Sensor Compatibility

libelium

wasp mote

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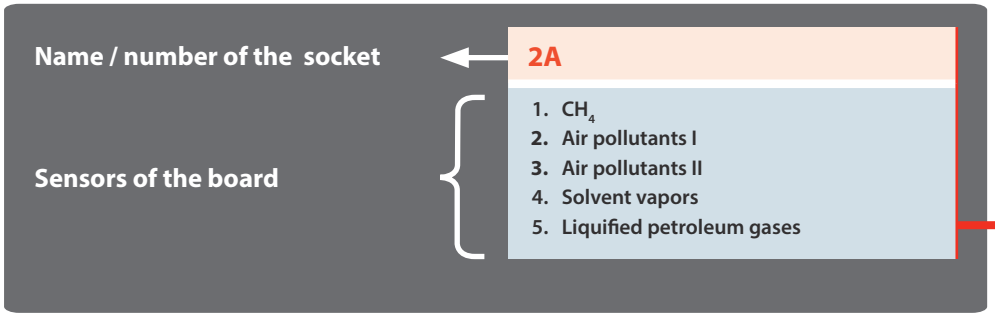
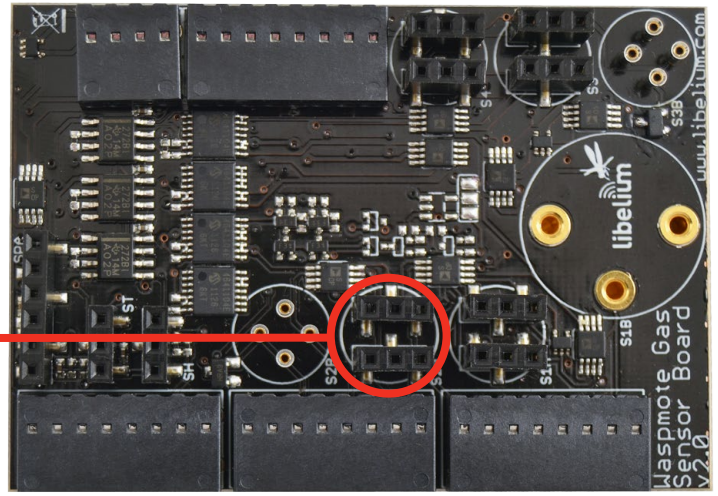
1. Sensor compatibility

This document relates which sensors of the Waspmote platform are connected on each socket of the sensors boards, as long as the special circumstances of each of them.

In next sections all the boards are described separately, enumerating the sensors of the board.

- **Example of Sensor Compatibility Scheme:**





Gases sensor board

Humidity

1. Humidity

4

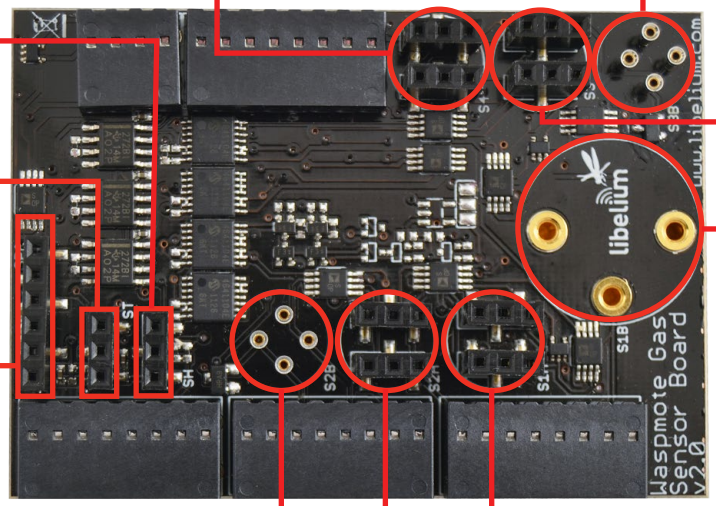
1. CO
2. NH_3
3. CH_4
4. Air contaminants I
5. Air contaminants II
6. Solvent vapors
7. Liquified petroleum gases

