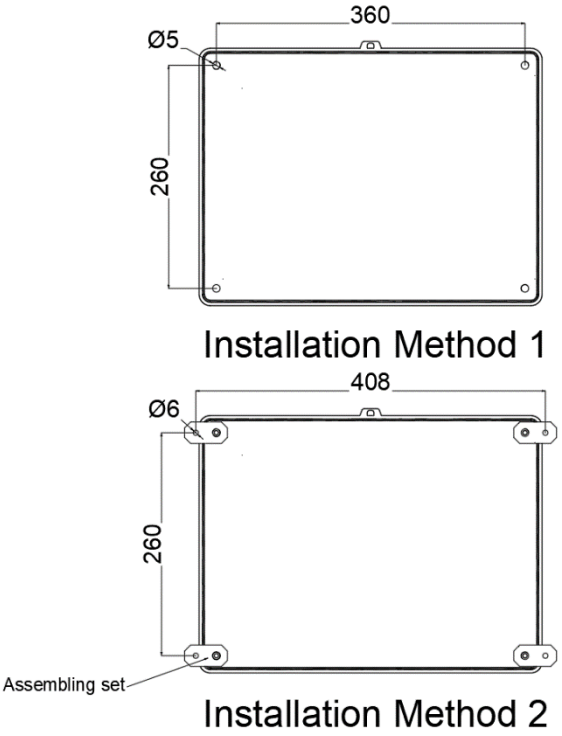


Figure. 2 UC-100S Installation dimensions

3.3. Electrical Connection

Users of the Pyxis tonline detection analyzer equipment only need to plug the power plug into a power socket of 100~240V AC 50/60Hz, and they can operate normally. Warning: In the process of electrical connection, if you want to contact the 220V single-phase power supply, it should be operated by a person with an electrician certificate. Failure to follow the electrical operation specifications may cause electric shock injury or even death.

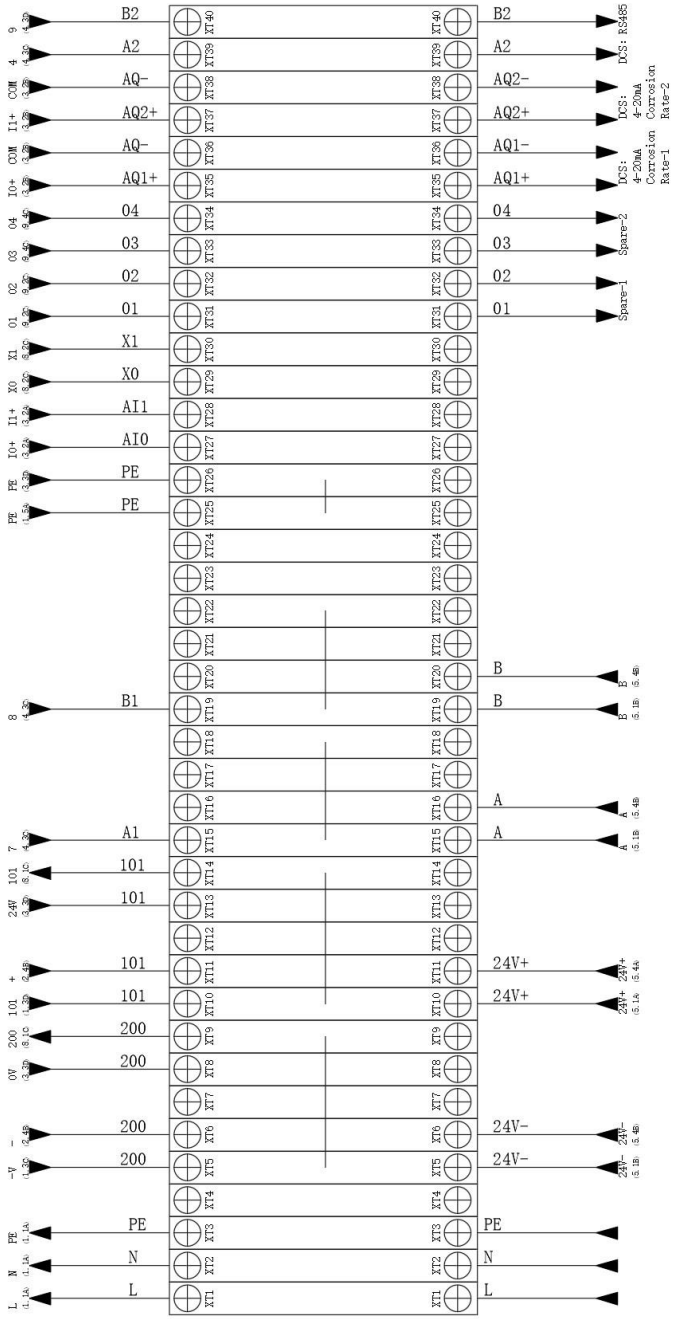


Figure 3 - UC-100S Terminal Connection Diagram

4. Touch Screen and PLC Functions

Table 1 - Touch Screen and PLC Functions

Product	No.	Function
Touch screen	1	1 Modbus RTU is supported, which can be used as the master and slave, and data can be transmitted to DCS through communication.
	2	1 Modbus TCP is supported, which can be used as the master and slave, and data can be transmitted to DCS or sent to the cloud via 4G gateway or local network.
	3	The screen is equipped with a real-time clock, which can correct the time and control the time.
	4	The script can be written inside the screen, can carry out four logical operations, simple function writing, etc., so as to achieve data processing, logical judgment, etc., and the results can be transmitted to PLC.
PLC	1	Supports 2-channel analog input, range: -20mA~20mA or -10V~10V, can be connected to external devices.
	2	Support 2-channel analog output, range: -20mA~20mA or -10V~10V, the screen calculation results can be output to external DCS through analog output.
	3	Support 4-channel IO input, and support external high-speed input (flowmeter, etc.), support NPN input.
	4	Supports 2-channel IO output
	5	PLC can be programmed internally, and can be controlled logically according to customer requirements.

5. Touch Screen Operation

5.1. Initial screen

After the system is powered on, the screen will open the initial screen, where the user can select the user to log in or enter the system.

Figure 4 - Main Interface

5.2. User login

After booting, the user needs to log in with the user name and password, otherwise they can only view the reading on the main interface, and cannot perform instrument parameter setting and calibration. Click the "User Login" button, a prompt box pops up: select the user "**pyxis**", enter the password: "**888888**" in the user password field.

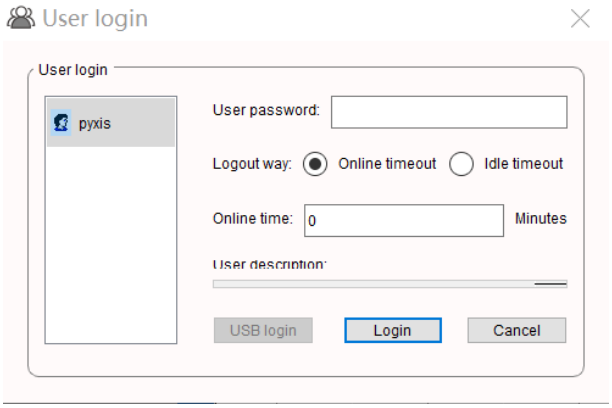


Figure 5 - User Login Interface

If you don't need a password or want to change the user, you can enter the system and perform "management" in the "user management" interface of the menu.

5.3. Real-Time Monitoring

Click the "Enter System" button on the main interface to enter the real-time monitoring screen of the system, where the data detected by the sensor within 15 minutes will be displayed in real time.

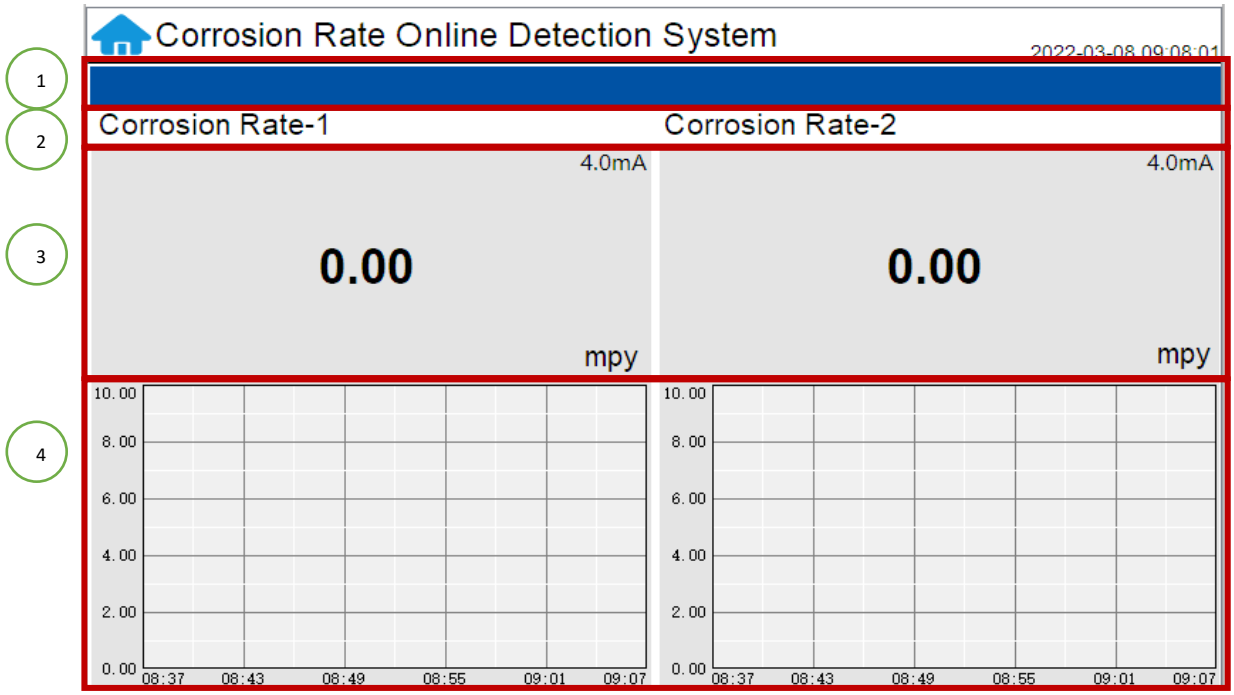


Figure 6 - Real-Time Monitoring Screen

Table 2 - Main Interface Function Introduction

No.	Function Introduction
1	The blue area will scroll the alarm information in real time. Please deal with the alarm according to the content in time
2	Real-time display of the current sensor 4-20mA signal values
3	Real-time display of current sensor measurements, as well as flow
4	The historical data are recorded in a curvilinear manner. The abscissa is the time and the ordinate is the measured value

Hold on to the curve area for 2 seconds and let go. The Y-axis curve range setting dialog box will pop up. The Y-axis display value range of the measurement index curve can be changed. Click the other area of the screen again after modification to save the screen of exit Settings.

