

# Modbus Register NT3100 sc

V 1.06

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| Name                       | Register | Data Type        | Length | Access Mode | Discrete Range | Min / Max | Description     |
|----------------------------|----------|------------------|--------|-------------|----------------|-----------|-----------------|
| Nitrate                    | 40001    | Float            | 2      | R           | MEAS UNITS     | NO3       |                 |
| Nitrogen in Nitrate        | 40003    | Float            | 2      | R           | MEAS UNITS     | NO3-N     |                 |
| TOTAL NITROGEN             | 40005    | Float            | 2      | R           | MEAS UNITS     | NOx       |                 |
| TOTAL NITROGEN NOx-N       | 40007    | Float            | 2      | R           | MEAS UNITS     | NOx-N     |                 |
| LOCATION                   | 40030    | String           | 8      | R/W         |                |           |                 |
| DISPLAY PARAMETER NT3100   | 40039    | Unsigned Integer | 1      | R/W         |                |           | 0/1/2/3         |
| MEAS UNITS                 | 40040    | Unsigned Integer | 1      | R/W         |                |           | U0/2            |
| MEAS. INTERVAL             | 40041    | Unsigned Integer | 1      | R/W         |                |           | 0/1/2/3/4/5     |
| SIGNAL AVG                 | 40042    | Unsigned Integer | 1      | R/W         |                |           |                 |
| CLEANING INTERVAL          | 40043    | Unsigned Integer | 1      | R/W         |                |           | 0/1/2/3/4/5/6/7 |
| WIPER MODE                 | 40044    | Unsigned Integer | 1      | R/W         |                |           | 0/1/2           |
| BYPASS                     | 40045    | Unsigned Integer | 1      | R/W         |                |           | 0/1             |
| OUTPUT MODE                | 40046    | Unsigned Integer | 1      | R/W         |                |           | 0/1/2/3         |
| SERVICE REMINDER           | 40047    | Unsigned Integer | 1      | R/W         |                |           | 0/1/2/3/4       |
| REMINDER INTERVAL          | 40048    | Unsigned Integer | 1      | R/W         |                |           | 0/1/2/3/4/5     |
| OFFSET NO3                 | 40059    | Float            | 2      | R/W         | MEAS UNITS     | NO3       |                 |
| OFFSET NOx                 | 40059    | Float            | 2      | R/W         | MEAS UNITS     | NOx       |                 |
| OFFSET NO3N                | 40061    | Float            | 2      | R/W         | MEAS UNITS     | NO3-N     |                 |
| OFFSET NOxN                | 40061    | Float            | 2      | R/W         | MEAS UNITS     | NOx-N     |                 |
| CAL. INTERVAL NOX/NOx-N    | 40065    | Unsigned Integer | 1      | R/W         |                |           | 0/1/2/3/4       |
| CAL. INTERVAL NO3/NO3-N    | 40065    | Unsigned Integer | 1      | R/W         |                |           | 0/1/2/3/4       |
| CALIBRATION NO3/NO3-N      | 40066    | Integer          | 2      | R           | days           |           |                 |
| CALIBRATION NOX/NOx-N      | 40066    | Integer          | 2      | R           | days           |           |                 |
| SERIAL NUMBER              | 40070    | String           | 6      | R           |                |           |                 |
| PART NUMBER                | 40076    | Unsigned Integer | 1      | R           |                |           | 0/1/2           |
| SOFT VERSION BOOT CODE     | 40077    | Float            | 2      | R           |                |           |                 |
| SOFT VERSION APPLICATION   | 40079    | Float            | 2      | R           |                |           |                 |
| SOFT VERSION DEVICE DRIVER | 40081    | String           | 6      | R           |                |           |                 |
| Nitrate Raw                | 40093    | Float            | 2      | R           |                |           |                 |
| Nitrogen in Nitrate Raw    | 40095    | Float            | 2      | R           |                |           |                 |
| TOTAL NITROGEN Raw         | 40097    | Float            | 2      | R           |                |           |                 |
| TOTAL NITROGEN NOx-N Raw   | 40099    | Float            | 2      | R           |                |           |                 |
| DEXT1                      | 40101    | Float            | 2      | R           | mE             |           |                 |
| DEXT2                      | 40103    | Float            | 2      | R           | mE             |           |                 |

