BeanAir

Current consumption in active & sleeping mode

DOCUMENT

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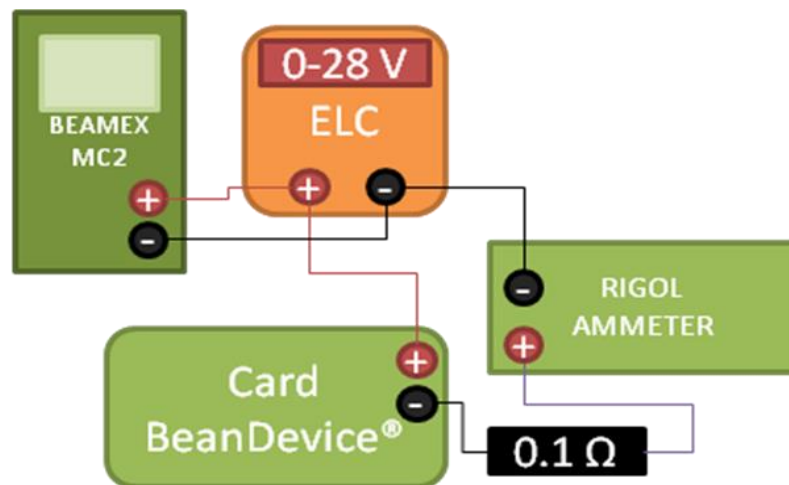
1.1 EQUIPMENT USED

- BeanDevice® AX-3D
- BeanDevice® HI-INC – 1 axis
- BeanDevice® HI-INC – 2 axis
- BeanDevice® TOR
- ELC Power Supply – AL942
- RIGOL multimeter, used as an ammeter
- BEAMEX MC2 – used as a voltmeter
- A 0.1 Ω resistor – 1% - 3W

1.2 INSTALLATION DIAGRAM

1.3 TESTS CONDITIONS

- Room temperature : 24°C
- Humidity : 65%

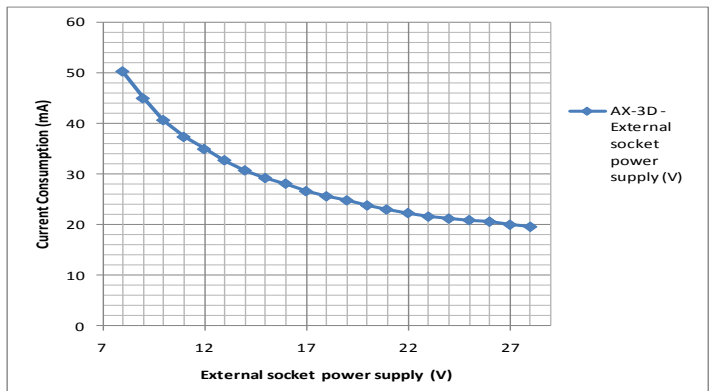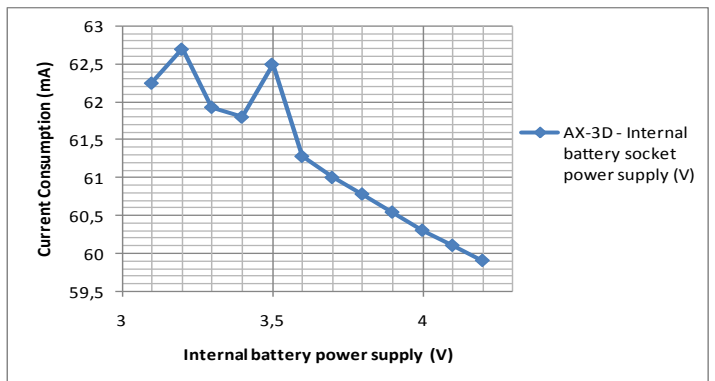# 2. CURRENT CUNSOMPTION

