



OZ450 Dissolved Ozone Sensor



ICON PROCESS CONTROLS OZ450 Dissolved Ozone Sensor User Guide

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ICON PROCESS CONTROLS OZ450 Dissolved Ozone Sensor



Product Information

The OZ450 Dissolved Ozone Sensor integrates electronic circuits and microprocessors inside the sensor, referred to as digital electrodes, and has the following characteristics:

1. RS-485 transmission interface, MODBUS-RTU communication protocol, duplex communication.
2. Power and output isolation design to ensure electrical safety.
3. Built-in protection circuit to enhance anti-interference ability to adapt to complex environments.
4. The communication protocol is simple and easy to use, can output more electrode diagnostic information, and is more intelligent.
5. Low power consumption design to cope with more usage occasions, internal memory can save calibration and setting information in case of power failure.

Specifications

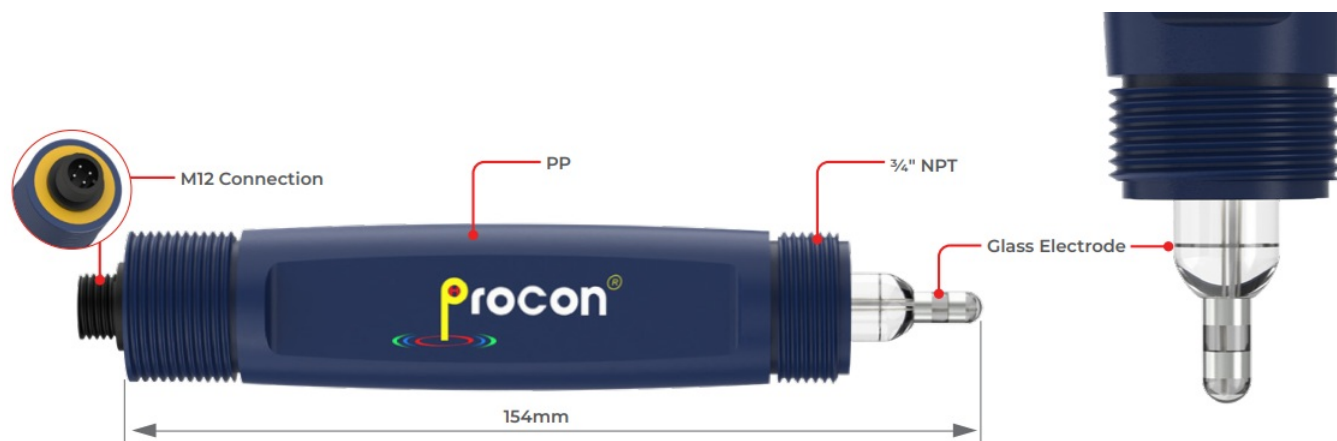
Power Supply	9 ~ 24 VDC
Isolation Strength	2500Vrms
Power	0.5W
Material	PP M12
Electrical Connection	Flying Lead 3/4 NPT
Communication	RS485 MODBUS-RTU Protocol
Ozone Measuring Range	Specify the range
Resolution	Specify the resolution
Accuracy	Specify the accuracy
Temperature Measuring Range	Specify the range
Resolution	Specify the resolution
Accuracy	Specify the accuracy
Temperature Type	Specify the type
Temperature Compensation	Specify the compensation type

Product Usage Instructions

Wiring Instructions

Color	Description
Green	RS485A MODBUS Protocol
White	RS485B MODBUS Protocol
Red	+VDC Power
Black	-VDC Power

Product Introduction



The OZ450 Dissolved Ozone Sensor integrates electronic circuits and microprocessors inside the sensor, referred

to as digital electrodes, and has the following characteristics

- 1. RS-485 transmission interface, MODBUS-RTU communication protocol, duplex communication.
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- 5. Low power consumption design to cope with more usage occasions, internal memory can save calibration and setting information in case of power failure.

