Modbus Register
sc200 Conductivity Ind Module

V2.02

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sc200 Conductivity Ind Module V2.02

Name	Register	Data Type	Length	Access Mode	Discrete Range	Min / Max	Description
Cond-uS/cm	40001	Float	2	R		0 /9999.0	The conductivity value in uS/cm
TEMP C	40003	Float	2	R		-999.9 /999.9	The temperature value in degree C
CONC	40005	Float	2	R		0 /200	The concentration measurement
TDS	40007	Float	2	R		0 /99999	The TDS measurement
SALINITY	40009	Float	2	R		2 /42	The salinity measurement
SENSOR MEASURE	40011	Unsigned Integer	1	R		0 /65535	The sensor measurement tag
COND	40012	Unsigned Integer	1	R		0 /2000000	The conductivity measurement tag
Cond-mS/cm	40013	Float	2	R		0 /9999.0	The conductivity value in mS/cm
Cond-S/cm	40015	Float	2	R		0 /100.0	The conductivity value in S/cm
COND IN uS/m	40017	Float	2	R		0 /999999.0	The conductivity value in uS/m
COND IN mS/m	40019	Float	2	R		0 /999999.0	The conductivity value in umS/m
COND IN S/m	40021	Float	2	R		0 /2200.0	The conductivity value in S/m
SOLN VALUE	40023	Float	2	R		0 /9999.9	The conductivity solution value
TAGGED FORMAT	40025	Unsigned Integer	2	R		0 /4294967295	The display format tag
TEMP RAW	40027	Float	2	R		?	The raw temperature value
Y MIN	40029	Float	2	R		0.0 /1.0	The min. Y value in user table configuration
Y MAX	40031	Float	2	R		99.0 /200.0	The max. Y value in user table configuration
TABLE MAX	40033	Float	2	R		0 /10000	The max. X value in user table configuration
TABLE MIN	40035	Float	2	R		0.0 /32.0	The min. X value in user table configuration
HTRY MEASURE	40037	Unsigned Integer	1	R		0 /65535	The measuremnet tag in cal history
HTRY ACTUAL	40038	Unsigned Integer	1	R		0 /65535	The actual measurement tag in cal history
HTRY COND	40039	Float	2	R		0 /2000000	The conductivity measurement in cal history
HTRY ACT COND	40041	Float	2	R		0 /2000000	The actual conductivity value in cal history
HTRY CONC	40043	Float	2	R		0 /101	The concentration measurement in cal history
HTRY ACT CONC	40045	Float	2	R		0 /101	The actual measured concentration value in cal history
HTRY TDS	40047	Float	2	R		0 /99999	The TDS measurement in cal history
HTRY ACT TDS	40049	Float	2	R		0 /99999	The actual measured TDS value in cal history
HTRY SALINITY	40051	Float	2	R		0 /10000	The salinity measurement in cal history
HTRY ACT SAL	40053	Float	2	R		0 /10000	The actual measured salinity value in cal history
HTRY TGED FMAT	40055	Unsigned Integer	2	R		0 /2000000000	The display format tag in cal history
COND SOLN	40057	Float	2	R		0 /2000000	The conductivity solution value in cal history
HTRY COND ACT	40059	Float	2	R		0 /2000000	The actual measured conductivity solution value in cal history
HTRY TEMP	40061	Float	2	R		-20 /200	The temperature value in cal history
