DATA SHEET

RoHS compliant

Model : Ivy

Surveillance Board

Ver. 0.9

Feb 28, 2017

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CONTENTS

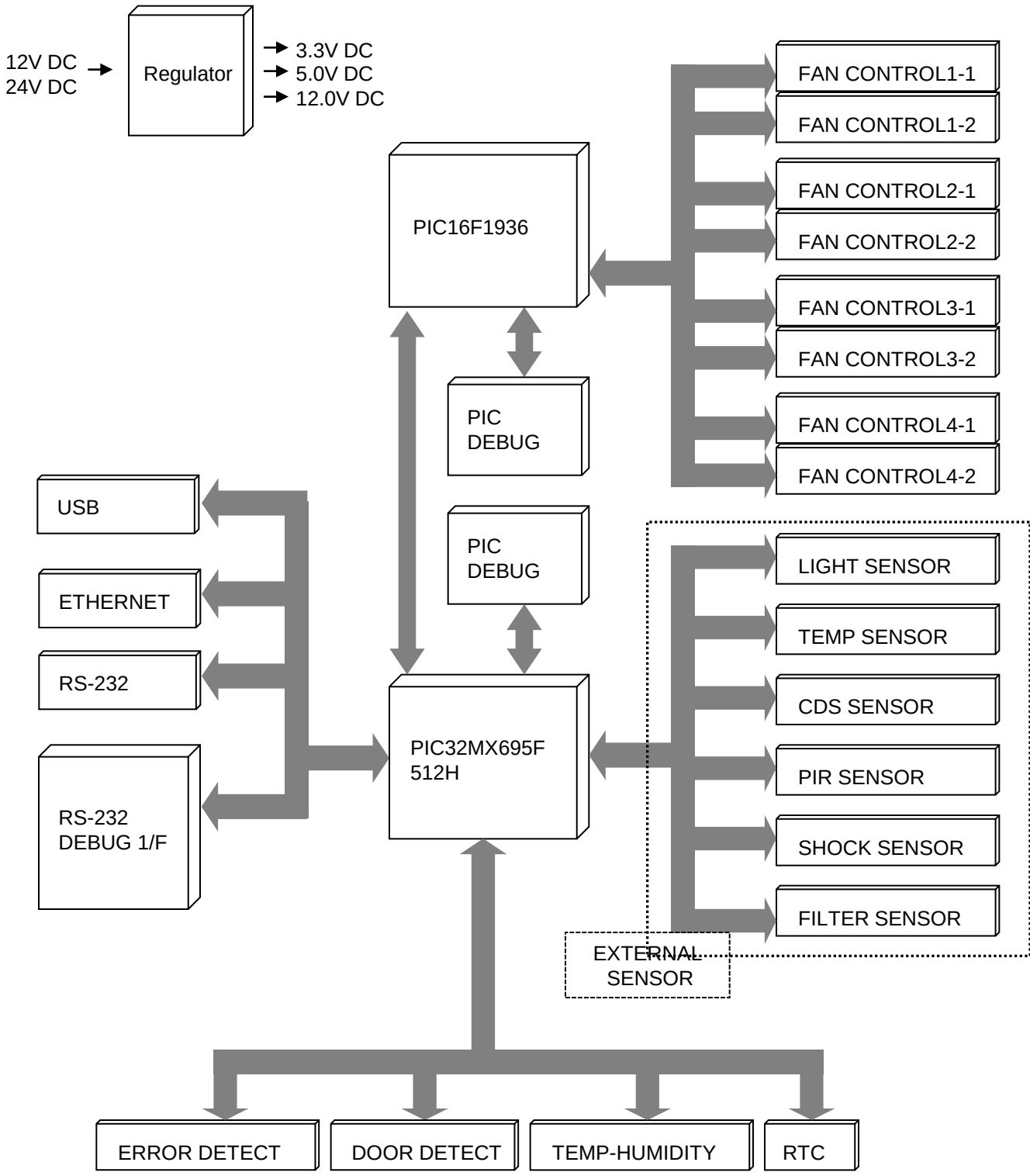
1. Revisions of History

Revion No.	Date	Page	Description
Ver. 00	Aug.18	All	First Draft, Preliminary Specfication
Ver.03	Dec.10	#7 ~#14	Add sensors drawing.
Ver. 04	Oct. 05 15’	#15	Add 12V out connecter info
Ver. 05	Mar.03 16’	#8~#14	Updated Sensors drawing
Ver. 06	May.13 16’	#15	Updated Electrical characteristics
Ver. 07	Nov.14 16’	#15	Updated Power consumption
Ver. 08	Nov.30 16’	#15	Add circuit about power control
Ver. 09	Feb.28 17’	#15~#17	Updated Fan connector info and Add the Power connector

2. Features

- Internal Temp/Humidity Sensor
- External Temp Sensor
- CDS Sensor (Backlight tuning on detection)
- Light Sensor
- Motion Sensor
- Impact (Shock) Sensor
- Door Detection enabled
- Inverter Error Detection enabled
- 4CH x 2 of Fan setting with PWM Control and Tachometer.
- RS-232 monitor control through Surveillance Board.
- SNMP (All commands user can control through web server and SNMP)
- Refer to application note what ESTECOM provide.
  ➔ App_note Surveillance board_Ver x.x

