4 CALIBRATION

4.1 TURBIDITY

It is possible to perform the following calibrations:

- Zero adjustment.
- Sensitivity adjustment.

The zero adjustment consists of the compensation of the residual turbidity value of the clean water.

In general it is suggested to maintain the zero factory calibration.
The maximum possible adjustment is equal to 10% of full scale.

The sensitivity adjustment consists of the calibration by means of standard solutions.

The probe is factory calibrated and it needs just periodical calibration check in the field.

It is suggested to calibrate by using the automatically recognized standard solutions at 200 NTU or 2000 NTU.

The adjustment limits of sensitivity are equal to 80% and 120% of the full scale.

M send the command to get the following answer:

```
|TURB. 1000.0NTU*Z:  0.0%  S:100%|
```

1000.0NTU: actual turbidity value
*: the instrument is effecting the measuring
Z: 0,0%: actual value of zero
S: 100%: actual value of sensitivity

Active commands: **M** **C** **I**

C The command activates the calibration sequence

Zero visualization

```
|CAL TURB.          ZERO:  0.0%    |
```

0.0%: actual zero memorized

Active commands: **M** **C** **I**

C the command activates the zero adjustment
I the command turns to the sensitivity visualization

2 SPECIFICATIONS

The DEFAULT values correspond to the factory setting.
Parameters marked by " *" can be modified in the configuration procedures.

1) TURBIDITY	
Scale: 0.0/4000.0 NTU	
Zero: 0.0/10.0 % of scale	0.0%
Sensitivity: 80.0/120.0 %	100.0%
Standard solutions automatically recognized:	
200 NTU/2000 NTU	
2) POWER SUPPLY	
Probe type: SA8060.X0X	
Internal rechargeable batteries	
Type of batteries: 3 x Ni/Cd 1800 mAh	
Recharge Current/time: I=180mA / 16 h	
LOW BAT signal: at 20% of residual energy	
Battery life at 20°C:	
- In stand by: > 6 months	
Probe type: SA8065.X0X	
External power supply	
Voltage: 9/14 Volt	
Data Logger not installed	
3) DATA LOGGER	
Number of acquisitions:	
- Memory Ram 32 Kbyte: 1016	
4) SENSOR	
SA9180 Turbidity sensor for SA806x.x0x	

5 MEASURING METHOD

5.1 TURBIDITY

Turbidity is the term used to describe the reduction in water clarity as perceived by the eye caused by the scattering of the light due to the suspended matter in solution.

The sensor is a nephelometric type, as described in the standard UNI EN 27027, and responds to the average volume of scattering of particulate matter over a defined angular range.

An IR light from a LED is sent into the liquid surrounding the sensor.
The 90° scattered light is detected by a sensor and transformed in a current depending of the turbidity of the liquid.

The sensor does not measure in absolute terms but relative to a formazine standard.
A comparison is made of the intensity of the scattered light by a sample and the intensity of scattered light by a standard reference.

Index

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UNI EN ISO 9001:2008
CERT. N. 9115 BCEL

OPERATOR'S MANUAL

091.181

TURBIDITY OPTION FOR SA 806x.x0x PROBES

Rev. A
Scale: 0.0/4000.0 NTU

Software: R2.6x

B&C Electronics Srl – Via per Villanova 3 – 20866 Carnate (MB) – Italy P.IVA 00729030965
Tel +39 039 631 721 – Fax +39 039 607 6199 bc@bc-electronics.it - www.bc-electronics.it