

# Modbus Register sc200 DO Module

V2.02



*Be Right™*

sc200 DO Module V2.02

Name	Register	Data Type	Length	Access Mode	Discrete Range	Min / Max	Description
DO	40001	Unsigned Integer	1	R		0 /2000	DO measure tag selection
DO	40002	Unsigned Integer	1	R		0 /2000	DO alternate tag (unused)
TEMPERATURE	40003	Unsigned Integer	1	R		0 /65535	Temperature tag selection
TEMP C	40004	Float	2	R		0 /50	Calculated temp in C
TEMP F	40006	Float	2	R		32 /122	Calculated temp in F
EDIT TEMP	40008	Float	2	R/W		-200 /400	Temp cal edit value tag selection
DO	40010	Float	2	R		0 /40	DO in ppm
DO	40012	Float	2	R		0 /40	DO in mg/l
DO	40014	Float	2	R		0 /200	DO in % saturation
FUNCTION CODE	40016	Unsigned Integer	1	R/W		0 /65535	Menu function code
NEXT STATE	40017	Unsigned Integer	1	R		0 /65535	Menu next state
TEMP UNITS	40018	Unsigned Integer	1	R/W	U25 /26		Select unit of temp (C=25, F=26)
HTRY TEMP UNITS	40019	Unsigned Integer	1	R	U25 /26		Temp tag for cal history(C=25, F=26)
FILTER	40020	Unsigned Integer	1	R/W		0 /60	DO Measurement filter selection (0-60) seconds
TEMP ELEMENT	40021	Unsigned Integer	1	R/W	3 /4		Temperature element type selection (NTC30K=3, MANUAL=4)
USER TEMP	40022	Unsigned Integer	1	R		0 /65535	User entered temp value tag selection
USER TEMP C	40023	Float	2	R/W		0 /50	User entered temp value in C
USER TEMP F	40025	Float	2	R/W		32 /122	User entered temp value in F
READING.	40027	Unsigned Integer	1	R/W	0 /1 /2 /3 /4 /5 /6 /7 /8 /9 /10		Resume delay after cal (no=0, 1_min=1,2_min=2, 3_min=3, 4_min=4, 5_min=5, 6_min=6, 7_min=7,8_min=8, 9_min=9,10_min=10)
PRESSURE UNITS	40028	Unsigned Integer	1	R/W	45 /43 /13 /136 /62 /46		Units of pressure selection (m=13, ft=43, mmHg=45, inHg=46, KPa=62, mBar=136)
SALINITY UNITS	40029	Unsigned Integer	1	R/W	U55 /51		Units of salinity selection(mMol/l=55, mS/cm=51)
PRESSURE TAG	40030	Unsigned Integer	1	R		0 /65535	Pressure tag selection
PRESSURE IN mmHg	40031	Float	2	R/W		539 /792	PRESSURE IN mmHg
PRESSURE IN m	40033	Float	2	R/W		-349.1 /2804.25	PRESSURE IN m
PRESSURE IN ft	40035	Float	2	R/W		-1145.3 /9200.316	PRESSURE IN ft
PRESSURE IN mbar	40037	Float	2	R/W		718.606 /1055.91	PRESSURE IN mbar
PRESSURE IN kPa	40039	Float	2	R/W		71.861 /105.591	PRESSURE IN kPa
PRESSURE IN inHg	40041	Float	2	R/W		21.22 /31.181	PRESSURE IN inHg
SALINITY TAG	40043	Unsigned Integer	1	R		0 /65535	Salinity tag selection
SALINITY - MS	40044	Float	2	R/W		0 /76.09	SALINITY in mS
SALINITY	40046	Float	2	R/W		0 /999.9	Salinity in mMol/L
MEAS UNITS	40048	Unsigned Integer	1	R/W	2 /0 /10		DO measurement unit selection(mg/l=0, ppm=2, % sat=10)
OUTPUT MODE	40049	Unsigned Integer	1	R/W	0 /1 /2		Output mode selection tag(Active=0, Hold=1, Transfer=2)

