Modbus Register
9500 pH/ORP Module

V 2.01

HACH®

Be Right™

9500 pH/ORP Module V 2.01

Name	Register	Data Type	Length	Access Mode	Discrete Range	Min / Max	Description
pH	40004	Float	2	R	pH		
TEMP C	40011	Float	2	R	C		
TEMP F	40013	Float	2	R	F		
SERIAL NUMBER	40017	String	8	R/W			
TEMP UNITS	40027	Unsigned Integer	1	R/W			U25/26
HISTORY T UNITS	40028	Unsigned Integer	1	R			U25/26
FILTER	40030	Unsigned Integer	1	R/W	s		
TEMP ELEMENT	40031	Unsigned Integer	1	R/W			0/1/4/5
User Temp in degC (when temp element = Manual)	40033	Float	2	R/W	C		
User Temp in degF (when temp element = Manual)	40035	Float	2	R/W	F		
SELECT BUFFER	40037	Unsigned Integer	1	R/W			0/1/2/3
Temp Comp Slope value	40039	Float	2	R/W	TEMP COMP UNITS		
OUTPUT MODE	40041	Unsigned Integer	1	R/W			0/1/2
Module Serial No	40042	String	6	R			
pH SLOPE in mV/pH	40055	Float	2	R	mV /pH		
Software Version	40069	Float	2	R			
BootLoader version	40071	Float	2	R			
pH OFFSET	40074	Float	2	R	pH		
LOG INTERVAL	40078	Unsigned Integer	1	R/W			0/1/2/3/4/5/6/7/8
Raw ORP value in mV	40079	Float	2	R	mV		
REF. ELECTRODE	40083	Float	2	R	M<Ohm>		
Sensor days	40085	Unsigned Integer	1	R	Day		
Device Driver Firmware Version	40086	Unsigned Integer	1	R			
IMPED STATUS	40107	Unsigned Integer	1	R/W			0/1
MEAS UNITS	40108	Unsigned Integer	1	R			U27/19
OFFSET UNITS	40125	Unsigned Integer	1	R			U27/19
PREDICT ENABLE	40127	Unsigned Integer	1	R/W			0/1
PRED LIFE	40128	Time2	2	R	Day		
CAL REMINDER	40130	Unsigned Integer	1	R/W			0/1/2/3/4/5
READING.	40132	Unsigned Integer	1	R/W			0/1/2/3/4/5/6/7/8/9/10
CAL STATUS	40137	Unsigned Integer	1	R			0/1
Last Successful Calibration type	40138	Unsigned Integer	1	R			0/1/2/3/4/17/15
OP ID	40139	String	2	R/W			

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Name	Register	Data Type	Length	Access Mode	Discrete Range	Min / Max	Description
Actual mV value (Point A)	40150	Float	2	R/W	mV		
Actual mV (Point B)	40159	Float	2	R/W	mV		
Cal Days	40163	Unsigned Integer	1	R	Day		
Set ISO Point - pH (User Defined)	40164	Float	2	R/W	pH		
LOG FLOAT	40173	Float	2	R			
LOG TEXT	40175	String	8	R			
LOG INT	40183	Integer	1	R			
LOG PARAM	40184	String	8	R			
ImpedanceUnits	40220	Unsigned Integer	1	R			U37/36
Offset limit for Cal failure	40221	Float	2	R	pH		
Slope limit for cal failure in mV/pH (pH)	40223	Float	2	R	mV /pH		
offset limit for ORP cal failure	40225	Float	2	R	mV		
NewSensor	40245	Unsigned Integer	1	R/W			1/0
Raw Temperatue in User selected units	40250	Float	2	R	TEMP UNITS		
Device Driver Content Version	40278	Unsigned Integer	1	R			
SENSOR NAME	40279	String	8	R/W			
Switch position in Card/Module	40287	Unsigned Integer	1	R			
Cal Slope pH in mV/pH (MANUAL)	40288	Float	2	R/W	mV /pH		
Cal Offset in mV (MANUAL)	40290	Float	2	R/W	mV		
	40292	Unsigned Integer	1	R/W			0/1/2/3
Set ISO Point - Slope in mV/pH (User Defined)	40293	Float	2	R/W	mV /pH		
Set ISO Point - mV (User Defined)	40295	Float	2	R/W	mV		
TEMP COMP UNITS	40297	Unsigned Integer	1	R			U48/174
TemperatureOffset pHORP (in user selected unit)	40298	Float	2	R	TEMP UNITS		
User Selected Temperature Units	40304	Float	2	R			
Last successful gas Calibration Type	40306	Float	2	R			
LogSetup pHORP	40308	Float	2	R			
Temp Element type	40310	Float	2	R			
Temp Offset in user units (Temp Cal)	40312	Float	2	R			
Cal Offset (mV or pH)	40314	Float	2	R			
Calibration Type	40316	Float	2	R			
Temp value in user units (Point A)	40318	Float	2	R			
User selected Temp units	40320	Float	2	R			

