Modbus Register
SONATAX SC

V1.16

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SONATAX SC V1.16

Name	Register	Data Type	Length	Access Mode	Discrete Range	Min / Max	Description
FREE CHLORINE	40001	Float	2	R		0 /10	Free chlorine measurement
TOTAL CHLORINE	40001	Float	2	R		0 /10	total chlorine
SLUDGELEVEL m	40001	Float	2	R			measurment sludgelevel feet
FLOW RATE	40003	Float	2	R		0 /500	Sample flow rate
SLUDGELEVEL ft	40003	Float	2	R			measurment sludgelevel meter
GRAB SAMPLE VALUE	40005	Float	2	R/W		0 /10	Grab sample value
SLUDGEHEIGHT m	40005	Float	2	R			mesurment sludgeheight feet
FREE CHLORINE	40007	Unsigned Integer	1	R		0 /10	Free chlorine measurement
TOTAL CHLORINE	40007	Unsigned Integer	1	R		0 /10	total chlorine
SLUDGEHEIGHT ft	40007	Float	2	R			mesurment sludgeheight meter
FLOW RATE	40008	Unsigned Integer	1	R		0 /500	Sample flow rate
GRAB SAMPLE VALUE	40009	Unsigned Integer	2	R		0 /10	Grab sample value
PLUNGERDEPTH m	40009	Float	2	R/W		0.1 /3	plungerdepth feet
CHLORINE	40011	Unsigned Integer	1	R		0 /0	Chlorine value
PLUNGERDEPTH ft	40011	Float	2	R/W		0.32808 /9.8424	plungerdepth meter
FUNCTION CODE	40012	Unsigned Integer	1	R/W		0 /65535	Code that specifies an action
NEXT STATE	40013	Unsigned Integer	1	R		0 /65535	Item that specified the next state
BOTTOM m	40013	Float	2	R/W		1 /12	distance to bottom feet
SELECT MEASURE	40014	Unsigned Integer	1	R/W	0 /1		Choose a measurement type
OUTPUT MODE	40015	Unsigned Integer	1	R/W	1 /2		Mode of operation for the output
BOTTOM ft	40015	Float	2	R/W		3.2808 /39.3696	distance to bottom meter
SENSOR NAME	40016	String	8	R/W			User-assigned name for a sensor
SET PARAMETER	40017	Unsigned Integer	1	R/W	P23 /24		parameter (level/height)
MEAS UNITS	40018	Unsigned Integer	1	R/W	U43 /13		unit (meter/feet)
FACTOR	40019	Float	2	R/W		0.3 /3	measurment factor
WIPE	40021	Unsigned Integer	1	R/W		1 /65535	wiper register (wipes this count)
EDITED NAME	40022	String	8	R/W			location of sensor
SERIAL NUMBER	40024	String	6	R			Device serial number
CODE VERSION	40030	Float	2	R		0 /99.99	Embedded software version
CLEAN. INTERVAL	40030	Unsigned Integer	1	R/W	1 /5 /10 /15 /60 /240 /720 /1440		cleaning interval
RESPONSE TIME	40031	Unsigned Integer	1	R/W		10 /600	response time
BOOT VERS	40032	Float	2	R		0 /9.99	Boot code version
FADE-OUT	40032	Unsigned Integer	1	R/W	0 /1		fade out
BEGIN m	40033	Float	2	R/W		0 /12	fade out begin meter
DRIVER VERS	40034	Unsigned Integer	1	R		0 /255	Version of the firmware that operates the probe
BUBBLE REJECT	40035	Unsigned Integer	1	R/W	0 /1		Bubble reject status