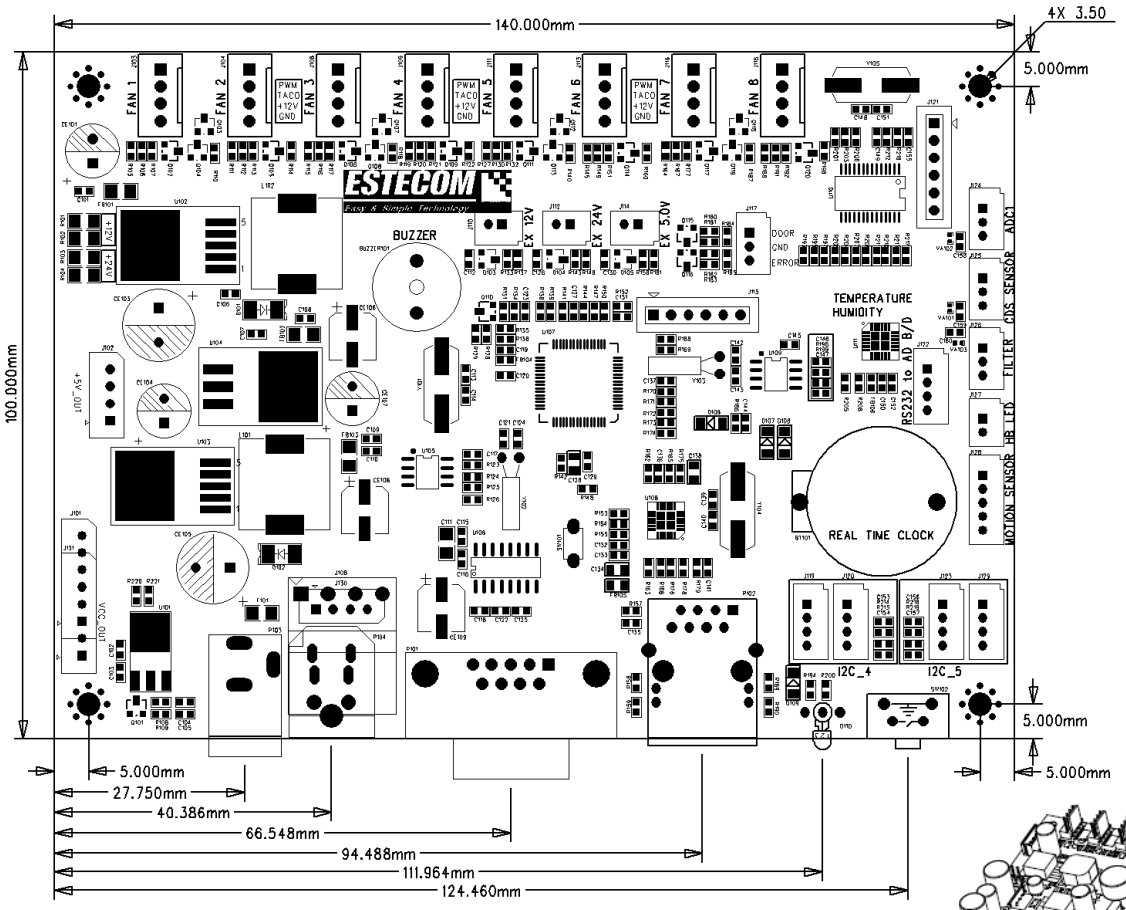
4. Block Diagram

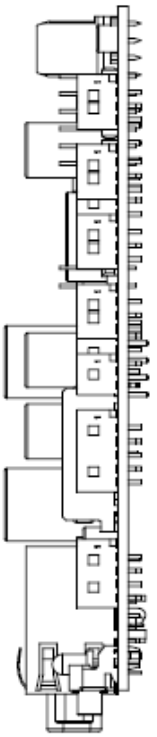


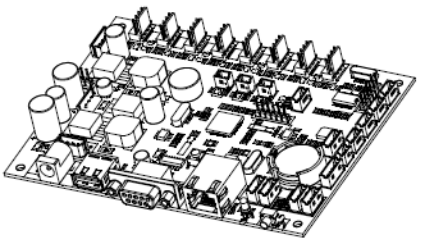
5. Outline Dimensions

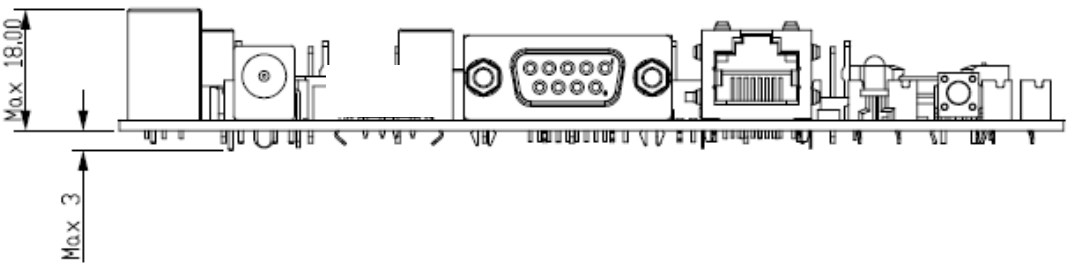
5.1 Main Board

- Dimension : 100mm (L) x 140mm (W) x 20mm(H)