2.1 BEANDEVICE® AX-3D

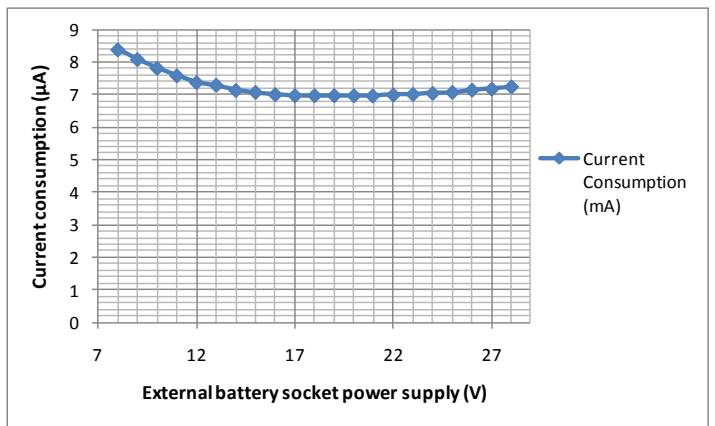The BeanDevice® AX-3D 2g and 10g comes with the same power consumption.
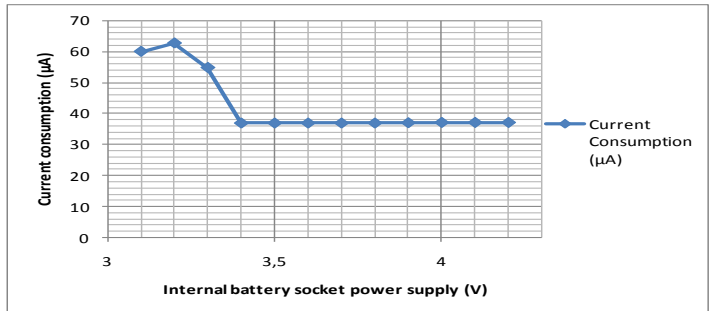
2.1.1 Current consumption in active mode

ACTIVE MODE	
AX-3D - Internal battery socket power supply (V)	Current Consumption (mA)
3,1	62,25
3,2	62,7
3,3	61,93
3,4	61,8
3,5	62,5
3,6	61,28
3,7	61
3,8	60,78
3,9	60,54
4	60,3
4,1	60,1
4,2	59,9
AX-3D - External socket power supply (V)	Current Consumption (mA)
8	50,2
9	44,9
10	40,6
11	37,3
12	34,9
13	32,7
14	30,7
15	29,2
16	28,1
17	26,6
18	25,6
19	24,8
20	23,8
20,95	23
22	22,3
23	21,6
24	21,2
25	20,9
26	20,6
27	20
28	19,6

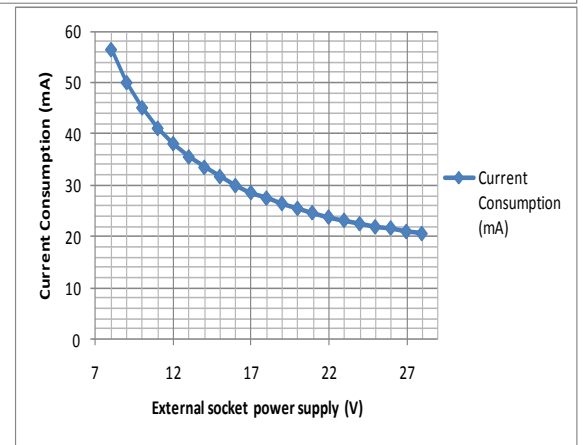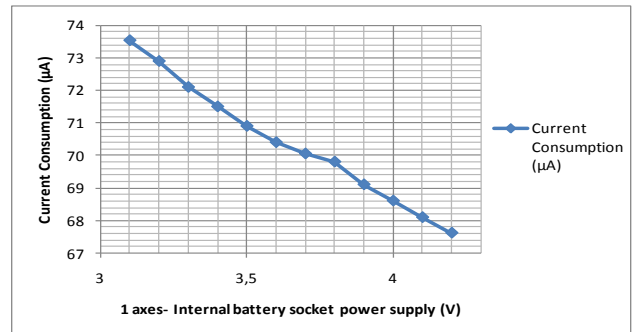### 2.1.1 Current consumption in sleeping mode

