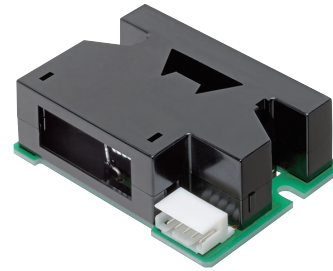


B5W-LD0101-1/2

Highly Sensitive and Compact Air Quality Sensor

- Detection of particles down to 0.5 μm in diameter is possible while using an LED light source
- Features a unique flow path structure that efficiently sucks in air
- Small in size thanks to its compact optical system



NEW

RoHS Compliant



Be sure to read Safety Precautions on page 4.

Model Number Structure

B5W- **L** **D** **01** **01** -

(1) (2) (3) (4) (5)

(1) Standard type

L: Optical sensor

(2) Sensor type

D: Air Quality sensor

(3) Structure

01: Basic structure

(4) Function

01: Basic function

(5) Packing state

1: Individual

2: Carton

Ordering Information

Appearance	Sensing method	Connecting method	Output type	Model	Packing state
	Light scattering	Connector	Pulse output (Built-in pull-up resistor 3 kΩ)	B5W-LD0101-1	Individual
				B5W-LD0101-2	Tray

Ratings, Characteristics and Exterior Specifications

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Ratings	Unit
Supply voltage	V _{CC}	5.5	V
Input threshold voltage	V _{th}	5.5	V
Operating temperature	T _{opr}	0 to 45	°C
Storage temperature	T _{stg}	-25 to 65	°C

Exterior Specifications

Connecting method	Weight (g)	Material	
		Case	Lens
Connector	20	PC	PMMA

Electrical Characteristics (Ta=25°C, V_{CC}=5 V, 0 Lx)

Parameter	Characteristics value			Unit	Remarks
	MIN	TYP	MAX		
V _{CC}	4.5	5	5.5	V	Ripple voltage range 30 mV or less (*) is recommended
V _{th}	0	---	3.5	V	
V (OUT1)/ V (OUT2) Hi level output	4.5	---	---	V	Pulse output when particles are detected
V (OUT1)/ V (OUT2) Low level output	---	---	0.7	V	Pulse output when particles are not detected
Supply current	---	---	90	mA	LED-ON

* Ensure there is no noise below 300 Hz.

Confirm the allowable ripple voltage value using an actual machine.

Detection Characteristics (Ta=25°C, V_{CC}=5 V, 0 Lx)

Parameter		Characteristics value			Unit	Remarks
		MIN	TYP	MAX		
V (OUT1) Number of detections	PN1	---	300	---	count	Model of dust monitor: TSI DUSTTRAK II MODEL8530 Impactor: 1.0 μm Dust concentration = 100 μg/m ³ Measurement time: 20 sec
V (OUT2) Number of detections	PN2	0	---	---	count	Threshold voltage: V _{th} =0.5 V Detection object: 0.5 μm Polystyrene latex particles

Minimum detectable particle

V (OUT1): Approx. 0.5 μm or larger

V (OUT2): Approx. 2.5 μm or larger