Operation Manual RF Standard-Line Mono system (UMB 200S V1.1)

- Magic 250/350
- Helio 250/300

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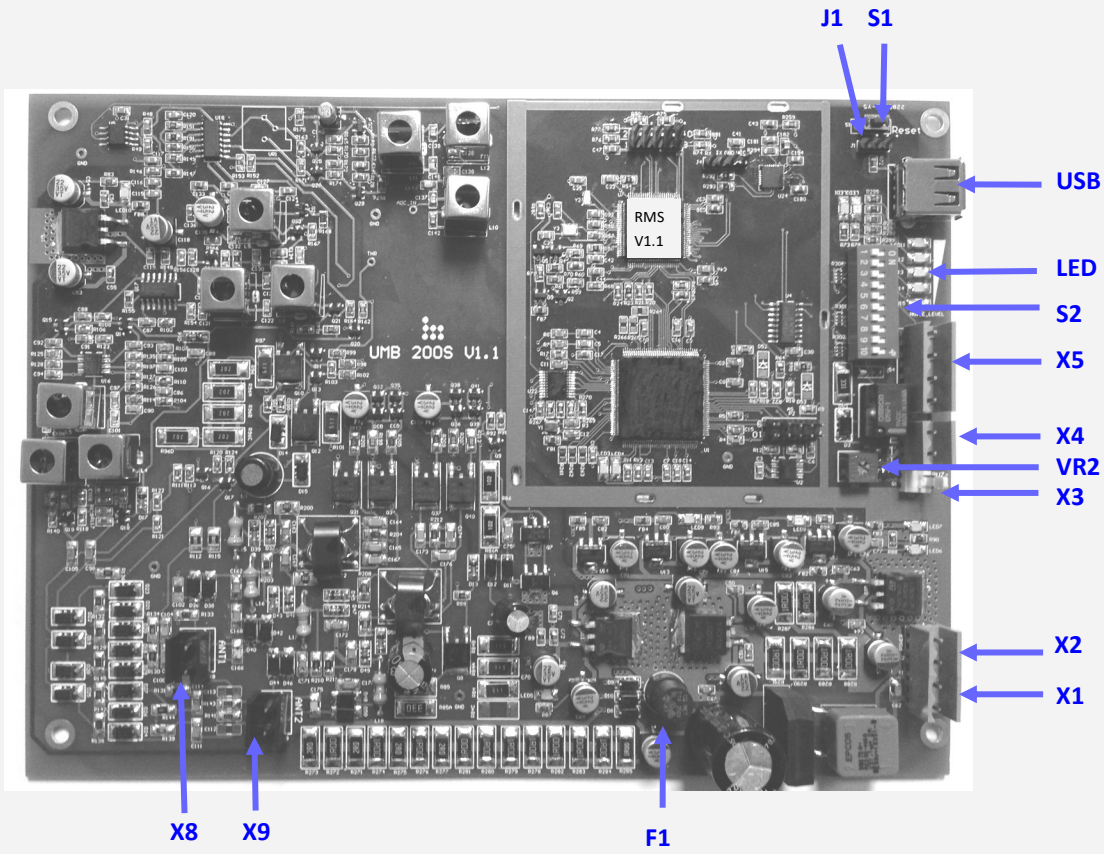
www.inomatic.com
Version 2017-04

UMB 200S



X1	*18VAC power in*
X2	*18VAC power out*
X3	*Buzzer*
X4	*Relay output (NO)*
X5	*Alarm /Power LED light (12V DC)*
X8	*Antenna loop 1 (8 loop)*
X9	*Antenna loop 2 (88 loop or 0 loop)*

J1	*Operation/Down- load firmware*
F 1	*Fuse 1A*
S2	*Selection switches*
VR2	*Buzzer Volume Control*
S1	*Reset processor*

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1. Introduction

The Magic/Helio Mono antennas incorporating the UMB 200 Standard-Line Mono electronics is a DOUBLE TRX-loop single panel system that provides enhanced detection as compared to conventional Mono antennas. Multiple Magic/Helio antennas (UMB 200) can operate at the same time without the need of synchronization.

The system‘s center frequency is 8.2MHz with frequency “hopping” within a certain frequency band width. This allows good detection of tags even if the center frequency of the tag is not exact 8.2MHz.

Advanced **APC** (Automatic Parameter Control) and **ERC** (Enhanced Resonance control) technology is applied to process the transmit and receive signal relative to the environmental noise. This not only benefits the system‘s performance and anti-interference ability but also prevents deactivation of labels near to the antenna.