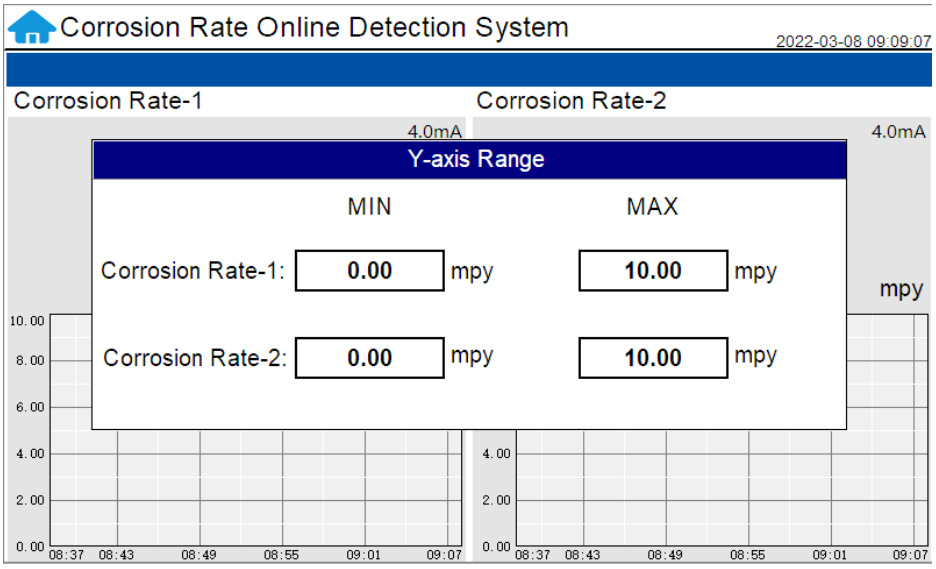


Figure 7 - Curve Range Setting

When "*******" appears on the interface, it means that the sensor is abnormal or the communication fails.

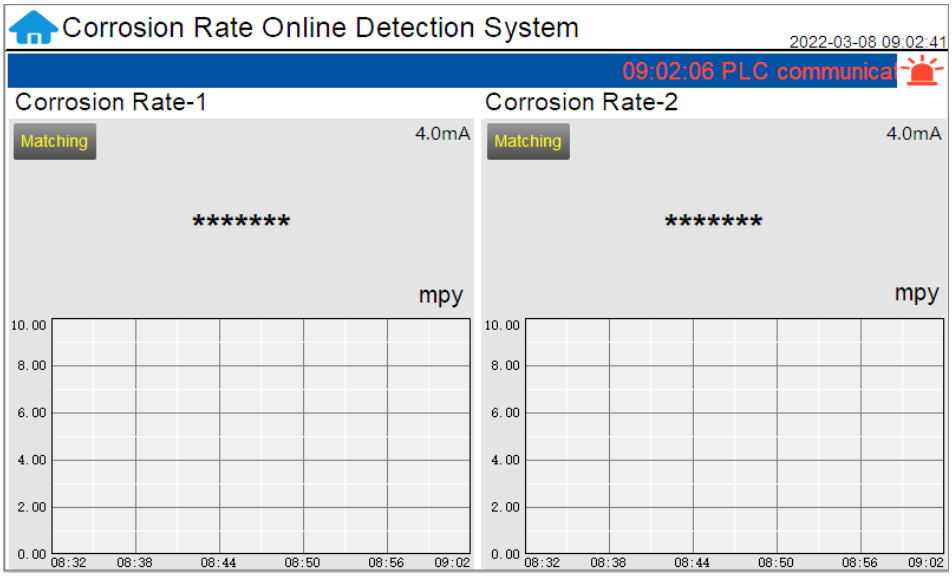


Figure 8 - Loss of Sensor Signal

After replacing the new sensor and confirming the connection, click "Matching" in the upper left corner of the corresponding interface, and you will be prompted to confirm the connection again.

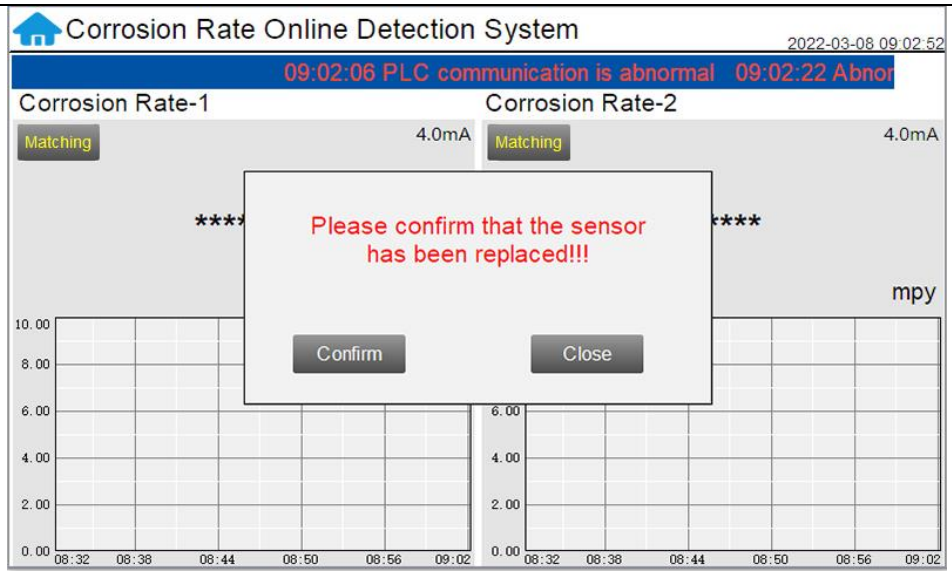


Figure 9 - Confirm Sensor Replacement

After clicking "Confirm", the system will start to match the sensors and wait for the matching to complete.

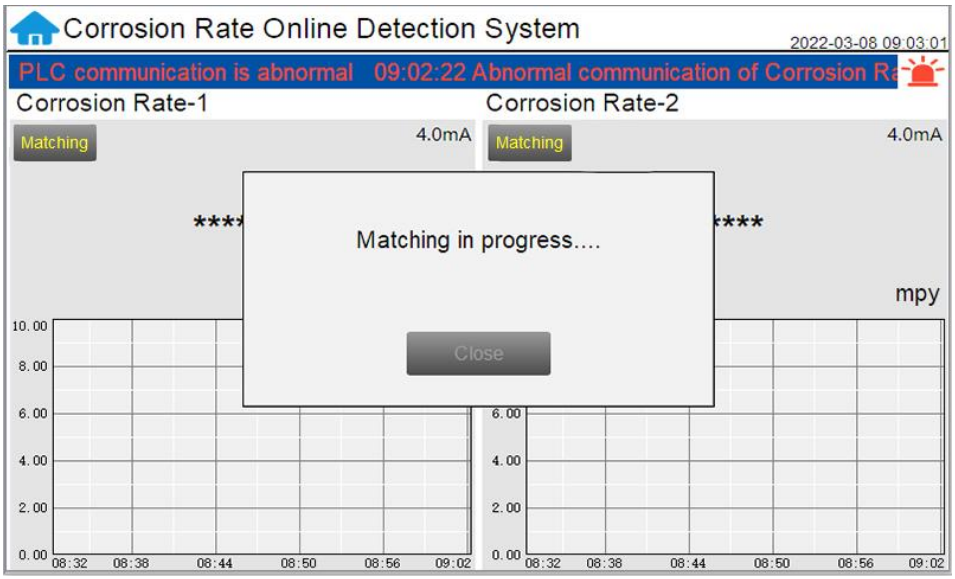


Figure 10 - Matching in progress

When the prompt "Match complete" indicates that the sensor is successfully matched, close the prompt box and it can be used normally.