Technical Specifications

Power Supply	9 ~ 24 VDC
Isolation Strength	2500Vrms
Power	0.5W
Material	PP
Electrical Connection	M12 Flying Lead
Connection	3/4" NPT
Communiation	RS485 MODBUS-RTU Protocol
Ozone	
Measurning Range	00.00mg/L ~ 20.00mg/L
Resolution	0.01 mg/L
Accuracy	±5% F.S
Temperature	
Measurning Range	-10.0 ~ 110.0oC
Resolution	0.1oC
Accuracy	±0.5oC
Temperature Type	TH10K
Temperature Compensation	Automatic / Manual

Wiring

Color	Description
Green	RS485A
White	RS485B
Red	+VDC
Black	-VDC

MODBUS Protocol

The instrument adopts RS-485 Modbus communication protocol RTU mode, the serial port parameter is (N, 8, 1), that is, no check, 8-bit data, 1 stop bit, the default baud rate is 9600 (can be modified), address 01 (Can be modified).

Protocol Description

- a) In this agreement, the letter “H” after the data indicates that the data is a hexadecimal number.
- b) All registers are double-bytes, with the high byte first and the low byte second. Integer negative numbers are represented by two's complement, ie, -1 is represented by FFFFH and -2 is represented by FFFE H.
- c) The length of the upper computer command received by the instrument is 8 bytes, the excess part is invalid, but the first 8 bytes command is still valid. If there is a pause of 0.1 seconds, instructions that do not reach 8 bytes are considered invalid.
- d) For CRC check, please refer to the CRC worksheet. When sending, the high byte is first and the low byte is next. When the verification code is 2A2AH, the instrument passes directly without verification.

Register Overview

The instrument register is divided into three categories: floating register, parameter register and information register.

- **a)** The floating register data is the real-time measurement data of the instrument, such as ozone value, temperature value, etc., a total of 20 register addresses, 0000H – 0013H (decimal 0 – 19), the function code 03 or 04 can be used to read data.
When the function code 04 is used to read the data, the measurement data returned by the meter is an integer. A data consists of two parts, the first part is the data numeric integer type, occupying a register, the second part is the data decimal places and units, sharing a register, each occupying one byte, the unit code see the unit code table.
When accessed with function code 03, the measurement data returned by the instrument is floating point, and one data occupies two registers (4 bytes in total) to represent floating point data.
- **b)** The parameter register contains the calibration status of the instrument and some parameters that can be set by the user. A total of 40 register addresses, 0014H ~ 003BH (decimal 20 – 59), use the function code 03 to read the register data, use the function code 06 to write Registers, such as modifying the communication baud rate, instrument ID, etc.
- **c)** The information register contains the running status of the instrument and the basic information of the instrument, such as the instrument serial number, model, etc., a total of 20 register addresses, 003CH – 004FH (decimal 60 – 79), use function code 03 to read register data, use function code 06 Write a register with writable attributes, used to control the operation of the instrument, such as the calibration operation of the instrument.
- **d)** The addresses of the three types of registers are arranged consecutively, but when the function code 03 is used to read the register data, the number of registers read by one instruction cannot exceed the type of the current register.

Read Floating Register Data Instruction Format Function Code 03 or 04

HOST SEND	Lower Address	Function	Address Range	Number of Read Registers (N)	CRC
	01H-F7H	03 OR 04	0000H~0013H	1~20	CRC H CRC L
	1 byte	1 byte	2 bytes	2 bytes	2 bytes
LOWER REPLY	Lower Address	Function	Address Range	Data of N Registers (N)	CRC
	01H-F7H	03 OR 04	N*2	Data	CRC H CRC L
	1 byte	1 byte	1 byte	N*2 bytes	2 bytes

Example of reading floating register floating-point data instruction:

(Send and reply data in hexadecimal format)

Example: Read 10 floating registers and 5 floating point data from address 0000H

Host computer sends: 01 03 00 00 00 0A C5 CD

Lower computer reply: 01 03 14 E7 2F 41 IF DA 2A 41 IF DA 2A 41 9F 00 00 00 00 75 26 41 C7 5E CC

Send Interpretation					
Host Send	01	03	0000	000A	C5CD
Decimal	1	3	0	10	
Interpretation	Device with ID Address 1	Read Floating Point Data	Start at Address 0000H	Read 10 Registers	CRC

