

Aquatronica

Instruction Manual



Low Range Conductivity Interface (Density) ACQ210N-MS



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NEW INSTRUCTION VERSIONS CAN BE FOUND ON OUR WEBSITE.

The conductivity value is one of the most important parameters of a soft water aquarium for the survival of fish and plants. This value is usually expressed in $\mu\text{S/cm}$ (if the value exceeds 10,000 $\mu\text{S/cm}$, it is expressed in mS/cm).

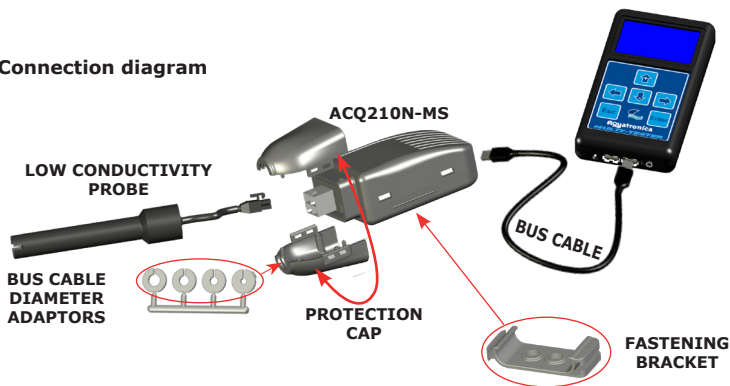
Aquatronica's Low-Range Conductivity Interface connects an Aquatronica conductivity probe to the "Aquarium Controller" system to measure and control the conductivity in aquariums.

Pack contents

You will find:

- One low conductivity probe connection interface.
- One BUS cable for connecting the interface to the Multitester
- One bag of accessories containing: 1 fixing bracket – 1 kit of cable diameter adaptor
1 guard – 2 fixing screws

Connection diagram



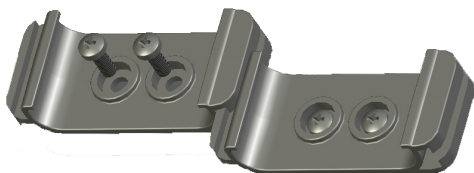
Connection to "Aquarium Controller" system

1. Connect the low conductivity probe's connector to the interface (ACQ210N-MS).
2. Connect the ACQ210N-MS interface to the Multitester (or HUB) using the provided BUS cable.

NOTE: Insert the correct end of the connector into the power unit; inserting it in the other direction can seriously damage the equipment.

English

Thanks to the special shape of the box and fixing bracket, the interface can be fitted with others simply and very quickly, as seen below.



New device
connected sensors

S01

Conductivity

(Fig. 1)

After connection, the control unit will display a Plug-In screen (Fig. 1), where a name can be assigned to the connected sensor.

It may take several seconds for the control unit to recognize the connected interface.

NOTE: The sensor's name can be changed using the control unit's keypad.

If more than one of these sensors is connected, the user may assign different names for each one to facilitate menu navigation.

Mon 11/06/07 15:05

Conductivity 680 μ S

A B

(Fig. 2)

Displaying the read value

After the probe has been connected through the appropriate interface, the values read by the probe will be displayed on the main screen.

If several sensors were connected, their values can be checked in order by pressing the \uparrow and \downarrow keys.

Conductivity

Change Name

Programs

Data Record

Alarm

Calibrate Sensor

(Fig. 3)

Conductivity Menu

Once the probe and interface are connected, the "Conductivity" menu will appear in the "Main Menu", where all of its settings can be programmed.

All sensor menus have the same structure in order to make them more intuitive and simple.

Cond_

(Fig. 4)

Change Name



This option modifies the name given to the sensor (Fig. 4).

To use this option, proceed as follows:

Main screen \Rightarrow **Main Menu** \Rightarrow **Conductivity** \Rightarrow **Change Name**.

