# Standards Messages Sent

Format: **Sender**|**Receiver**|**Action**|**Data**

Note: Omit white spaces/other forms of delimiters

**Command Enum (0-10) in order**

FORWARD, TURN\_LEFT, TURN\_RIGHT, BACKWARD, ALIGN\_FRONT, ALIGN\_RIGHT, SEND\_SENSORS, ERROR, ENDEXP, ENDFAST, STOP, ROBOT\_POS.

**Direction Enum:**

UP, LEFT, DOWN, RIGHT;

**Algo to Android Messages**

1. Alg|And|MD1|Data (hex) // Part 1: Explored/Unexplored
2. Alg|And|MD2|Data (hex) // Part 2: Among the explored, obstacle/no obstacle.

Movement Commands (refer to enum for exact Command)

1. Alg|And|0|{1-10} (Steps)
2. Alg|And|1|
3. Alg|And|2|
4. Alg|And|3|{1-10} (Steps)

Status Commands

1. Alg|And|{4-10}|

Update Robot

1. Alg|And|11|{0-19}(row),{0-14}(col),DIRECTION

**Android to Algo Messages**

Status Commands

1. And|Alg|{6,7,8,9}|

Update Robot

1. And|Alg|11|{0-19}(row),{0-14}(col),DIRECTION,WAYROW, WAYCOL

**\*\*Android needs to send to Algo: STARTEXP, STARTFAST**

**Android to Arduino Messages**

Movement Commands (manual remote control navigation via Android controller)

1. And|Ard|0|
2. And|Ard|1|
3. And|Ard|2|
4. And|Ard|3|

**Algo to Arduino Messages**

Movement Commands (refer to enum for exact Command)

1. [Alg|Ard|0|{1-10} (Steps)]
2. [Alg|Ard|1|0]
3. [Alg|Ard|2|1]
4. [Alg|Ard|3|{1-10} (Steps)]
5. [Alg|Ard|4|10]

0 : FORWARD

1: TURN\_LEFT

2: TURN\_RIGHT

3: BACKWARD

4: ALIGN\_FRONT

5: ALIGN\_RIGHT

6: SEND\_SENSORS

**Arduino to Algo Messages**

Sensor Data (refer to enum for exact Command)

1. Ard|Alg|Sensor|1:RawData:Block,2:RawData:Block,3:RawData:Block,4:RawData:Block,5:RawData:Block,6:RawData:Block

(First number corresponds to sensor number)

1 – Front Sensor (Left)

2 – Front Sensor (Center)

3 – Front Sensor (Right)

4 – Right Sensor (Top)

5 – Right Sensor (Below)

6 – Left Sensor