Interpretation of Response			
Lower Reply	01	03	14
Decimal	1	3	20
Interpretation	Device with ID Address 1	Response Register Floating Point Data Read Instruction	10 Registers 20 bytes in length

Lower Reply	E72F	411F	DA2A	411F
Address	0000H	0001H	0002H	0003H
Name	Ozone Value			
Floating Point	9.993941			
Interpretation	Ozone Value : 9.99mg/L			

Lower Reply	DA2A	419F	0000	0000
Address	0004H	0005H	0006H	0007H
Name	Electrode Signal			
Floating Point	19.981525			
Interpretation	Electrode Signal : 19.98mV			

Lower Reply	7526	41C7	SECC
Address	0008H	0009H	
Name	Temperature		
Floating Point	24.932201		
Interpretation	Temperature Value: 24.9oC		CRC

Example of instructions for reading floating register integer data:

(Send and reply data in hexadecimal format)

Example: Read 10 floating integer data from address 0000H

Host computer sends: 01 04 00 00 00 0A 70 0D

Lower computer reply: 01 04 14 03 E6 02 OE 03 E6 02 OE 07 CB 02 00 00 00 00 00 00 FA 01 0B F5 80

Send Interpretation					
Host Send	01	04	0000	000A	700D
Decimal	1	4	0	10	
Interpretation	Device with ID Address 1	Read Floating Register Integer Data	Start at 0000 H	Read 10 Registers	CRC

Interpretation of Response (See Floating Register Address table)			
Lower Reply	01	04	14
Decimal			20
Interpretation	Device with Address 1	Response Floating Register Integer Data Read Instruction	10 Registers 20 bytes in length

Lower Reply	03E6	020E		03E6	020E	
Address	0000H	0001H		0002H	0003H	
Name	Ozone Value	Decimal	Unit			
		02	0E			
Decimal	998					
Interpretation	Ozone Value : 9.98mg/L					

Lower Reply	07CB	0200		0000	0000	
Address	0004H	0005H		0006H	0007H	
Name	Electrode Signal	Electrode Signal				
		Decimal	Unit			
		02	00			
Decimal	1995					
Interpretation	Electrode Signal : 19.95mV					

Lower Reply	00FA	010B		F580
Address	0008H	0009H		
Name	Temperature	Temperature		
		Decimal	Unit	
		01	0B	
Decimal	250			
Interpretation	Temperature : 25.0oC			CRC

Read Parameter Register Data Function Code 03

HOST SEND	Slave ID	Function	Address	Number of Read Registers (N)	CRC
	01H-F7H	03	00014H~003BH	1~40	CRC H CRC L
	1 byte	1 byte	2 bytes	2 bytes	2 bytes
LOWER REPLY	Slave ID	Function	Bytes	Number of Read Registers (N)	CRC
	01H-F7H	03	N*2	Data	CRC H CRC L
	1 byte	1 byte	1 byte	N*2 bytes	2 bytes

Example of reading parameter register integer data instruction:

(Send and reply data in hexadecimal format)

Example: Read 7 parameter registers from address 001EH

Host computer sends: 01 03 00 1E 00 07 64 0E

Lower computer reply: 01 03 0E 00 01 00 03 00 01 00 00 00 00 00 01 01 90 BF 7C

Send Interpretation					
Host Send	01	03	001E	0007	640E
Decimal	1	3	30	7	
Interpretation	Device with Slave Address 1	Read Register Data	Start at 001EH	Read 7 Registers	CRC

Interpretation of Response (See Parameter Register Address Table)			
Lower Reply	01	03	0E
Decimal	1	3	14
Interpretation	Device with Slave Address 1	Response to the Parameter Register Data Read Command	7 Registers 14 bytes in length

Lower Reply	0001	0003	0001	0000
Address	001EH	001FH	0020H	002H
Name	ID	BAUD RATE	Temperature Compensation Type	Temperature Offset Value or Manual Temperature Setting
Decimal	1	3	1	0
Interpretation	Device with Slave Address 1	3 Correspond 9600 Note 1	1 Correspond Auto Note 1	0 Correspond 0.0°C Note 2

Lower Reply	0000	0001	0190	BF7C
Address	0022H	0023H	0024H	
Name				
Decimal				
Interpretation	NC			CRC

Note 1: In the partial interpretation, the corresponding meanings of the data values only list the corresponding meanings of the current value. For the corresponding meanings of other values, please refer to the detailed description of the parameter register.