The UMB 200S has a USB interface to download new Firmware if becomes available.

The UMB 200S Mono electronics was designed for “**PLUG and PLAY**” operation

Typical performance

Magic 350 with UMB 200S performance :

4 x 4 label	up to 110 cm on each side
Mini square	up to 120 cm on each side
R 50 hard tag	up to 140cm on each side

The performance depends on the quality of the label/tag and the orientation of the label/tag

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2. Functions/Connections

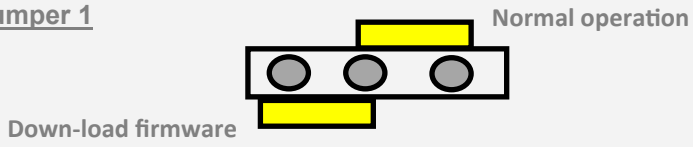
2.1 Alarm Volume Tuning (VR2)

The sound level of the alarm buzzer can be adjusted by the potentiometer VR2. Turn VR2 clockwise to increase the volume, counter-clockwise to decrease the volume.

2.2 Down-loading of updated firmware (J1)

The firmware can be updated via the computer. When down-loading the firmware J1 has to be the left position. After down-loading set J1 to the right position and press S1 to reset the processor. As the firmware is encrypted please contact our service department for the relevant down-load file.

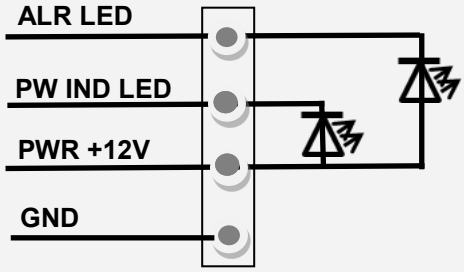
<u>Jumper 1</u>



2.3 Reset of processor (S1)

Pressing the button **S1** will reset the processor

2.4 Power/Alarm light connection X5 (active low)



Note, that if you like to replace the UMB 100 with the UMB 200 the Alarm LED module need to be changed as the UMB 100 Alarm output is 24VDC

Note, that non-Inomatic LED modules might influence the board performance and/or resulting in higher noise.

The maximum current per LED output is 150mA.

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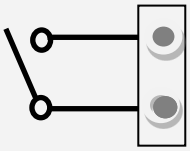
2.5 Relay output (X4)

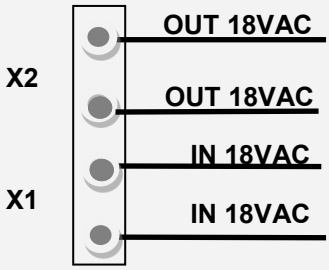
X4 provides a NO- relay contact output (< 50V DC, 1A). The relay output is activated when the electronics triggers an alarm.



2.6 Power connection (X1 & X2)

The power supply (18VAC or 24VDC) is connected to **X1**.

X2 provides an power output of 18VAC or 24VDC depending on the input power supply



2.7 Buzzer connection (X3)

The buzzer (12VDC) is to be connected to **X3**. Please observe polarity (+/-) of the buzzer.

2.8 USB connector (X7)

The UMB can be connected to the computer via the USB port for firmware update only

2.9 Antenna loop connections (X8 & X9)

The 8 loop of the antenna is connected to **X8 (ANT1)** and the 88 loop or 0-Loop is connected to **X9 (ANT2)**.

If the 0-loop is not used, both ends of the 0-loop are connected to the ground of the board.

2.10 LEDs

The LEDs L show the environmental noise level of the system. More LEDs —> more noise

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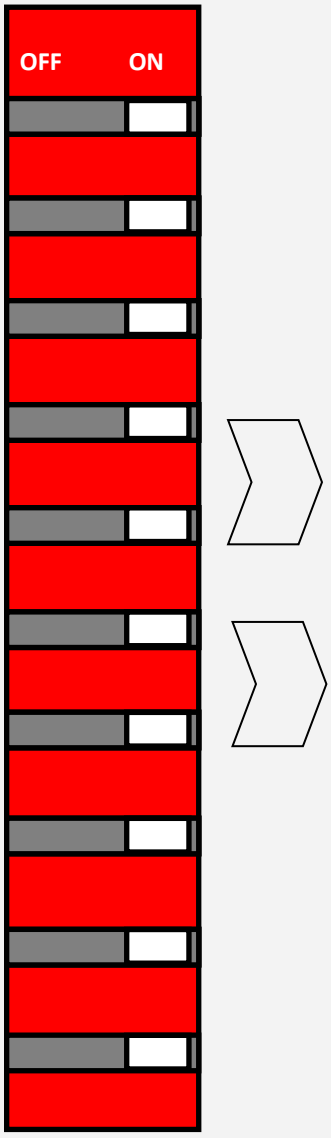
2.11 Switch S2

