IVV

INSIDE WATER

IVV-SENSE

USER'S MANUAL

For the manual in other languages:

EU Declaration of conformity

In accordance with Annex IV of Directive 2014/35/EU

This declaration of conformity is issued under the sole responsibility of the manufacturer.

Manufacturer:　　Aqua S.p.A.

Via T. Crotti, 1 – 42018 S. Martino in Rio (RE)

Subject of declaration:

Description	MULTIPARAMETRIC MEASUREMENT AND CONTROL INSTRUMENT IW-SENSE	
Model(s)	IWSE1PH – IWSE1CL – IWSE1CD – IWSE2PHRX – IWSE2PHCL – IWSE2PHCD – IWSE3PHRXCL	

(*) The image is purely indicative and may not completely reflect the characteristics of the product.

The object described above complies with the relevant EU harmonization legislation:

Directive	*Conformity assessment procedure*
Directive 2014/35/EU (LVD)	Internal product control
Directive 2014/30/EU (EMC)	Internal product control
Directive 2011/65/EU (RoHS) e s.m.a.	Internal product control

The following harmonized standards and technical specifications in relation to which conformity is declared have been applied:

(LVD) EN 61010-1:2010 +A1:2019 +AC:2019-04
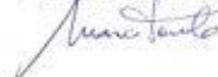(EMC) EN 61326-1:2013
(RoHS) EN 63000:2018

Additional information:

This declaration includes all accessories of the product.

Please refer to the instructions for the intended use of the product.

Sign in the name and on behalf of Aqua S.p.A.

San Martino in Rio (RE), 3/7/2024

Ing. Marco Povolo
Technical Manager

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1. GENERAL RULES

Carefully read the warnings listed below as they provide important information regarding the rules for installation, use and maintenance. Any use of the device that is not in accordance with what is described in this manual could compromise the functionality and safety of the device itself. Please keep this manual carefully for further reference.

1.1 SHIPPING AND TRANSPORTING THE PUMP

The equipment must be transported in its original packaging, organized and built in such a way as to minimize shocks and to protect the protruding parts that can be damaged. If there is a need for transport after the equipment has already been installed (e.g. for a return for repair or replacement), reuse the original packaging or a sufficiently sturdy packaging with the equipment protected with absorbent material (eg bubble wrap). The external packaging must be such as to ensure the safety of the equipment in the event of a fall from 1 meter in height.
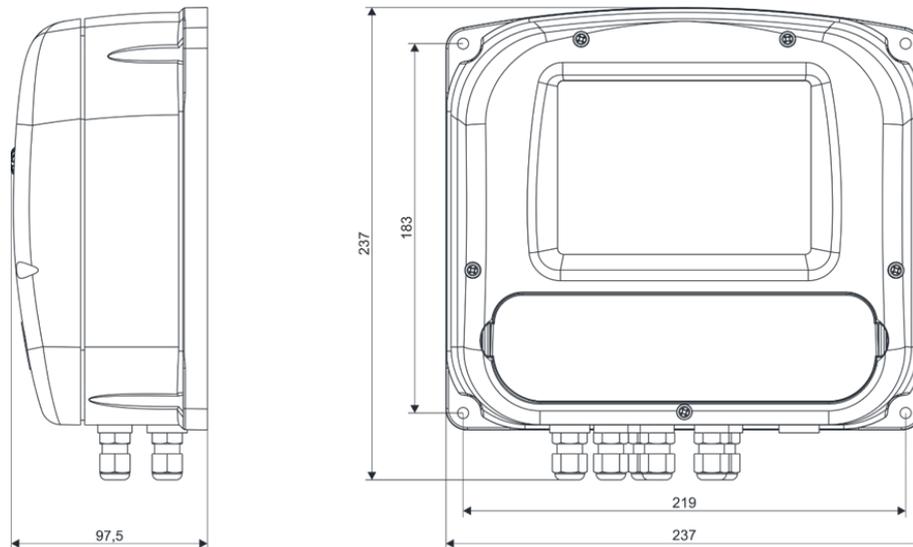
1.2 DISPOSAL OF THE DEVICE

2012/19/EU (WEEE directive): products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier when purchasing new equivalent equipment or dispose of it at designated collection points.

2. OPERATION

The new range of controllers IW-SENSE series are digital microprocessor devices which allow you to constantly monitor and regulate all the chemical-physical parameters that the water to be treated has. In particular, the controller detects: pH, Redox, Chlorine, Conductivity and Temperature.