Note 2: The temperature offset setting value or manual temperature setting value (0021H) register is determined by the temperature compensation type register (0020H). If the temperature compensation type is manual temperature compensation, this register is the manual temperature setting value. If the temperature compensation type is automatic temperature compensation, this register is the temperature offset setting value. This register is a 10-times value. For example, when 00F AH is read, it is converted to Decimal to 250, which means 25.0 °C. To write 10.0 °C to the register, you need to write the hexadecimal value corresponding to 100 0064H.

Reading Information Register Data Function Code 03

	Slave ID	Function	Address	Number of Read Registers (N)	CRC
HOST SEND	01H-F7H	03	0003CH-004FH	1~20	CRC H CRC L
	1 byte	1 byte	2 bytes	2 bytes	2 bytes
	Slave ID	Function	Bytes	Number of Read Registers (N)	CRC
LOWER REPLY	01H-F7H	03	N*2	Data	CRC H CRC L
	1 byte	1 byte	1 byte	N*2 bytes	2 bytes

Example of command to read data from information register:

(Send and reply data in hexadecimal format)

Example: Read 10 parameter registers from address 0040H

Host computer sends: 01 03 00 40 00 0A C4 19

Lower computer reply: 01 03 14 00 10 00 00 00 00 00 00 00 08 12 10 01 00 01 01 01 12 34 AB CD 27 95

Send Interpretation					
Host Send	01	03	0040	000A	C419
Decimal				10	
Interpretation	Device with Slave Address 1	Read Register Data	Start at 0040H	Read 10 Registers	CRC

Interpretation of Response (See Information Register Address Table)			
Lower Reply	01	03	14
Decimal			20
Interpretation	Device with Slave Address 1	Response Information Register Data Read Command	10 Registers 20 bytes in length

Lower Reply	0010	0000	0000	0000
Address	0040H	0041H	0042H	0043H
Name	Operating Mode	Mode Parameters	Work Event	Status Indicator
Interpretation	Currently in Measurement Mode	NC	NC	NC

Lower Reply	0008	1210	0100	0101
Address	0044H	0045H	0046H	0047H
Name	Equipment Type	Device Model	Software Version	Hardware Version
Interpretation	Device Model DOZ1210		1.00	1.01

Lower Reply	1234	ABCD	2795
Address	0048H	0049H	
Name	High Serial Number	Low Serial Number	
Interpretation	Device Serial Number 1234ABCD		CRC

Modify Single Parameter / Information Register Data Instruction Format Function Code 06

HOST SEND	Slave ID	Function	Register Address to be modified	Modify Value	CRC
	01H-F7H	06	The address of a register with writable properties in the register	Data	CRC H CRC L
	1 byte	1 byte	2 bytes	2 bytes	2 bytes
LOWER REPLY	Slave ID	Function	Modified Register Address	Modify Value	CRC
	01H-F7H	06	Address	Data	CRC H CRC L
	1 byte	1 byte	2 bytes	2 bytes	2 bytes

Examples of instructions for modifying individual parameters or information registers:(The data is in hexadecimal format)

Example: Temperature Offset (Register 0021H) Set as -5.0oC

Host computer sends: 01 06 00 21 FF CE 19 A4

Lower computer reply: 01 06 00 21 FF CE 19 A4

Send Interpretation					
Host Send	01	06	0021	FFCE	19A4
Decimal				-50	
Interpretation	Device with Slave Address 1	Modify Register Data Instruction	Temperature Offset Register Address	Modify the Value to -5.0oC	CRC

Interpretation of Response					
Lower Reply	01	06	0021	FFCE	19A4
Decimal				-50	
Interpretation	Device with Slave Address 1	Reply Register Data Command	Temperature Offset Register Address	Modify the Value to -5.0oC	CRC