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| WIPER POSITION          | 40105    | Unsigned Integer | 1      | R           |                |           | 0/1/2/3     |
| DRIVE CURRENT           | 40106    | Unsigned Integer | 1      | R           | mA             |           |             |
| PEAK CURRENT            | 40107    | Unsigned Integer | 1      | R           | mA             |           |             |
| HUMIDITY                | 40108    | Integer          | 1      | R           | %              |           |             |
| HUMIDITY MAINBOARD      | 40109    | Integer          | 1      | R           | %              |           |             |
| HUMIDITY FLASHBOARD     | 40110    | Integer          | 1      | R           | %              |           |             |
| TEMPERATURE             | 40111    | Float            | 2      | R           | C              |           |             |
| TEMPERATURE MAINBOARD   | 40113    | Float            | 2      | R           | C              |           |             |
| TEMPERATURE FLASHBOARD  | 40115    | Float            | 2      | R           | C              |           |             |
| TEMPERATURE HEATERBOARD | 40117    | Float            | 2      | R           | C              |           |             |
| POSA DETECTOR A         | 40119    | Unsigned Integer | 1      | R           | mV             |           |             |
| POSB DETECTOR B         | 40120    | Unsigned Integer | 1      | R           | mV             |           |             |
| POSC DETECTOR C         | 40121    | Unsigned Integer | 1      | R           | mV             |           |             |
| WIPER BLADE COUNTER     | 40122    | Unsigned Integer | 2      | R           |                |           |             |
| LAMP FLASHES            | 40124    | Unsigned Integer | 2      | R           |                |           |             |
| FILT FLASHES            | 40126    | Unsigned Integer | 2      | R           |                |           |             |
| MOTOR COUNT             | 40128    | Unsigned Integer | 2      | R           |                |           |             |
| OPERATION TIME          | 40130    | Unsigned Integer | 2      | R           | h              |           |             |
| WIPER BLADE             | 40132    | Integer          | 1      | R           | days           |           |             |
| SERVICE DUE             | 40133    | Integer          | 1      | R           | days           |           |             |
| SHAFT SEALS             | 40134    | Integer          | 1      | R           | days           |           |             |
| SEALS                   | 40135    | Integer          | 1      | R           | days           |           |             |
| CAL. TYPE NO3M2         | 40136    | Unsigned Integer | 1      | R           |                |           | 0/1/2       |
| NO3 M2 A                | 40137    | Float            | 2      | R           |                |           |             |
| NO3 M2 B                | 40139    | Float            | 2      | R           |                |           |             |
| NO3 M2 C                | 40141    | Float            | 2      | R           |                |           |             |
| NO3 M2 D                | 40143    | Float            | 2      | R           |                |           |             |
| SLUDGE MODE             | 40359    | Unsigned Integer | 1      | R/W         |                |           | 0/1/2       |
|                         | 40364    | Float            | 2      | R           |                |           |             |
|                         | 40366    | Float            | 2      | R           |                |           |             |
|                         | 40368    | Float            | 2      | R           |                |           |             |
|                         | 40370    | Float            | 2      | R           |                |           |             |
|                         | 40372    | Float            | 2      | R           |                |           |             |
|                         | 40374    | Float            | 2      | R           |                |           |             |
|                         | 40376    | Float            | 2      | R           |                |           |             |
|                         | 40376    | Float            | 2      | R           |                |           |             |
|                         | 40378    | Float            | 2      | R           |                |           |             |

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|      | 40378    | Float            | 2      | R           |                |           |             |
|      | 40380    | Float            | 2      | R           |                |           |             |
|      | 40380    | Float            | 2      | R           |                |           |             |
|      | 40382    | Float            | 2      | R           |                |           |             |
|      | 40382    | Float            | 2      | R           |                |           |             |
|      | 40384    | Unsigned Integer | 1      | R           |                |           | 0/1/2/3/4   |
|      | 40387    | Float            | 2      | R           |                |           |             |
|      | 40389    | Float            | 2      | R           |                |           |             |
|      | 40391    | Float            | 2      | R           |                |           |             |
|      | 40393    | Unsigned Integer | 1      | R           |                |           |             |
|      | 40394    | Unsigned Integer | 1      | R           |                |           |             |
|      | 40395    | Unsigned Integer | 1      | R           |                |           |             |
|      | 40396    | Unsigned Integer | 1      | R           |                |           |             |
|      | 40397    | Float            | 2      | R/W         |                |           |             |
|      | 40399    | Float            | 2      | R/W         |                |           |             |
|      | 40401    | Float            | 2      | R/W         | mg /l          |           |             |
|      | 40403    | Float            | 2      | R/W         | mg /l          |           |             |
|      | 40405    | Float            | 2      | R           |                |           |             |
|      | 40407    | Float            | 2      | R           |                |           |             |
|      | 40409    | Unsigned Integer | 1      | R           |                |           |             |
|      | 40410    | String           | 1      | R           |                |           |             |
|      | 40411    | Time2            | 2      | R/W         |                |           |             |
|      | 40413    | String           | 8      | R           |                |           |             |

## 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              |