2.1 OVERALL DIMENSIONS

2.2 TECHNICAL FEATURES

|	
Power supply:	100÷270VAC ± 10% – 50/60Hz
Insulation:	CLASS II ⊡
Absorbed power:	Max 7 Watt
Overvoltage category	CAT II
Operating ranges:	pH: 0÷14 / Redox: 0÷ ±2000mV / CL: 0÷2000 ppm / CD: 0÷20000 µS
Protection:	IP55
Environmental conditions:	Indoor environment, altitude up to 2000m, ambient temperature from 5°C up to 40°C, maximum relative humidity 80% (decreases linearly until reduced to 50% at 40°C).
Pollution degree:	PD2

⚠️ **THE EQUIPMENT, SUBJECT TO THIS DOCUMENT, ARE NOT INTENDED TO BE INSTALLED AND USED IN EXPLOSIVE ATMOSPHERE ENVIRONMENTS. IT ISN'T AN ATEX PUMP.**

⚡ *BEFORE OPEN THE FRONT COVER BE SURE TO DISCONNECT THE DEVICE FROM THE POWER SUPPLY.*

2.3 *INSTALLATION*

To install the device on the wall, a set of plugs and screws is supplied. Drill four holes with a Ø6mm drill bit.
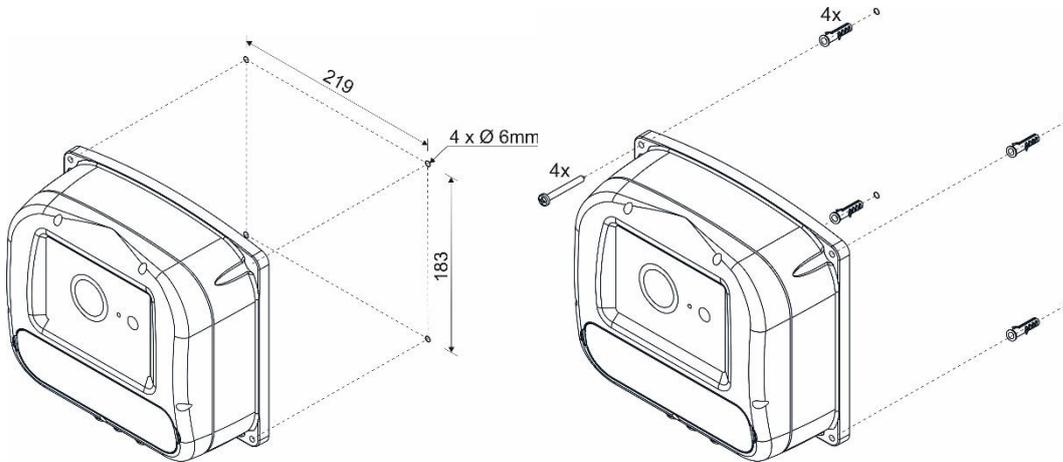
2.4 *IW-SENSE CONTROLS*

The control panel of the IW-SENSE is composed of a controller state leds (1) a button (2) which allows you to connect to a wifi network and a led linked to the button functions that tells you the connection state. The figures below, show what the control panel looks like:
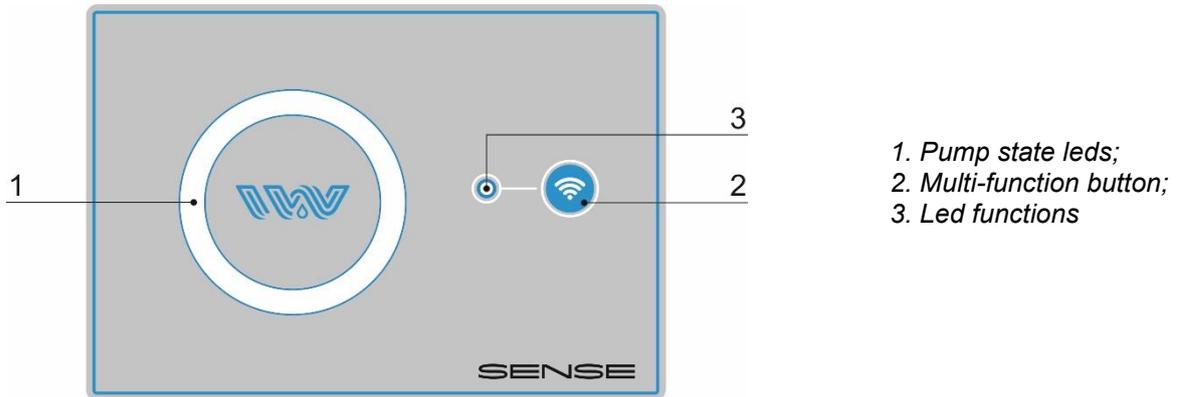
1. *Pump state leds;*
2. *Multi-function button;*
3. *Led functions*