- Select the letter to insert using the \uparrow / \downarrow keys and move within the word using the \leftarrow / \rightarrow keys. When finished, press "Enter".

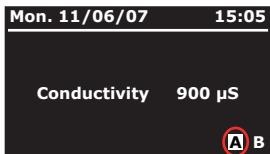
Outlet status display

Icons	Description
	OUTA outlet activated (ON)
A	OUTA outlet deactivated (OFF)
	OUTB outlet activated (ON)
B	OUTB outlet deactivated (OFF)
(No Icon)	Outlet "Undefined"

The icons regarding the Easy Plug OUTA and OUTB outlets are displayed only after their activation/deactivation (ON/OFF) statuses have been defined according to a program pertaining to a connected sensor, and can be seen even with EASY PLUG disconnected.

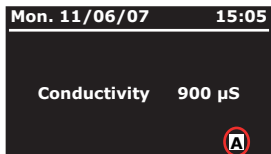
In the example shown in figure 1, both outputs have been defined (OUTA activated and OUTB deactivated), so they are visible on the main screen (Fig. 1).

If you should want to set the activated/deactivated status of only one of the two outputs, leaving the other one with the default setting (Undefined), the icon of only the defined outlet will appear on the main screen (Fig. 2).



(Fig. 1)

Active outlet



(Fig. 2)

Active outlet

Do you want to
modify or delete?

Modify
Delete Program

(Fig. 10)

Do you want to
delete this
program?

Enter: Confirm
Esc: Cancel

(Fig. 11)

Do you want to
delete all of the
programs?

Enter: Confirm
Esc: Cancel

(Fig. 12)

View/Mod/Del

In this menu the inserted programs can be viewed (View), modified (Mod) or deleted (Del).

To use this function, proceed as follows:

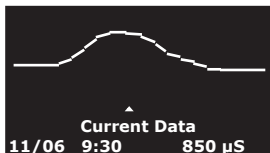
- Access the program to be modified or deleted by pressing "Enter" on the "View/Mod/Del" field.
- Use the \leftarrow \rightarrow keys to view the desired program (Ex. Fig. 8).
- Press the "Enter" key. The specific screen appears on the display (Fig. 10).
- Select "Modify" using the \uparrow \downarrow keys to modify the program or change the desired parameters. Then press "Enter" to confirm the change.
- Select "Delete Program" using the \uparrow \downarrow keys to delete the program. The delete screen will appear (Fig. 11). Press "Enter" to delete or "Esc" to cancel.

Delete All (Fig. 12)

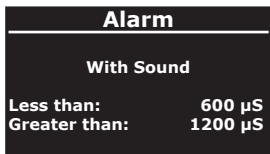
In this menu all of the programs inserted in the menu can be deleted at one time.

To use this function, proceed as follows:

- Select "Delete All" using the \uparrow \downarrow keys and press "Enter". The delete screen will appear. Press "Enter" to delete or "Esc" to cancel.



(Fig. 13)



(Fig. 14)

Data Record

The Data Record graphically displays variations in the conductivity during the previous 24 hours with a minimum interval of 30 minutes (Ex. Fig. 13).

To display the data, proceed as follows:


Main screen \Rightarrow **Main menu** \Rightarrow **Conductivity** \Rightarrow **Data Record**.

- Using the $\uparrow\downarrow$ keys, select the maximum (MAX), minimum (MIN) or current conductivity. Using the $\leftarrow\rightarrow$ keys, move within the chart to view the conductivity of a given time. Press "**Enter**" when finished.

Alarm

A visual or acoustic alarm can be set to notify the user if the conductivity level goes below or above the "**Less than**" or "**Greater than**" values (Ex. Fig. 14).

If the conductivity value exceeds these limits, the conductivity value on the main screen will blink if the alarm is set to "**Without Sound**".

If the alarm is set to "**With Sound**", the value will blink, an acoustic signal will sound and the  icon will appear on the main screen.

