

# Modbus Register Phosphax sc HR

V2.20

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| Name             | Register | Data Type        | Length | Access Mode | Discrete Range                           | Min / Max         | Description                                                                                                    |
|------------------|----------|------------------|--------|-------------|------------------------------------------|-------------------|----------------------------------------------------------------------------------------------------------------|
| MEASURE VALUE 1  | 40001    | Float            | 2      | R           |                                          | ?                 | actual measurement value from channel one                                                                      |
| CHANNEL1         | 40005    | String           | 8      | R/W         |                                          |                   | Name of LOCATION 1 (see menu system)                                                                           |
| MEAS.            | 40013    | Float            | 2      | R           |                                          | 0 /99999.9        | measuring value ; photometer data                                                                              |
| MEAS. ZERO       | 40015    | Float            | 2      | R           |                                          | 0 /99999.9        | measuring zero; photometer data                                                                                |
| OFFSET MEAS.     | 40017    | Float            | 2      | R           |                                          | 0 /99999.9        | offset measuring; photometer data                                                                              |
| REF              | 40019    | Float            | 2      | R           |                                          | 0 /99999.9        | reference value; photometer data                                                                               |
| REF ZERO         | 40021    | Float            | 2      | R           |                                          | 0 /99999.9        | reference zero; photometer data                                                                                |
| OFFSET REF       | 40023    | Float            | 2      | R           |                                          | 0 /99999.9        | offset reference; photometer data                                                                              |
| AMPLIFY MEAS.    | 40025    | Integer          | 1      | R           |                                          | -100 /100         | amplification of measurement channel                                                                           |
| AMPLIFY REF      | 40026    | Integer          | 1      | R           |                                          | -100 /100         | amplification of reference channel                                                                             |
| COOLING          | 40027    | Unsigned Integer | 1      | R           |                                          | 0 /100            | percentage of cooling fan power                                                                                |
| HEATING          | 40028    | Unsigned Integer | 1      | R           | 0 /1                                     |                   | status off heating for sample tube; 0=OFF, 1=ON                                                                |
| HUMIDITY PROBE   | 40029    | Unsigned Integer | 1      | R           |                                          | 0 /100            | humidity filtration probe in percent                                                                           |
| ENCLOSURE TEMP   | 40030    | Float            | 2      | R           |                                          | 0 /99.9           | the temperature inside the analyzer                                                                            |
| ACTUAL VALUE     | 40032    | Float            | 2      | R           |                                          | ?                 | actual measurement value from channel one                                                                      |
| CHANNEL2         | 40034    | String           | 8      | R/W         |                                          |                   | location for the measuring channel two where the sample is coming from                                         |
| CONTENT          | 40042    | Unsigned Integer | 1      | R           |                                          | 0 /65535          | the entry is for the device driver file;shows the version                                                      |
| REMAINING TIME   | 40043    | Unsigned Integer | 1      | R           |                                          | 0 /65535          | remaining time of the current process                                                                          |
| CUVETTE TEMP.    | 40044    | Float            | 2      | R           |                                          | 0 /99.99          | actual cuvette temperature                                                                                     |
| PHOSPHATE-P 1    | 40046    | Float            | 2      | R           |                                          | ?                 | measurement value for channel one as PO4-P                                                                     |
| PHOSPHATE-P 2    | 40048    | Float            | 2      | R           |                                          | ?                 | measurement value for channel two as PO4-P                                                                     |
| PHOSPHATE 1      | 40050    | Float            | 2      | R           |                                          | ?                 | measurement value for channel one as PO4                                                                       |
| PHOSPHATE 2      | 40052    | Float            | 2      | R           |                                          | ?                 | measurement value for channel two as PO4                                                                       |
| PHOS.PENTOXIDE1  | 40054    | Float            | 2      | R           |                                          | ?                 | measurement value for channel one as P2O5                                                                      |
| PHOS.PENTOXIDE2  | 40056    | Float            | 2      | R           |                                          | ?                 | measurement value for channel two as P2O5                                                                      |
| DEXT LAST VALUE  | 40058    | Float            | 2      | R           |                                          | -9.99999 /9.99999 | last extinction value                                                                                          |
| HEATING ON       | 40060    | Unsigned Integer | 1      | R/W         | 0 /1 /2 /3 /4 /5 /6 /7 /8 /9 /10 /11 /12 |                   | sets the month when the sample line heating is switched ON; 0=always OFF, 1=January, 2=February to 12=December |
| HEATING OFF      | 40061    | Unsigned Integer | 1      | R/W         | 1 /2 /3 /4 /5 /6 /7 /8 /9 /10 /11 /12    |                   | sets the month when the sample line heating is switched OFF;1=January, 2=February to 12=December               |
| MEASURE VALUE 2  | 40062    | Float            | 2      | R           |                                          | ?                 | actual measurement value from channel two                                                                      |