SLEEPING MODE	
AX-3D - Internal battery socket power supply (V)	Current Consumption (µA)
3,1	60
3,2	62,7
3,3	54,8
3,4	36,9
3,5	36,9
3,6	36,9
3,7	36,9
3,8	36,9
3,9	37
4	37,1
4,1	37,1
4,2	37,1
AX-3D - External socket power supply (V)	Current Consumption (mA)
8	8,38
9	8,08
10	7,81
11	7,58
12	7,37
13	7,29
14	7,13
15	7,07
16	7
17	6,97
18	6,97
19	6,97
20	6,97
20,95	6,96
22	6,99
23	7,01
24	7,04
25	7,07
26	7,14
27	7,17
28	7,24

2.2 BEANDEVICE® HI-INC STANDARD & XRANGE - 1 AXIS
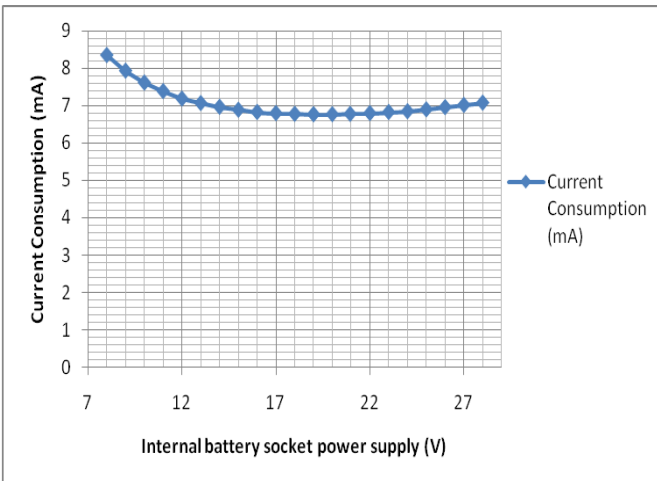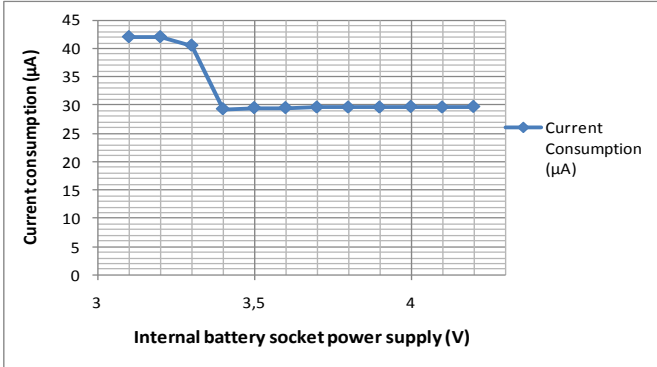
2.2.1 Current consumption in active mode