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Name	Register	Data Type	Length	Access Mode	Discrete Range	Min / Max	Description
BEGIN ft	40035	Float	2	R/W		0 /39.3696	fade out begin feet
SERVICE CYCLES	40036	Integer	2	R		0 /2147483647	Number of completed service cycles
END m	40037	Float	2	R/W		0 /12	fade out end meter
SYS CHANGE	40038	Integer	1	R		0 /100	System change
UI YN VALUE	40039	Unsigned Integer	1	R/W	0 /1		YN Menu selection
END ft	40039	Float	2	R/W		0 /39.3696	fade out end feet
UI TIMER	40040	Unsigned Integer	1	R		0 /500	Menu timer
UI ERROR SCREEN	40041	Unsigned Integer	1	R/W		0 /10	Menu error screen
LOGGER INTERVAL	40041	Unsigned Integer	1	R/W	60 /120 /180 /240 /300 /360 /600 /900 /1800		timer logger interval
CAL ZERO READ	40042	Float	2	R		-10 /10	Cal zero read value
THRESHOLD AUTO	40042	Unsigned Integer	1	R/W	0 /25 /50 /75 /80 /85 /90 /95		threshold setting
THRESHOLD	40043	Float	2	R/W		0.1 /50	threshold value
CAL STANDARD VALUE	40044	Float	2	R/W		0 /10	Cal standard value
WINDOW	40045	Unsigned Integer	1	R/W	0 /10 /20 /30 /40 /50 /75		measurment window
PROFILE COUNTER	40046	Unsigned Integer	1	R		0 /40000	wiper profile counter
CAL STANDARD READ VALUE	40046	Float	2	R		0 /10	Cal standard read value
SERIAL NUMBER	40047	String	6	R			serial number
CAL HISTORY ZERO DATE	40048	Time2	2	R			Cal history last zero date
CAL HISTORY STD DATE	40050	Time2	2	R			Cal history last standard date
CAL HISTORY RESET DATE	40052	Time2	2	R			Cal history last reset date
TEST / MAINT	40053	Time2	2	R			TEST / MAINT
CALC_CAL_VALUE	40054	Float	2	R		-10 /10	Calculated Calibration Stand Gain Value
PROGRAM	40055	Float	2	R			version program
CHLORINE	40056	Float	2	R		0 /10	Chlorine value
BOOTPROG.	40057	Float	2	R			version bootloader
ABSORBANCE	40058	Float	2	R			Absorbance value
STRUCTURE	40059	Unsigned Integer	1	R		0 /255	version structure
FIRMWARE	40060	Unsigned Integer	1	R		0 /255	version firmware
GAIN	40060	Float	2	R		-10 /10	Cali Gain
CONTENT	40061	Unsigned Integer	1	R		0 /255	version content
FormatMinSL m	40062	Float	2	R			range minimum level meter
OFFSET	40062	Float	2	R		-10 /10	Cal Offset
FormatMaxSL m	40064	Float	2	R			range maximum level meter
OLD GAIN	40064	Float	2	R		0 /2.0	Old cal gain
FormatMinSL ft	40066	Float	2	R			range minimum level feet

