



Hand-held type
SK-H050

A new solution for
anti-static applications

STATIC ELECTRICITY

+

HUMIDITY

**Simultaneous
Measurement**



In-line type
SK-050/1000

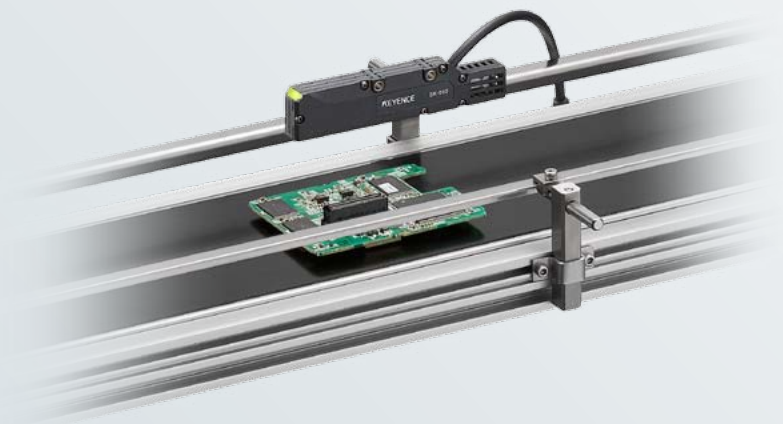
The most advanced static control

Pin-point measurement of both static charge and humidity

In order to control static electricity in the workplace, it is important to ensure that ambient humidity is sufficient to reduce static charges. However, in most cases humidity varies in different areas of the same room. At many sites, while the humidity in a room may be measured, it may not be possible to measure the humidity at particular spots near target workpieces. KEYENCE offers pin-point measurement of humidity as well as static charge for enhanced anti-static control.



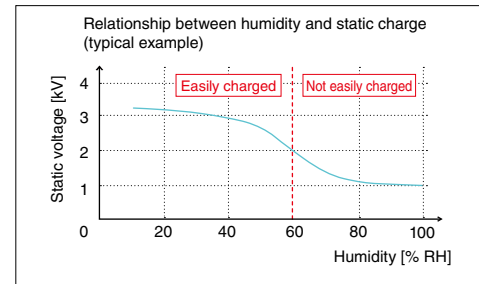
Electrostatic sensor
Hand-held type
SK-H050



Electrostatic sensor
In-line type
SK-050/1000

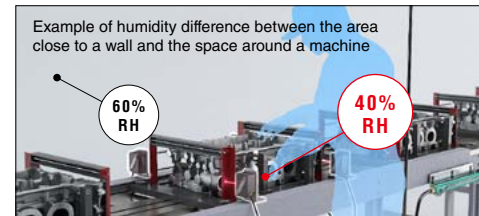
Relationship between static electricity and humidity

Static electricity and humidity are correlated: when humidity exceeds 60% RH, static charge is less likely to accumulate. Even during the winter, when static charges build up easily due to colder, drier air, static-related problems can be prevented by maintaining a constant level of humidity around target workpieces.



Humidity can vary in the same room depending on the location

Since humidity changes with temperature, humidity can vary in a room depending on the location. Temperature is generally higher around manufacturing systems, which tends to produce lower relative humidity.



Industry's first

STATIC
ELECTRICITY

HUMIDITY

Simultaneous measurement

By measuring the static charge and humidity at the same time, you can more accurately identify whether a particular area is likely to have static-related problems. This helps identify optimal anti-static measures, including humidification and other procedures such as installing an ionizer.

Best in its class

High-precision and wide-range measurements

The high-precision surface potential sensor mounted in our new anti-static resin allows the highest level of measuring accuracy in this model class. KEYENCE can accommodate your needs from high-precision measurements of highly charged objects, up to ± 50 kV with one-volt display resolution.

SK-H050

Hand-held type

Ideal for on-the-spot
measurements

180 degree rotating head for flexible measurement

The sensor head features a floating structure that rotates 180 degrees. Not only does this allow for easy measurement in narrow spaces, it offers improved shock resistance, as shock resulting from a drop will not transmit directly to the sensor.

Easy handling and operation

The body features an ergonomic design with a comfortable, easy-to-hold shape.

Laser pointer to identify the reference distance

Dual laser pointers make it simple to identify the optimal measuring distance for high precision measurement.

Large, easy-to-read liquid crystal display

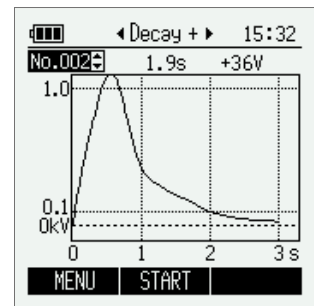
A large, highly visible liquid crystal display makes it easy for users to read measurement results on the spot.