| EXT MESS 1       | 40064    | Float            | 2      | R           |                                          | -9.99999 /9.99999 | the current measuring extinction from channel one                                                              |
| EXT MESS 2       | 40066    | Float            | 2      | R           |                                          | -9.99999 /9.99999 | the current measuring extinction from channel two                                                              |
| EXT REF          | 40068    | Float            | 2      | R           |                                          | -9.99999 /9.99999 | the current reference extinction                                                                               |
| ANALYZER HEATING | 40070    | Unsigned Integer | 1      | R           |                                          | 0 /100            | the heating of the analyzer                                                                                    |
| BUSACTION ACTIVE | 40071    | Unsigned Integer | 1      | R/W         |                                          | 0 /1              | write a one to this register to start a bus action (see Field bus control)                                     |
| BUS ANALY.START  | 40072    | Unsigned Integer | 1      | R/W         |                                          | 0 /1              | you can start the analyzer about the bus                                                                       |
| BUS SERVICE      | 40073    | Unsigned Integer | 1      | R/W         |                                          | 0 /1              | you can start the service mode about the bus                                                                   |

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| Name             | Register | Data Type        | Length | Access Mode | Discrete Range                                                                       | Min / Max          | Description                                                                                    |
|------------------|----------|------------------|--------|-------------|--------------------------------------------------------------------------------------|--------------------|------------------------------------------------------------------------------------------------|
| BUS CLEANING     | 40074    | Unsigned Integer | 1      | R/W         |                                                                                      | 0 /1               | you can start the cleaning mode about the bus                                                  |
| BUS PREPUMP REA. | 40075    | Unsigned Integer | 1      | R/W         |                                                                                      | 0 /1               | you can prepump reagent about the bus                                                          |
| BUS PREPUMP CLEA | 40076    | Unsigned Integer | 1      | R/W         |                                                                                      | 0 /1               | you can prepump cleaning solution about the bus                                                |
| BUS PREPUMP PRO. | 40077    | Unsigned Integer | 1      | R/W         |                                                                                      | 0 /1               | you can prepump the probe about the bus                                                        |
| BUS PREPUMP ALL  | 40078    | Unsigned Integer | 1      | R/W         |                                                                                      | 0 /1               | you can prepump all about the bus                                                              |
| PROBE P. MIN     | 40079    | Float            | 2      | R           |                                                                                      | 0 /2.0             | integrated value of pressure at filtration probe, if not yet calculated: nan                   |
| PROBE PRESSURE   | 40081    | Float            | 2      | R           |                                                                                      | 0 /2.0             | actual value of pressure at filtration probe, if not yet calculated: nan                       |
| GAIN CORR. 1     | 40083    | Float            | 2      | R/W         |                                                                                      | 0.01 /100.00       | Gain correction for channel one                                                                |
| DISCHARGE CLEAN. | 40096    | Unsigned Integer | 1      | R/W         |                                                                                      | 0 /10              | discharged values after a cleaning                                                             |
| SET OUTMODE CLE. | 40097    | Unsigned Integer | 1      | R/W         | 0 /1 /2                                                                              |                    | Set output mode for cleaning; 0=HOLD, 1=TRANSFER VALUE                                         |
| SET OUTMODE SER. | 40098    | Unsigned Integer | 1      | R/W         | 0 /1 /2                                                                              |                    | Set output mode for service mode; 0=HOLD, 1=TRANSFER VALUE                                     |
| SOFTWARE PROBE   | 40099    | Float            | 2      | R           |                                                                                      | 0 /3.40282347 E+38 | the softwareversion of the filtration probe                                                    |
| STATUS MODULES   | 40101    | Float            | 2      | R           |                                                                                      | 0 /100             | the state of the modules as float in percent; nan if not yet calculated                        |
| MEAS.UNITS 1     | 40103    | Unsigned Integer | 1      | R/W         | U0 /2                                                                                |                    | Measurement units for channel one 0=mg/l, 2=ppm                                                |
| APPL.            | 40104    | Float            | 2      | R           |                                                                                      | 0 /3.40282347 E+38 | the entry is for the application file;shows the version                                        |
| TYPE             | 40106    | String           | 6      | R           |                                                                                      |                    | name of the item/analyzer                                                                      |
| STATUS MODULES   | 40112    | Unsigned Integer | 1      | R           |                                                                                      | 0 /100             | the state of the modules as integer in percent                                                 |
| CLEANING MODULES | 40113    | Time2            | 2      | R/W         |                                                                                      |                    | Date of last filter module cleaning                                                            |
| INTERVAL         | 40115    | Unsigned Integer | 1      | R/W         | 0 /1 /2 /3 /4 /5 /6 /7 /8 /9 /10 /11 /12 /13 /14 /15 /16 /17 /18 /19 /20 /21 /22 /23 |                    | measuring interval; 0=5 minutes, 1 =10minutes, 2=15 minutes to 23=120 minutes                  |