HTRY CELL VAL	40063	Float	2	R		2.0 /7.0	The cell constant value in cal history
RANGE 1	40065	Float	2	R		-999999.9 /999999.9	The zero value at range 1 in cal history
RANGE 2	40067	Float	2	R		-999999.9 /999999.9	The zero value at range 2 in cal history
RANGE 3	40069	Float	2	R		-999999.9 /999999.9	The zero value at range 3 in cal history
RANGE 4	40071	Float	2	R		-999999.9 /999999.9	The zero value at range 4 in cal history
RANGE 5	40073	Float	2	R		-999999.9 /999999.9	The zero value at range 5 in cal history

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RANGE 6	40075	Float	2	R		-999999.9 /999999.9	The zero value at range 6 in cal history
RANGE 7	40077	Float	2	R		-999999.9 /999999.9	The zero value at range 7 in cal history
GAIN VALUE	40079	Integer	1	R		0 /14	The range value-0,1,2,3,4,5 and 6
TEMP	40080	Unsigned Integer	1	R		0 /65535	The temperature measurement tag
TEMP F	40081	Float	2	R		-999.9 /999.9	The temperature value in degree F
OFFSET	40083	Float	2	R		-9999999.9 /9999999.9	The temperature cal offset
TEMP SLOPE	40085	Float	2	R		-10.0 /10.0	The temperature cal slope
NAME	40087	String	8	R/W			The sensor name
PARAMETERS	40095	Unsigned Integer	1	R/W	0 /1 /2 /4		The measurement parameter-0-Conductivity, 1-TDS, 4-Concentration, and 3-Salinity
TEMP UNITS	40096	Unsigned Integer	1	R/W	U25 /26		The temperature units: 25-C or26- F
HTRY TEMP UNITS	40097	Unsigned Integer	1	R	U25 /26		The temperature units-C or F in cal history
FILTER	40098	Unsigned Integer	1	R/W		0 /200	The filter value
TEMP ELEMENT	40099	Unsigned Integer	1	R/W	0 /1 /4		The temperature element type-0-PT100, 1-PT1000 or 4-Manual
USER TEMP	40100	Unsigned Integer	1	R		0 /65535	The temperature user value tag in manual mode
USER TEMP C	40101	Float	2	R/W		-20 /200	The temperature user value in degree C
USER TEMP F	40103	Float	2	R/W		0 /392	The temperature user value in degree F
OUTPUT MODE	40105	Unsigned Integer	1	R/W	0 /1 /2		The output mode during calibration:0-ACTIVE,1-HOLD, 2-TRANSFER
CAL LEAVE	40106	Unsigned Integer	1	R/W	0 /1 /2		The leave option during calibration:0-QUIT_CAL, 1-BACK_TO_CAL,2- LEAVE_CAL
SOFTWARE VERS	40107	Float	2	R		0 /100	The application code version
SERIAL NUMBER	40109	String	8	R/W			The sensor serial number
BOOTLOADER VERS	40117	Float	2	R		0 /9.99	The boot code version
SENS INTERVAL	40119	Unsigned Integer	1	R/W	0 /1 /2 /3 /4 /5 /6 /7 /8		The sensor data log interval:0-5_sec, 1-30_sec, 2-1_min, 3-2_min, 4-5_min, 5-10_min, 6-15_min, 7-30_min,8-60_min
SENSOR DAYS	40120	Unsigned Integer	1	R		0 /32000	The sensor operation days
DRIVER VERS	40121	Unsigned Integer	1	R		0 /999	The device driver version
COND UNITS	40122	Unsigned Integer	1	R/W	U50 /51 /32		The conductivity units selction-50-uS/cm, 51-mS/cm and 32-S/cm.