Error Command Response Format

	Slave ID	Function	Error Code	CRC
LOWER REPLY	01H-F7H	Command Function Code Received +80H	See the protocol description for error codes	CRC H CRC L
	1 byte	2 bytes	2 bytes	2 bytes

- **Function code:** When the instrument receives an error command, it will add 80H to the received function code as the function code of the response data frame. If the upper computer uses 03 function code to access, and the lower computer responds with the function code of 83H, it means that the upper computer The instruction is wrong, you need to check the error code for the specific error.
- **Error code:**
 1. The function code is wrong. This protocol only supports function code 03, 04, 06 access. When the function code is other values, this error code is returned.
 2. The register address is wrong. When the register address accessible by the function code exceeds the corresponding allowable range, this error code is returned.
 3. The number of registers is wrong. The number of registers to be read exceeds the range of subsequent registers of the current type. This error code is returned.
 4. The modified value is wrong. The data of the register to be modified exceeds the value range of this register data. This error code is returned.
 5. CRC error, check result does not match, return this error code.
 6. Write error, the write (modify) operation is performed on the read-only register, that is, the function code 06 is used to access the read-only register, and this error code is returned.

Floating Register Address (Integer Data)

Address	Name	Data	High Byte	Low Byte	R/W	Remarks
0000H	Ozone Value	0.00mg/L	16 bit integer data 0~2000		R	0x7FFF Over 0x8000
		~				
		20.00mg/L				
0001H	Decimal and Unit		Decimal	Unit	R	Under
0002H						
0003H						
0004H	Electrode Signal	-10.00mV	16 bit integer data -1000~4000		R	0x7FFF Over 0x8000
		~				
		40.00mV				
0005H	Decimal and Unit		Decimal	Unit	R	Under
0006H						
0007H						
0008H	Temperature Value	-10.0oC	16 bit integer data -100~1100		R	0x7FFF Over 0x8000
		~				
		110.0oC				
0009H	Decimal and Unit		Decimal	Unit	R	Under

Floating Register Address (Floating Point)

Address	Name	Data	Type of Data	R/W	Remarks
0000H	Ozone Value	0.00mg/L	Floating Point Data U NIT mg/L	R	
0001H		~ 20.00mg/L			
0002H					
0003H					
0004H	Electrode Signal	-10.00mV	Floating Point Data U NIT mV	R	
0005H		~ 40.00mV			
0006H					
0007H					
0008H	Temperature	-10.00oC	Floating Point UNIT o C	R	110.1 Over -10.1oC Under
0009H		~ 110.0oC			

Parameter Register Address

Read and write recovery attributes, R means readable, W means writeable, D means perform factory reset operation. This register will be rewritten to the default value, and without D means this register is not affected by the factory reset operation.

Address	Name	Data	Data Analysis	R/W/D	Default
---------	------	------	---------------	-------	---------

0019H	Ozone Calibration	0 : Not Calibrated 1 : Calibrated	BIT0 : ZERO BIT1 : SLOPE	R/D	Not Calibrated
001AH	Ozone Electrode Bias	-0.30mg/L ~ 0.30mg/L	16-bit integer data -30 ~ 30	R/D	0.00mg/L
001BH	Ozone Electrode Bias Numbers and Units	020EH	Decimal and Unit mg/L	R/D	
001CH	Ozone Electrode Slope	30.0% ~ 300.00%	16-bit integer data 300~3000 Decimal and Unit %	R/D	100.00%
001EH	ID	1~247	255(FFH) General Address	R/W	1
001FH	Communication Rate	0:1200 1:2400 2:4800 3:9600 4:19200		R/W	9600
0020H	Temperature Compensation Type	0: Manual 1: Auto	This register value determines the meaning of the next register	R/W/D	Auto
	Temperature Set Value (manual)	-10.0°C ~ 110.0°C			25.0°C
			10 Times Value Read 250 The Actual Value is 2		