| START            | 40117    | Unsigned Integer | 1      | R/W         | 0 /1 /2 /3 /4 /5 /6 /7 /8 /9 /10 /11 /12 /13 /14 /15 /16 /17 /18 /19 /20 /21 /22 /23 |                    | it describes when the analyzer starts the cleaning (24 hour format) 0=0 o'clock to23=23o'clock |
| SET INTERVAL     | 40118    | Unsigned Integer | 1      | R/W         | 0 /1 /3 /6 /8 /12 /24                                                                |                    | cleaning intervall ; 0=OFF, 1=1h, 3=3h, 6=6h, 8=8h, 12=12h, 24=24h                             |
| NEW MODULES      | 40119    | Time2            | 2      | R/W         |                                                                                      |                    | date of the last filter module exchange                                                        |
| SET PARAMETER 1  | 40121    | Unsigned Integer | 1      | R/W         | P15 /14 /16                                                                          |                    | Parameter for channel 1; 15=PO4P, 14=PO4, 16=P2O5                                              |
| GAIN CORR. 2     | 40122    | Float            | 2      | R/W         |                                                                                      | 0 /100.00          | Gain correction for channel two                                                                |
| SET PARAMETER 2  | 40125    | Unsigned Integer | 1      | R/W         | P15 /14 /16                                                                          |                    | Parameter for channel 2; 15=PO4P, 14=PO4, 16=P2O5                                              |
| MEAS.UNITS 2     | 40126    | Unsigned Integer | 1      | R/W         | U0 /2                                                                                |                    | Measurement units for channel two, 0=mg/l, 2=ppm                                               |
| HUMIDITY ANALY   | 40127    | Unsigned Integer | 1      | R           |                                                                                      | 0 /100             | humidity analyzer in percent                                                                   |
| FIELDBUS         | 40128    | Unsigned Integer | 1      | R/W         |                                                                                      | 0 /2               | triggers a measurement serie in START BY BUS mode (see Start by bus)                           |

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| Name             | Register | Data Type        | Length | Access Mode | Discrete Range                                                           | Min / Max                 | Description                                                                                                                                                                                                                                                                                                                                |
|------------------|----------|------------------|--------|-------------|--------------------------------------------------------------------------|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| START BY BUS     | 40129    | Unsigned Integer | 1      | R/W         | 0 / 1                                                                    |                           | sets the analyzer to START BY BUS mode ( see Start by bus)                                                                                                                                                                                                                                                                                 |
| EXTINCTION 2     | 40130    | Float            | 2      | R           |                                                                          | -9.99999 / 9.99999        | the current extinction from the measurement channel two                                                                                                                                                                                                                                                                                    |
| PROCESS STATE    | 40132    | Unsigned Integer | 1      | R           | 0 / 1 / 2 / 3 / 4 / 5 / 6 / 7 / 8 / 9 / 10 / 11 / 12 / 13 / 14 / 15 / 16 |                           | the process/state of the analyzer, coded as enum list; enum value 0=service mode, enum value 1=measuring 1..., interval, initialisation, serv.in proc., cleaning, warm up phase, measuring 2..., prepump reag., prepump clean., prepump probe, flushing, start by bus, calibrate, test procedure, prepump.sample, enum value 16=validation |
| NUMBER OF MEAS.  | 40133    | Unsigned Integer | 1      | R/W         |                                                                          | 1 / 100                   | Number of measurements in a START BY BUS measurement series (see Start by bus)                                                                                                                                                                                                                                                             |
| AVERAGE          | 40134    | Unsigned Integer | 1      | R/W         |                                                                          | ?                         | The number of measurement values that result in an average value in a START BY BUS measurement series.                                                                                                                                                                                                                                     |
| NO.OF VALUES CH1 | 40135    | Unsigned Integer | 1      | R/W         |                                                                          | 0 / 100                   | 2 channel mode: how often is channel 1 measured before switching to channel 2                                                                                                                                                                                                                                                              |
| NO.OF VALUES CH2 | 40136    | Unsigned Integer | 1      | R/W         |                                                                          | 0 / 100                   | 2 channel mode: how often is channel 2 measured before switching to channel 1                                                                                                                                                                                                                                                              |
| DISCHARGE VAL1   | 40137    | Unsigned Integer | 1      | R/W         |                                                                          | 0 / 3                     | number of discharged values when switching from channel 1 to channel 2                                                                                                                                                                                                                                                                     |
| DISCHARGE VAL2   | 40138    | Unsigned Integer | 1      | R/W         |                                                                          | 0 / 3                     | number of discharged values when switching from channel 2 to channel 1                                                                                                                                                                                                                                                                     |