S2 allows the setting of various functions:



	OFF	ON
1	Manual	Automatic
2	Filter Wide	Filter Narrow
3	TX OFF	TX ON
4	Gain 3 ON, Gain 2 OFF, Gain 1 ON, Gain 0 OFF	Only in Manual mode
5	Gain 3 ON, Gain 2 ON, Gain 1 OFF, Gain 0 OFF	Only in Manual mode
6	Noise 0 ON, Noise 1 OFF, Noise 2 ON, Noise 3 OFF	
7	Noise 0 ON, Noise 1 ON, Noise 2 OFF, Noise 3 OFF	
8	ERC OFF	ERC ON
9	8 & 88 loop connected	O & 8 loop connected
10	Not in use	

Default setting: —> all switches in ON position

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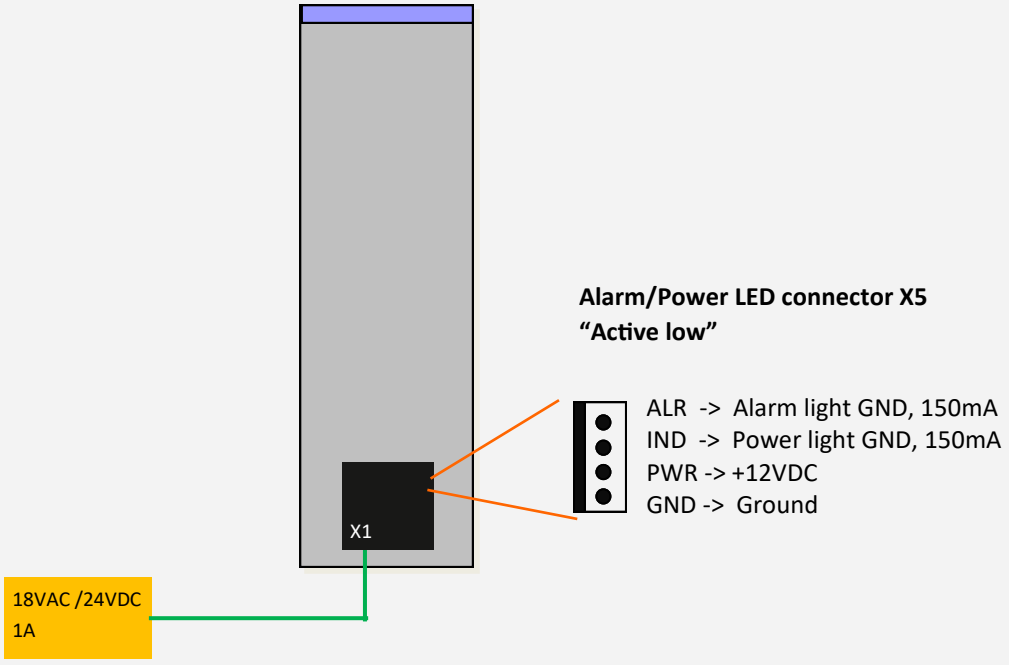
3. Installation

When installing RF Mono system (UMB 200S) please ensure that there is no RF Swept-system (TX/RX) within 10 meters as Swept-systems influence the performance and can cause false alarms.

The swept-system TX generates a continuous 8.2 MHz frequency which negatively affect the noise/ signal ratio and therefore the performance of any Mono antenna. The only alternative is to reduce the Level of the Mono antenna but this will also reduce the performance of the Mono antenna.

When multiple Mono antennas are installed, power-up and tune the antennas on by one. After all antennas have been tuned switch on the power to all systems at the same time.

The Mono antennas will synchronize automatically once powered-on. The power supply should be installed as close as possible to the Mono antenna. If the 18VAC power line is longer as 5 meter an additional line-filter should be installed.