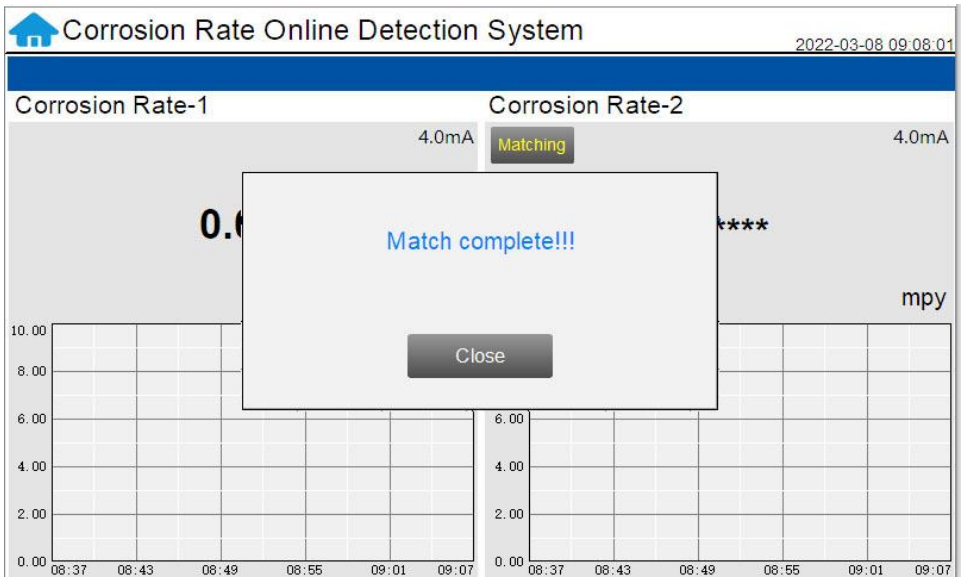


Figure 11 - Match complete

When it prompts "Match timeout", it means that the matching fails. Please confirm that the cable is connected correctly and repeat the above operations. If it still fails, please contact pyxis.

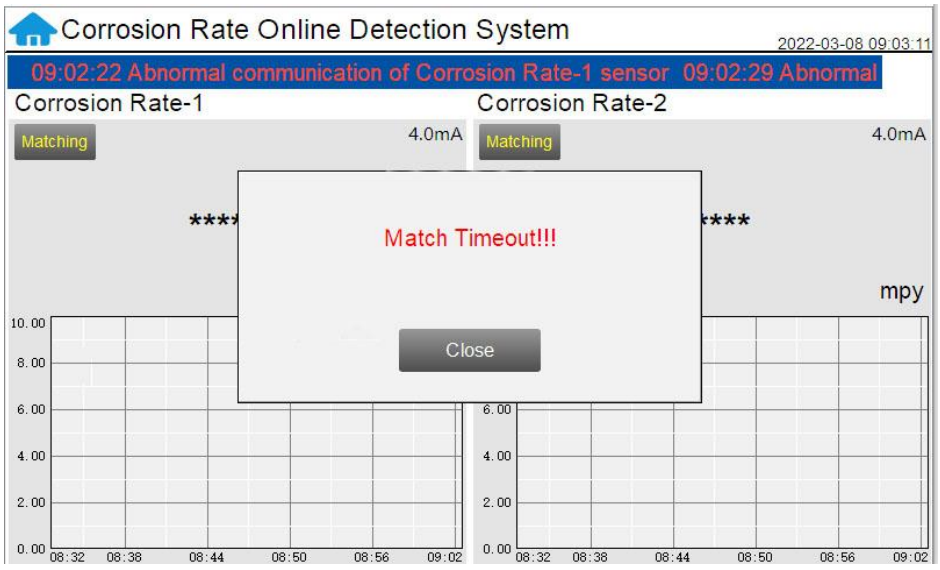


Figure 12 - Match timeout

NOTE The above information applies only to replacement or damaged sensors. If the sensor is removed on site and the same sensor is reconnected, the controller will automatically connect without this operation.

5.4. Menu Bar

Click the " " button in the upper left corner of the screen to enter the system menu interface, where the user can choose to enter the desired operation interface.

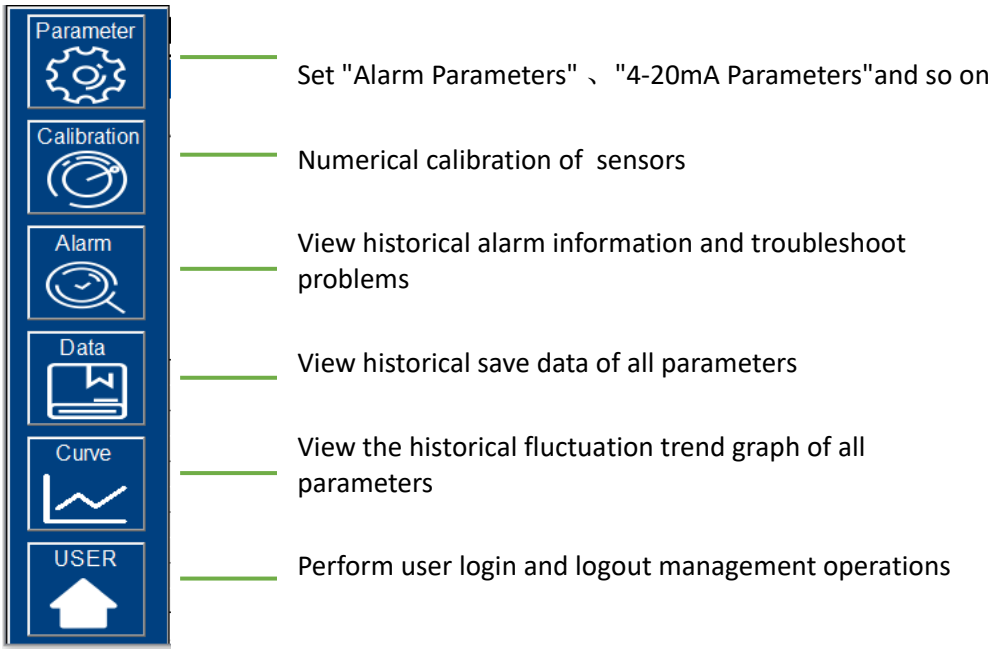


Figure 13 - Menu Bar

5.5. Parameter Setting

Click the "Parameter" button in the menu bar, you can choose to enter the "Alarm Parameters" 、 "4-20mA Output"、"Control Parameters" setting interface: See Figure 14.

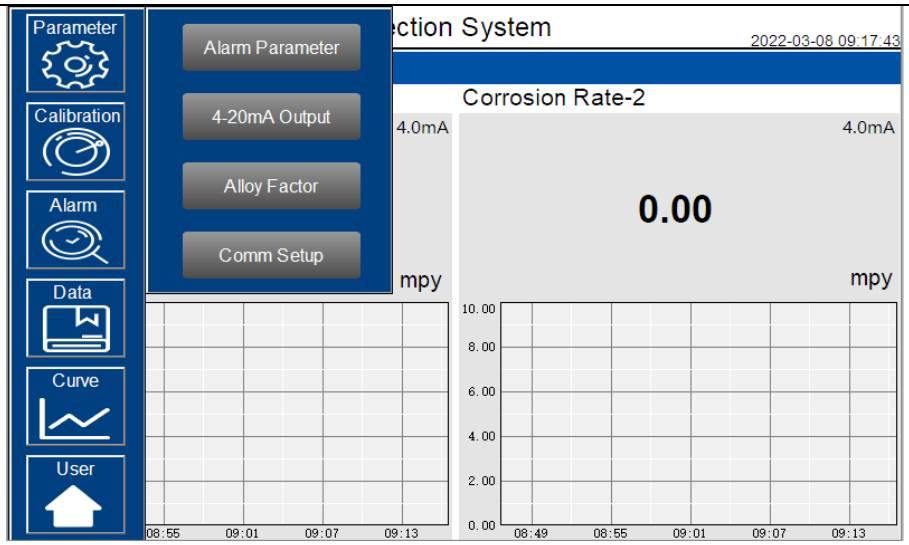


Figure 14 - Parameter Settings

When the online user has the right to operate the instrument, the upper and lower limits of alarm can be set. Click "Alarm Parameters" to enter the interface of setting alarm parameters. When the measured value is lower than the set lower limit, the "**** lower limit alarm" of the corresponding sensor will be displayed in the real-time monitoring screen; when the measured value is higher than the set upper limit, the "**** upper limit alarm" of the corresponding sensor will be displayed in the real-time monitoring screen. Users can also choose to turn on or off the alarm display function at the top left of the corresponding parameter. Customers can select the upper and lower limit alarm switch in the upper left corner of each box.

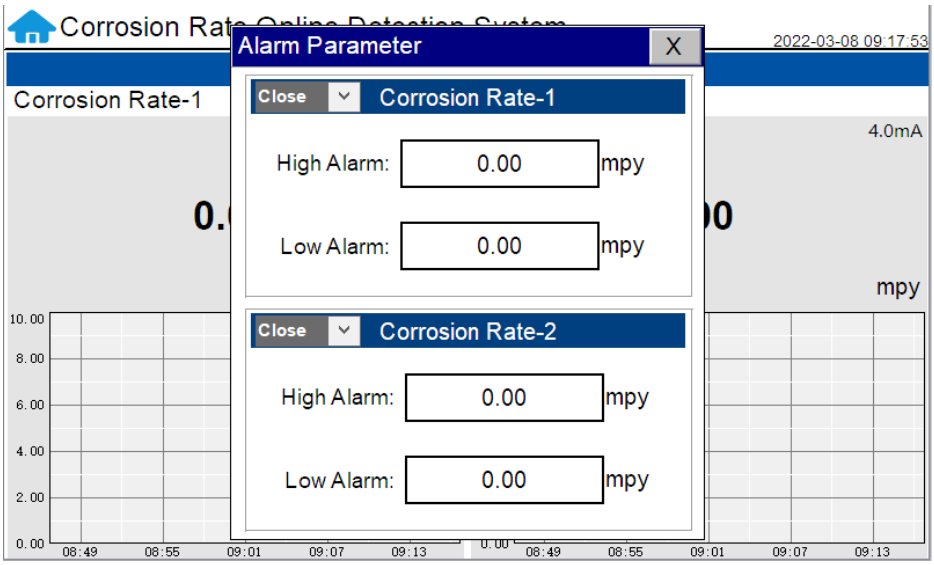


Figure 15 - Alarm Parameter Settings

Click "4-20mA parameter" to enter the 4-20mA parameter setting interface. The 4mA output value corresponds to the lower limit of the sensor range value, and the 20mA output value corresponds to the upper limit of the range value. The closer the value setting is to the measured value, the more accurate it is recommended to set according to the sensor range.