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CAL LEAVE	40050	Unsigned Integer	1	R/W	0 /1 /2		Cal leave flag(Quit=0, Back to cal=1, Leave=2)
CAL EDIT VALUE	40051	Unsigned Integer	1	R		0 /65535	Cal edit value tag selection
CAL EDIT DO	40052	Float	2	R/W		0 /40	Cal edit value ppm units
SOFTWARE VERS	40054	Float	2	R		0 /3.40282346638529E+38	Software version
MODULE SERIAL NO	40056	String	6	R			MODULE SERIAL NO
BOOTLOADER VER	40062	Float	2	R		0 /9.99	BOOTLOADER VER
SENS INTERVAL	40064	Unsigned Integer	1	R/W	0 /1 /2 /3 /4 /5 /6 /7 /8		Log interval selection(5s=0,30s=1,1m=2,2m=3,5m=4,10m=5,15m=6,30m=7,60m=8)
CAL FACTOR	40065	Float	2	R		-100 /100	Partial oxygen cal factor
SENSOR SIGNAL	40067	Float	2	R		-5000 /5000	Sensor signal in mV
MEMBRANE DAYS	40069	Integer	1	R		0 /32000	Membrane life in days
DRIVER VERS	40070	Unsigned Integer	1	R		0 /1000	Device driver version
SLOPE	40071	Float	2	R		-800 /800	Calculated slope
SERIAL NUMBER	40073	String	8	R/W			Sensor SERIAL NUMBER
OP ID ON CAL	40081	Unsigned Integer	1	R/W	0 /1		Operator ID required for cal (no=0, yes=1)
CAL REMINDER	40082	Unsigned Integer	1	R/W	0 /1 /2 /3 /4 /5 /6 /7 /8 /9		Cal reminder selection (OFF=0, 1_DAY=1, 7_DAYS=2, 30_DAYS=3, 60_DAYS=4,90_DAYS=5, 6_MONTHS=6, 9_MONTHS=7, 1_YEAR=8, 2_YEARS=9)
CalEditDOValueSat DO	40083	Float	2	R/W		0 /200	User cal edit value in % saturation
MAXIMUM	40085	Float	2	R		0 /200	Meas max limit tag
PT A USER	40087	Float	2	R		-200 /400	Cal history - pt A user entered temperature
PT B USER	40089	Float	2	R		-200 /400	Cal history - pt B user entered temperature
PT A ACTUAL	40091	Float	2	R		-200 /400	Cal history - pt A actual temperature
PT B ACTUAL	40093	Float	2	R		-200 /400	Cal history - pt B actual temperature
PT A mV	40095	Float	2	R		0 /2500	Cal history - pt A mV
PT B mV	40097	Float	2	R		0 /2500	Cal history - pt AB mV
OFFSET	40099	Float	2	R			Temperature offset
HTRY TEMP OFFSET	40101	Float	2	R			Cal history - Temperature offset
TEMP SLOPE	40103	Float	2	R		-10.0 /10.0	Cal - temperature slope
HTRY TEMP SLOPE	40105	Float	2	R		-10.0 /10.0	Cal history - temperature slope
CAL DATE	40107	Time2	2	R			Calibration date
CAL TIME	40109	Time2	2	R			Calibration time
CAL STATUS	40111	Unsigned Integer	1	R	0 /1		Calibration status(Fail=0, Pass=1)
CAL TYPE	40112	Unsigned Integer	1	R	0 /13 /7 /14 /15 /16 /5		Calibration type(Default=0,Zero=5, Sample=7, Air=13, Saturation=14, 1pt Sample=15, 2pt Sample=16 )
DO CAL	40113	Float	2	R		0 /200	Measured DO at calibration
DO CAL MV	40115	Float	2	R		-5000 /5000	Measured mV at calibration
DO CAL TEMP	40117	Float	2	R		-20 /200	Measured temperature at calibration
DO CAL UNIT	40119	Unsigned Integer	1	R	2 /0 /10		DO unit at calibration(mg/l=0, ppm=2, % sat=10)
OP ID	40120	String	2	R/W			Calibration operator ID/initials

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Name	Register	Data Type	Length	Access Mode	Discrete Range	Min / Max	Description
CAL DAYS	40122	Unsigned Integer	1	R		0 /10000	Days since last calibration
MSGS	40123	Unsigned Integer	1	R	0 /1 /2 /3 /4 /5 /6 /7 /8 /9 /10 /11 /12 /13 /14		Cal message
CAL WARN MSG	40124	Unsigned Integer	1	R	0 /1 /2 /3 /4 /5 /6 /7 /8 /9 /10 /11 /12 /13 /14		Cal status messages for display
LOG FLOAT	40125	Float	2	R			Tag for event log involving float
LOG TEXT	40127	String	8	R			Tag for event log involving text
LOG INT	40135	Integer	1	R		-32768 /32767	Tag for event log involving integers
LOG PARAM	40136	String	8	R			Tag for event log involving passed parameter
DATE 1	40144	Time2	2	R			Cal history date 1
DATE 2	40146	Time2	2	R			Cal history date 2
DATE 3	40148	Time2	2	R			Cal history date 3
DATE 4	40150	Time2	2	R			Cal history date 4
DATE 5	40152	Time2	2	R			Cal history date 5
DATE 6	40154	Time2	2	R			Cal history date 6
TIME 1	40156	Time2	2	R			Cal history time 1
TIME 2	40158	Time2	2	R			Cal history time 2
TIME 3	40160	Time2	2	R			Cal history time 3
TIME 4	40162	Time2	2	R			Cal history time 4
TIME 5	40164	Time2	2	R			Cal history time 5
TIME 6	40166	Time2	2	R			Cal history time 6
PAGE NO:	40168	Unsigned Integer	1	R		0 /65535	Cal history page number
HIDDEN LINE	40169	Unsigned Integer	1	R		0 /65535	Cal history page hidden item
HIGH LIGHT LINE	40170	Unsigned Integer	1	R		0 /65535	Cal history page highlighted item
SensorType DO	40171	Unsigned Integer	1	R		0 /5	Test register for sensor type
NewSensor DO	40172	Unsigned Integer	1	R/W	1 /0		New sensor flag(No=0, Yes=1)
DO Int	40173	Unsigned Integer	1	R		0 /2000	DO (integer)
TEMP C int	40174	Integer	1	R		-20 /200	Temp C (integer)
TEMP F int	40175	Integer	1	R		-4 /392	Temp F (integer)
TEMP CAL RAW	40176	Float	2	R		-999.9 /999.9	Raw temp value at calibration
TEMP CAL OFFSET	40178	Float	2	R		-999.9 /999.9	Temp offset value at calibration
TEMP. CAL USER	40180	Float	2	R/W		-999.9 /999.9	Temp user value at calibration
FactCalSlope DO	40182	Float	2	R/W		0 /3.402823466 38529E+38	factory cal slope
FactCalOffset DO	40184	Float	2	R/W			factory cal offset
DOD ADCcount DO	40186	Unsigned Integer	1	R		0 /65535	10 bit ADC count for factory calibration
DD CONTENT	40187	Unsigned Integer	1	R		0 /1000	device driver content version
NAME	40188	String	8	R/W			Sensor name

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DOcalADCcounts DO	40196	Float	2	R		-16777216 /16777216	adc counts during factory calibration

## 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