

Modbus Register Surface Scatter 7 (SS7)

V1.01



Be Right™

Surface Scatter 7 (SS7) V1.01

| Name | Register | Data Type | Length | Access Mode | Discrete Range | Min / Max | Description |
|----------------|----------|------------------|--------|-------------|------------------------------|--------------|-------------------------------------------------------------------------------------------------|
| TURB | 40001 | Float | 2 | R | | 0 /10000 | Measured turbidity value |
| TURB INT | 40003 | Unsigned Integer | 1 | R | | 0 /10000 | Integer turbidity value |
| TURB INT X 100 | 40004 | Unsigned Integer | 1 | R | | 0 /65535 | Integer turbidity * 100 |
| SENSOR NAME | 40005 | String | 6 | R/W | | | Sensor name or location |
| BUBBLE REJECT | 40011 | Unsigned Integer | 1 | R/W | 0 /1 | | Bubble reject status (0=OFF, 1=ON) |
| SIGNAL AVG | 40012 | Unsigned Integer | 1 | R/W | 0 /1 /2 /3 /4 | | Signal Average (0=1, 1=6sec, 2=30sec,3=60sec,4=90sec) |
| DATALOG INTRVL | 40013 | Unsigned Integer | 1 | R/W | 0 /1 /2 /3 /4 /5 /6 /7 /8 /9 | | Datalog interval (0=5sec,1=30sec,2=1min,3=2min, 4=5min,6=10min,7=15min,8=30min,9=60min, 10=4hr) |
| RESOLUTION | 40014 | Unsigned Integer | 1 | R/W | 0 /1 /2 | | Maximum number of decimal places (0=xxxx, 1=xxxx.x, 2=xxx.xx) |
| P/F CRITERIA | 40015 | Unsigned Integer | 1 | R/W | | 5 /25 | Pass / Fail criteria for verification. (1 to 10 percent) |
| TURB UNIT | 40016 | Unsigned Integer | 1 | R/W | 0 /7 /42 | | Turb units (0=mg/L:7=NTU,42=FTU) |
| SERVICE MODE | 40018 | Unsigned Integer | 1 | R/W | 0 /1 | | Used to determine if the instrument is in the service mode (0 = disabled, 1= enabled) |
| SERIAL NUMBER | 40021 | String | 6 | R | | | Instrument serial number |
| CODE VERSION | 40027 | Float | 2 | R | | 0 /99999 | Software Version |
| DD Firmware | 40029 | Unsigned Integer | 1 | R | | 0 /99 | Device driver firmware version |
| DD CONTENT | 40030 | Unsigned Integer | 1 | R | | 0 /99 | Device driver content version |
| HW VERSION | 40031 | Unsigned Integer | 1 | R | | 0 /3 | Hardware version of pc board |
| TEMP | 40032 | Float | 2 | R | | | Temperature measurement in Celsius |
| DARK | 40034 | Unsigned Integer | 2 | R | | 0 /16800000 | Dark turbidity A/D counts. |
| RAW TURB | 40036 | Float | 2 | R | | 0 /20000 | Turbidity value with dark offset and gain applied. |
| TURB COUNTS | 40038 | Unsigned Integer | 2 | R | | 0 /16777215 | turbidity A/D counts |
| TEMP MAX | 40040 | Float | 2 | R | | 0 /100.0 | Maximum Temperature |
| TEMP MIN | 40042 | Float | 2 | R | | 0 /100.0 | Minimum Temperature |
| LAMP V | 40044 | Float | 2 | R | | 0 /7.0 | Lamp voltage |
| LAMP CURR | 40046 | Float | 2 | R | | 0 /5.0 | Lamp Current (amps) |
| Plus 5V | 40048 | Float | 2 | R | | 0 /10 | Plus five volt measurement |
| INPUT V | 40050 | Float | 2 | R | | 0 /30 | Input voltage (-12V) |
| VREF | 40052 | Float | 2 | R | | 0 /5 | Voltage reference measurement (2.5V) |
| CAL GAIN | 40067 | Float | 2 | R | | 0.01 /999.99 | Calibration gain factor - used to convert A/D counts to turbidity |
| INITIALS | 40083 | String | 2 | R | | | Initials used for the latest calibration |
| LAST CAL DATE | 40085 | Time2 | 2 | R | | | Time of the latest calibration |
| CAL VALUE | 40087 | Float | 2 | R | | 0 /10000 | The standard value used for the latest 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 |