

PM2.5 / PM1.0 Sensor

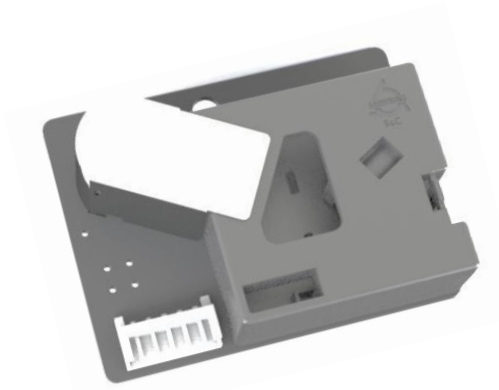
Particulate Matter Sensing Solution

PSMU series

FEATURES

- ✧ Detectable Particle Size - $\geq 0.3\mu\text{m}$
 - Real-time PM2.5/PM1.0
- ✧ UART Output - $\mu\text{g}/\text{m}^3$
- ✧ Excellent Accuracy¹⁾
- ✧ High Linearity and Uniformity
- ✧ Market-proven Reliability and Durability

¹⁾ see page 2. Specifications



PRODUCT SUMMARY

PSMU Series is PM2.5/PM1.0 dedicated sensor providing uniform performance and excellent accuracy in weight concentration value by detecting over $0.3\mu\text{m}$ sized ultra-fine particle through **SAMYOUNG S&C**'s proprietary optical structure with IrED.

APPLICATION

- Air Solution Products
(Air Purifier, Air Conditioner and etc.)
- HVAC Control System
- Smart IAQ Device
- Outdoor Particle Sensing Device

KEYNOTE

PSMU Series, in which **SAMYOUNG S&C**'s 20years knowledge and technology are concentrated, is a PM2.5/PM1.0 dedicated sensor with a radical improvement for detection capability at ultra-fine particle range – $0.3\mu\text{m}\sim 1.0\mu\text{m}$, which assures PM2.5/PM1.0 weight concentration values more accurate than conventional presumptive sensors.

PSMU Series which performs higher accuracy along with improved sensitivity than conventional sensors provides reliable information to users enabling more accurate and sophisticated control in the applications such as air purifiers, air conditioners and air quality measuring devices.

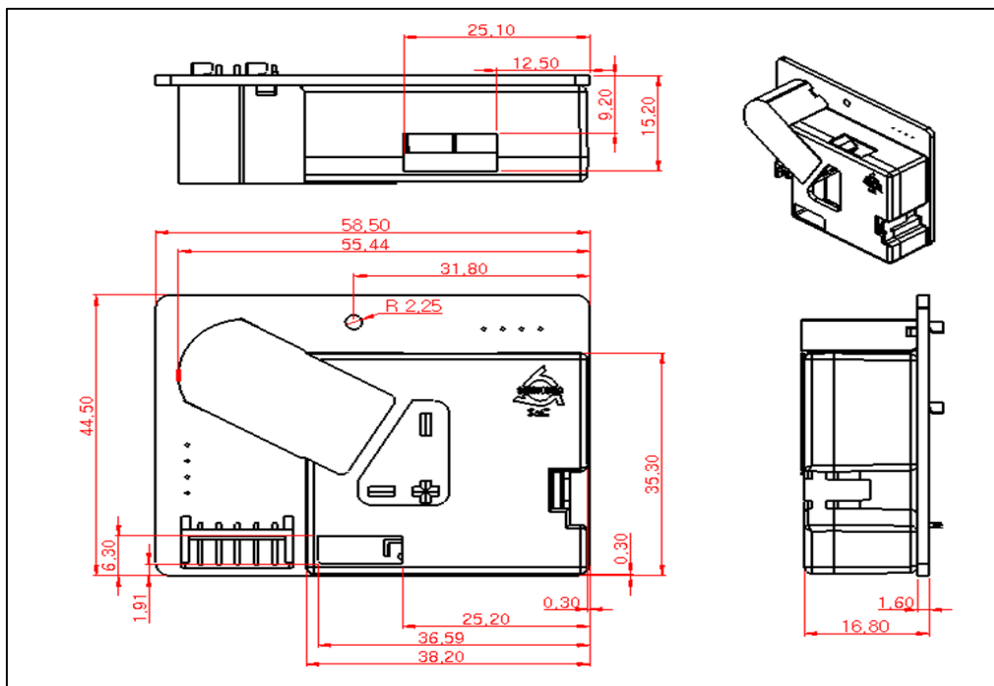
SAMYOUNG S&C has developed a system to reliably mass-produce PSMU Series of uniform performance by a mass calibration technology which also contributes to efficient production. Moreover, the patented aerodynamic optical structure maximizes the performance of the sensor and improved the quality of the product. In addition, it provides real-time PM2.5/PM1.0 weight concentration values in UART output for user convenience.