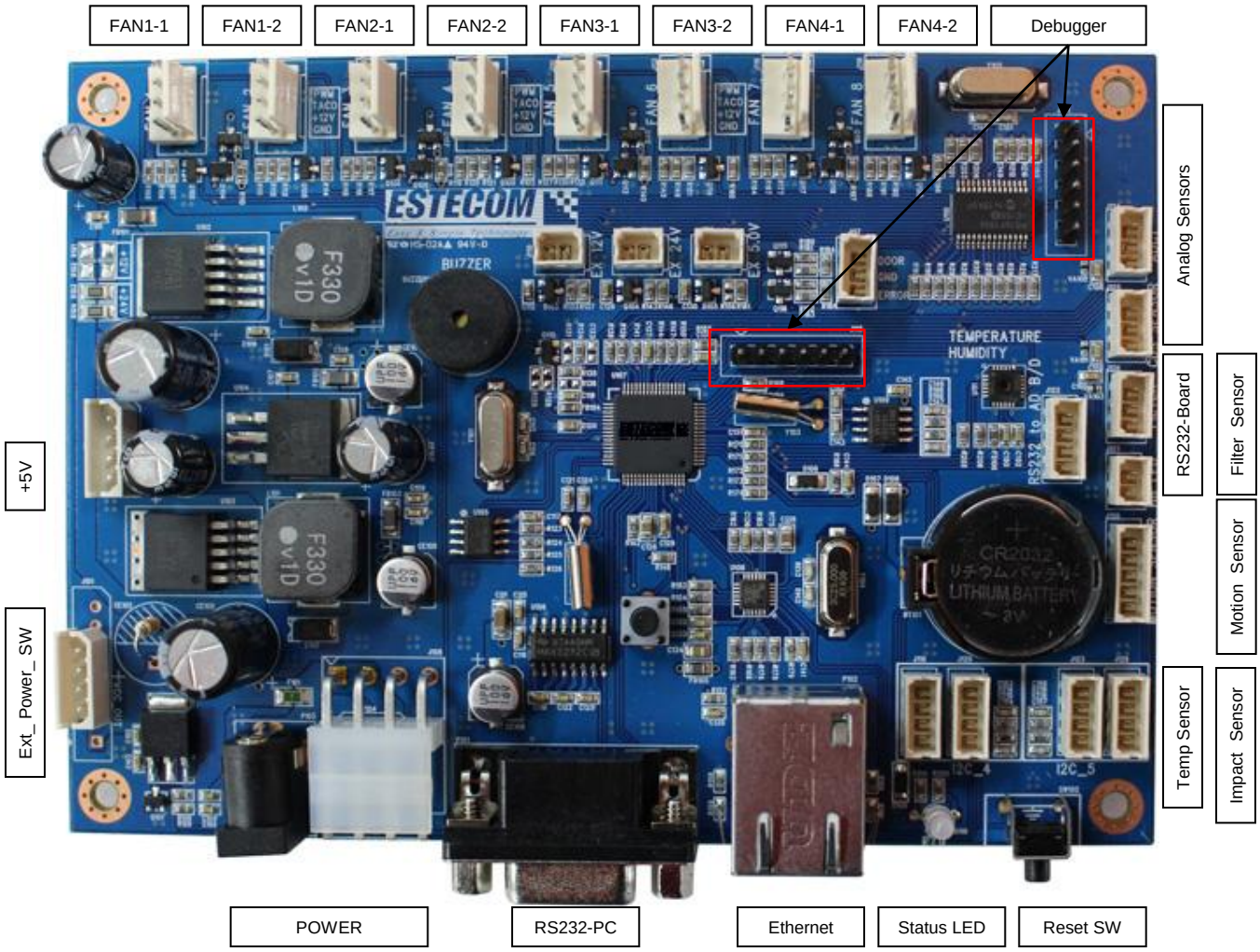






5.1.1 Actual connecters location

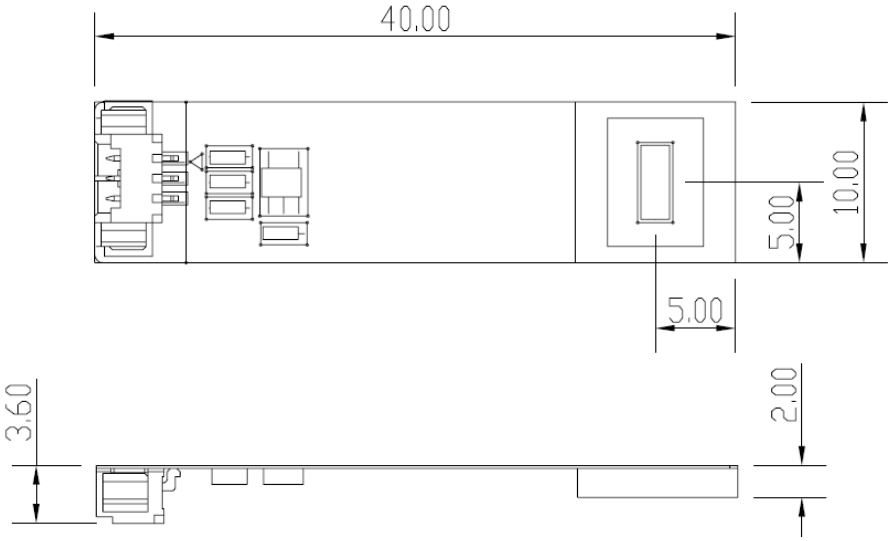
- Ethernet port, RS-232 port, Temp-Humidity Sensor, RTC, Fan Connector, Buzzer
- External 24V,12V,and 5V Measuring, Door Detect, Inverter Error Detect
- Light Sensor, Temp Sensor, CDS, Shock Sensor, Motion Sensor, Dust filter sensor.