2.5 *MEANING OF THE CONTROLLER STATE LEDS*

LED	Symbol	Meaning
Green ring	↻	Pompa in funzione • Pump running • Pompe en fonctionnement • Bomba en funcionamiento • Pumpe in Funktion
	▭ (fade)	Stand-by
	⌁ (flashing)	Inhibit
Red ring	⌁ (flashing)	Allarme • Alarm • Alerte • Alarma • Warnung
Blue ring	▭ (fade)	Stand-by fuori fascia oraria • Out of time stand-by • hors créneau horaire stand-by • stand-by fuera de horario • außerhalb der Stunde stand-by
Yellow ring	▭ (fade)	Aggiornamento firmware in corso • Firmware update in progress • Mise à jour du firmware en cours • Actualización de firmware en curso • Firmware Update in Arbeit
Magenta ring	⌁ (flashing)	Mancanza flusso • No flow • Manque de circulation • Falta de flujo • Fehlende Bereitstellung von Strom
Cyan ring	⌁ (flashing)	Ritardo allarme di livello • Level alarm delay • Délai d'alarme de niveau • Retardo de alarma de nivel • Level Alarm Verzögerung

Symbol	Legend
↻	Led rotanti / Rotating LEDs / Leds rotatives / Led giratorios / Rotierende Leds
⌁	Led lampeggianti / flashing LEDs / Leds clignotantes / Led intermitente / Blinkende LED'sotierende Leds
▭	Dissolvenza / Fade out / Fondu / Desvanecimiento / Ausgeblendet

2.6 *MEANING OF THE MULTI-FUNCTION BUTTON AND LED*

The controller is equipped with a button (2) which has the following functions:

o *If it is pressed for more than 5 seconds, the controler switches to "access point" mode (flashing white LED);*
o *If pressed between 1 and 2 seconds: stand-by is activated/deactivated;*

o *If it is pressed for a period of between 20 and 30 seconds, the factory settings of the access password are reset (fixed yellow LED);*

|		
	flashing	Attesa connessione al router • Waiting for router connection • En attente de connexion au routeur • Esperando la conexión del enrutador • Warten auf Router-Verbindung
	●	Connesso al router • Connected to router • Connecté au routeur • Conectado al enrutador • Mit Router verbunden
	flashing	Attesa connessione al cloud • Waiting for cloud connection • En attente de connexion au cloud • Esperando conexión a la nube • Warten auf Cloud-Verbindung
	●	Connesso al cloud • Connected to the cloud • Connecté au cloud • Conectado a la nube • Mit der Cloud verbunden
	flashing	Il dispositivo non risponde • The device is not responding • L'appareil ne répond pas • El dispositivo no responde • Das Gerät antwortet nicht
	●	Dispositivo in fase di inizializzazione • Device being initialized • Appareil en cours d'initialisation • Dispositivo siendo inicializado • Gerät wird initialisiert
	●	Reset password di accesso • Access password reset • Accéder à la réinitialisation du mot de passe • Restablecer contraseña de acceso • Zugang zum Zurücksetzen des Passworts

Led lampeggianti / flashing LEDs / Leds clignotantes / Led intermitente / Blinkende LED's