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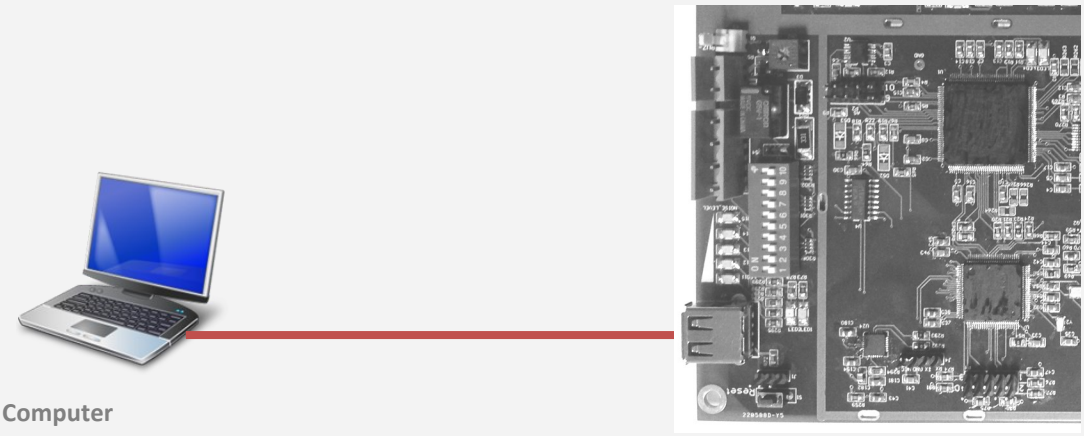
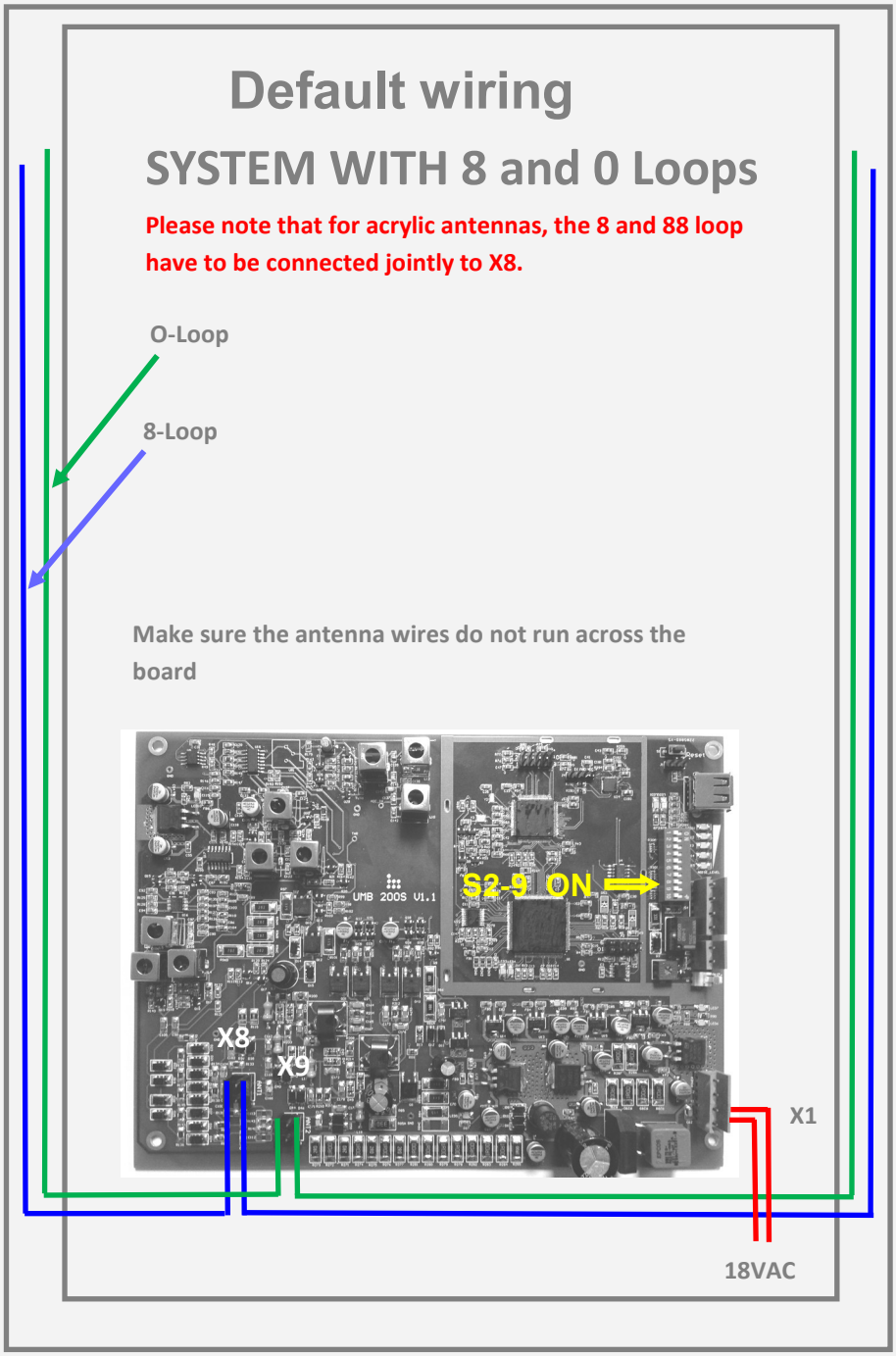
4. Connection to USB