3B

1. NO_2

3A

1. CO
2. NH_3
3. CH_4
4. Air pollutants I
5. Air pollutants II
6. Solvent vapors
7. Liquified petroleum gases



Temperature

1. Temperature

Atmospheric presure

1. Atmospheric presure

1B

1. O_2

1A

1. CO_2

2A

1. CH_4
2. Air pollutants I
3. Air pollutants II
4. Solvent vapors
5. Liquified petroleum gases

2B

1. O_3
2. VOC's sensor

4

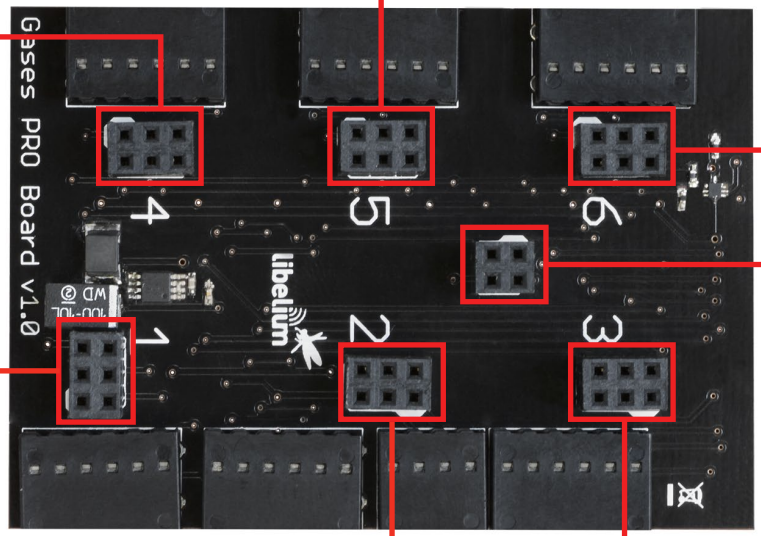
1. CO
2. Cl_2
3. O_2
4. O_3
5. NO
6. NO_2
7. SO_2
8. NH_3
9. ETO
10. H_2
11. H_2S
12. HCl
13. PH_3

5

1. CO
2. ETO
3. O_2
4. Cl_2
5. NO
6. NO_2
7. SO_2
8. NH_3
9. PH_3
10. H_2
11. H_2S
12. HCl

6

1. CO
2. ETO
3. O_2
4. Cl_2
5. NO
6. NO_2
7. SO_2
8. NH_3
9. PH_3
10. H_2
11. H_2S
12. HCl



1

1. CO
2. CO_2
3. O_2
4. Cl_2
5. NO
6. NO_2
7. SO_2
8. NH_3
9. CH_4 and other combustible gases
10. H_2
11. H_2S
12. HCl
13. PH_3
14. ETO

Central socket

1. Temperature, Humidity and Pressure sensor

3

1. CO
2. Cl_2
3. O_2
4. O_3
5. NO
6. NO_2
7. SO_2
8. NH_3
9. ETO
10. H_2
11. H_2S
12. HCl
13. PH_3

2

1. CO
2. ETO
3. O_2
4. Cl_2
5. NO
6. NO_2
7. SO_2
8. NH_3
9. PH_3
10. H_2
11. H_2S
12. HCl

8

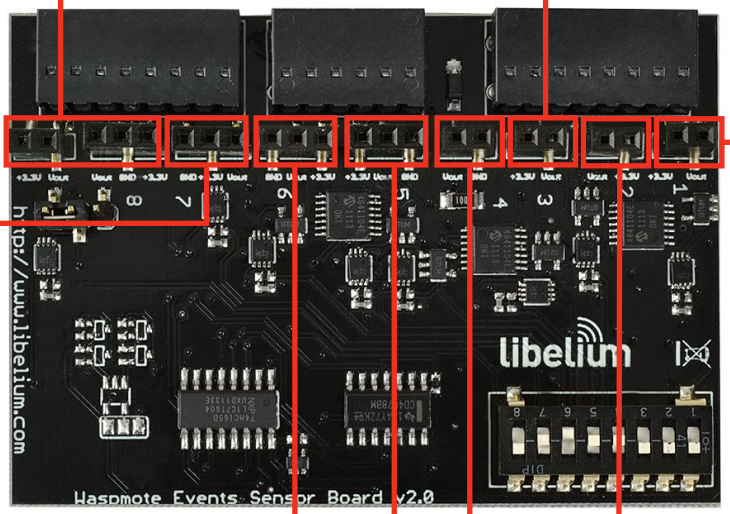
1. Horizontal liquid level (combustibles)
2. Horizontal liquid level (water)
3. Vertical liquid level (water)
4. Hall efect
5. Water presence (point)
6. Water flow small
7. Water flow medium
8. Water flow large

7

1. Presence (PIR)

6

1. Temperature
2. Humidity (3,3 V)



5

1. Temperature
2. Humidity (3,3 V)

4

1. Vibration (lamina)
2. Vibration (thread)

3

1. Pressure / weight
2. Horizontal liquid level (combustibles)
3. Horizontal liquid level (water)
4. Vertical liquid level (water)
5. Luminosity
6. Hall efect
7. Water presence (point)