● Led fisso / Fixed LED / DEL fixe / LED fijo / Feste LED

2.7   *INPUT AND OUTPUT ARRANGEMET*

Disconnect the controller from the main power supply, then remove the front protection cover with the help of a screwdriver by lifting the two sides, identify the various outputs/inputs and make the connections following the following images:
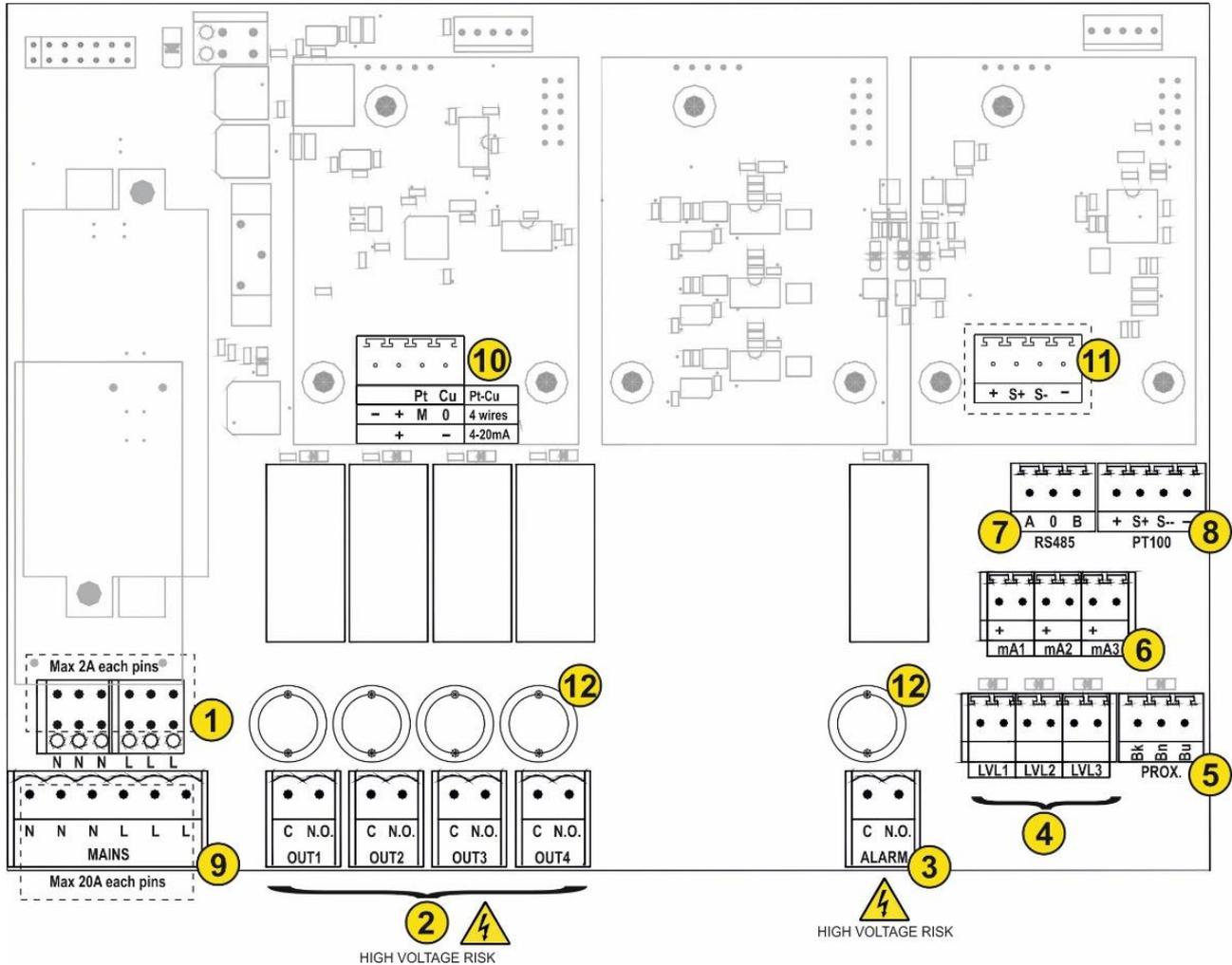
ONE MEASURE CONFIGURATION
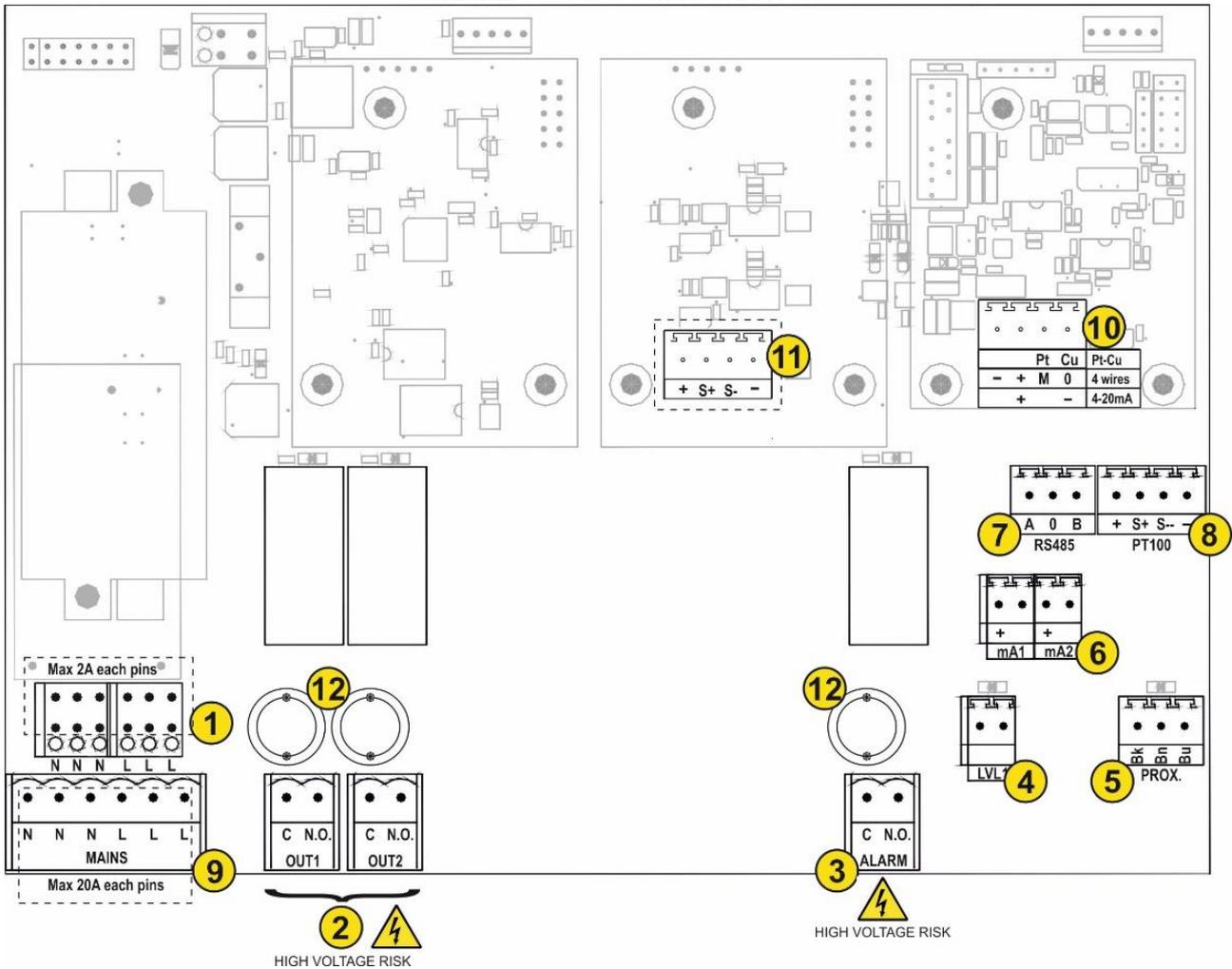
TWO MEASURES CONFIGURATION
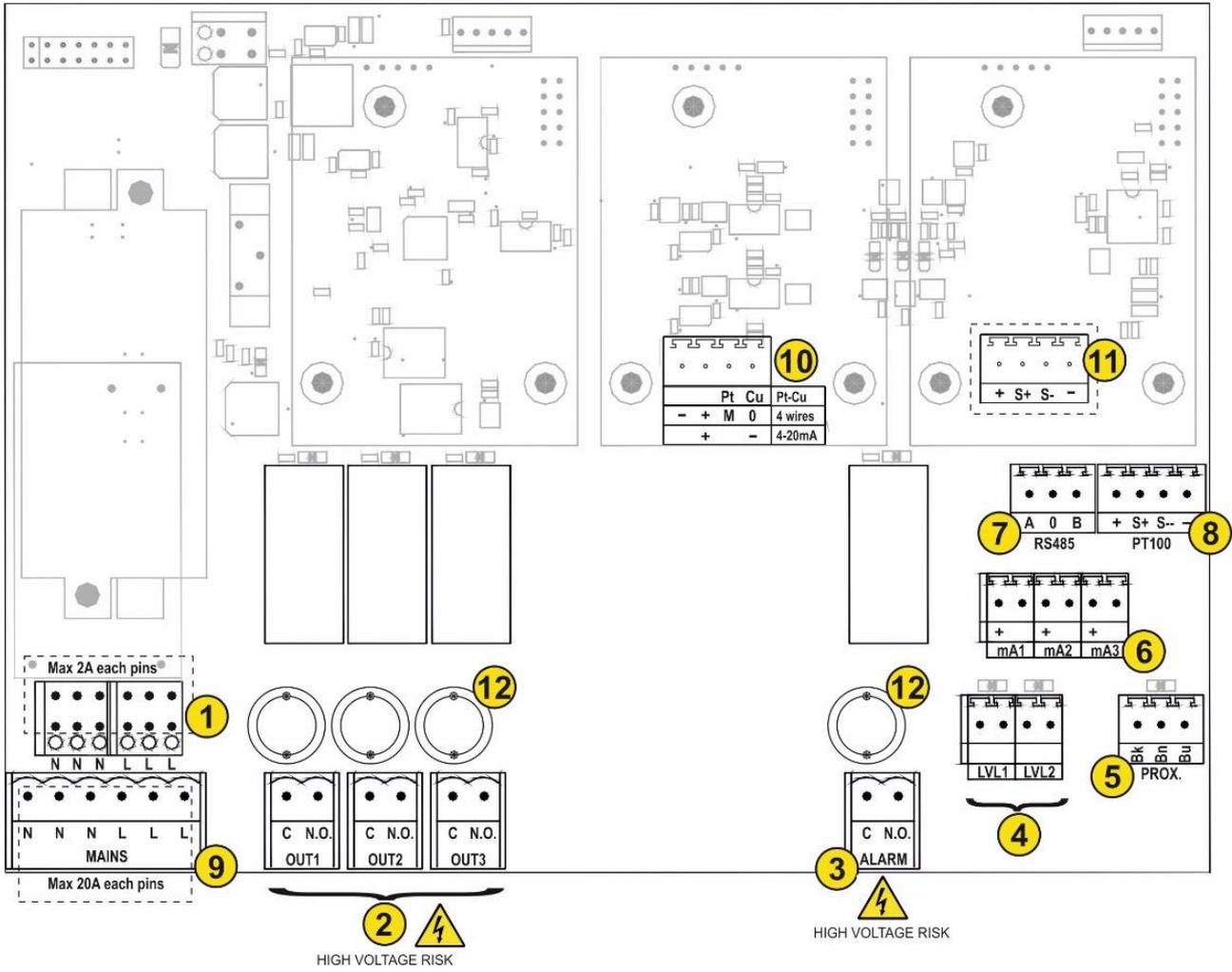
THREE MEASURES CONFIGURATION

