

Modbus Register Nitratax clear sc

V3.18



Be Right™

Nitratax clear sc V3.18

| Name | Register | Data Type | Length | Access Mode | Discrete Range | Min / Max | Description |
|-------------------|----------|------------------|--------|-------------|--|-------------------------|---|
| measurement | 40001 | Float | 2 | R | | 0 /500 | displayed measurement value |
| unit | 40003 | Unsigned Integer | 1 | R/W | U0 /2 | | unit : mg/l = 0, ppm = 2 |
| parameter | 40004 | Unsigned Integer | 1 | R/W | P3 /2 | | NOx-N = 3, NO3 = 2 |
| measure_interval | 40005 | Unsigned Integer | 1 | R/W | 300 /360 /600 /720 /900 /1200 /1800 | | intervall in seconds |
| correction | 40006 | Float | 2 | R/W | | 0,8 /1,2 | correction, 0.8 ... 1.2 |
| offset | 40008 | Float | 2 | R/W | | -500 /500 | offset in mE |
| integration | 40010 | Unsigned Integer | 1 | R/W | | 1 /3 | not used |
| cleaning_interval | 40011 | Unsigned Integer | 1 | R/W | 4096 /4098 /1 /2 /3 /4 /6 /10 /12 /15 /20 /30 /60 /120 /180 /240 /360 /720 /4097 | | cleaning interval in min, 4096 = 1/M : 4097 = 10:00 |
| wiper_mode | 40012 | Unsigned Integer | 1 | R/W | 2 /0 /1 | | mode |
| wiper_state | 40013 | Unsigned Integer | 1 | R/W | 4 /2 /32 /16 /1 /8 /0 | | state |
| integration_time | 40014 | Unsigned Integer | 1 | R/W | | 1 /6 | integration time in meas. intervals |
| driver structure | 40015 | Unsigned Integer | 1 | R | | 0 /255 | version driver structure |
| driver firmware | 40016 | Unsigned Integer | 1 | R | | 0 /255 | version driver firmware |
| driver content | 40017 | Unsigned Integer | 1 | R | | 0 /255 | version driver content |
| location | 40018 | String | 5 | R/W | | | location name |
| path length | 40023 | Float | 2 | R | | 0 /1000 | path width |
| wiper_profile | 40025 | Integer | 2 | R | | -2147483648 /2147483647 | remaining wipes til replace requ. |
| motor cycles | 40027 | Integer | 2 | R | | -2147483648 /2147483647 | number of motor cycles |
| flashes | 40029 | Unsigned Integer | 2 | R | | 0 /2140000000 | number of flashes |
| seals_counter | 40031 | Integer | 2 | R | | -2147483648 /2147483647 | remaining days til replace required |
| service_counter | 40033 | Integer | 2 | R | | -2147483648 /2147483647 | remaining days til service required |
| operating_hours | 40035 | Unsigned Integer | 2 | R | | 0 /2140000000 | number of operating hours |
| shaft seals | 40037 | Integer | 2 | R | | -2147483648 /2147483647 | remaining axis cycles til replacing |
| wiper start | 40039 | Unsigned Integer | 2 | R/W | | 0 /1000000 | wiper start value |
| start seals | 40041 | Unsigned Integer | 2 | R/W | | 0 /1000 | start value seal counter |
| start service | 40043 | Unsigned Integer | 2 | R/W | | 0 /1000 | start value service counter |
| start axis | 40045 | Unsigned Integer | 2 | R/W | | 0 /1000000 | start value shaft seal counter |
| measurement | 40047 | Float | 2 | R/W | | 0 /500 | uncorrected measurement value for calibration |
| meas_single_value | 40049 | Float | 2 | R | | 0 /500 | measurement single value (no average) |
| dext | 40051 | Float | 2 | R | | -1000 /10000 | delta extinction |
| EM | 40053 | Float | 2 | R | | -1 /10 | meas. extinction |