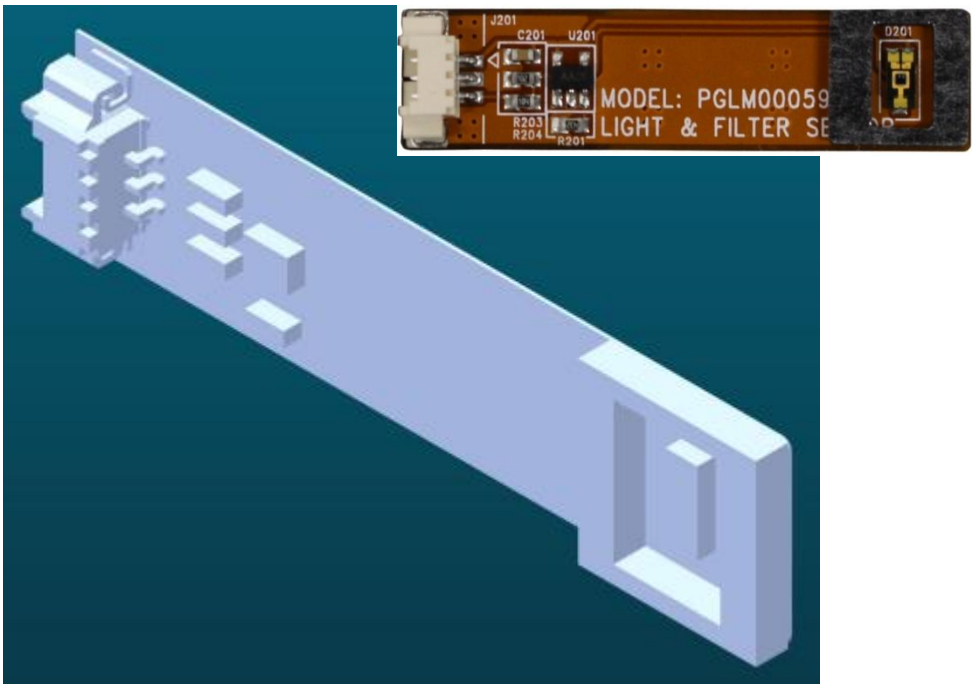


5.2 Sensor Board

5.2.1 Front Face intensity SENSOR (FPCB)

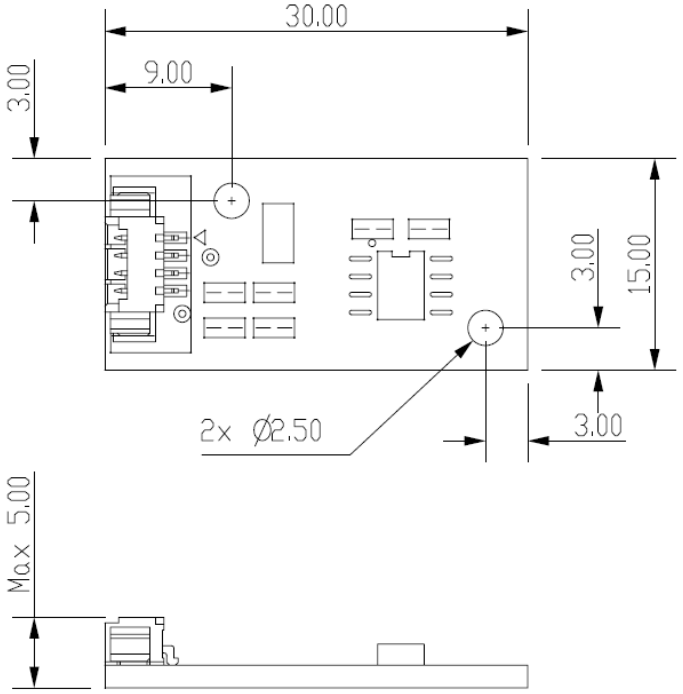
- Dimension : 40mm (L) x 10mm (W) x 3.6mm(H)

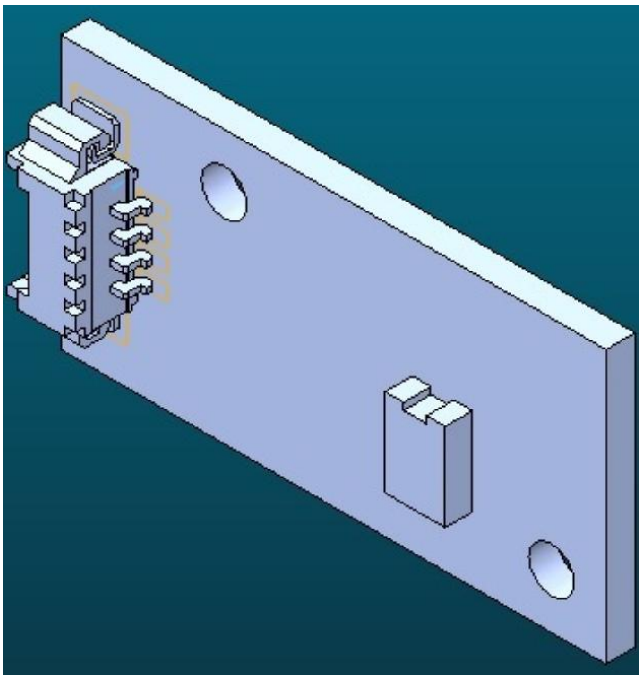


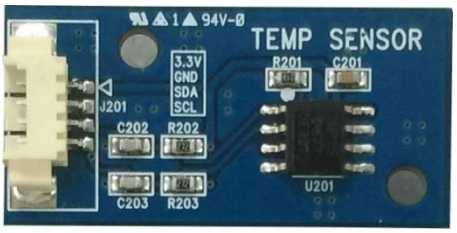


5.2.2 External Temperature SENSOR

- Dimension : 30mm (L) x 15mm (W) x 5mm(H)