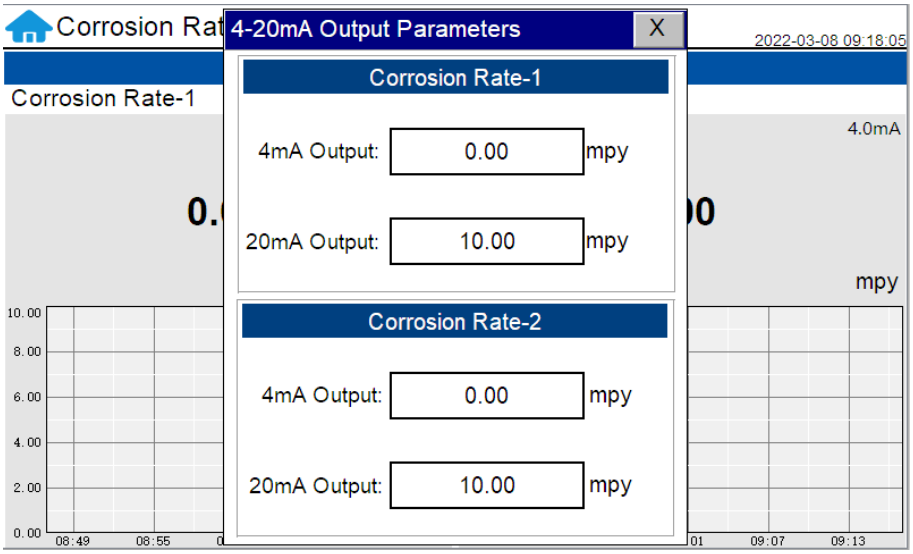


Figure 16 - 4-20mA setting

The default 4-20 mA current outputs for mild steel are scaled as outlined in the table below. The CR-300 sensor will come configured to measure the corrosion of mild steel by default from the Pyxis Lab factory. Alternative metallurgies with default output scaling and alloy factor may be selected and programmed to the CR-300 sensor via the . Please refer to the metallurgy table

Default Analog Output Scales for Mild Steel			
Measurement	**Units of Measure**	**4mA**	**20mA**
General Corrosion	MPY (mils/Year)	0	10
Localized Corrosion	MPY (Index Value)	0	100

The sensor is configured to measure the corrosion of mild steel by default. Alternative metallurgies may be selected via the alloy factor/metallurgy selection table (see Figure 17).

Click "Alloy Factor" to enter the Alloy Factor selection interface. Select the model in the table in the lower left corner, click the "Load" button next to the corresponding sensor at the top, and the writing of the value means success. If there is no corresponding model in the table, you can manually enter it at the bottom right and add it to the table.

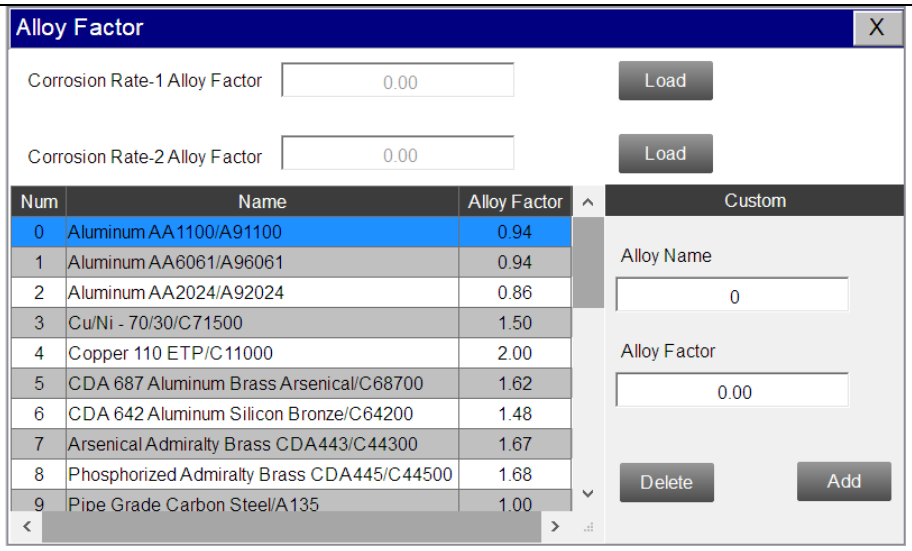


Figure 17 - Alloy Factor

Once an alternative metal has been selected via the Alloy Factor/Metallurgy drop down list, the user may refer to the metallurgy table (see Figure 17A) below for appropriate analog output programming of alternative metals.

Common Designation	UNS	Alloy Factor	Default 4–20mA General Corrosion Scale (MPY)	Default 4–20mA Localized Corrosion Scale (Index)
Aluminum AA1100	A91100	0.94	0–10	0–100
Aluminum AA6061	A96061	0.94	0–10	0–100
Aluminum AA2024	A92024	0.86	0–10	0–100
Cu/Ni - 70/30	C71500	1.50	0–1	0–10
Copper 110 ETP	C11000	2.00	0–1	0–10
CDA 687 Aluminum Brass Arsenical	C68700	1.62	0–1	0–10
CDA 642 Aluminum Silicon Bronze	C64200	1.48	0–1	0–10
Arsenical Admiralty Brass CDA443	C44300	1.67	0–1	0–10
Phosphorized Admiralty Brass CD445	C44500	1.68	0–1	0–10
Pipe Grade Carbon Steel	A135	1.00	0–10	0–100
Mild Steel C1010	G10100	1.00	0–10	0–100
Mild Steel C1015	G10150	1.00	0–10	0–100
Mild Steel C1018-C1020	G10180	1.00	0–10	0–100
Mild Steel C1080	G10800	1.00	0–10	0–100
Stainless Steel 304	S30400	0.89	0–0.5	0–10
Stainless Steel 304L	S30403	0.89	0–0.5	0–10
Stainless Steel 316	S31600	0.90	0–0.5	0–10
Stainless Steel 316L	S31603	0.90	0–0.5	0–10
Duplex Stainless 2205 - F51	S31803	0.90	0–0.5	0–10
Duplex Stainless 2507 - F53	S32750	0.90	0–0.5	0–10
Common Lead	L50045	2.57	0–0.5	0–1

Figure 17A – Metallurgy Selection Reference List with Proper 4-20mA Output Scaling

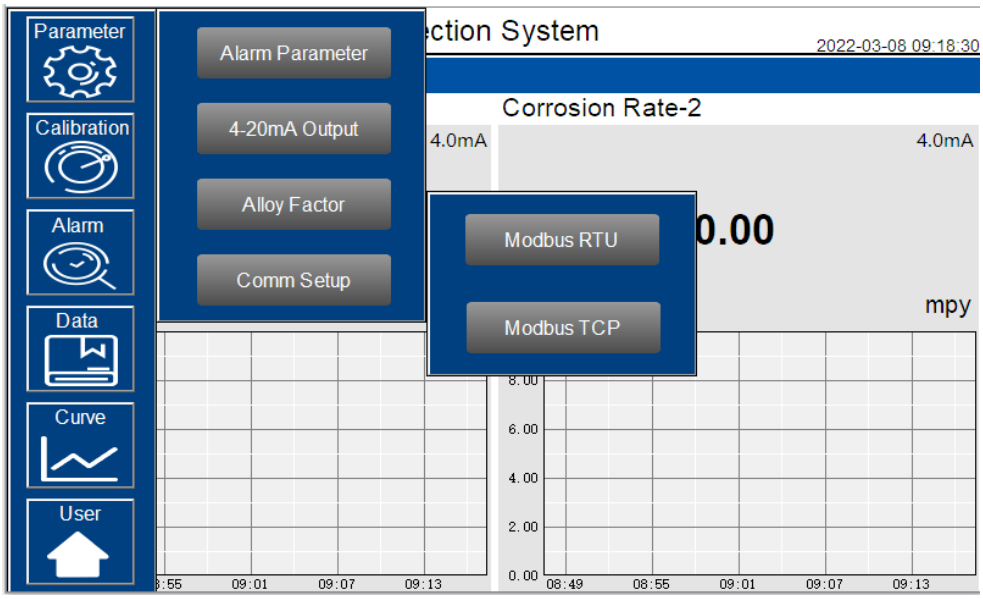


Figure 18 - Communication Setup

Communication parameters generally do not need to be changed. If the communication station number and other parameters need to be changed on site, they can be changed on this interface.