| DISCHARGE BUS    | 40140    | Unsigned Integer | 1      | R/W         |                                                                          | 0 / 10                    | discharge values at the beginning of a START BY BUS series                                                                                                                                                                                                                                                                                 |
| SENSOR NAME      | 40143    | String           | 8      | R           |                                                                          |                           | User-assigned name for a sensor                                                                                                                                                                                                                                                                                                            |
| REAG. WARNING    | 40151    | Unsigned Integer | 1      | R/W         | 0 / 1                                                                    |                           | warning if the level of reagent is low; 0=OFF, 1=ON                                                                                                                                                                                                                                                                                        |
| WARNING          | 40152    | Unsigned Integer | 1      | R/W         | 20 / 15 / 10 / 5                                                         |                           | Reagent warning level in percent                                                                                                                                                                                                                                                                                                           |
| REAGENT LEVEL    | 40155    | Unsigned Integer | 1      | R/W         |                                                                          | 0 / 100                   | the level of reagent in percent                                                                                                                                                                                                                                                                                                            |
| CLEAN SOLU LEVEL | 40158    | Unsigned Integer | 1      | R/W         |                                                                          | 0 / 100                   | cleaning solution level in percent                                                                                                                                                                                                                                                                                                         |
| AIR FILTER DISPL | 40160    | Integer          | 1      | R/W         |                                                                          | -32768 / 32767            | days until next cleaning/exchange of air filter pads. Negative values show a cleaning which is overdue                                                                                                                                                                                                                                     |
| PUMP DISPLAY     | 40163    | Integer          | 1      | R/W         |                                                                          | -32768 / 32767            | days left until exchanging piston of pump, negative values show that exchange is overdue                                                                                                                                                                                                                                                   |
| STRUCTURE        | 40172    | Unsigned Integer | 1      | R           |                                                                          | 0 / 65535                 | the entry is for the device driver file;shows the version                                                                                                                                                                                                                                                                                  |
| FIRMWARE         | 40173    | Unsigned Integer | 1      | R           |                                                                          | 0 / 65535                 | the entry is for the device driver file;shows the version                                                                                                                                                                                                                                                                                  |
| LOADER           | 40174    | Float            | 2      | R           |                                                                          | 0 / 3.40282346 638529E+38 | the entry is for the application file;shows the version of the boot file                                                                                                                                                                                                                                                                   |
| OPERATING HOURS  | 40176    | Unsigned Integer | 2      | R/W         |                                                                          | 0 / 99999999              | operating hours of analyzer                                                                                                                                                                                                                                                                                                                |
| PUMP MEMBR.DISP. | 40180    | Integer          | 1      | R/W         |                                                                          | -32768 / 32767            | remaining days for pump membrane in filter probe                                                                                                                                                                                                                                                                                           |
| COMPRESSOR       | 40189    | Integer          | 1      | R/W         |                                                                          | -32768 / 32767            | remaining days for air compressor                                                                                                                                                                                                                                                                                                          |
| LAST CHA.FACTOR1 | 40198    | Time2            | 2      | R/W         |                                                                          |                           | the date of the last correction factor for channel one                                                                                                                                                                                                                                                                                     |