1

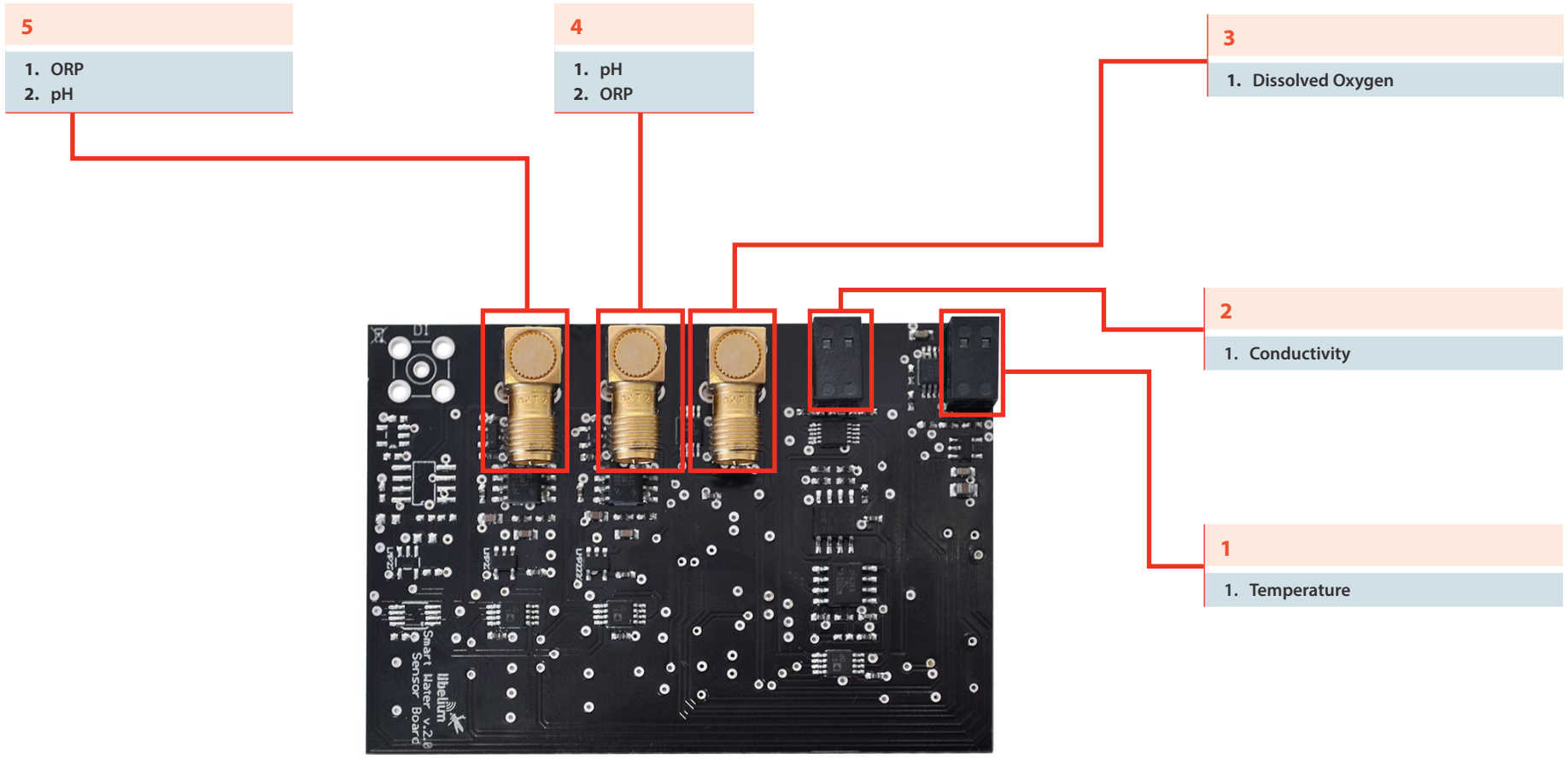
1. Pressure / weight
2. Horizontal liquid level (combustibles)
3. Horizontal liquid level (water)
4. Vertical liquid level (water)
5. Luminosity
6. Hall efect
7. Water presence (line/point)

2

1. Pressure / weight
2. Horizontal liquid level (combustibles)
3. Horizontal liquid level (water)
4. Vertical liquid level (water)
5. Luminosity
6. Hall efect
7. Water presence (point)

Restrictions and special considerations for this board are described below:

- Sockets 1, 2 and 3 are very similar and its sensors are almost interchangeable.