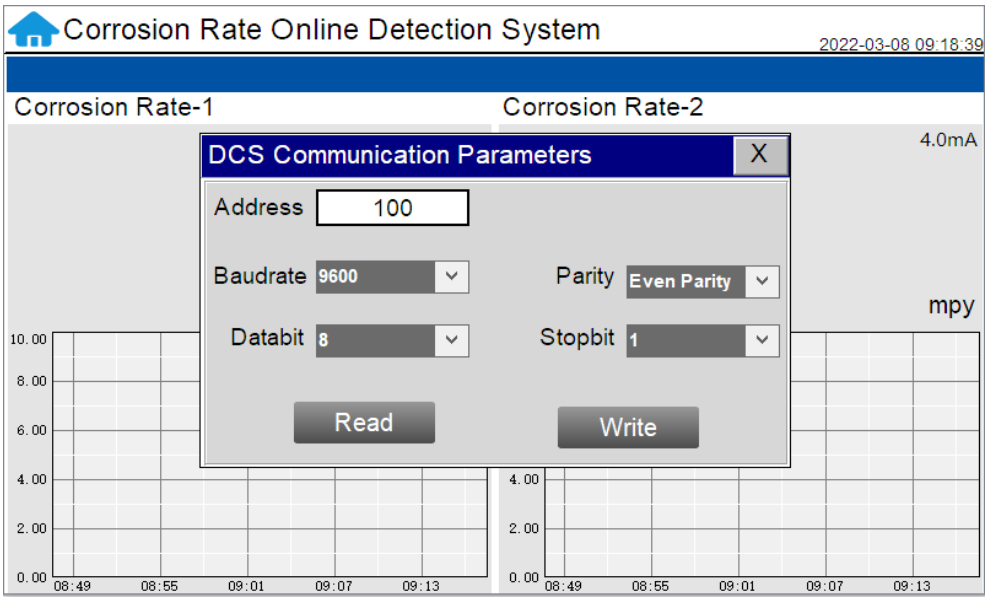


Figure 19 - DCS Communication Parameters

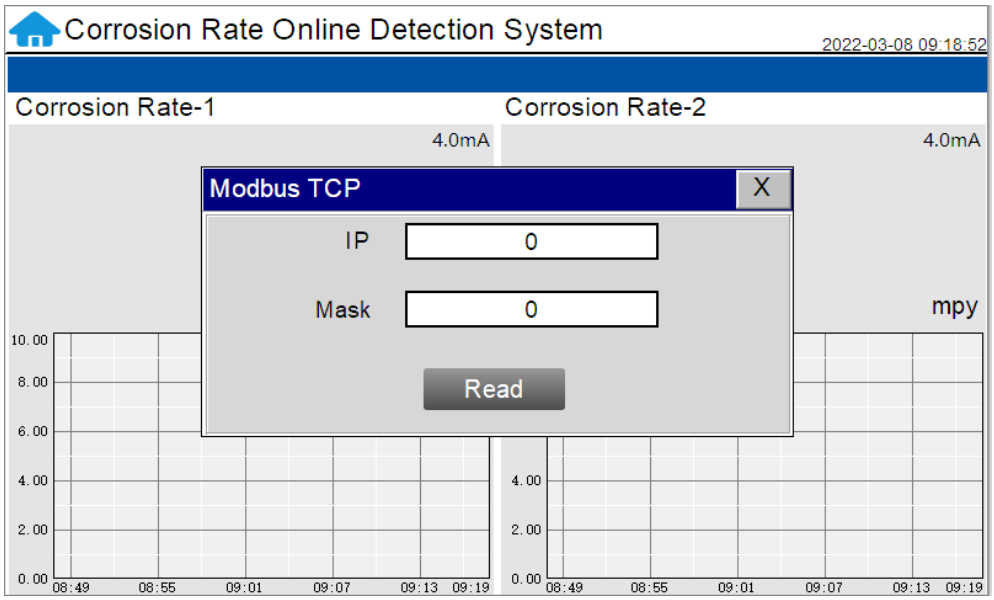


Figure 20 - Modbus TCP

5.6. Calibration of CR-300 Using Pyxis Calibration Check-CAP

Click the " Calibration" button in the menu bar, and then select Calibration. Each CR-300 corrosion sensor has been calibrated and tested at the factory for general corrosion in MPY, and typically does not need to be calibrated. If calibration is required on site, the CR-300 can be calibrated according to the following operations.

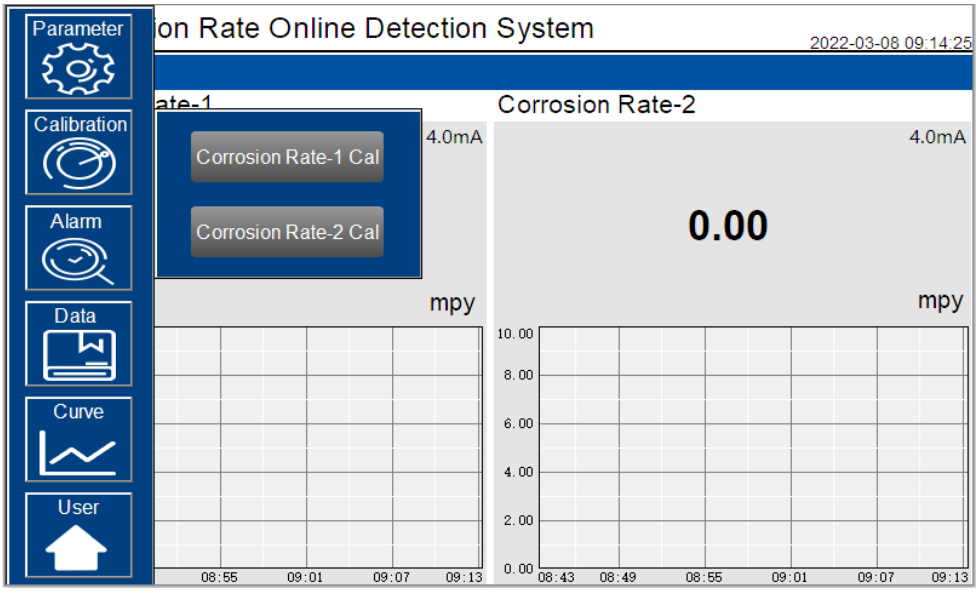


Figure 21 – CR-300 Calibration

The general corrsion rate calibration screen prompts the user to place the probe into a “standard solution”. This term references the Pyxis Calibration-Check Caps that are provided with each CR-300 sensor. Two Calibration Check-Caps are provided with each CR-300 sensor, one for Steel and one for Copper. These caps have produce a voltage equivalent to a generalized corrosion value in MPY (Mils Per Year), as outlined below.

Pyxis Calibration Check-Cap Specifications		
Calibration Check-Cap Metallurgy	**Units of Measure**	**Corrosion Rate Output**
Steel Calibration Check-Cap	MPY (mils/Year)	2.0
Copper Calibration Check-Cap	MPY (mils/Year)	0.1

With the proper metallurgy electrodes installed onto the CR-300, insert the sensors electrodes into the two holes of the Pyxis Calibration-Check Cap designed for the metal being measured. This is referenced as “standard solution” in the calibration interface of the Pyxis UC-100S display/data logging terminal.

Figure 21A – Installing the Calibration Check-Caps onto CR-300 with Electrodes

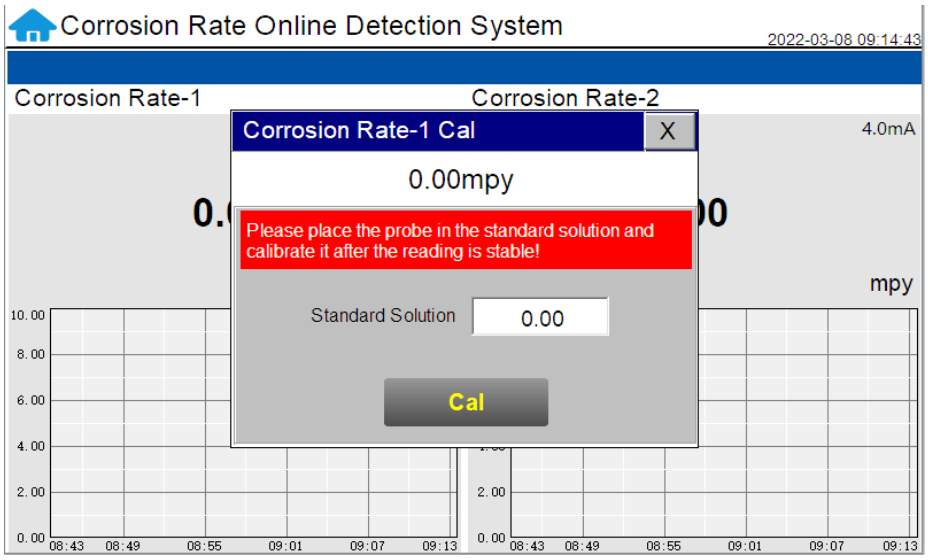


Figure 22 – CR-300 Calibration Interface

Enter the concentration Calibration Check-Cap value into the box labled "Standard Solution" and wait at least 15 minutes. After the value is stable, click the "Cal" button to begin the calibration process. When the following prompt box is displayed and the calibration is successful.

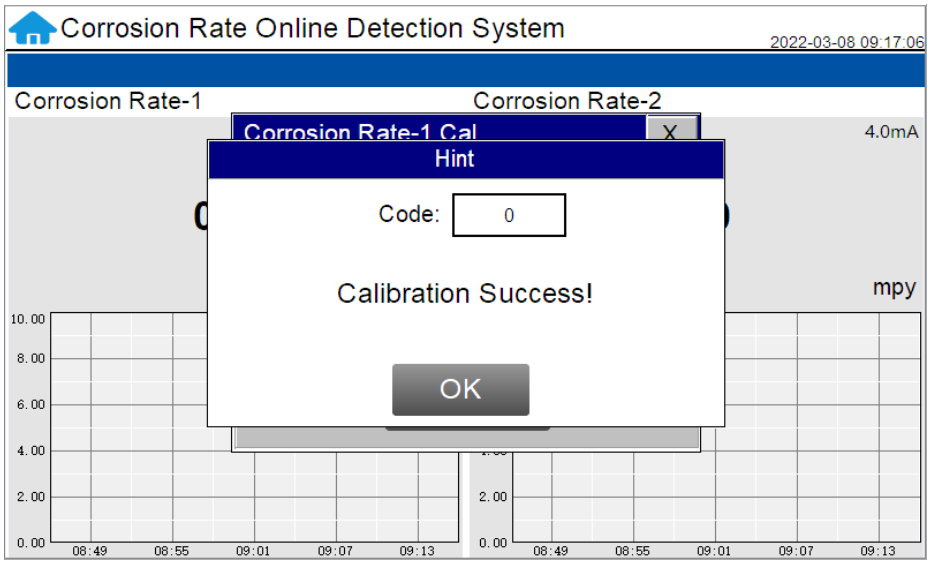


Figure 23 - Calibration Success

5.7. Alarm Browsing

Click the "Alarm Browsing" button on the main interface to enter the alarm browsing interface.

