Modbus Register
FT660sc

V1.11

HACH®

Be Right™

FT660sc V1.11

Name	Register	Data Type	Length	Access Mode	Discrete Range	Min / Max	Description
TURBIDITY	40001	Float	2	R			Measured turbidity value in mNTU
TURB (NTU)	40003	Float	2	R			Measured turbidity value
RSD	40005	Float	2	R			Percent RSD (relative standard deviation) of the Turbidity measurement
TURB INT	40007	Unsigned Integer	1	R			Integer turbidity value (mNTU)
MAIN MEASURE	40008	Unsigned Integer	1	R			Tag used to select measurement tag
BUBBLE REJECT	40009	Unsigned Integer	1	R/W			Bubble reject status (0=OFF; 1=ON)
SIGNAL AVG	40010	Unsigned Integer	1	R/W			Signal Average (0=1sec; 1=6sec; 2=30sec;3=60sec;4=90sec)
MEAS UNITS	40011	Unsigned Integer	1	R/W			Turb units (0=mg/L:7=NTU;20=mNTU;21=mFTU;42=FTU)
SENSOR NAME	40012	String	8	R/W			Sensor name or location
RESOLUTION	40020	Unsigned Integer	1	R/W			Maximum number of decimal places (0=x.xxxx, 1=xx.xxx, 2=xxx.xx, 3=xxxx.x)
DATALOG INTRVL	40021	Unsigned Integer	1	R/W			Datalog interval (0=5sec;1=30sec;2=1min;3=2min; 4=5min;6=10min;7=15min;8=30min;9=60min, 10=4hr)
OFFSET ADJUST	40022	Float	2	R/W			Clean Water Offset (mNTU) - offsets the measurement by up to 0.05NTU
OFFSET	40024	Float	2	R/W			Clean Water Offset (NTU)- offsets the measurement by up to 0.05NTU
PF CRITERIA mNTU	40027	Float	2	R/W			Pass/Fail criteria (mNTU)
PF CRITERIA NTU	40029	Float	2	R/W			Pass/Fail criteria (NTU)
CVM ENABLE	40032	Unsigned Integer	1	R/W			Enable CVM use (0=disabled; 1=enabled)
DAC COUNT	40033	Unsigned Integer	1	R/W			DAC count for the PMT
TURB FORMAT	40035	Unsigned Integer	2	R			Establishes decimal point location
GAIN	40051	Float	2	R			Calibration gain factor - used to convert A/D counts to turbidity
TEMP	40074	Float	2	R			Temperature measurement in Celsius
TEMP MAX	40076	Float	2	R			Maximum Temperature
TEMP MIN	40078	Float	2	R			Minimum Temperature
DARK READING	40080	Unsigned Integer	2	R			Dark turbidity A/D counts.
TURB COUNTS	40082	Unsigned Integer	2	R			turbidity A/D counts
RAW TURBIDITY	40084	Float	2	R			Turbidity value with dark offset applied, but not gain.
LASER V	40086	Float	2	R			Laser voltage
LASER CURR	40088	Float	2	R			Laser Current (milli-amps)
+5 V	40090	Float	2	R			Plus five volt measurement
INPUT V	40092	Float	2	R			Input voltage (~12V)
PMT(15V)	40094	Float	2	R			PMT voltage (15V)
REF VOLTAGE	40096	Float	2	R			Reference voltage (2.5V)
SERIAL NUMBER	40098	String	6	R			Instrument serial number
CODE VERSION	40104	Float	2	R			Software Version
DD FIRMWARE	40106	Unsigned Integer	1	R			Device driver firmware version
DD CONTENT	40107	Unsigned Integer	1	R			Device driver content version

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FLASH ERASE	40108	Unsigned Integer	1	R/W			Erase external flash when non=zero is written here.
SERVICE MODE	40109	Unsigned Integer	1	R/W			Used to detemine if the instrument is in the service mode (0 = disabled; 1= enabled)

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