| LAST CHA.FACTOR2 | 40200    | Time2            | 2      | R/W         |                                                                          |                           | the date of the last correction factor for channel two                                                                                                                                                                                                                                                                                     |
| SAMPLE DETECTION | 40211    | Unsigned Integer | 1      | R/W         | 0 / 1 / 2                                                                |                           | output if sample detection detects low sample amount; 0=Warning, 1=Error, 2=OFF                                                                                                                                                                                                                                                            |
| ACTUAL MEAS.TIME | 40216    | Time2            | 2      | R           |                                                                          |                           | time of actual measurement value                                                                                                                                                                                                                                                                                                           |
| LAST TIME        | 40218    | Time2            | 2      | R           |                                                                          |                           | time of last measurement value                                                                                                                                                                                                                                                                                                             |
| 2.ND LAST TIME   | 40220    | Time2            | 2      | R           |                                                                          |                           | 2.ND LAST TIME                                                                                                                                                                                                                                                                                                                             |
| 3.RD LAST TIME   | 40222    | Time2            | 2      | R           |                                                                          |                           | 3.RD LAST TIME                                                                                                                                                                                                                                                                                                                             |
| 4.TH LAST TIME   | 40224    | Time2            | 2      | R           |                                                                          |                           | 4.TH LAST TIME                                                                                                                                                                                                                                                                                                                             |

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| Name             | Register | Data Type        | Length | Access Mode | Discrete Range | Min / Max     | Description                                                                                                                                                                                                                                                                                                                                   |
|------------------|----------|------------------|--------|-------------|----------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5.TH LAST TIME   | 40226    | Time2            | 2      | R           |                |               | 5.TH LAST TIME                                                                                                                                                                                                                                                                                                                                |
| 6.TH LAST TIME   | 40228    | Time2            | 2      | R           |                |               | 6.TH LAST TIME                                                                                                                                                                                                                                                                                                                                |
| 7.TH LAST TIME   | 40230    | Time2            | 2      | R           |                |               | 7.TH LAST TIME                                                                                                                                                                                                                                                                                                                                |
| 8.TH LAST TIME   | 40232    | Time2            | 2      | R           |                |               | 8.TH LAST TIME                                                                                                                                                                                                                                                                                                                                |
| 9.TH LAST TIME   | 40234    | Time2            | 2      | R           |                |               | 9.TH LAST TIME                                                                                                                                                                                                                                                                                                                                |
| LAST VALUE       | 40236    | Float            | 2      | R           |                | ?             | LIST OF VALUES                                                                                                                                                                                                                                                                                                                                |
| 2.ND LAST VALUE  | 40238    | Float            | 2      | R           |                | ?             | LIST OF VALUES                                                                                                                                                                                                                                                                                                                                |
| 3.RD LAST VALUE  | 40240    | Float            | 2      | R           |                | ?             | LIST OF VALUES                                                                                                                                                                                                                                                                                                                                |