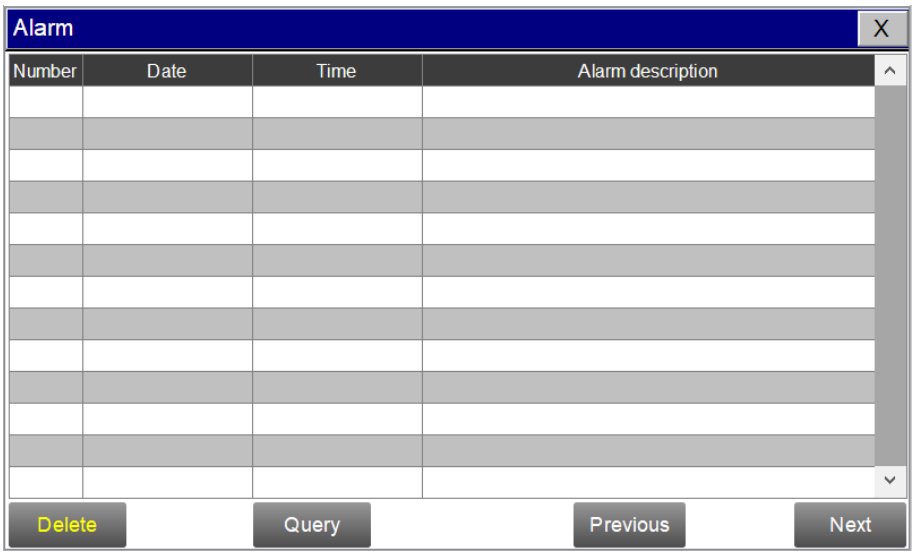


Figure 24 - Alarm Browsing

In this interface, the user can browse all alarm signals. Drag the right scroll bar to slide up and down to view historical alarm records. You can also click "Previous" and "Next" to turn pages quickly. Click Query, enter the number in the pop-up box and query, you can quickly view the alarm problem of the corresponding number.

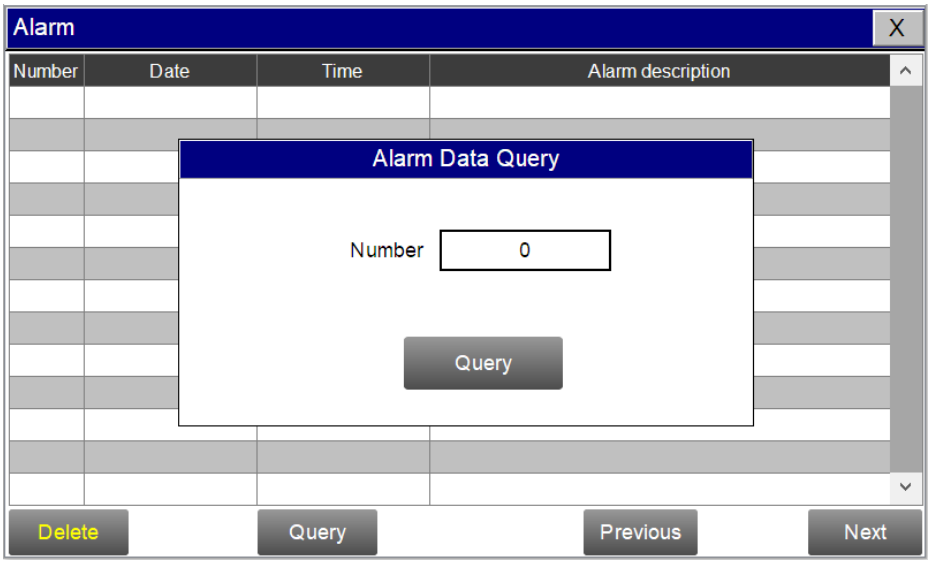


Figure 25 - Alarm Data Query Interface

After clicking the delete button in the lower left corner, all alarm records will be deleted. Users need to exit the current interface and enter again to see that the historical data in the data report was cleared.

5.8. Historical Data & Dowloading

Click the "Historical Data" button in the menu bar to enter the data report interface.

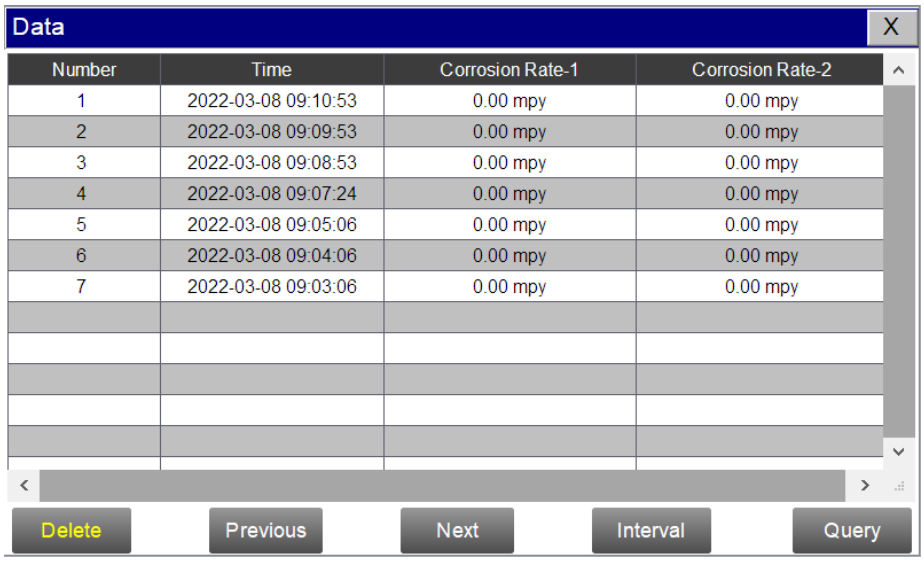


Figure 26 - Historical Data Interface

In the data report, the user can view the stored data of all parameters. The system records sensor readings every 4 seconds by default. Drag the scroll bar on the right to slide up or down, or click "Previous" and "Next" to view historical data records. The data record can save 100,000 pieces of data, and more than 100,000 will overwrite the previous data. The user can click the interval button to change the period time of the system recording data.

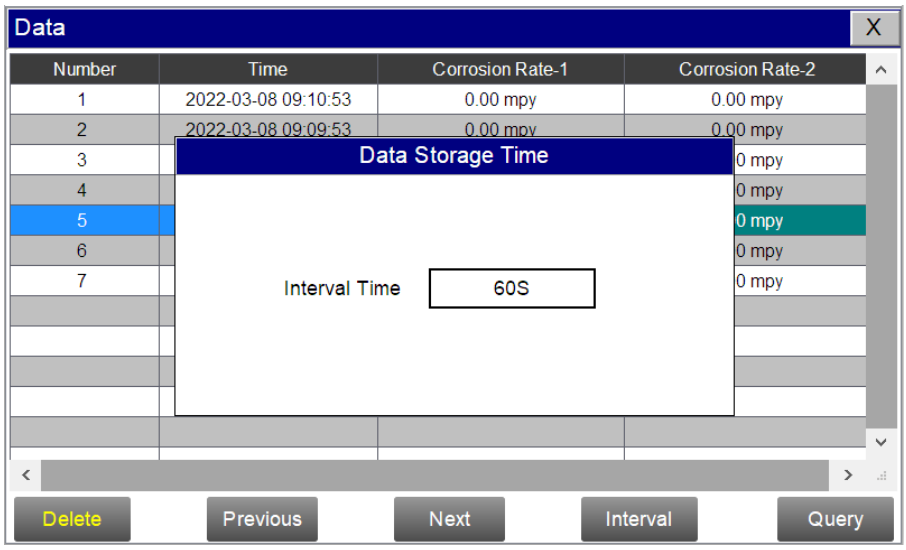


Figure 27 - Data Storage Cycle Time Settings

Click Delete in the lower left corner. After entering the retention time, click the Delete button to clear all historical data except the retention time.

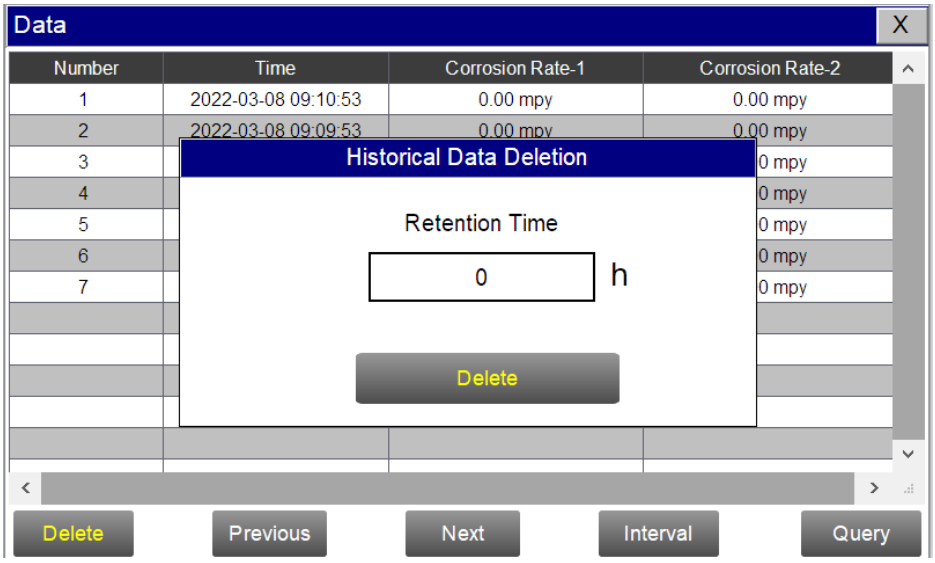


Figure 28 - Delete Historical Data Interface

Click the query in the lower right corner, enter the start time and end time, and then click the query button, the data report will only display the historical data of the regional time. Note: The start time and end time need to be filled in completely according to the system time format (note the symbol format, which needs to be entered in the English input method state， you can refer to “Current Time”), otherwise it will not be recognized for query.