To program this function, proceed as follows:

Main screen \Rightarrow **Main menu** \Rightarrow **Conductivity** \Rightarrow **Alarm**.

- Select the desired option using the $\uparrow\downarrow$ keys:
OFF = alarm disabled
With Sound = alarm and acoustic signal enabled
Without Sound = alarm enabled and acoustic signal disabled
- Select "**Less than**" using the $\leftarrow\rightarrow$ keys and then "**Greater than**" and with the $\uparrow\downarrow$ keys program the desired conductivity to set the limits beyond which the alarm will be enabled.
After programming the various settings, press "**Enter**".

Calibrate Sensor

New
Cancel

(Fig. 15)

Do you want to return to
default calibration values?

Enter: Confirm
Esc: Cancel

(Fig. 16)

Set reference and
wait for adjustment

Read Value	1390 μ S
Calib. value	1410 μ S 1/1

(Fig. 17)

Calibration OK

Press any key to
continue

(Fig. 18)

Aquatronica

FW Version: x.y

Press any key to
continue

(Fig. 19)

Calibrate Sensor

This menu allows you to calibrate the Conductivity probe through the interface. By using the keys \uparrow / \downarrow , you may choose whether to perform a new calibration by selecting "New", or to delete a previous one and reset the interface to the default settings by selecting "Cancel" (Fig. 16). A calibration should be performed when the interface is first connected to the system.

Note: Before performing the calibration, the probe must be rinsed using tap water, dried carefully and inserted in the Aquatronica conductivity solution.

In order to correctly calibrate the sensor, proceed as follows:

Main screen \Rightarrow **Main menu** \Rightarrow **Conductivity** \Rightarrow **Calibrate Sensor** \Rightarrow **New**.

1) Select the function "New" by using the keys \uparrow / \downarrow then press "Enter" (Fig. 15).

2) Using the keys \uparrow / \downarrow set the value of the standard solution next to "Calib. Value" (Fig. 17).

3) Wait 10 minutes in order to allow the probe's read value to stabilize. The read value may stabilize on a value that is slightly different than the reference.

4) Once 10 minutes have elapsed, press "Enter".

5) The controller will display the calibration result (Fig. 18); rinse the probe and insert in aquarium

Note: the calibration may be cancelled at any time by pressing "Esc". This will return the calibration parameters to those of the last completed calibration.

About

Provides information on the control unit's firmware version.

To use this function, proceed as follows:

Main screen \Rightarrow **Main menu** \Rightarrow **Conductivity** \Rightarrow **About**.

Device Disconnected

S01: Conductivity

(Fig. 20)

Mon 11/06/07 15:05

?

(Fig. 21)

Conductivity

Change Name
Programs
Alarm
Disconnect

(Fig. 22)

Disconnect

Conductivity

Enter: Confirm
Esc: Cancel

(Fig. 23)

Disconnect

If the conductivity interface is disconnected, a message will appear on the display (Fig. 20). Press **"Enter"** to indicate that the message has been read.

On the main screen the "?" icon will appear in the lower left corner (Fig. 21).

If the conductivity interface is reconnected, the control unit will automatically begin displaying the read value again.

To definitively eliminate the conductivity sensor from the system, after disconnecting it, proceed as follows:

Main screen ⇨ **Main menu** ⇨ **Conductivity** ⇨ **Disconnect**.

The **"Data Record"** and **"Calibrate Sensor"** functions disappear from the **"Conductivity"** menu (Fig. 22) and the **"Disconnect"** function appears.

- Select this function using the $\uparrow\downarrow$ keys and press **"Enter"**.

- The disconnection screen will appear (Fig. 23). Press **"Enter"** to disconnect or **"Esc"** to cancel.