1. *Main power supply 100÷270Vac 50/60Hz;*
2. **Independent Output Relays OUT (up to 4)**: *max resistive load 5A @ 240V for the connection of up to 4 metering pumps or 4 ON-OFF units;*
3. **ALARM**: *Alarm Relay (max resistive load 5A @ 240V) for visual or audible signaling;*
4. **Level probes LVL**: *connection of up to **3 level probes (one for each measurement channel)**;*
5. **PROX.**: *proximity sensor input to monitor the presence of water;*
6. **Independent mA outputs**: *max resistive load 500 Ohm;*
7. **RS485**: *connection to a device that uses the **RS485 protocol**;*
8. **PT100**: *3 or 4 wires **PT100 temperature sensor**;*
9. **MAINS**: *terminal block for internal wiring of pumps or ON-OFF devices*;
10. **CL**: *Terminal block for connecting three different types of probes for **chlorine** measurement (if present).*
11. **CD**: *Terminal block for connecting three different conductivity probes, K1, K5 and K10 (if present).*
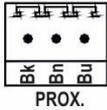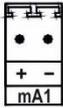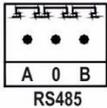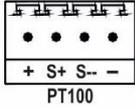12. **FUSE**: *12,5A AT 250Vac*

ATTENTION: Each relay outputs can withstand a maximum current of 12A.
The controller outputs are independent of the measurement channels (CH), therefore they can be configured for multiple purposes. The IW-SENSE series controllers can be configured to have up to three measurement channels (e.g. pH, Redox, Chlorine, conductivity) + temperature.
Below is the list of available inputs and outputs according to the number of channels:

1 measurement channel controller:
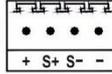**OUT1-2; ALARM; LVL1, mA1-2; PT100; RS485; PROX**

2 measurement channels controller:
OUT1-2-3; ALARM; LVL1-2; mA1-2-3; PT100; RS485; PROX