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Name	Register	Data Type	Length	Access Mode	Discrete Range	Min / Max	Description
Display Format	40322	Float	2	R			
Temp Compensation type	40324	Float	2	R			
Temp Comp Slope Unit	40326	Float	2	R			
ORP in mV	40328	Float	2	R			
ORP offset in mV	40330	Float	2	R			
Cal Reminder	40332	Float	2	R			
Buffer type	40334	Float	2	R			
Operator ID required	40336	Float	2	R			
Impedance Status	40338	Float	2	R			
Slope in mV/pH	40340	Float	2	R			
Temp Value in user units (Point B)	40342	Float	2	R			
New Sensor Select (Yes / No)	40344	Float	2	R			

ALL Sensors and Analyzer: Classified ERROR Word - Register 49930

Table 2 Error register

Bit	Error	Description
0	Calibration error	Faulty calibration detected
1	Electronic settings error	Faulty electronic calibration/settings
2	Cleaning error	Error in cleaning cycle detected
3	Measuring module error	Error in measuring module detected
4	System initialization	Inconsistent settings detected, reset to factory settings
5	Hardware error	Faulty hardware detected
6	Internal communication error	Internal communication error detected
7	Humidity error	Excessive humidity detected
8	Excessive temperature	Excessive temperature detected
9		
10	Sample feed warning	Error in sample feed detected
11	Questionable calibration warning	Accuracy of previous calibration inadequate
12	Questionable measurement warning	Accuracy of previous measurement inadequate/out of range
13	Safety warning	Safety equipment error detected
14	Reagent warning	Reagent warning, e.g. fill level < min detected
15	Service request warning	Service request detected

ALL Sensors and Analyzer: Classified STATUS Word - Register 49931

Table 3 Status register

Bit	Status 1	Description
0	Calibration activated	Calibration in progress, measurement value not up to date
1	Cleaning activated	Cleaning in progress, measurement value not up to date
2	Service mode activated	Device in "Service" mode, measurement value not up to date
3	General error message	General error detected, refer to error text for details
4	Measurement value channel 0, poor quality	Measurement accuracy is not within specified limits
5	Measurement value channel 0, range short-fall	Measurement value falls short of the specified range
6	Measurement value channel 0, range exceeded	Measurement value exceeds the specified range
7	Measurement value channel 1, poor quality	Measurement accuracy is not within specified limits
8	Measurement value channel 1, range short-fall	Measurement value falls short of the specified range
9	Measurement value channel 1, range exceeded	Measurement value exceeds the specified range
10	Measurement value channel 2, poor quality	Measurement accuracy is not within specified limits
11	Measurement value channel 2, range short-fall	Measurement value falls short of the specified range
12	Measurement value channel 2, range exceeded	Measurement value exceeds the specified range
13	Measurement value channel 3, poor quality	Measurement accuracy is not within specified limits
14	Measurement value channel 3, range short-fall	Measurement value falls short of the specified range
15	Measurement value channel 3, range exceeded	Measurement value exceeds the specified range