- Turbidity sensor kit is available for connection to Waspmote via RS-485 module

Socket 3

1. Ca^{2+}	1. Br^-	1. NH_4^+	1. pH
2. F^-	2. Cl^-	2. Br^-	
3. BF_4^-	3. Cu^{2+}	3. Ca^{2+}	
4. NO_3^-	4. I^-	4. Cl^-	
	5. Ag^+	5. Cu^{2+}	
		6. F^-	
		7. I^-	
		8. Li^+	
		9. Mg^{2+}	
		10. NO_3^-	
		11. NO_2^-	
		12. ClO_4^-	
		13. K^+	
		14. Ag^+	
		15. Na^+	

Socket 2

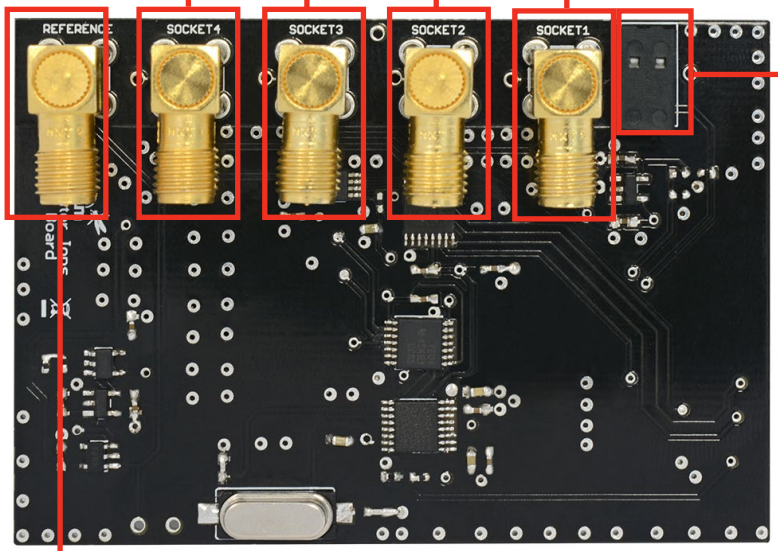
1. Ca^{2+}	1. Br^-	1. NH_4^+	1. pH
2. F^-	2. Cl^-	2. Br^-	
3. BF_4^-	3. Cu^{2+}	3. Ca^{2+}	
4. NO_3^-	4. I^-	4. Cl^-	
	5. Ag^+	5. Cu^{2+}	
		6. F^-	
		7. I^-	
		8. Li^+	
		9. Mg^{2+}	
		10. NO_3^-	
		11. NO_2^-	
		12. ClO_4^-	
		13. K^+	
		14. Ag^+	
		15. Na^+	

Socket 1

1. Ca^{2+}	1. Br^-	1. NH_4^+	1. pH
2. F^-	2. Cl^-	2. Br^-	
3. BF_4^-	3. Cu^{2+}	3. Ca^{2+}	
4. NO_3^-	4. I^-	4. Cl^-	
	5. Ag^+	5. Cu^{2+}	
		6. F^-	
		7. I^-	
		8. Li^+	
		9. Mg^{2+}	
		10. NO_3^-	
		11. NO_2^-	
		12. ClO_4^-	
		13. K^+	
		14. Ag^+	
		15. Na^+	

Socket 4

1. Ca^{2+}	1. Br^-	1. NH_4^+	1. pH
2. F^-	2. Cl^-	2. Br^-	
3. BF_4^-	3. Cu^{2+}	3. Ca^{2+}	
4. NO_3^-	4. I^-	4. Cl^-	
	5. Ag^+	5. Cu^{2+}	
		6. F^-	
		7. I^-	
		8. Li^+	
		9. Mg^{2+}	
		10. NO_3^-	
		11. NO_2^-	
		12. ClO_4^-	
		13. K^+	
		14. Ag^+	
		15. Na^+	



Temperature Socket

1. Temperature

Reference Socket

1. Single Junction Reference Probe
2. Double Junction Reference Probe

- One (and only one) Reference Probe must always be connected in the Reference Socket.
- Sensors in Sockets 1, 2, 3 and 4 must always be of the same type than the Reference Probe (Single/Probe)