Suggestions for an accurate reading of the Conductivity

Precise readings depend greatly on proper maintenance of the connected probe. Beyond its intrinsic qualities, how the sensor is cared for is particularly important. This will, in fact, provide reliable readings. Below is a list of some simple suggestions for optimum conductivity readings in aquariums:

- Handle the probe with care.
- If the probe is stored out of the water, it must be thoroughly dried to prevent oxidation of the electrodes.
- Periodically clean the probe with tap water.
- **Periodically calibrate the instrument (approximately every month as indicated to page 10) to correct any reading imperfections due to probe wear.**
- Never use calibration solutions that have been left open or have expired.
- Before calibration, rinse the probe with tap water and dry it carefully.
- Replace the probe after a period of approximately 15-18 months.
- Do not install the interface in direct contact with wet or damp parts.
- Position the probe in the tank or sump away from strong currents to prevent excessive oxygenation inside the latter.
- Do not immerse the probe completely in water. The cable's seam must always be approximately 2 cm above the water.

IMPORTANT

For reliable conductivity readings, use only AQUATRONICA electrodes. The use of other brands of electrodes could cause incorrect readings of the instrument.

NOTE: in case of malfunctions or any doubts about the use of this interface, please contact AQUATRONICA'S free Technical Assistance.

DISPOSAL OF ELECTRIC AND ELECTRONIC PARTS

Pursuant to Article 13 of Legislative Decree No. 151 of 25 July 2005, "Implementation of **Directives 2002/95/CE, 2002/96/CE and 2003/108/CE, regarding the reduction in use of dangerous substances in electrical and electronic equipment, as well as waste disposal**":



Products bearing the barred dustbin symbol must be disposed of separately from other waste.

The user must therefore dispose of the product in question at suitable recycling centers for electronic and electro-technical waste, or he/she must turn over the used product to the retailer when buying a new equivalent product, on a one-to-one basis.

Separate waste collection allows used equipment to be recycled, treated and disposed of without negative consequences for the environment and health, and it allows the materials in the equipment to be recycled. Illegal dumping of the product by the user entails the administrative sanctions stated in Legislative Decree No. 22/1997 (Article 50 et seq of Legislative Decree No. 22/1997).



Separate collection of used products and packaging allows materials to be recycled and used again. Reuse of recycled materials helps prevent environmental pollution and reduces the demand for raw materials.

Local regulations may provide for the separate collection of household appliances at municipal waste sites or retailers when a new product is purchased.

Declaration of Conformity

DECLARATION OF CONFORMITY



Standard of reference ISO/IEC Guide 22 and EN 45014

Number of conformity: 005-2007/E

Name of the manufacturer: **Aquatronica division of A.E.B. srl**
Address: via dell'Industria, 20
Corte Tegge
42025 Cavriago (RE) Italy

DECLARES THAT THE ELECTRONIC UNITS

Code: **ACQ210N-RX** (REDOX sonde interface)
ACQ210N-PH (PH sonde interface)
ACQ210N-TL (temperature and level sonde interface)
ACQ210N-MS (conductibility sonde interface)
ACQ210N-D (density sonde interface)
ACQ210N-WL (water-leakage sonde interface)

ARE IN COMPLIANCE WITH THE FOLLOWING PRODUCT SPECIFICATIONS:

FIELD	Directive	Description	References	Test Result
EMC	2004/108/EC	EMC directive	Official Journal of the European Union L390 December 31 2004	applied

THEREFORE THEY ARE IN COMPLIANCE WITH THE REQUISITES OF THE CE MARK
The equipment was checked in a typical working configuration

Place of issue: **Cavriago (RE) Italy**

Date of issue: **12/04/07**

The A.E.B. srl legal representative
Paterlini Ivan

The logo for Aquatronica features the word "Aquatronica" in a bold, white, sans-serif font. The letter 'A' is stylized with a blue water droplet shape on its left side. Below the letters 'a', 't', and 'r' are three wavy lines in shades of blue and green, representing water. The entire logo is set against a background of light blue, wavy, water-like patterns.

Aquatronica

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