3 measurement channels controller:
OUT1-2-3-4; ALARM, LVL1-2-3; mA1-2-3; PT100; RS485; PROX
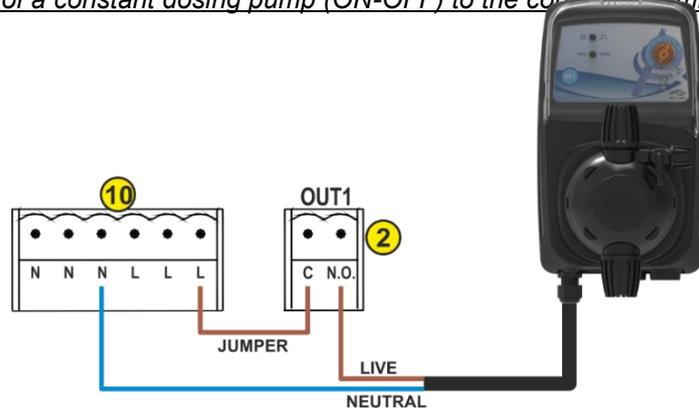
2.8   *TERMINAL BLOCKS CONNECTION*
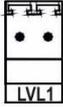
(4) LVL1	**Level probe:** connect the two poles
(5) PROX.	**Proximity sensor:** **Bk** : Black wire (+) **Bn** : Brown wire (+12Vdc) **Bu** : Blue wire (--)
(6) mA1	**4-20mA output:** **+**: positive **--**: negative
(7) RS485	**RS485 interface** **A** : + **0** : Ground **B** : --
(8) PT100	**3 wires PT100 temperature sensor:** **+** : White wire **S+** : jumper with + **S--** : Red wire **--** : Red wire
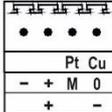
|	
(10) Pt Cu − + M 0 + −	**Pt-Cu probe:** blue wire (Cu) brown wire (Pt)
	4 wires chlorine probe: brown wire (--) green wire (+) white wire (M) yellow wire (0)
	4-20mA chlorine probe: blue wire (--) brown wire (+)

(11) + S+ S- −	**Conductivity probe:** blue wire (S-) **(2 wires)** brown wire (S+)
	Conductivity probe yellow wire (**S-**) **with temperature:** white wire (**S+**) brown wire to connector **PT100 (9)** green wire to connector **PT100 (9)**

Conductivity probes connections

Example of connection of a constant dosing pump (ON-OFF) to the controller terminal blocks