LDR sensor

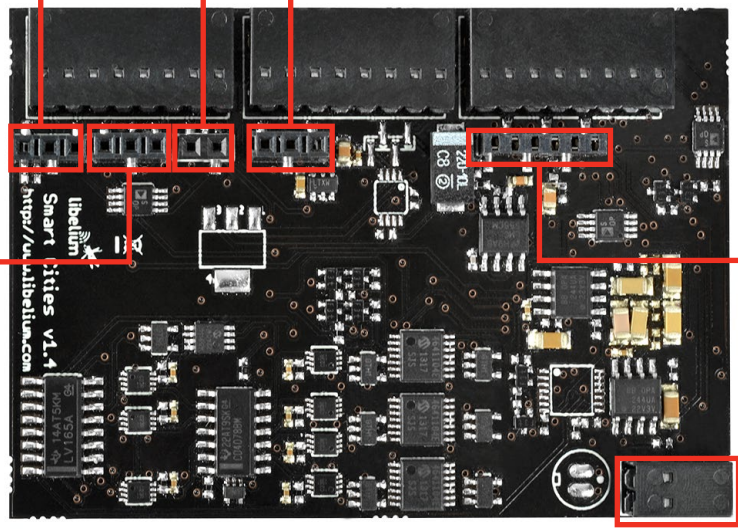
2. Luminosity

Humidity

1. Humidity

Linear displacement

1. Linear displacement



Temperature

1. Temperature
2. Ultrasound (indoor)
3. Ultrasound (outdoor IP67)

Dust sensor

1. Dust - PM-10

Microphone (dBA) *

1. Microphone (dBA)

*Microphone sensor is calibrated ondemand

Restrictions and special considerations for this board are described below:

- No restrictions.

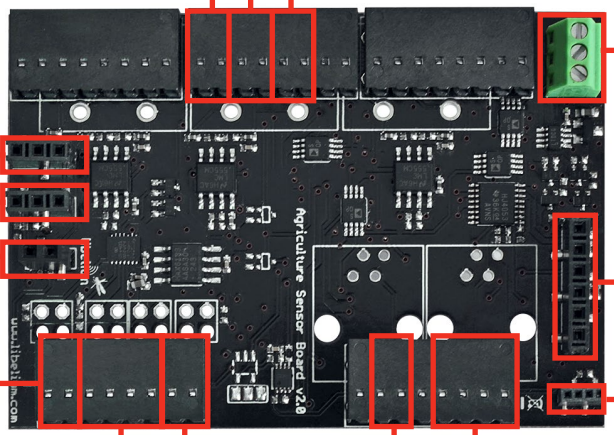
Humidity
1. Humidity

Temperature
1. Temperature

Soil moisture
1. Soil moisture [1]

Solar radiation*
1. Solar radiation
2. Ultraviolet radiation

Luminosity
1. Luminosity



Atmospheric pressure
1. Atmospheric pressure

Humidity + Temperature
1. Humidity + Temperature

Soil temperature *
1. Soil temperature

Weather Station WS-3000
1. Anemometer
2. Wind Vane

Dendrometer *
1. Trunk diameter
2. Stem diameter
3. Fruit diameter

Leaf wetness
1. Leaf wetness

Pluviometer
1. Pluviometer

*** These sensors are only available on the Agriculture PRO sensor board**

Restrictions and special considerations for this board are described below:

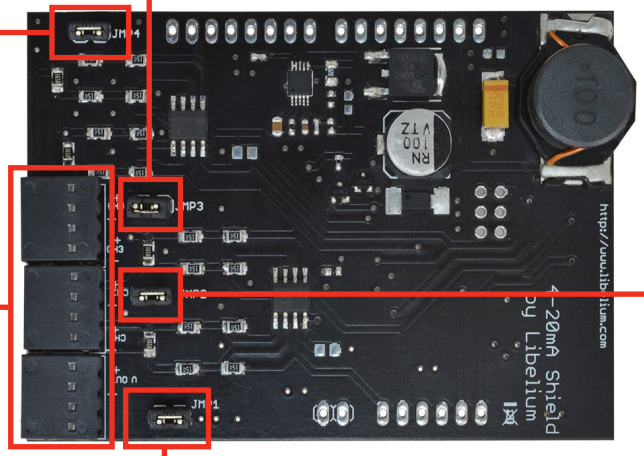
- Each sensor has its own socket.
- Only one dendrometer at the same time.
- Wind vane and anemometer go in the same socket
- (1) Up to 3 units on the same board

Channel 3 jumper

1. Channel 3 jumper

Channel 4 jumper

1. Channel 4 jumper



PTSM connectors

1. PTSM connectors

Channel 2 jumper

1. Channel 2 jumper

Channel 1 jumper

1. Channel 1 jumper

This sensor board is compatible with a wide variety of 4-20 mA sensors