Specifications

Ta=25°C

Parameter	Index
Detectable Size	≥0.3μm
Detectable Range	0~500μg/m ³
Accuracy	0~35μg/m ³ ±7μg/m ³
	36~75μg/m ³ ±10μg/m ³
	76~100μg/m ³ ±15μg/m ³
	>100μg/m ³ ±20%
Response Time	1sec
Time for Initial Stabilization	60sec. after powered on
Supply Voltage	DC5.0V ±10% Ripple 30mV or Less
Current Consumption	Typ. 85mA
Output Signal	UART (Universal Asynchronous Receiver-Transmitter)
Operating Temperature	-10~65°C
Operating Humidity	Max. 95%RH (Non-Condensing)
Storage Temperature	-20~80°C
Life Expectancy	Min. 5 years
Dimension	59×45×17mm (W×H×D)
Weight	25g

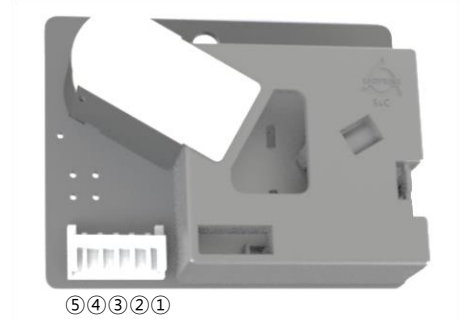
Dimension



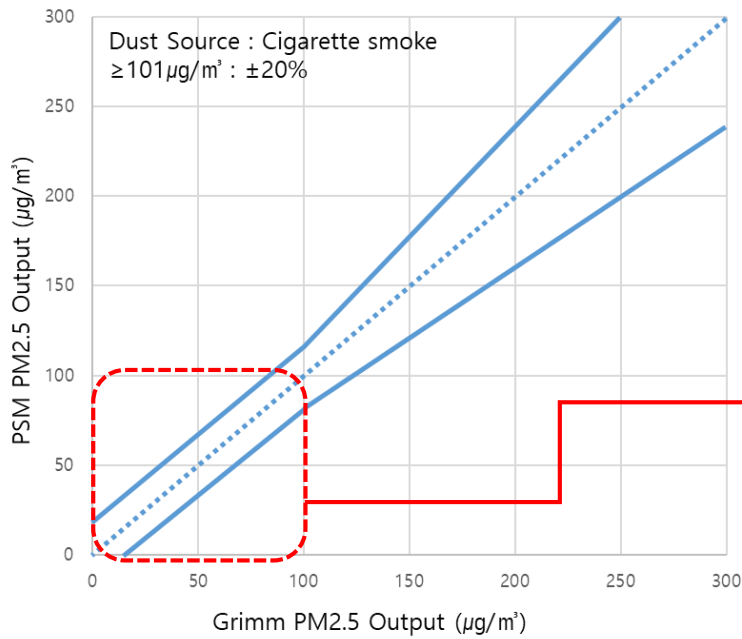
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Pin Map

Pin No.	Typical	UART
1	GND	
2	N.C	N.C
3	Vcc	
4	UART/Tx	PM2.5
5	N.C	N.C



Typical Output Characteristic



Range	Accuracy
0~35 $\mu\text{g}/\text{m}^3$	$\pm 7 \mu\text{g}/\text{m}^3$
36~75 $\mu\text{g}/\text{m}^3$	$\pm 10 \mu\text{g}/\text{m}^3$
76~100 $\mu\text{g}/\text{m}^3$	$\pm 15 \mu\text{g}/\text{m}^3$

Ordering Information

TYPE	PART NUMBER	CONTACT INFO.	
PM2.5	PSMU2.5	E-MAIL	sales@samyoungsnc.com
PM1.0	PSMU1.0	PHONE	+ 82 31 780-9900



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This feature sheet should be used only for intended and authorized application of **PSMU Series**. Please consult with **SAMYOUNG S&C** for any specific application requirements.

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