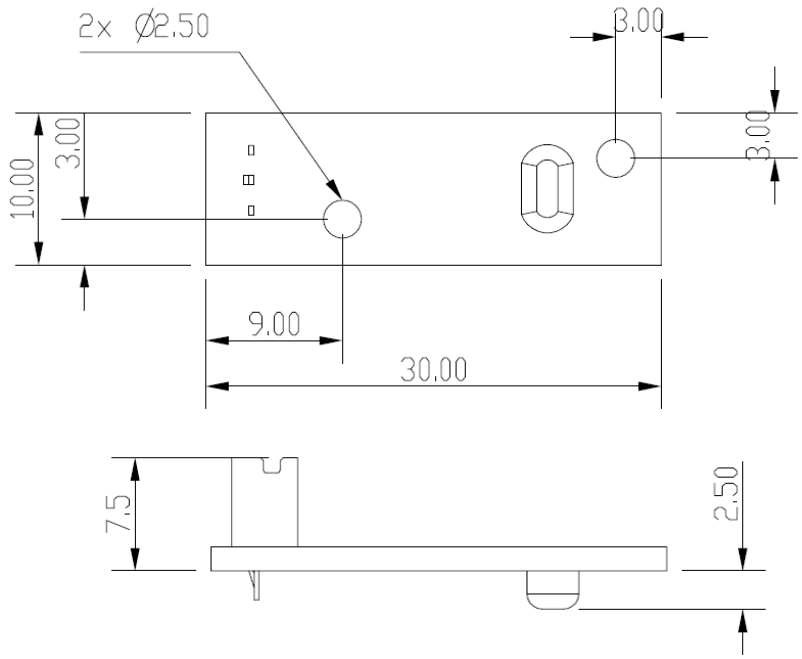


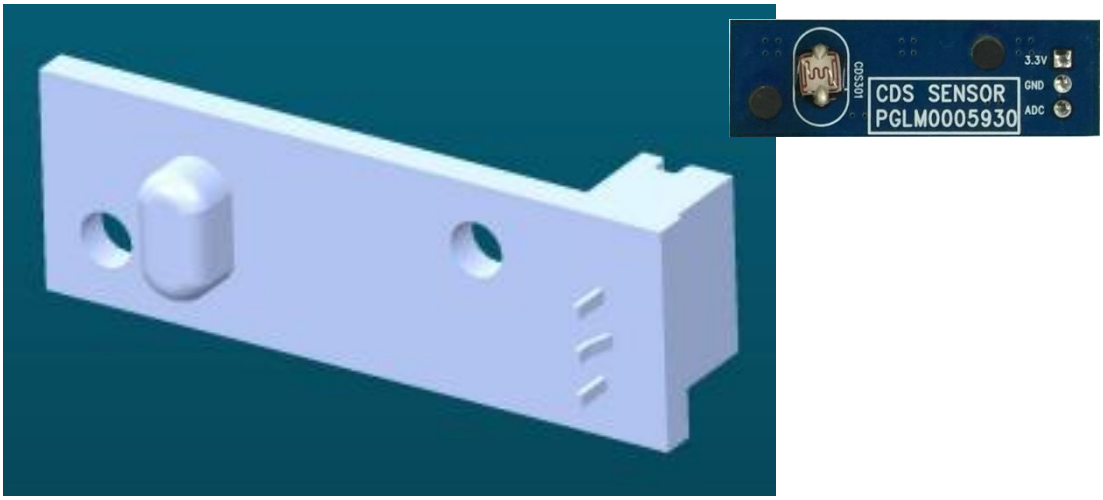




5.2.3 Backlight Intensity (CDS) SENSOR

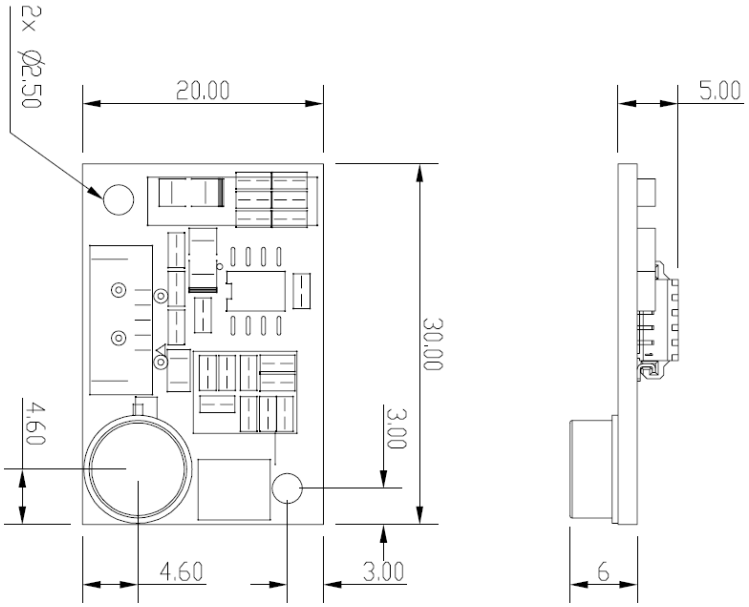
- Dimension : 30mm (L) x 10mm (W) x 7.5mm(H)

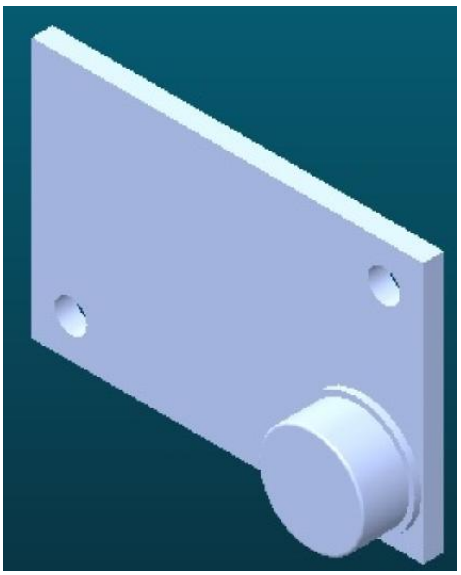




5.2.4 PIR Motion SENSOR

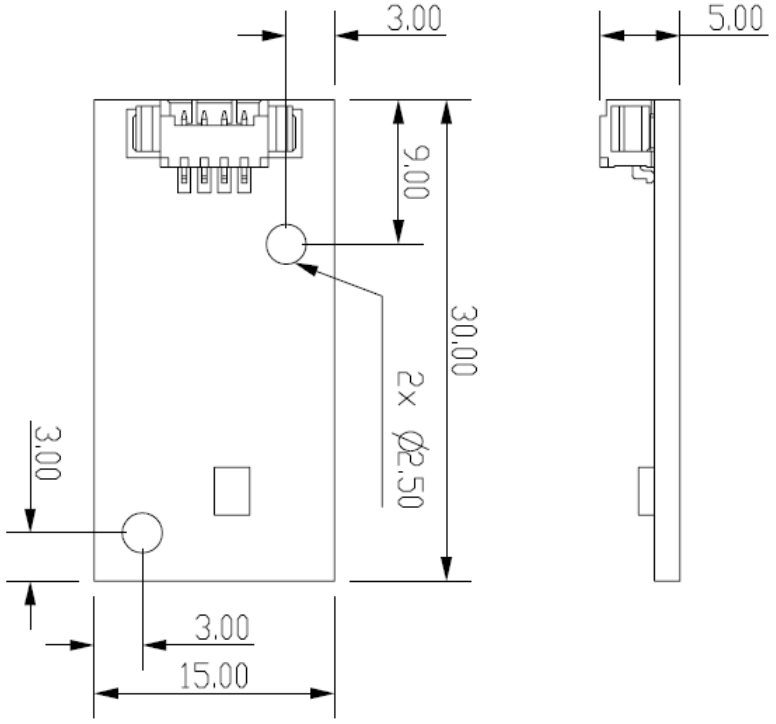
- Dimension : 30mm (L) x 20mm (W) x 11mm(H)