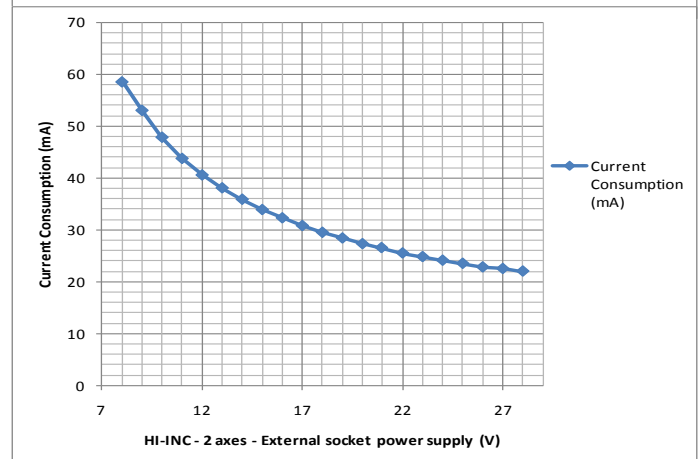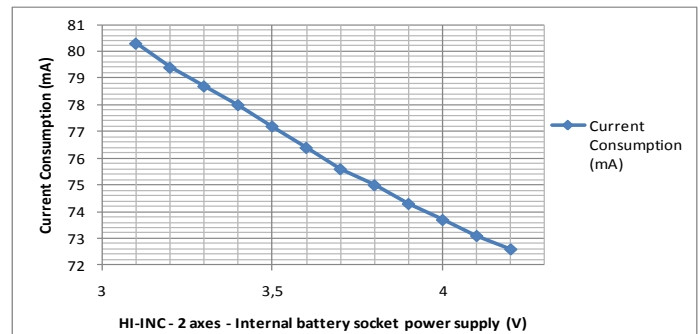| ACTIVE MODE	
HI-INC - 1 axis- Internal battery socket power supply (V)	Current Consumption (mA)
3,1	73,54
3,2	72,9
3,3	72,1
3,4	71,5
3,5	70,9
3,6	70,4
3,7	70,05
3,8	69,8
3,9	69,1
4	68,6
4,1	68,09
4,2	67,61
HI-INC - 1 axis - External socket power supply (V)	Current Consumption (mA)
8	56,5
9	50,07
10	45,15
11	41,14
12	38,15
13	35,56
14	33,51
15	31,73
16	29,96
17	28,59
18	27,51
19	26,46
20	25,5
20,95	24,66
22	23,81
23	23,17
24	22,51
25	21,9
26	21,67
27	20,98
28	20,59

2.2.1 Current consumption in sleeping mode

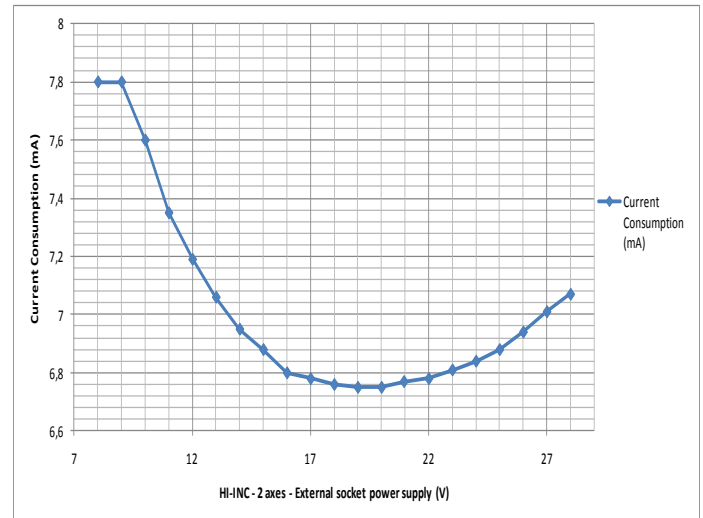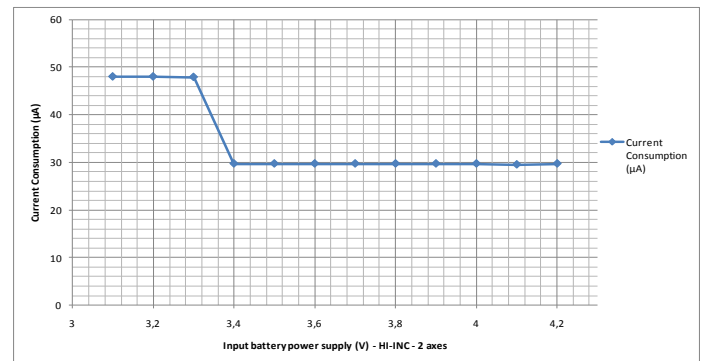| SLEEPING MODE	
HI-INC - 1 axis - Internal battery power supply	Current Consumption (µA)
3,1	42
3,2	42
3,3	40,5
3,4	29,3
3,5	29,5
3,6	29,5
3,7	29,6
3,8	29,6
3,9	29,6
4	29,7
4,1	29,6
4,2	29,7
HI-INC - 1 axis - External socket power supply	Current Consumption (mA)
8	8,35
9	7,93
10	7,61
11	7,38
12	7,18
13	7,06
14	6,96
15	6,88
16	6,82
17	6,79
18	6,77
19	6,76
20	6,76
20,95	6,77
22	6,79
23	6,82
24	6,84
25	6,89
26	6,95
27	7,01
28	7,07