Charge monitor function

The SK-H050 features a charge monitor function that measures static elimination speed and ion balance, both of which indicate an ionizer's static elimination capability. This allows users to conveniently measure their ionizer's static elimination ability.

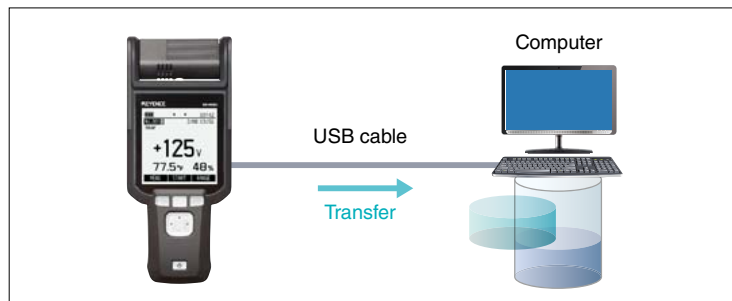
* An ionizer monitoring unit SK-H055, sold separately, is required.



Data storage function

Up to 100 sets of measurement data can be stored in the SK-H050's internal memory. The stored data can be transferred to a computer via a USB cable and saved as CSV data.

* PC software can be downloaded free of charge from our website.



SK-050/1000

In-line type

Ideal for continuous measurement

Compact sensor head

The ultra-small design of the sensor head allows it to be installed almost anywhere, even in limited spaces within a machine.

Clearly visible indicator

Large LED clearly indicates the status even when the amplifier is not visible.



Connectable main unit and expansion units

Up to eight amplifiers can be connected with the combination of a main unit and expansion units. This reduces wiring in applications that require multi-point measurements.



Installation distance correction

Measurement of static charges relies on the distance between the sensor head and the target workpiece. Measurement error can be corrected by entering the installation distance into the amplifier.

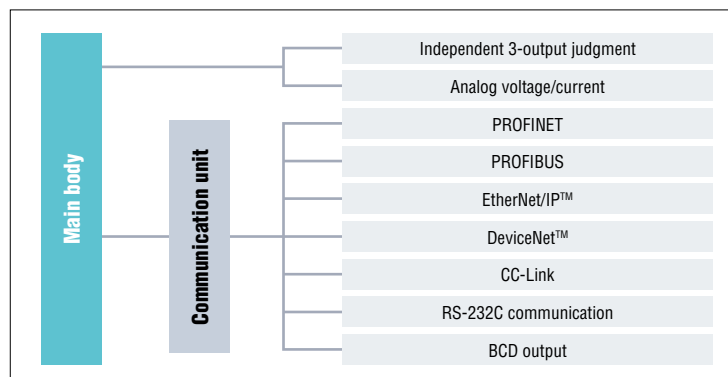


Enter installation distance

Measurement value corrected

Multiple output options

Standard specifications include an independent 3-output judgment system and analog voltage/current output. By using a communication unit, data from up to 8 connected units can be transmitted simultaneously. The ability to read data and re-write settings from PCs and PLCs significantly reduces man-hours required for setup and operation.



Lineup/Options

I Hand-held type



Main unit
SK-H050

I Options for hand-held type



Ionizer monitoring unit
SK-H055



Storage case
OP-87931



Carrying case
OP-87928



Wrist strap
OP-87929



Neck strap
OP-87930

Ground wire for
hand-held type
OP-87926

Ground wire
for ion monitoring unit
OP-87927

The ground wires are
supplied with the main
unit.
They may also be
purchased separately
if lost or damaged.

I In-line type



Sensor head
SK-050



Amplifier unit (main)
SK-1000



Amplifier unit (expansion)
SK-1050



Ion balance monitoring unit
OP-87934

I Options for in-line type

Sensor head connection cable
OP-87056 2 m 6.6' cable
OP-87057 5 m 16.4' cable
OP-87058 10 m 32.8' cable
OP-87059 20 m 65.6' cable

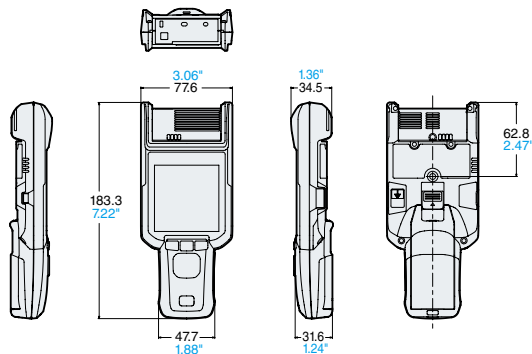
L-shaped sensor head
connection cable

OP-87660 2 m 6.6' cable
OP-87661 5 m 16.4' cable
OP-87662 10 m 32.8' cable
OP-87663 20 m 65.6' cable