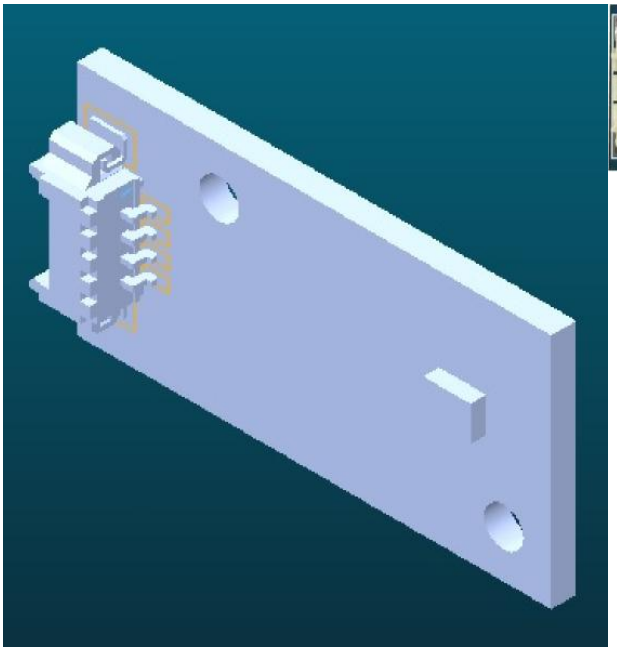




5.2.5 Impact (Shock) SENSOR

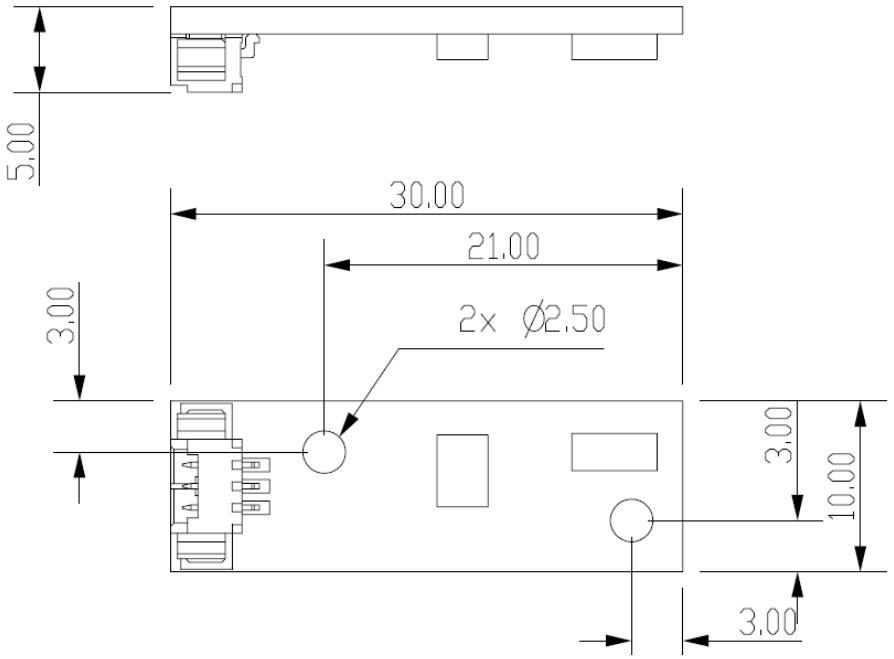
- Dimension : 30mm (L) x 15mm (W) x 5mm(H)