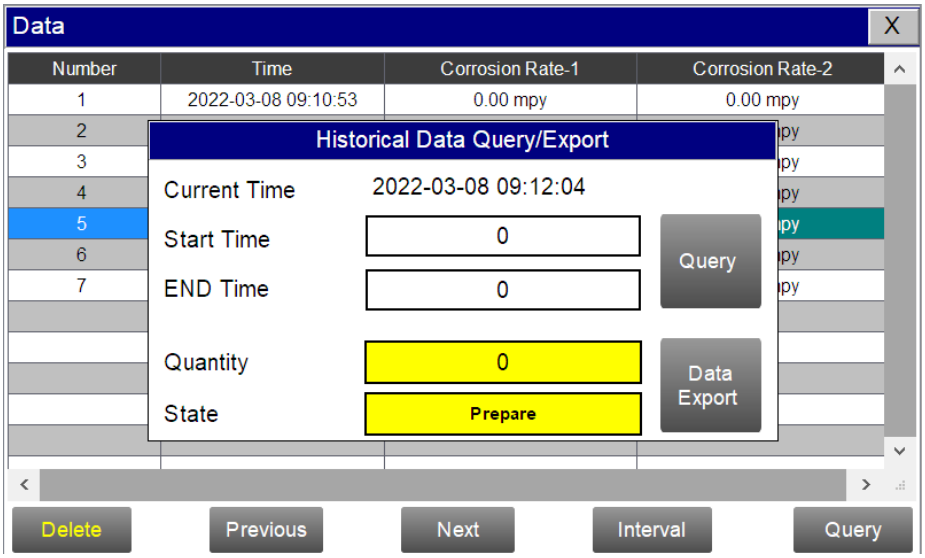


Figure 29 - Historical Data Query Export Interface

Downloading Data to a USB Disk

Insert the USB disk behind the screen and enter the time range of the data to be exported in the query area. Click on the data export, when the status is displayed as success, and the quantity is positive, it means that the data export is successful; if the status is displayed successfully, the quantity is negative , Indicating that the data was not successfully exported, please check whether the time format is correct.

If the Quantity column shows a negative value, you can refer to the list to see the problem:

Table 3 - Code Definition

Code	Details
1001	Incorrect progress or control data object type
1004	The group object name does not exist or the group object does not have the save attribute
1020	The start time of the export is greater than the end time
1021	USB disk is not inserted
1022	Only one export task is allowed at a time
1023	The number of records read is 0
1024	File operation failed
1025	Export path is empty
1026	Illegal export path
1027	The time format is incorrect
1028	Unsupported export mode

5.9. Historical Data Curve

Click the "historical curve" button in the menu bar to enter the trend curve interface. The ordinate is the monitoring value of the sensor, and the abscissa is the monitoring time. You can click the button below the abscissa to browse and view the values in different time periods. Clicking the Y-axis range will pop up the Y-axis range as shown in the figure. Enter the minimum and maximum values to change the displayed value of the Y-axis of the curve.