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Name	Register	Data Type	Length	Access Mode	Discrete Range	Min / Max	Description
DARK CNT SD	40066	Float	2	R		0 /3.40282346 638529E+38	
FormatMaxSL ft	40068	Float	2	R			range maximum level feet
REF CNT SD	40068	Float	2	R		0 /3.40282346 638529E+38	
FormatMinSH m	40070	Float	2	R			range minimum height meter
SAMPLE CNT SD	40070	Float	2	R		0 /3.40282346 638529E+38	
FormatMaxSH m	40072	Float	2	R			range maximum height meter
LOW ALARM	40072	Float	2	R/W		0 /10.00	User-assigned name for a sensor
HIGH ALARM	40074	Float	2	R/W		0 /10.00	Set the high alarm relay activation point
FormatMinSH ft	40074	Float	2	R			range minimum height feet
SIGNAL AVERAGE TAG	40076	Unsigned Integer	1	R/W	0 /1 /2 /3		Signal average selection
FormatMaxSH ft	40076	Float	2	R			range maximum height feet
MEAS DURATION	40077	Unsigned Integer	1	R		0 /65535	Measurement duration
DARK_AVG	40078	Float	2	R		0 /3.40282346 638529E+38	Average Dark value
MOIST	40078	Unsigned Integer	1	R		0 /100	moisture
TEMPERATURE	40079	Unsigned Integer	1	R		0 /70	temperature °C
SIGNAL AVERAGE	40080	Float	2	R		0 /3.40282346 638529E+38	Signal average
SENSOR ANGLE	40080	Unsigned Integer	1	R		0 /100	angle of sensor
FREQUENCY	40081	Unsigned Integer	1	R		700 /1400	measurment frequency
AVERAGE	40082	Float	2	R		0 /3.40282346 638529E+38	The average value
AMPL DIAG	40082	Unsigned Integer	1	R		5 /125	measurment amplitude
LED DRIVE	40084	Float	2	R		0 /100	LED drive in duty cycle
DEVICE FILE DOWNLOAD	40086	Unsigned Integer	1	R		0 /2	A device file was downloaded/is being downloaded
PWR_ON_TYPE	40087	Unsigned Integer	1	R		0 /100	Power on type
FLOW RATE AVG	40088	Unsigned Integer	1	R		0 /500	Flow rate average
CONFIGURE	40089	Float	2	R		0 /20.0	Old configuration value as float
CONFIGURE	40091	Unsigned Integer	1	R		0 /10	Old configuration value as integer
TriggerVal	40092	Float	2	R		0 /999.99	Triger value of event
LimitVal	40094	Float	2	R		0 /999.99	Limit value of event
DutyCycle	40096	Float	2	R		0 /3.40282346 638529E+38	Duty cycle
LimitDutyCycle	40098	Float	2	R		0 /3.40282346 638529E+38	Duty cycle limit
OLD OFFSET	40100	Float	2	R		-10 /10	Old cal offset
OutputModeInt	40102	Unsigned Integer	1	R		0 /4	Output mode as integer
OldLEDdrive	40103	Float	2	R		0 /100	Old LED drive value
WClear	40105	Unsigned Integer	1	R		0 /1	Warning cleared

Name	Register	Data Type	Length	Access Mode	Discrete Range	Min / Max	Description
SERVICE VER ZERO VALUE	40106	Float	2	R		-10 /10	Service verification zero value
SERVICE VER ZERO READ	40108	Float	2	R/W		0 /10	Service verification zero value read
SERVICE VER ZERO PASS FAIL	40110	Unsigned Integer	1	R/W	0 /1		Service verification zero pass/fail
SERVICE VER MID VALUE	40111	Float	2	R/W		0 /999	Service verification mid value
SERVICE VER MID STD VALUE	40113	Float	2	R		0 /999	Service verification mid standard value
SERVICE VER MID READ	40115	Float	2	R/W		0 /999	Service verification mid value read
SERVICE VER MID PASS FAIL	40117	Unsigned Integer	1	R/W	0 /1		Service verification mid pass/fail
SERVICE VER HIGH VALUE FIRST	40118	Float	2	R/W		0 /999	Service verification high first value
SERVICE VER HIH VALUE SECOND	40120	Float	2	R/W		0 /999	Service verification high second value
SERVICE VER HIGH STD VALUE	40122	Float	2	R		0 /999	Service verification high standard value
SERVICE VER HIGH READ	40124	Float	2	R/W		0 /999	Service verification high value read
SERVICE VER HIGH PASS FAIL	40126	Unsigned Integer	1	R/W	0 /1		Service verification high pass/fail
SERVICE SNAME	40127	String	6	R/W			
DATA SET	40133	Integer	1	R		0 /1	Data set
STEP0	40134	Unsigned Integer	2	R		0 /4294967295	
STEP1	40136	Unsigned Integer	2	R		0 /4294967295	
STEP2	40138	Unsigned Integer	2	R		0 /4294967295	
STEP3	40140	Unsigned Integer	2	R		0 /4294967295	
STEP4	40142	Unsigned Integer	2	R		0 /4294967295	
STEP5	40144	Unsigned Integer	2	R		0 /4294967295	
STEP6	40146	Unsigned Integer	2	R		0 /4294967295	
STEP7	40148	Unsigned Integer	2	R		0 /4294967295	
STEP8	40150	Unsigned Integer	2	R		0 /4294967295	
STEP9	40152	Unsigned Integer	2	R		0 /4294967295	
STEP10	40154	Unsigned Integer	2	R		0 /4294967295	
STEP39	40156	Unsigned Integer	2	R		0 /4294967295	
STEP40	40158	Unsigned Integer	2	R		0 /4294967295	
STEP41	40160	Unsigned Integer	2	R		0 /4294967295	
STEP42	40162	Unsigned Integer	2	R		0 /4294967295	
STEP43	40164	Unsigned Integer	2	R		0 /4294967295	