The firmware of the UMB 200S can be updated via the USB port



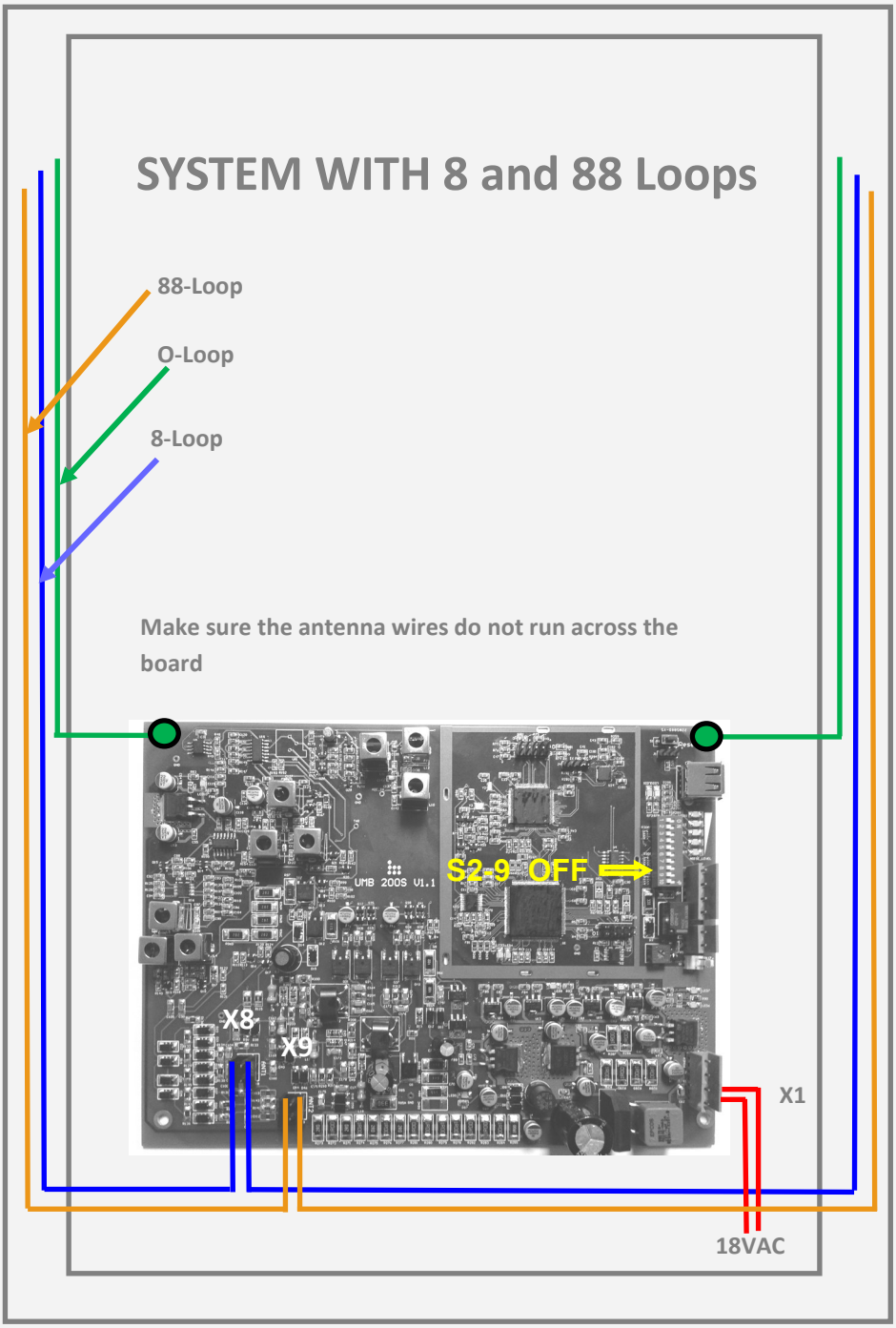
For Firmware update please contact our service department (service@inomatic.com) for the firmware update file.