0021H	Temperature Off - set Value (Auto)	-10.0°C ~ 10.0°C	5°C	R/W/D	0.0°C
002DH	Filter Coefficient	1~16		R/W	

Information Register Address

Address	Name	Data Analysis	R/W/D	Default
0040H	Operating Mode	0010H : Measurement Mode 0050H: Setting Mode 0060H: Calibration Mode	R/W	Note 3
0041H	Mode		R/W	See the Introduction of Working Mode Chapter
0042H	Event		R	
0043H	Calibration Status		R/W	
0044H	Instrument Type	0008H : DOZ	R	
0045H	Model	1210H	R	BCD
0046H	Software Version		R	BCD
0047H	Hardware Version		R	BCD
0048H	Serial Number 1		R	BCD
0049H	Serial Number 2		R	BCD

Note 3: When accessing the working mode register of the lower computer, the return value may not be 0 according to the last digit of hexadecimal. Press 0 to process. If the working mode register is read, the return value is 001 IH, that is, 0010H, indicating that the meter is currently in the measurement mode.

Calibration of Ozone

The Ozone calibration can calibrate up to two points, namely the zero point and the slope point, which is represented by BIT0 and BIT1 in a 16-bit integer value binary, the corresponding relationship is shown in the following table.

	Unused	Slope	Zero
16-bit Integer	BIT15~BIT2	BIT1	BIT0

Read the calibration status register, the value corresponding to the position of the calibration point is 1, then this point has been successfully calibrated. Since the electrode must first calibrate the slope point, the calibration status register value has the following three cases:

- The value is 0000H, that is, BIT1 and BIT0 are all zero, no point calibration.
- The value is 0002H, that is, BIT1 is 1, BIT0 is zero, the slope point has been calibrated.
- The value is 0003H, that is, both BIT1 and BIT0 are 1, and both points have been calibrated.

Unit Comparision Table

DATA	00H	01H	02H	03H	04H	05H	06H
UNIT	mV	nA	uA	mA	Ω	KΩ	MΩ
DATA	07H	08H	09H	0AH	0BH	0CH	0DH
UNIT	uS	mS	S	pH	oC	oF	ug/L
DATA	0EH	0FH	10H	11H	12H	13H	14H
UNIT	mg/L	g/L	ppb	ppm	ppt	%	mbar
DATA	15H	16H					
UNIT	bar	mmHg					

Setting Mode

Users can use the host computer to send commands through the RS485 interface to make the meter enter the setting mode. In the setting mode, the meter can be restored to the factory settings. The specific operation process is as follows:

- **a)** Enter setting mode. Use the 06H function code to write a value (0050H) in the working mode register (address 0040H) to make the meter enter the setting mode.
 - **Host computer sends:** 01 06 00 40 00 50 88 22
 - **Lower computer reply:** 01 06 00 40 00 50 88 22
- **b)** Write recovery instructions. After the meter enters the setting mode, use the 06H function code to write a value (7FFFH) in the mode parameter register (address 0041H). The meter will clear all calibration information and restore the temperature mode and temperature offset to the default value (automatic temperature

compensation, Offset 0.0 "C), and the parameter register that needs to be restored to the default value, and then restart.

- **Host computer sends:** 01 06 00 41 7F FF B9 AE
- **Lower computer reply:** 01 06 00 41 7F FF B9 AE

Calibration Process

In order to ensure measurement accuracy and correctness, users need to use standard solutions to calibrate newly installed meters, or periodically calibrate meters in use. The calibration method of this instrument is to use the host computer to send commands through the RS485 interface to complete.

- a) Put the meter into the standard solution.
- b) Write the standard liquid value (slope point) or code (zero point) in the calibration status register (0043H).
- c) Wait for the calibration to complete. You can check the calibration status by reading the value of the calibration status register (0043H). The corresponding situation of reading is as follows:
 - **0:** Calibrated Successfully (Returned to Measurement Mode)
 - **1:** Calibrating (still in calibration mode, please read the status later).
 - **2:** The correct standard value is not received within 180 seconds (the measurement mode has been returned)
 - **3:** The signal cannot be stabilized or exceeds the measurement range within 180 seconds (the measurement mode has been returned).
 - **4:** Sensor performance (slope or offset value) is outside the allowable range (returned to measurement mode).
- d) To calibrate other points, repeat this process.