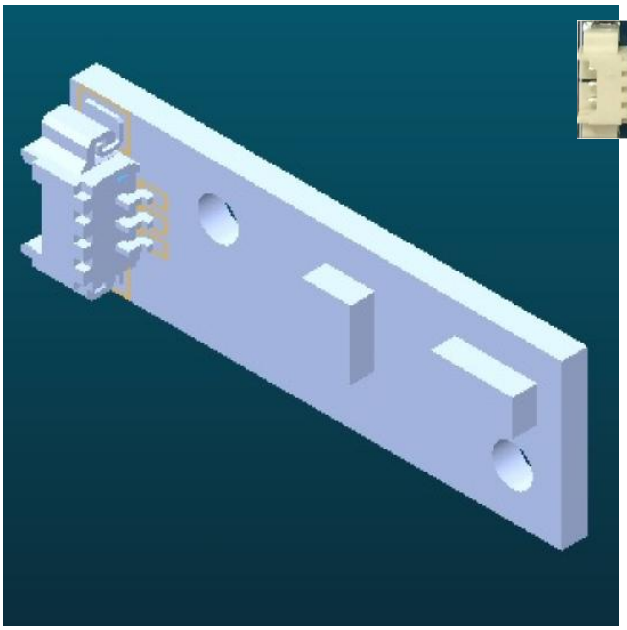




5.2.6 Dust Filter SENSOR

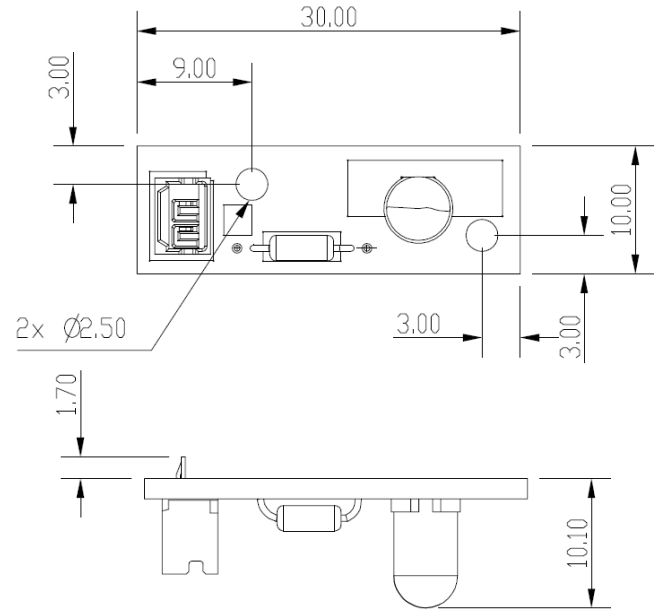
- Dimension : 30mm (L) x 10mm (W) x 5mm(H)

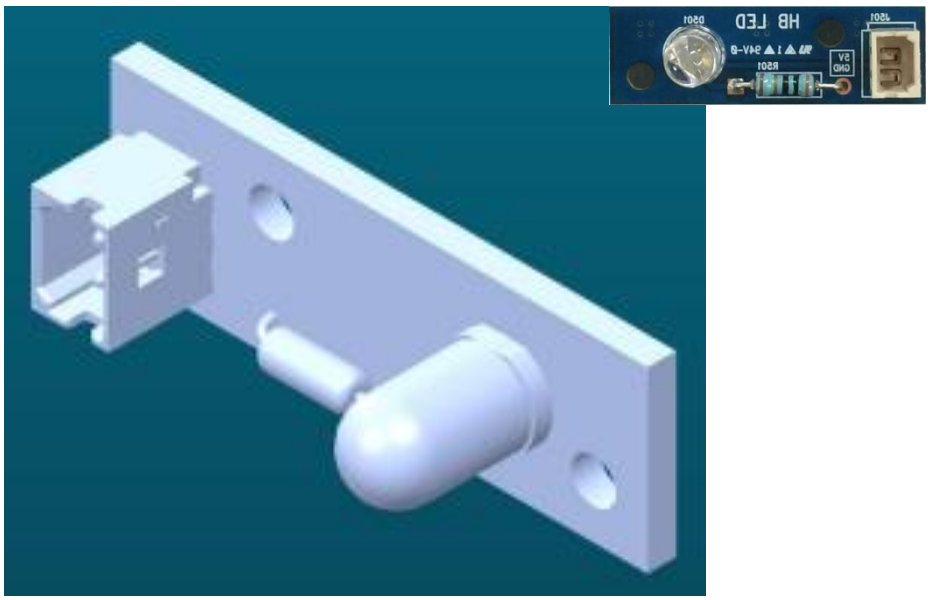




5.2.7 High Brightness LED board

- Dimension : 30mm (L) x 10mm (W) x 11.8mm(H)





6. ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Condition	Values			Unit	Notes
			Min.	Typ.	Max.		
IVY							
Input Voltage	V_{DDB}		11.6	12.0 24.0	26.4	V	1
Power consumption	I_{DDB}	V_{DDB} = 12V	180	200	250	mA	
Output Current	A_{by}_R101 &R102	Soldering by bypass	TBD	TBD	TBD	A	2
	A_{12}_R103 &104	Soldering by 12V	N/A	1A	3A	A	3
Output Current (J102)	A_J102		0.8	1A	3A	A	
Output Current	Fan_VDD		TBD	TBD	3A	A	4

1> Ivy can handle 12V to 24V without any input voltage option change.

2> "Bypass" mode when soldering the R101 & 102 on the IVY,
the output current and voltage will be determined input power source.

3> "12V" mode when soldering the R103 & 104 on the IVY,
that 12V will take from FAN power source,
if Fan assigned 2A current, "A_{12}_R103&104" current will be 1A since FAN power source is Max 3A.

4> Total Power consumption for 8 Fan connecters.

7. Connectors Information

7.1 Input Connectors

- Power Input Connector (Alternative)

  Connector : DC12V Jack (P103)

Pin No.	Symbol	Description	Pin No.	Symbol	Description
1	Vin	VCC(+12V)	3	Vin	Ground
2	Vin	Ground			

- Power Input Connector (Alternative)

  Connector : Bsun PWR-DIN-4P (P104)

Pin No.	Symbol	Description	Pin No.	Symbol	Description
1	Vin	Ground	3	Vin	VCC(+12~24V)
2	Vin	Ground	4	Vin	VCC(+12~24V)

- Power Input Connector (Alternative)

  Connector : Molex 5274-04 (J108)

Pin No.	Symbol	Description	Pin No.	Symbol	Description
1	Vin	VCC(+12~24V)	3	Vin	Ground
2	Vin	VCC(+12~24V)	4	Vin	Ground

- Power Input Connector (Alternative) Power switchable for external device

  Connector : Molex 5268-04 (J130)

Pin No.	Symbol	Description	Pin No.	Symbol	Description
1	Vin	VCC(+12~24V)	3	Vin	Ground
2	Vin	VCC(+12~24V)	4	Vin	Ground

- Power Output Connector (Alternative)

  Connector : Molex 5268-04 (J102)

Pin No.	Symbol	Description	Pin No.	Symbol	Description
1	Vin	VCC(+5V)	3	Vin	Ground
2	Vin	VCC(+5V)	4	Vin	Ground

- Power Output Connector (Alternative) : ENABLE

  Connector : Molex 5268-04 (J131)