2.1 BEANDEVICE® HI-INC & HI-INC XRANGE - 2 AXIS

2.1.1 Current consumption in active mode

ACTIVE MODE	
HI-INC - 2 axis - Internal battery socket power supply (V)	Current Consumption (mA)
3,1	80,3
3,2	79,4
3,3	78,7
3,4	78
3,5	77,2
3,6	76,4
3,7	75,6
3,8	75
3,9	74,3
4	73,7
4,1	73,1
4,2	72,6
HI-INC - 2 axis - External socket power supply (V)	Current Consumption (mA)
8	58,6
9	53,1
10	47,9
11	43,8
12	40,6
13	38,1
14	35,9
15	33,9
16	32,3
17	30,8
18	29,5
19	28,4
20	27,3
20,95	26,54
22	25,5
23	24,8
24	24,1
25	23,5
26	22,8
27	22,5
28	22

HI-INC - 2 axes - Internal battery socket power supply (V)

HI-INC - 2 axes - External socket power supply (V)

	Rethinking sensing technology	Document version : 1.2
BeanAir		BeanDevice® current consumption in active & sleeping mode
	Document type : Technical Note	

2.1.1 Current consumption in sleeping mode

SLEEPING MODE	
Input battery power supply - HI-INC - 2 axis	Current Consumption (µA)
3,1	48
3,2	48
3,3	47,9
3,4	29,7
3,5	29,7
3,6	29,7
3,7	29,7
3,8	29,7
3,9	29,7
4	29,7
4,1	29,5
4,2	29,7
HI-INC - 2 axis - External socket power supply (V)	Current Consumption (mA)
8	7,8
9	7,8
10	7,6
11	7,35
12	7,19
13	7,06
14	6,95
15	6,88
16	6,8
17	6,78
18	6,76
19	6,75
20	6,75
20,95	6,77
22	6,78
23	6,81
24	6,84
25	6,88
26	6,94
27	7,01
28	7,07

	Rethinking sensing technology	Document version : 1.2
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	Document type : Technical Note	

3. CONCLUSION

Battery power supply :

BeanDevice® Reference	Mode	Current consumption minimum value @ 25°C	Current consumption maximum value @ 25°C
HI-INC Standard & XRange – 2 axis	ACTIVE	72.6 mA	80.3 mA
	SLEEPING	29.7 µA	< 40 µA
HI-INC Standard & Xrange – 1 axis	ACTIVE	67.6 mA	73.5 mA
	SLEEPING	29.7 µA	< 40 µA
AX-3D Standard & Xrange	ACTIVE	59.9 mA	62.2 mA
	SLEEPING	37.1 µA	60 µA

External power supply :

BeanDevice® Reference	Mode	Current consumption minimum at 25°C	Current consumption maximum at 25°C
HI-INC Standard & XRange – 2 axis	ACTIVE	22 mA	58.6 mA
	SLEEPING	7.1 mA	7.8 mA
HI-INC Standard & Xrange – 1 axis	ACTIVE	20.6 mA	56.5 mA
	SLEEPING	7.1 mA	8.35 mA
AX-3D Standard & Xrange	ACTIVE	19.6 mA	50.2 mA
	SLEEPING	7.3 mA	8.4 mA

- The results which are presented above in the tables, give an idea of the current consumptions you can have at 25°C.

- The weather conditions affect the BeanDevices® current consumption