Example of connection of a proportional to a signal dosing pump (mA) to the controller terminal blocks
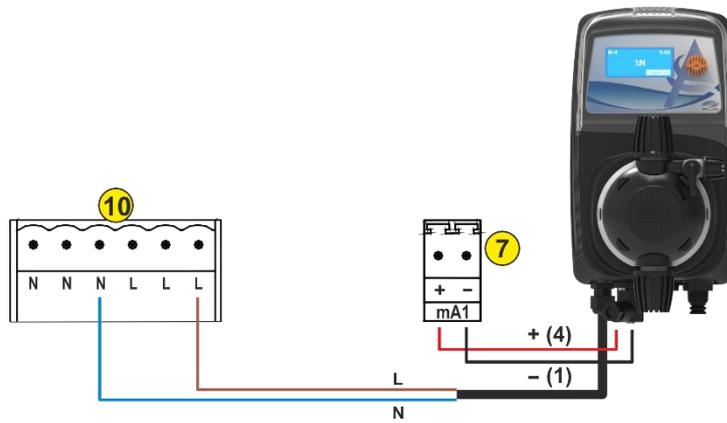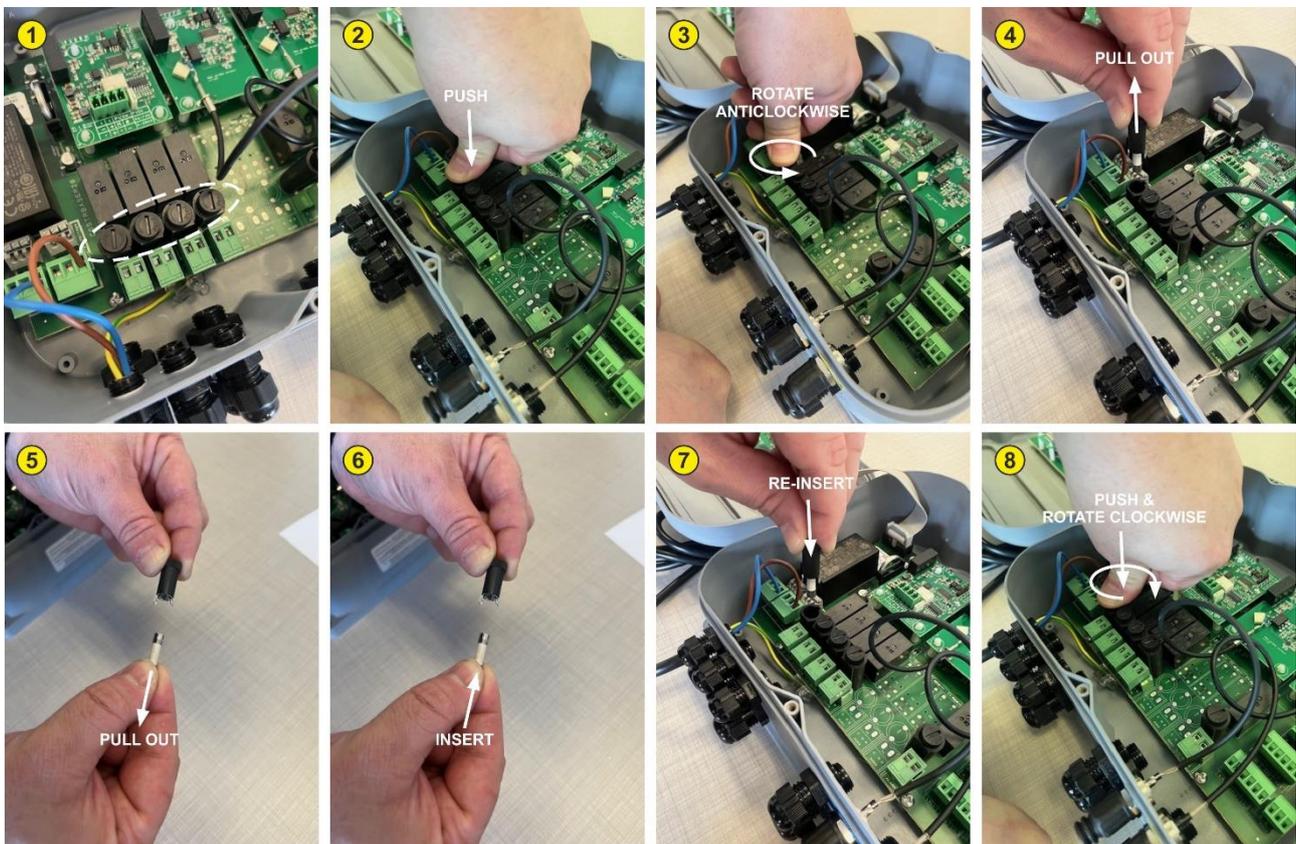
2.9   MAINTENANCE

2.9.1   HOW TO REPLACE THE FUSES

ATTENTION: BEFORE CARRYING OUT THE OPERATIONS DESCRIBED BELOW, MAKE SURE THAT THE DEVICE HAS BEEN DISCONNECTED FROM THE POWER SUPPLY

1. Open the front cover and locate the fuses;
2. Push with the thumb on the cap of the fuse holder;
3. At the same time rotate the thumb anticlockwise, this will release the fuse holder lock;
4. Pull out the fuse holder;
5. Pull out the fuse blown;
6. Insert the new fuse inside the fuse holder;
7. Re-insert the fuse holder into the housing;
8. Push and rotate the thumb clockwise to lock the fuse holder in its housing.

2.9.2   CLEANING OF THE DEVICE

The instrument must be periodically cleaned in order to ensure its efficiency.
It is advisable to carry out regular cleaning when carrying out maintenance work on it.
Dirt on the instrument is usually environmental or caused by splashes from other equipment.
Before carrying out any maintenance or cleaning operations on the instrument, it is necessary to:
1. Make sure that it is electrically disabled (both polarities) by disconnecting the conductors from the contact points of the network by opening the omnipolar switch.
2. Using a damp cloth, remove any dust or other substances and / or encrustations from the external surface of the instrument.
3. Once cleaning is complete, wipe with a dry cloth in order to dry the surfaces of the controller;
4. Electrically reconnect the instrument and ensure that the settings have remained as desired.

è un brand di
AQUA SPA
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