Pin No.	Symbol	Description	Pin No.	Symbol	Description
1	Vin	VCC(+12~24V)	3	Vin	Ground
2	Vin	VCC(+12~24V)	4	Vin	Ground

- Power Output Connector (Alternative) : DISABLE

  Connector : Molex 5268-08(J101)

Pin No.	Symbol	Description	Pin No.	Symbol	Description
1	Vin	VCC(+12~24V)	5	Vin	Ground
2	Vin	VCC(+12~24V)	6	Vin	Ground
3	Vin	VCC(+12~24V)	7	Vin	Ground
4	Vin	VCC(+12~24V)	8	Vin	Ground

- FAN CONTROL Connector (Alternative)

  Connector : Molex 5045-04A (J103, J104, J106, J109, J111, J113, J116, J118)

Pin No.	Symbol	Description	Pin No.	Symbol	Description
1	PWM	PWM1	3	VCC	+12V
2	TACO	TACO1	4	VCC	Ground

- ETHERNET PORT Connector (Alternative)

  Connector : xxx RT7-114AAG1A (P102)

Pin No.	Symbol	Description	Pin No.	Symbol	Description
1	N.C	No Connect	6	N.C	No Connect
2	TX	TXD out	7	N.C	No Connect
3	RX	RXD out	8	N.C	No Connect
4	N.C	No Connect	9	N.C	No Connect
5	GND	Ground	10	N.C	No Connect

- UART D-SUB INPUT Connector (Alternative) to PC

Connector : xxx SGDF-0199 (P101)

Pin No.	Symbol	Description	Pin No.	Symbol	Description
1	N.C	No Connect	6	N.C	No Connect
2	TX	TXD out	7	N.C	No Connect
3	RX	RXD out	8	N.C	No Connect
4	N.C	No Connect	9	N.C	No Connect
5	GND	Ground	10	N.C	No Connect

- UART INPUT Connector (Alternative) to AD Board

Connector : Molex 53014-0410 (J122)

Pin No.	Symbol	Description	Pin No.	Symbol	Description
1	GND	Ground	3	Signal	TXD
2	Signal	RXD	4	VCC	+5V

- PIC-8BIT DEBUGGER Connector (Alternative)

Connector : Header 1x6-2.54Pitch (J121)

Pin No.	Symbol	Description	Pin No.	Symbol	Description
1	RST	Reset	4	Data	ID3
2	VCC	+3.3V	5	Data	ID2
3	GND	Ground	6	N.C	No Connect

- PIC-32BIT DEBUGGER Connector (Alternative)

Connector : Header 1x6-2.54Pitch (J115)

Pin No.	Symbol	Description	Pin No.	Symbol	Description
1	RST	Reset	4	Data	ID3
2	VCC	+3.3V	5	Data	ID2
3	GND	Ground	6	N.C	No Connect

- SHOCK SENSOR Connector (Alternative)

Connector : Molex 53014-0410 (J129)

Pin No.	Symbol	Description	Pin No.	Symbol	Description
1	VCC	+3.3V	3	Signal	I2C_SDA5
2	GND	Ground	4	Signal	I2C_SCL5

- TEMPERATURE SENSOR Connector 1‘st (Alternative)

Connector : Molex 53014-0410 (J123)

Pin No.	Symbol	Description	Pin No.	Symbol	Description
1	VCC	+3.3V	3	Signal	I2C_SDA5
2	GND	Ground	4	Signal	I2C_SCL5

- TEMPERATURE SENSOR Connector 2‘nd (Alternative)

Connector : Molex 53014-0410 (J120)

Pin No.	Symbol	Description	Pin No.	Symbol	Description
1	VCC	+3.3V	3	Signal	I2C_SDA4
2	GND	Ground	4	Signal	I2C_SCL4

- DETECT Connector (Alternative)

Connector : : Molex 53014-0310 (J117)

Pin No.	Symbol	Description	Pin No.	Symbol	Description
1	DETECT	Door Detect	3	DETECT	Error Detect
2	N.C	No Connect			

- MEASURE Connector (Alternative)

Connector : Molex 53014-0210 (J114)

Pin No.	Symbol	Description	Pin No.	Symbol	Description
1	EX_+5V	External 5V measure	2	GND	Ground

- MEASURE Connector (Alternative)

Connector : Molex 53014-0210 (J110)

Pin No.	Symbol	Description	Pin No.	Symbol	Description
1	EX_+12V	External 12V measure	2	GND	Ground

- MEASURE Connector (Alternative)

Connector : Molex 53014-0210 (J112)

Pin No.	Symbol	Description	Pin No.	Symbol	Description
1	EX_+24V	External 24V measure	2	GND	Ground

- PIR MOTION SENSOR Connector (Alternative)

Connector : Molex 53014-0510 (J128)

Pin No.	Symbol	Description	Pin No.	Symbol	Description
1	VCC	+5.0V	4	Signal	AN6
2	GND	Ground	5	Signal	AN7
3	N.C	No Connect			

- CDS SENSOR Connector (Alternative)

Connector : Molex 53014-0310 (J125)

Pin No.	Symbol	Description	Pin No.	Symbol	Description
1	VCC	+3.3V	3	Signal	AN3
2	GND	Ground			

- FILTER SENSOR Connector (Alternative)

Connector : Molex 53014-0310 (J126)

Pin No.	Symbol	Description	Pin No.	Symbol	Description
1	VCC	+3.3V	3	Signal	AN2
2	GND	Ground			

- HB LED Connector (Alternative)

Connector : Molex 53014-0210 (J127)

Pin No.	Symbol	Description	Pin No.	Symbol	Description
1	VCC	+5V	2	GND	Ground

- LIGHT SENSOR Connector (Alternative)

Connector : Molex 53014-0310 (J124)

Pin No.	Symbol	Description	Pin No.	Symbol	Description
1	VCC	+3.3V	3	Signal	AN12
2	GND	Ground			