| 4.TH LAST VALUE  | 40242    | Float            | 2      | R           |                | ?             | LIST OF VALUES                                                                                                                                                                                                                                                                                                                                |
| 5.TH LAST VALUE  | 40244    | Float            | 2      | R           |                | ?             | LIST OF VALUES                                                                                                                                                                                                                                                                                                                                |
| 6.TH LAST VALUE  | 40246    | Float            | 2      | R           |                | ?             | LIST OF VALUES                                                                                                                                                                                                                                                                                                                                |
| 7.TH LAST VALUE  | 40248    | Float            | 2      | R           |                | ?             | LIST OF VALUES                                                                                                                                                                                                                                                                                                                                |
| 8.TH LAST VALUE  | 40250    | Float            | 2      | R           |                | ?             | LIST OF VALUES                                                                                                                                                                                                                                                                                                                                |
| 9.TH LAST VALUE  | 40252    | Float            | 2      | R           |                | ?             | LIST OF VALUES                                                                                                                                                                                                                                                                                                                                |
| STATUS MODUL.ERR | 40256    | Unsigned Integer | 1      | R/W         | 14 /10 /8 /0   |               | configure the level of error for the state of the modules                                                                                                                                                                                                                                                                                     |
| STAT. MODUL.WAR. | 40257    | Unsigned Integer | 1      | R/W         | 40 /30 /15     |               | configure the level of warning for the state of the modules                                                                                                                                                                                                                                                                                   |
| EXHAUST CONTROL  | 40258    | Unsigned Integer | 1      | R/W         | 0 /1           |               | the analyzer is checking the exhaust whether it is blocked; 0=OFF, 1=ON                                                                                                                                                                                                                                                                       |
| REF              | 40260    | Unsigned Integer | 1      | R/W         | 0 /1           |               | to switch the ref measuring on or off                                                                                                                                                                                                                                                                                                         |
| BUBBLE REJECT    | 40264    | Unsigned Integer | 1      | R/W         | 0 /1           |               | it's possible to set the function bubble reject                                                                                                                                                                                                                                                                                               |
| SEL ADJ METHOD   | 40271    | Unsigned Integer | 1      | R/W         | 0 /1           |               | it's possible to set the measuring interval as dry or wet                                                                                                                                                                                                                                                                                     |
| ENCLOSU.TEMP.MIN | 40273    | Float            | 2      | R           |                | -50 /200.0    | the minimum temperature inside the analyzer during the last 24 hours, intervall starts with power on                                                                                                                                                                                                                                          |
| ENCLOSU.TEMP.MAX | 40275    | Float            | 2      | R           |                | -50 /200.0    | the maximum temperature inside the analyzer during the last 24 hours, intervall starts with power on                                                                                                                                                                                                                                          |
| ERROR LIST       | 40277    | Unsigned Integer | 2      | R           |                | 0 /4294967295 | Errors coded bit wise, bit0=TEMP. < 0 °C/ 32°F?, bit1=ANALYZ. TO COLD, COOLING FAILED, HUMIDITY ANALY,HUMIDITY PROBE, PROBE MISSING, NO HEAT UP, CUVSENSOR DEFECT,TEMPSENS DEFECT, CUVHEAT DEFECT, CUV TOO HOT, PHOTO LEVEL LOW, PHOTO LEVEL HIGH, MODULES CONTAM., PHOTO LEVEL2 LOW,PHOTO LEVEL2 HIGH, DRAIN BLOCKED, SAMPLE1, bit18=SAMPLE2 |
| WARNING LIST     | 40279    | Unsigned Integer | 2      | R           |                | 0 /4294967295 | Warnings, coded bit wise, bit0=WARMUP PHASE, bit1=COOLING DOWN, SERVICE MODE, REAGENT LEVEL,CLEAN SOLU LEVEL, ANALYZER TO COLD, ANALYZER TO WARM, CUV TOO COOL, MODULES CONTAM., PHOT LEVEL LOW, SAMPLE1, PHOT LEVEL2 LOW, bit12=SAMPLE2                                                                                                      |
| EDIT NAME        | 40281    | String           | 8      | R/W         |                |               | Name of LOCATION (see menu system)                                                                                                                                                                                                                                                                                                            |

## 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              |