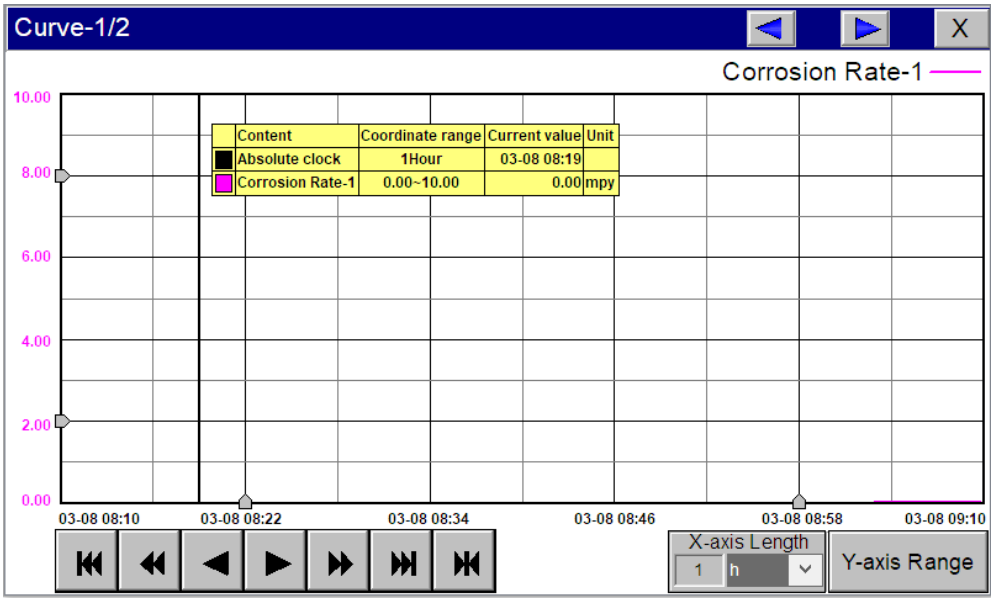


Figure 30 - Historical Curve Interface-1

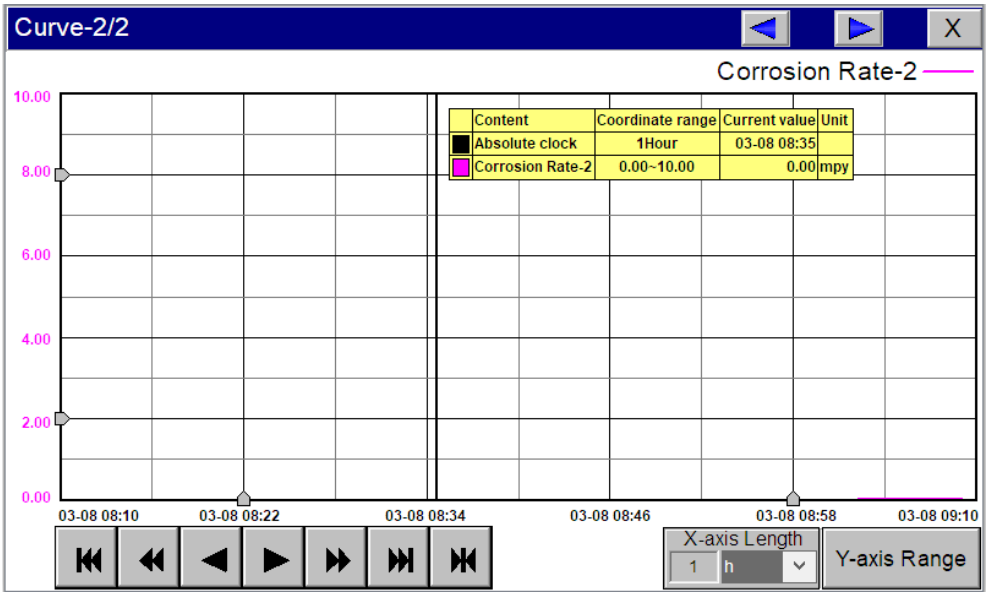


Figure 31 - Historical Curve Interface-2

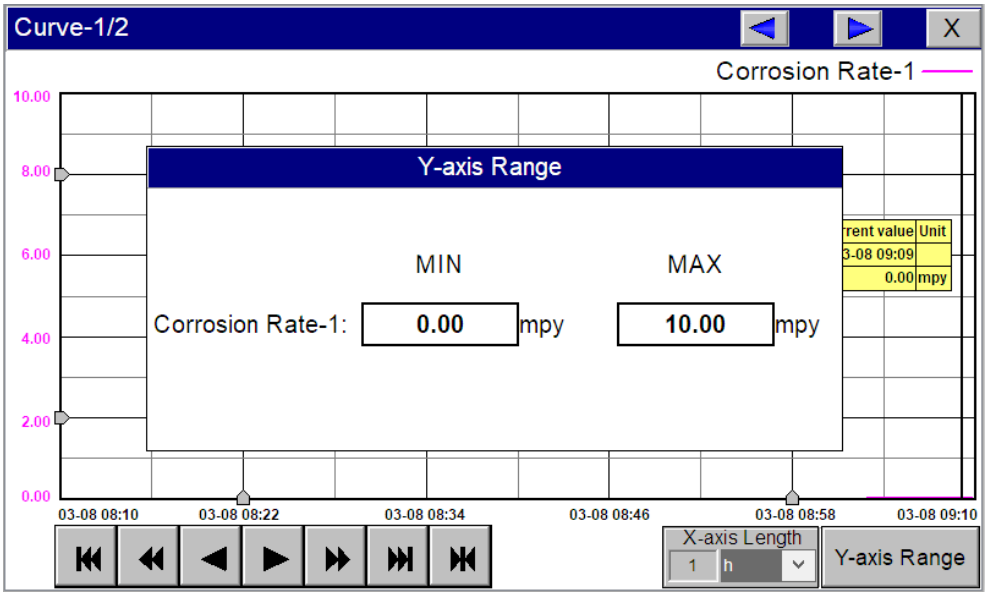


Figure 32 - Y axis range setting-1

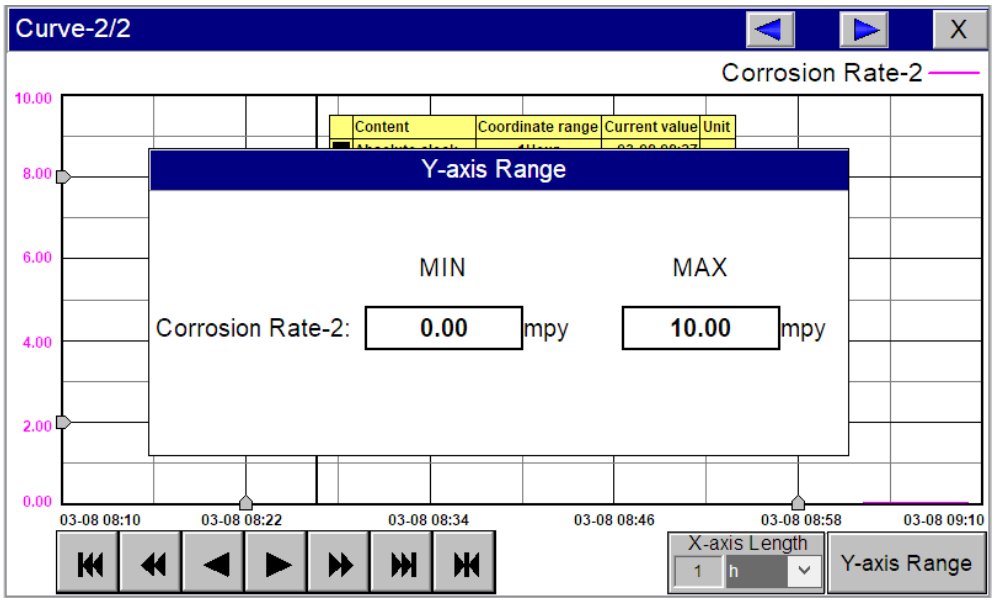


Figure 33 - Y axis range setting-2

The curve will scroll back (to the left of the X-axis) one page
The curve will scroll back (to the left of the X-axis) half the page of the curve
The curve will scroll backward (to the left of the X-axis) to a position where the main line is drawn
The curve will scroll forward (to the right of the X-axis) to a position where the main line is drawn
The curve will scroll forward (to the right of the X-axis) half the page of the curve
The curve will scroll forward (to the right of the X-axis) one page
A dialog box will pop up to reset the starting time of the curve

Figure 34 - Button Description

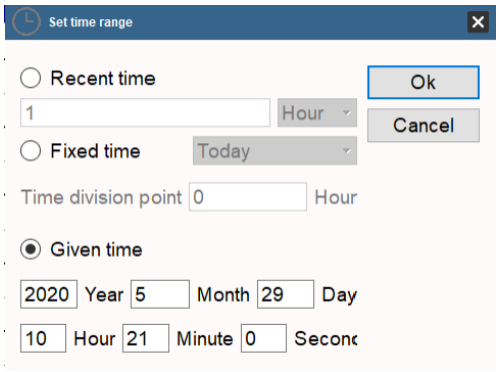


Figure 35 - Time Setting Interface

5.10. User Management

Click the "User Management" button on the menu bar, users can edit user information in this interface and switch between Chinese and English.

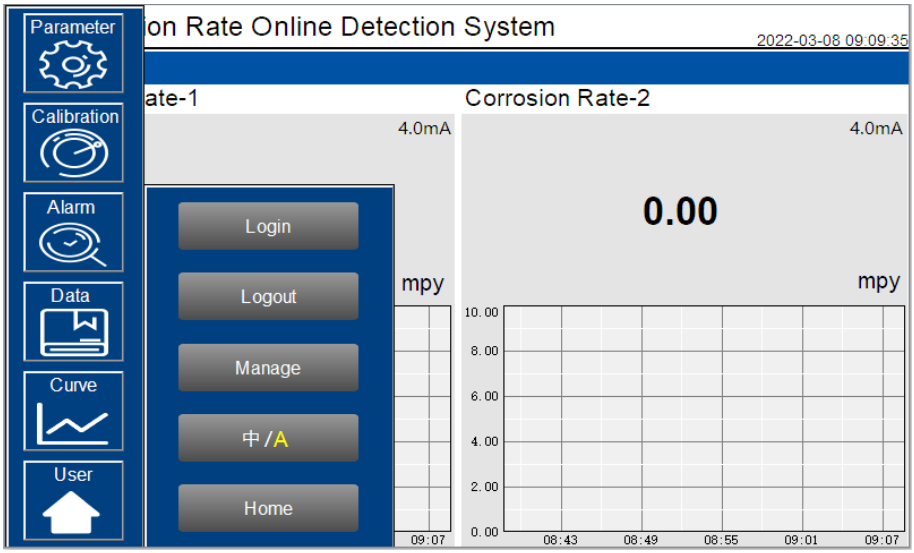


Figure 36 - User Management

Logout will allow the user to log out and can they only view the real-time reading, but cannot perform parameter setting and other operations.

Click Admin to enter the user management interface, where you can add users, modify passwords and other operations. Users can set their own user name and password, and select the user group to which they belong. Among them, only users in the administrator group can set parameters such as calibration.

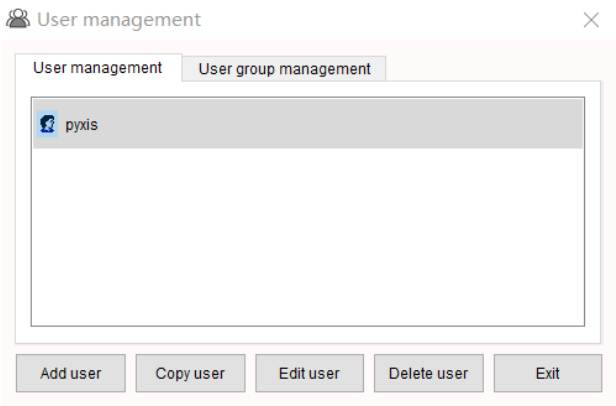


Figure 37 - User Management Interface

Change Password: Select the user to be changed, then click the Change User button, enter the user's own password in the User Password column and Confirm Password column, and click Confirm to modify successfully. ***NOTE*** If the user does not want to set a password, the password can be deleted and saved.

6. Routine Maintenance

6.1. Mailing Address

Table 4 - UC-100S/UC-100G Communication Address

No.	Define	Address	Format	Model	Unit	Note
1	Corrosion_Rate_1	1	float	Read only	mpy	
2	Corrosion_Rate_2	3	float	Read only	mpy	
3	Corrosion rate 1 lower limit alarm	5	uint	Read only		0: normal 1: alarm
4	Corrosion rate 1 upper limit alarm	6	uint	Read only		0: normal 1: alarm
5	Corrosion rate 2 lower limit alarm	7	uint	Read only		0: normal 1: alarm
6	Corrosion rate 2 upper limit alarm	8	uint	Read only		0: normal 1: alarm
7	Corrosion rate 1 sensor communication is abnormal	9	uint	Read only		0: normal 1: alarm
8	Corrosion rate 2 sensor communication is abnormal	10	uint	Read only		0: normal 1: alarm
9	PLC communication is abnormal	11	uint	Read only		0: normal 1: alarm
Communication Protocol: Standard Modbus-RTU						
Communication Parameters: Baud Rate -9600, Data Bit-8, Stop Bit-1, Parity Bit-Even						
Station Number: 100						

6.2. Instrument Alarm & Description

The following procedure guides you how to find, evaluate and solve problems when the "Online Inspection System" issues an alarm or prompts that the measurement data is abnormal. (For reference only, please refer to the material object)

Table 5 - Common Alarms

Alarm	Explanation	Symptom	Solution/Suggestion
PLC communication error	PLC without communication		Check whether the wiring between PLC and control box is loose
**** sensor communication abnormal	**** sensor without communication	No **** measurement	Check the wiring between the sensor and the circuit board. If the problem persists, please contact Pyxis.
**** upper limit alarm	**** is higher than the alarm setting	Information only	Compare with manual measurement readings. Check and clean pipeline valves. Check if the water flow is normal. Check whether the sensor is clean.
**** lower limit alarm	**** is lower than the alarm setting	Information only	
**** calibration failed Code259	Low calibration standard solution over range	**** calibration failed	Check whether the water flow is normal, whether the sensor is clean, and whether the standard solution is contaminated.
**** calibration failed Code260	Medium calibration standard solution out of range	**** calibration failed	
**** calibration failed Code261	High calibration standard solution out of range	**** calibration failed	
**** calibration failed Code262	Slope f1 is out of range	**** calibration failed	
**** calibration failed Code263	Slope f2 is out of range	**** calibration failed	

7. Ordering Information

Table 6 - Ordering Information

Product Model	Product Description	Art.No.
UC-100S	Screen +PLC+ power supply; Up to 6 probes, 1-channel 485 output, 2-channel 4-20mA output, 2-channel 4-20mA output, 2-channel relay output, 1-channel Ethernet (Modbus TCP master/slave)	43047
UC-100G	Screen +PLC+4G+ power supply; Up to 6 probes, 1-channel 485 output, 2-channel 4-20mA output, 2-channel 4-20mA output, 2-channel relay output, 1-channel Ethernet (Modbus TCP master/slave)	43045
UC-100M	Screen + power supply; Maximum 6 probes, 1-channel 485 output, 1-channel Ethernet (Modbus TCP master/slave)	43046
CR-300	LPR Corrosion Sensor with General and Localized Corrosion Output, 2x 4-20mA + RS-485, Cooling and General Process Water <100psi, <120°F	51007
CR-301	High Temperature / High Pressure LPR Corrosion Sensor with General and Localized Corrosion Output, 2x 4-20mA + RS-485, High Temp/Pressure Water <500psi, <464°F	51021

8. Contact us

Contact us if you have questions about the use or maintenance of the SP-350P Water Multimeter:

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