Modbus Register
1720E

V2.10

HACH®

Be Right™

1720E V2.10

Name	Register	Data Type	Length	Access Mode	Discrete Range	Min / Max	Description
TURBIDITY	40001	Float	2	R			Measured turbidity value
Turbidity, Integer	40003	Unsigned Integer	1	R			Integer turbidity value (mNTU)
Turbidity Unit	40004	Unsigned Integer	1	R/W			Turb units (0=mg/L:7=NTU,42=FTU)
TEMP	40005	Float	2	R			Temperature measurement in Celsius
OFFSET (CWO)	40007	Float	2	R/W			Clean Water Offset - offsets the measurement by up to 0.05NTU
Dark Count	40009	Unsigned Integer	2	R			Dark turbidity A/D counts.
Raw Turbidity	40011	Float	2	R			Turbidity value with dark offset applied, but not gain.
Gain, Menu	40013	Float	2	R			Used to display gain values in menus
VERSION	40015	Float	2	R			Software Version
Bubble Reject	40017	Unsigned Integer	1	R/W			Bubble reject status (0=OFF, 1=ON)
LAMP V	40018	Float	2	R			Lamp voltage
LAMP CURR	40020	Float	2	R			Lamp Current (amps)
+5V	40022	Float	2	R			Plus five volt measurement
INPUT V	40024	Float	2	R			Input voltage (~12V)
Datalog Interval	40026	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)
Sensor Name	40027	String	8	R/W			Sensor name or location
SIGNAL AVG	40035	Unsigned Integer	1	R/W			Signal Average (0=1sec, 1=6sec, 2=30sec,3=60sec,4=90sec)
SERIAL NUMBER	40036	String	6	R			Instrument serial number
Output Mode Event	40042	Unsigned Integer	1	R			This tag holds the output mode when the mode is changed
Expected Value	40043	Float	2	R			Expected value during a calibration or verification
Verification Type	40045	Unsigned Integer	1	R/W			The verification type (wet vs. dry) used during verification
Dry Verify Sel	40046	Unsigned Integer	1	R/W			Menu tag to select dry verification std (1NTU vs. 20NTU)
Dry Std SN	40047	String	2	R/W			Used to display a dry standard serial numbers in a menu
Initials	40049	String	2	R/W			Used to display operator initials in menus
Wet Std Value	40051	Float	2	R/W			The value of the wet standard used in a verification
Measured Value	40053	Float	2	R			Measured value during a verification using a calibration plate
Turb Counts	40059	Unsigned Integer	2	R			turbidity A/D counts
RESOLUTION	40061	Unsigned Integer	1	R/W			Maximum number of decimal places (0=x.xxxx, 1=xx.xxx, 2=xxx.xx)
P/F Criteria	40062	Unsigned Integer	1	R/W			Pass / Fail criteria for verification. (1 to 10 percent)
ABORT?	40063	Unsigned Integer	1	R/W			Hold the abort query result for decision making
SERVICE MODE	40065	Unsigned Integer	1	R/W			Used to detemine if the instrument is in the service mode (0 = disabled, 1= enabled)
DD Firmware	40066	Unsigned Integer	1	R			Device driver firmware version
DD CONTENT	40067	Unsigned Integer	1	R			Device driver content version
TEMP MAX	40068	Float	2	R			Maximum Temperature
TEMP MIN	40070	Float	2	R			Minimum Temperature

Name	Register	Data Type	Length	Access Mode	Discrete Range	Min / Max	Description
Instrument gain	40077	Float	2	R			Calibration gain factor - used to convert A/D counts to turbidity
Series 2 Mode	40079	Unsigned Integer	1	R/W			Sets the Series 2 Mode (0=Normal mode, 1=Series 2 Mode)
Standard Value	40083	Float	2	R/W			Standard value used during calibration
Function Code	40085	Unsigned Integer	1	R/W			Used in state machine for menu routing
Next State	40086	Unsigned Integer	1	R			Used in state machine for menu routing

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