Name	Register	Data Type	Length	Access Mode	Discrete Range	Min / Max	Description
STEP44	40166	Unsigned Integer	2	R		0 /4294967295	
STEP45	40168	Unsigned Integer	2	R		0 /4294967295	
STEP46	40170	Unsigned Integer	2	R		0 /4294967295	
STEP47	40172	Unsigned Integer	2	R		0 /4294967295	
STEP48	40174	Unsigned Integer	2	R		0 /4294967295	
STEP49	40176	Unsigned Integer	2	R		0 /4294967295	
STEP50	40178	Unsigned Integer	2	R		0 /4294967295	
STEP51	40180	Unsigned Integer	2	R		0 /4294967295	
STEP52	40182	Unsigned Integer	2	R		0 /4294967295	
STEP53	40184	Unsigned Integer	2	R		0 /4294967295	
STEP54	40186	Unsigned Integer	2	R		0 /4294967295	
STEP55	40188	Unsigned Integer	2	R		0 /4294967295	
STEP56	40190	Unsigned Integer	2	R		0 /4294967295	
STEP57	40192	Unsigned Integer	2	R		0 /4294967295	
STEP58	40194	Unsigned Integer	2	R		0 /4294967295	
STEP59	40196	Unsigned Integer	2	R		0 /4294967295	
STEP60	40198	Unsigned Integer	2	R		0 /4294967295	
STEP61	40200	Unsigned Integer	2	R		0 /4294967295	
STEP62	40202	Unsigned Integer	2	R		0 /4294967295	
STEP63	40204	Unsigned Integer	2	R		0 /4294967295	
STEP64	40206	Unsigned Integer	2	R		0 /4294967295	
STEP65	40208	Unsigned Integer	2	R		0 /4294967295	
STEP66	40210	Unsigned Integer	2	R		0 /4294967295	
STEP67	40212	Unsigned Integer	2	R		0 /4294967295	
STEP68	40214	Unsigned Integer	2	R		0 /4294967295	
STEP69	40216	Unsigned Integer	2	R		0 /4294967295	
STEP70	40218	Unsigned Integer	2	R		0 /4294967295	
STEP71	40220	Unsigned Integer	2	R		0 /4294967295	
STEP72	40222	Unsigned Integer	2	R		0 /4294967295	