6. Loop connections



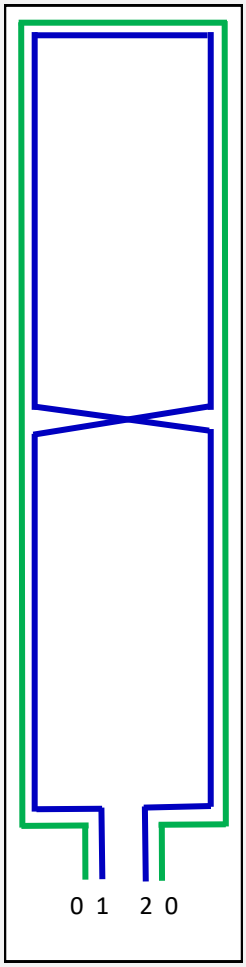
If the switch S2-9 is OFF, the performance of the system increases but it might be more noise sensitive.

6. Loop connections

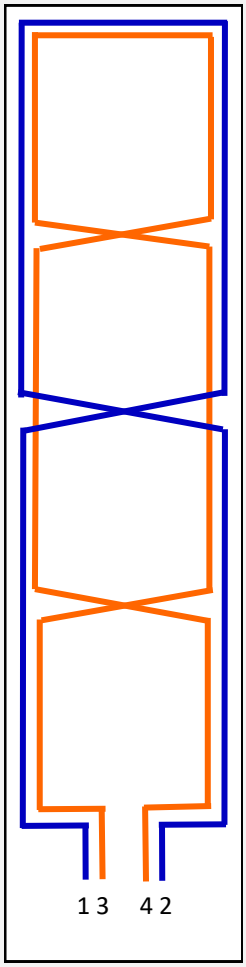


7. Antenna wiring

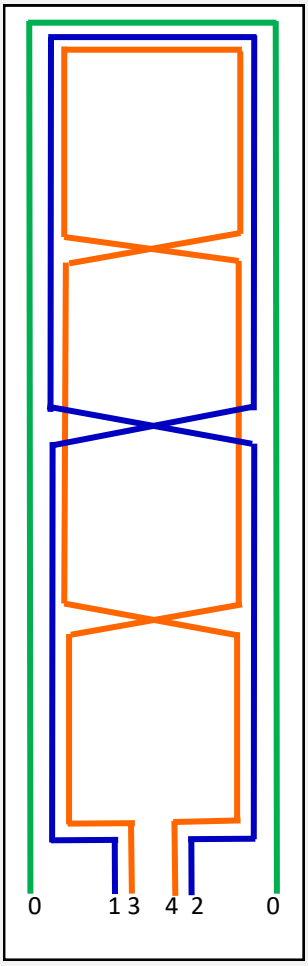
A.) **Default wiring of Mono antenna using UMB 200S**



B.) High Noise environment



Antenna standard wiring includes 3 loops , 0 loop (0,0), 8 Loop (1,2) and 88 loop (3,4)



— **TRX1** **Connect to X9 (0,0)**
— **TRX2** **Connect to X8 (1,2)**

— **TRX1** **Connect to X9 (3,4)**
— **TRX2** **Connect to X8 (1,2)**

If the 0 loop is not used, connect both end of the loop to the GND of the board

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8. REGULATORY COMPLIANCE CE

This equipment complies with European Community regulatory rules for Radio Frequency emissions. It has been awarded with the CE mark.

The CE mark is the official marking required by the European Community for all Electric and Electronic equipment that will be sold or put into service for the first time, anywhere in the European community. It proves to the buyer and user that this product meets all essential safety and environmental requirements as they are defined in the “European Directives”.

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: 1) this device may not cause harmful interference, and 2) this device must accept any interference received, including interference that may cause undesired operation.
Changes or modifications not expressly approved by the party responsible for compliance could void the user’s authority to operate the equipment.