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|---------------------|----------|------------------|--------|-------------|----------------|---------------|---|
| ER | 40055 | Float | 2 | R | | -1 /10 | ref. extinction |
| M | 40057 | Float | 2 | R | | 0 /1024 | m - channel |
| R | 40059 | Float | 2 | R | | 0 /1024 | r - channel |
| intensity_meas | 40061 | Float | 2 | R | | 0 /1000 | m - intensity |
| intensity_ref | 40063 | Float | 2 | R | | 0 /1000 | r - intensity |
| humidity | 40065 | Float | 2 | R | | 0 /101 | humidity |
| concentration blank | 40067 | Float | 2 | R | | 0 /10000 | concentration without offset and correction |
| factory calib date | 40069 | Time2 | 2 | R | | | date of factory calibration |
| user cal date | 40071 | Time2 | 2 | R | | | date of user calibration |
| max_meas | 40073 | Float | 2 | R/W | | 0 /400 | maximum measurement value |
| cal_L1 | 40075 | Float | 2 | R | | 0 /10000 | calibr. point 1 |
| cal_L2 | 40077 | Float | 2 | R | | 0 /10000 | calibr. point 2 |
| cal_L3 | 40079 | Float | 2 | R | | 0 /10000 | calibr. point 3 |
| cal_meas | 40081 | Float | 2 | R | | 0 /1024 | m - calibration |
| cal_ref | 40083 | Float | 2 | R | | 0 /1024 | r - calibration |
| cal_intensity_meas | 40085 | Float | 2 | R | | 0 /10000 | intensity m - calibration |
| cal_intensity_ref | 40087 | Float | 2 | R | | 0 /10000 | intensity r - calibration |
| cal_ext | 40089 | Float | 2 | R | | 0 /10000 | extinction - calibration |
| process | 40091 | Unsigned Integer | 1 | R/W | | 0 /65535 | process control |
| menu_state | 40092 | Unsigned Integer | 1 | R/W | | 0 /65535 | actual menu after process |
| gain_meas | 40093 | Unsigned Integer | 1 | R | | 0 /255 | gain meas. channel |
| gain_ref | 40094 | Unsigned Integer | 1 | R | | 0 /30000 | gain reference channel |
| level_a | 40095 | Unsigned Integer | 1 | R | | 0 /1023 | light barrier level pos A |
| level_b | 40096 | Unsigned Integer | 1 | R | | 0 /1023 | light barrier level pos B |
| level_out | 40097 | Unsigned Integer | 1 | R | | 0 /1023 | light barrier level pos OUT |
| version | 40098 | String | 4 | R | | | software version |
| serial_no | 40102 | Unsigned Integer | 2 | R/W | | 0 /10000000 | serial number |
| output_cfg | 40104 | Unsigned Integer | 1 | R/W | 2 /1 /3 /0 | | output during calibraion |
| user_cal_int | 40105 | Unsigned Integer | 1 | R/W | | 0 /30 | user calibration interval |
| motor_current | 40106 | Unsigned Integer | 1 | R | | 0 /20000 | motor current |
| resp_time_value | 40107 | Unsigned Integer | 1 | R | | 0 /1000 | response time value |
| resp_time_unit | 40108 | Unsigned Integer | 1 | R | U16 /15 | | response time unit for value in resp time value, s = 15, min = 16 |
| flash_per_filter | 40109 | Unsigned Integer | 2 | R | | 0 /1000000000 | flashes per filter |
| cp_m1 | 40111 | Float | 2 | R/W | | 0 /1000 | capacitor meas. 1 in nF |
| cap_m2 | 40113 | Float | 2 | R/W | | 0 /1000 | capacitor meas. 2 in nF |
| cap_r1 | 40115 | Float | 2 | R/W | | 0 /1000 | capacitor ref. 1 in nF |
| cap_r2 | 40117 | Float | 2 | R/W | | 0 /1000 | capacitor ref. 2 in nF |
| lambda_m | 40119 | Float | 2 | R/W | | 0 /1000 | wavelength meas channel |
| lambda_r | 40121 | Float | 2 | R/W | | 0 /1000 | wavelength ref. channel |

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|----------------------|----------|------------------|--------|-------------|----------------|---------------|--|
| trans_m | 40123 | Float | 2 | R/W | | 0 / 1 | transmission meas channel |
| trans_r | 40125 | Float | 2 | R/W | | 0 / 1 | trnasmission ref. channel |
| prod_date | 40128 | Time2 | 2 | R | | | production date |
| sensor_type | 40130 | String | 8 | R/W | | | sensor type |
| filter_set | 40138 | String | 3 | R/W | | | filter set no. |
| user_cal_counter | 40141 | Integer | 1 | R | | -32768 /32767 | next user calib. (in xx days requ.) |
| enable_pos_out | 40142 | Unsigned Integer | 1 | R/W | 0 / 1 | | Wiper Pos Out enabled, 0 = no, 1 = yes |
| shaftseals_err_limit | 40143 | Unsigned Integer | 2 | R/W | | 0 /100000 | error limit for shaft seals |
| dext_limit | 40145 | Integer | 1 | R/W | | 0 /500 | threshold for error 'dExt<0' |
| offset | 40146 | Float | 2 | R/W | | ? | offset in mg/l |
| CalCurveType | 40148 | String | 2 | R | | | type of calibration curve |
| CAL COEFF 1 | 40150 | Float | 2 | R | | | max. extinktion |
| CAL COEFF 2 | 40152 | Float | 2 | R | | | deflection |
| CAL COEFF 3 | 40154 | Float | 2 | R | | | 100% correction |

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 |