COND UNITS LIST	40123	Unsigned Integer	1	R/W	0 /50 /51 /32		The conductivity units list- 0-Auto,50-uS/cm, 51-mS/cm and 32-S/cm
MEAS UNITS	40124	Unsigned Integer	1	R	U50 /51 /32 /37 /2 /31 /10 /25 /26 /114		The all measurement units list
HTRY COND UNITS	40125	Unsigned Integer	1	R	U50 /51 /32		The conductivity units in cal history
CELL VAL	40126	Float	2	R/W		3 /7	The cell constant value based on the current cell constant K
CAL CELL VAL	40128	Float	2	R		2.0 /8.0	The cell constant value
SOLN REF TEMP	40130	Float	2	R/W		-20 /200	The reference temperature value in cond solution cal
SOLN TEMP SLOPE	40132	Float	2	R/W		0.0 /4.0	The temperature slope in cond solution cal
LINEAR REF TEMP	40134	Float	2	R/W		-20 /200	The reference temperature value in linear T compensation

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Name	Register	Data Type	Length	Access Mode	Discrete Range	Min / Max	Description
LINEAR TEMPSLOPE	40136	Float	2	R/W		0 /4	The temperature slope value in linear T compensation
DISPLAY FORMAT	40138	Unsigned Integer	1	R/W	0 /1 /2 /3 /4		The display format: 0-AUTO, 1-X.XXX, 2-XX.XX, 3-XXX.X, 4-XXXX
CAL EDIT TAG	40139	Unsigned Integer	1	R		0 /65535	The user value tag
COND VALUE	40140	Float	2	R/W		0 /9999.99	The conductivity user cal value
EDIT SOLN VAL	40142	Float	2	R/W		0 /9999.9	The cond solution cal user value
CONC VALUE	40144	Float	2	R/W		0 /200	The concentration user cal value
EDIT TDS	40146	Float	2	R/W		0 /99999.9	The TDS user cal value
EDIT SALINITY	40148	Float	2	R/W		2 /42	The salinity user cal value
COND TC TYPE	40150	Unsigned Integer	1	R/W	0 /4 /2 /3		The cond temperature compensation type-0- linear, 4-natural water,2-user, and 3-none
CONC TC TYPE	40151	Unsigned Integer	1	R/W	0 /2 /3		The conc temperature compensation type-0-linear, 2-user and 3-none
TDS TC TYPE	40152	Unsigned Integer	1	R/W	0 /2 /3		The TDS temperature compensation type-linear, user and none
CONC COMP TYPE	40153	Unsigned Integer	1	R/W	0 /1		The concentration compensation type-0-built-in or 1-user table
BUILT-IN	40154	Unsigned Integer	1	R/W	1 /2 /3 /4 /5 /6 /7 /8 /9 /10		The built-in conc compensation type:1-H3PO4_0_40%, 2-HCl_0_18%, 3-HCl_22_36%, 4-NaOH_0_16%, 5-CaCl2_0_22%, 6-HNO3_0_28%,7-HNO3_36_96%, 8-H2SO4_0_30%, 9-H2SO4_40_80%, 10-H2SO4_93_99%, 11-HF, 12-NaCl, 13-HBr,14-KOH,15-Sea Water
TDS FACTOR TYPE	40155	Unsigned Integer	1	R/W	0 /1		TDS compensation type-0-NaCl or 1-user-defined
TDS FACTOR	40156	Float	2	R/W		0.01 /99.99	The TDS factor
TABLE ACTION	40158	Unsigned Integer	1	R/W	0 /1 /2		The action option in user table configuration:0-INSERT_POINT, 1-EDIT_POINT, 2-DELETE_POINT
SAVE TABLE	40159	Unsigned Integer	1	R/W	0 /1 /2		The save table configuration:0-SAVE_CHANGES, 1-BACK_TO_TABLE, 2-CANCEL
X UNITS	40160	Unsigned Integer	1	R	U50 /51 /32 /37 /2 /31 /10 /25 /26 /114		The X units in user table: 50-uS/cm,51-mS/cm,32-S/cm,37-M ohm,2-ppm,31-ppt,10-%,25-C, 26-F
Y UNITS	40161	Unsigned Integer	1	R	U50 /51 /32 /37 /2 /31 /10 /25 /26 /114		The Y units in user table:50-uS/cm,51-mS/cm,32-S/cm,37-M ohm,2-ppm,31-ppt,10-%,25-C, 26-F
X VALUE	40162	Float	2	R/W		?	The X1 point in user table
P2	40164	Unsigned Integer	1	R/W	0 /1		The X2 point in user table