Name	Register	Data Type	Length	Access Mode	Discrete Range	Min / Max	Description
STEP73	40224	Unsigned Integer	2	R		0 /4294967295	
STEP74	40226	Unsigned Integer	2	R		0 /4294967295	
STEP75	40228	Unsigned Integer	2	R		0 /4294967295	
STEP76	40230	Unsigned Integer	2	R		0 /4294967295	
STEP77	40232	Unsigned Integer	2	R		0 /4294967295	
STEP78	40234	Unsigned Integer	2	R		0 /4294967295	
STEP79	40236	Unsigned Integer	2	R		0 /4294967295	
STEP80	40238	Unsigned Integer	2	R		0 /4294967295	
STEP81	40240	Unsigned Integer	2	R		0 /4294967295	
STEP82	40242	Unsigned Integer	2	R		0 /4294967295	
STEP83	40244	Unsigned Integer	2	R		0 /4294967295	
STEP84	40246	Unsigned Integer	2	R		0 /4294967295	
STEP85	40248	Unsigned Integer	2	R		0 /4294967295	
STEP94	40250	Unsigned Integer	2	R		0 /4294967295	
STEP95	40252	Unsigned Integer	2	R		0 /4294967295	
STEP96	40254	Unsigned Integer	2	R		0 /4294967295	
STEP97	40256	Unsigned Integer	2	R		0 /4294967295	
STEP98	40258	Unsigned Integer	2	R		0 /4294967295	
STEP99	40260	Unsigned Integer	2	R		0 /4294967295	
STEP100	40262	Unsigned Integer	2	R		0 /4294967295	
STEP101	40264	Unsigned Integer	2	R		0 /4294967295	
STEP102	40266	Unsigned Integer	2	R		0 /4294967295	
STEP103	40268	Unsigned Integer	2	R		0 /4294967295	
STEP104	40270	Unsigned Integer	2	R		0 /4294967295	
STEP105	40272	Unsigned Integer	2	R		0 /4294967295	
STEP106	40274	Unsigned Integer	2	R		0 /4294967295	
STEP107	40276	Unsigned Integer	2	R		0 /4294967295	
STEP108	40278	Unsigned Integer	2	R		0 /4294967295	
STEP109	40280	Unsigned Integer	2	R		0 /4294967295	

Name	Register	Data Type	Length	Access Mode	Discrete Range	Min / Max	Description
STEP110	40282	Unsigned Integer	2	R		0 /4294967295	
STEP111	40284	Unsigned Integer	2	R		0 /4294967295	
STEP112	40286	Unsigned Integer	2	R		0 /4294967295	
STEP113	40288	Unsigned Integer	2	R		0 /4294967295	
STEP114	40290	Unsigned Integer	2	R		0 /4294967295	
STEP115	40292	Unsigned Integer	2	R		0 /4294967295	
STEP116	40294	Unsigned Integer	2	R		0 /4294967295	
STEP117	40296	Unsigned Integer	2	R		0 /4294967295	
STEP118	40298	Unsigned Integer	2	R		0 /4294967295	
STEP119	40300	Unsigned Integer	2	R		0 /4294967295	
STEP120	40302	Unsigned Integer	2	R		0 /4294967295	
STEP121	40304	Unsigned Integer	2	R		0 /4294967295	
STEP122	40306	Unsigned Integer	2	R		0 /4294967295	
STEP123	40308	Unsigned Integer	2	R		0 /4294967295	
STEP124	40310	Unsigned Integer	2	R		0 /4294967295	
STEP125	40312	Unsigned Integer	2	R		0 /4294967295	
STEP126	40314	Unsigned Integer	2	R		0 /4294967295	
STEP127	40316	Unsigned Integer	2	R		0 /4294967295	
STEP128	40318	Unsigned Integer	2	R		0 /4294967295	
STEP129	40320	Unsigned Integer	2	R		0 /4294967295	
STEP130	40322	Unsigned Integer	2	R		0 /4294967295	
STEP131	40324	Unsigned Integer	2	R		0 /4294967295	
STEP132	40326	Unsigned Integer	2	R		0 /4294967295	
STEP133	40328	Unsigned Integer	2	R		0 /4294967295	
STEP134	40330	Unsigned Integer	2	R		0 /4294967295	
UNUSEDA	40332	Unsigned Integer	1	R/W		0 /0	
UNUSEDC	40333	Unsigned Integer	2	R/W		0 /0	
UNUSEDB	40335	Unsigned Integer	2	R/W		0 /0	
SYSTEM ERROR	40337	Unsigned Integer	1	R		0 /11	

Name	Register	Data Type	Length	Access Mode	Discrete Range	Min / Max	Description
TRIGGER VALUE	40339	Unsigned Integer	2	R		0 /4294967295	
LIMIT VALUE	40341	Unsigned Integer	2	R		0 /4294967295	

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