Calibration Instructions

- a) When calibrating the ozone slope point, the standard liquid value is written into the calibration status register according to the shape. If the standard liquid is 5.00 mg / L, the hexadecimal value of 500 is written as 01F4H. When calibrating the zero point, write the zero code 0001H to the calibration status register.
- b) The ozone can be calibrated up to two points. For uncalibrated electrodes, the slope point must be calibrated first. Each time the slope point is calibrated, the meter will clear all calibration information.
- c) After successfully calibrating the slope point, the meter will calculate the slope value of the sensor. After successfully calibrating the zero point, the meter will calculate the slope of the slope point and the zero point (which will be different from the slope of the calibrated slope point only) and the zero offset. You can view the sensor performance by reading registers such as calibration and electrode slope.
- d) Write 7FFFH in the calibration status register (0043H), the meter will clear all calibration information.

Examples of Calibration Instructions

- a) Calibration slope point, such as 5.00mg / L standard liquid value 01F4H written into calibration status register (0043H)
 - **Send on computer:** 01 06 00 43 01 F4 78 09
 - **Lower camera response:** 01 06 00 43 01 F4 78 09
- b) Query calibration status, read status indicator register

- **Send on computer:** 01 03 00 43 00 01 75 DE
- **Lower machine response:** 01 03 02 00 00 B8 44

For the meaning of the value underlined in the response of the lower computer, please see the explanation in the calibration process.

- c) After the calibration is completed, the device will return to the measurement state regardless of whether the calibration is successful or not. Pay attention to modify the codes of different standard solutions and recalculate the CRC. For specific instructions, please refer to the chapter of common instructions.

Warranty, Returns and Limitations

Warranty

Icon Process Controls Ltd warrants to the original purchaser of its products that such products will be free from defects in material and workmanship under normal use and service in accordance with instructions furnished by Icon Process Controls Ltd for a period of one year from the date of sale of such products. Icon Process Controls Ltd obligation under this warranty is solely and exclusively limited to the repair or replacement, at Icon Process Controls Ltd option, of the products or components, which Icon Process Controls Ltd examination determines to its satisfaction to be defective in material or workmanship within the warranty period. Icon Process Controls Ltd must be notified pursuant to the instructions below of any claim under this warranty within thirty (30) days of any claimed lack of conformity of the product. Any product repaired under this warranty will be warranted only for the remainder of the original warranty period. Any product provided as a replacement under this warranty will be warranted for the one year from the date of replacement.

Returns

Products cannot be returned to Icon Process Controls Ltd without prior authorization. To return a product that is thought to be defective, go to www.iconprocon.com, and submit a customer return (MRA) request form and follow the instructions therein. All warranty and non-warranty product returns to Icon Process Controls Ltd must be shipped prepaid and insured. Icon Process Controls Ltd will not be responsible for any products lost or damaged in shipment.

Limitations

This warranty does not apply to products which: 1) are beyond the warranty period or are products for which the original purchaser does not follow the warranty procedures outlined above; 2) have been subjected to electrical, mechanical or chemical damage due to improper, accidental or negligent use; 3) have been modified or altered; 4) anyone other than service personnel authorized by Icon Process Controls Ltd have attempted to repair; 5) have been involved in accidents or natural disasters; or

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If any portion of this warranty is held to be invalid or unenforceable for any reason, such finding will not invalidate any other provision of this warranty.

For additional product documentation and technical support visit:

www.iconprocon.com

e-mail: sales@iconprocon.com or support@iconprocon.com

Ph: 905.469.9283

Documents / Resources



[ICON PROCESS CONTROLS OZ450 Dissolved Ozone Sensor](#) [pdf] User Guide
OZ450 Dissolved Ozone Sensor, OZ450, OZ450 Dissolved Ozone Sensor, Dissolved Ozone Sensor, Ozone Sensor, Sensor

References

- [User Manual](#)

[Manuals+](#), [Privacy Policy](#)

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