P3	40165	Unsigned Integer	1	R/W	0 /1 /2		The X3 point in user table
P4	40166	Unsigned Integer	1	R/W	0 /1 /2 /3		The X4 point in user table
P5	40167	Unsigned Integer	1	R/W	0 /1 /2 /3 /4		The X5 point in user table
P6	40168	Unsigned Integer	1	R/W	0 /1 /2 /3 /4 /5		The X6 point in user table
P7	40169	Unsigned Integer	1	R/W	0 /1 /2 /3 /4 /5 /6		The X7 point in user table
P8	40170	Unsigned Integer	1	R/W	0 /1 /2 /3 /4 /5 /6 /7		The X8 point in user table
P9	40171	Unsigned Integer	1	R/W	0 /1 /2 /3 /4 /5 /6 /7 /8		The X9 point in user table
P10	40172	Unsigned Integer	1	R/W	0 /1 /2 /3 /4 /5 /6 /7 /8 /9		The X10 point in user table

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Name	Register	Data Type	Length	Access Mode	Discrete Range	Min / Max	Description
Y VALUE	40173	Float	2	R/W		?	The Y point in user table
RAW COND	40175	Float	2	R		0 /2000000	The raw conductivity value- not temperature compensated
RAW COND SIGNAL	40177	Float	2	R		0 /2000000	The raw conductance value
OP ID	40179	Unsigned Integer	1	R/W	0 /1		The OP ID:0-no or 1-yes
CAL REMINDER	40180	Unsigned Integer	1	R/W	0 /1 /2 /3 /4 /5 /6 /7 /8 /9		The cal reminder option: 0- OFF, 1-1_DAY, 2-7_DAYS, 3-30_DAYS,4-60_DAYS, 5-90_DAYS, 6-6_MONTHS, 7-9_MONTHS,8-1_YEAR,9-2_YEARS
MIN LMIT VALUE	40181	Float	2	R		-9999999.9 /9999999.9	The min. value
MAX LIMIT VALUE	40183	Float	2	R		-9999999.9 /9999999.9	The max. value
MINIMUM	40185	Float	2	R		-25 /0	The min. temperature value
MAXIMUM	40187	Float	2	R		0 /400	The max. temperature value
DATE	40189	Time2	2	R			The last cal date
TIME	40191	Time2	2	R			The last cal time
STATUS	40193	Unsigned Integer	1	R	0 /1		The last cal status
CAL TYPE	40194	Unsigned Integer	1	R	17 /7 /10 /9 /11 /5 /12 /1 /3 /8		The last cal type:DEFAULT = 17, SAMPLE_CAL = 7, CONC_CAL = 10, COND_CAL = 9, TDS_CAL = 11,ZERO_CAL = 5, SALINITY_CAL = 12, _1_PT_SAMPLE = 1, _2_PT_SAMPLE = 3,COND_SOLN = 8
OP ID	40195	String	2	R/W			The operator initilals
CAL DAYS	40197	Unsigned Integer	1	R		0 /10000	The days since last calibration
MESSAGES	40198	Unsigned Integer	1	R	0 /1 /2 /3 /4 /5 /6 /7 /8 /9 /10 /11 /12 /13 /14		The cal message:1-CAL_READY, 2-CAL_OK, 3-TIME_EXP, 4-NO_BUFFER, 5-SLOPE_HI, 6-SLOPE_LOW, 7-OFFSET_HI, 8-OFFSET_LOW, 9-PTS_CLOSE, 10-CAL_FAIL, 11-DO_LOW,12-CAL_HIGH, 13-K_OUTRANGE, 14-UNSTABLE
CARD SERIAL NO	40199	String	6	R			The module serial number
LOG FLOAT	40205	Float	2	R		-9999999.9 /9999999.9	The float data type in configuration-change event
LOG TEXT	40207	String	8	R			The text data type in configuration-change event
LOG INT	40215	Integer	1	R		-32768 /32767	The integer data type in configuration-change event
LOG PARAM	40216	String	8	R			The parameter in configuration-change event
DATE 1	40224	Time2	2	R			The date 1 in cal history
DATE 2	40226	Time2	2	R			The date 2 in cal history
DATE 3	40228	Time2	2	R			The date 3 in cal history
DATE 4	40230	Time2	2	R			The date 4 in cal history
DATE 5	40232	Time2	2	R			The date 5 in cal history
DATE 6	40234	Time2	2	R			The date 6 in cal history
TIME 1	40236	Time2	2	R			The time 1 in cal history
TIME 2	40238	Time2	2	R			The time 2 in cal history
TIME 3	40240	Time2	2	R			The time 3 in cal history
TIME 4	40242	Time2	2	R			The time 4 in cal history
TIME 5	40244	Time2	2	R			The time 5 in cal history
TIME 6	40246	Time2	2	R			The time 6 in cal history
PAGE NO.	40248	Unsigned Integer	1	R		0 /65535	The page number in cal history
HIDDEN LINE	40249	Unsigned Integer	1	R		0 /65535	The line hidden tag in cal history

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Name	Register	Data Type	Length	Access Mode	Discrete Range	Min / Max	Description
HIGHLIGHT LINE	40250	Unsigned Integer	1	R		0 /65535	The line highlight tag in cal history
RESUME READING	40251	Unsigned Integer	1	R/W	0 /1 /2 /3 /4 /5 /6 /7 /8 /9 /10		The resume reading time delay after calibration:0-lMANUAL, 1-1_MIN, 2-2_MINS, 3-3_MINS, 4-4_MINS, 5-5_MINS, 6-6_MINS,7-7_MINS, 8-8_MINS,9-9_MINS, 10-10_MINS
NEXT STATE	40252	Unsigned Integer	1	R		0 /65535	The next state tag
FUNCTION CODE	40253	Unsigned Integer	1	R/W		0 /65535	The function code tag
CAL RANGE	40254	Unsigned Integer	1	R/W	0 /1 /2 /3 /4		The range number selection:0-R1___1_OHM, 1-R2____5_OHM, 2-R3____50_OHM, 3-R4___500_OHM, 4-R5___5K_OHM
VALUE	40255	Float	2	R		0 /999999.9	The sense/drive ration value
SENSE	40257	Float	2	R		0 /5000.0	The sense value
DRIVE	40259	Float	2	R		0 /5000.0	The drive value
OFFSET	40261	Float	2	R		0 /5000	The offset value
RES ONE	40263	Float	2	R/W		0 /2	The resistor value
RES TEN	40265	Float	2	R/W		9 /11	The resistor value
SET RES VALUE	40267	Float	2	R/W		0 /999999	The resistor value for factory cal
SELECT RANGE	40269	Integer	1	R/W		0 /5	The range selection
SET GAIN	40270	Float	2	R/W		0 /999999.9	The gain constant for each range
SET DELTA VALUE	40272	Float	2	R/W		-99999.99 /99999.99	The manual delta correction
SET T FACTOR	40274	Float	2	R/W		0 /1500	The T factor value
Factory Cal Mode	40276	Unsigned Integer	1	R/W		0 /5	The factory cal mode option - on or off
TempElemLeakage ICO	40277	Float	2	R/W			The leakage current in temperature element
PhaseShift ICO	40279	Unsigned Integer	1	R/W		0 /65535	The phase shift value
PhaseShift ICO	40280	Unsigned Integer	1	R		0 /65535	The phase shift value in cal history
CondValueMicroS Int ICO	40281	Unsigned Integer	2	R		0 /9999999	The integer value of conductivity in uS/cm
ConcMeas Int ICO	40283	Unsigned Integer	1	R		0 /200	The interger value of concentration in %
TDSMeas Int ICO	40284	Unsigned Integer	2	R		0 /9999999	The interger value of TDS in ppm
SalinityMeas Int ICO	40286	Unsigned Integer	1	R		0 /100	The interger value of Salinity in ppt
TempDegCMeas Int ICO	40287	Integer	1	R		-20 /200	The interger value of Temperature in degree C
TempDegFMeas Int ICO	40288	Integer	1	R		-4 /392	The interger value of Temperature in degree F
NewSensor ICO	40289	Unsigned Integer	1	R/W	1 /0		The new sensor option - yes or no
TempR1Value	40290	Float	2	R/W		1900 /2500	The temperature circuit R1 value
TempR2Value	40292	Float	2	R/W		90 /150	The temperature circuit R2 value
TEMP CAL RAW	40294	Float	2	R		-999.9 /999.9	The temperture cal raw value
TEMP CAL OFFSET	40296	Float	2	R/W		-999.9 /999.9	The temperature cal offset value
TEMP CAL USER	40298	Float	2	R/W		-999.9 /999.9	The temperature cal user value
DD CONTENT	40300	Unsigned Integer	1	R		0 /999	The device driver content version

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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