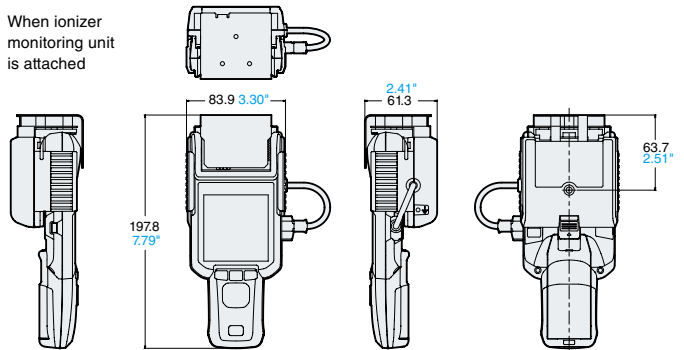
Dimensions

Unit: mm inch

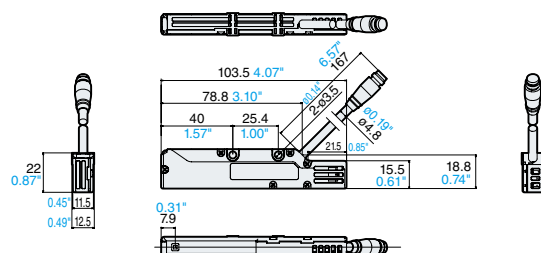
SK-H050



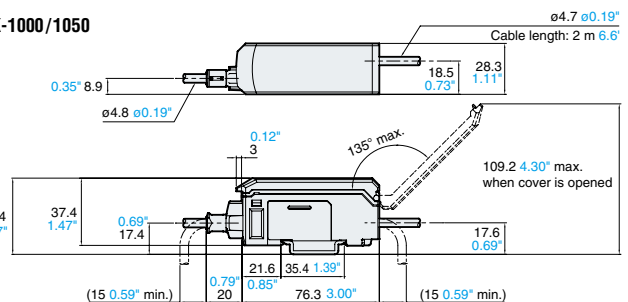
When ionizer
monitoring unit
is attached



SK-050



SK-1000/1050



Specifications

I Hand-held type

Model			SK-H050	
Charge potential measurement	Measurement mode		High-precision mode	
	Measuring distance		25 mm 0.98"	
	Measuring range		±2 kV	
	Measuring accuracy *1		±10 V	
	Display resolution		0 to 999 V: 1 V, 1.00 to 9.99 kV: 0.01 kV, 10.0 kV and higher: 0.1 kV	
	Sampling cycle		Approx. 1.4 ms	
Temperature measurement	Measuring range		0 to 40°C 32°F to 104°F	
	Measuring accuracy *3		±1°C ±1.8°F	
	Display resolution		0.1°C 0.18°F	
	Sampling cycle		1 s	
Humidity measurement	Measuring range		10 to 85% RH	
	Measuring accuracy *3		±5% RH	
	Display resolution		1% RH	
	Sampling cycle		1 s	
Charge monitor function *4	Ion balance measuring mode	Ion balance measuring range		±1 kV
		Measuring accuracy *5		±10 V
		Measured voltage display resolution		1 V
	Static elimination time measuring mode	Charge voltage		±1400 V
		Static elimination time display resolution		0.1 s
		Measuring time		0 to 99 s
Laser class			Class 1 Laser Product (IEC60825-1, FDA (CDRH) Part 1040.10 *6)	
PC interface			USB 2.0 Full Speed	
Power supply	Power supply		2 AA alkaline dry-cell batteries	
	Operating time		8 hours (in charge potential measuring mode)	
Environmental resistance	Operating ambient temperature		0 to 40°C 32°F to 104°F (no freezing or condensation)	
	Operating relative humidity *7		10 to 85% RH (no condensation)	
Material			SK-H050: PC-ABS, PC, SUS/SK-H055: PC, SUS, PTFE, PVC	
Weight			SK-H050: Approx. 240 g, SK-H055: Approx. 220 g	

*1 Within ±100 V when using high-precision mode; within ±1 kV when using wide-range mode. In other ranges, display value has an accuracy of ±10% (display value). Values are obtained from measurements with a response time of 0.8 seconds.

*2 Measuring accuracy is satisfied in the range of ±30 kV. *3 25°C 77°F, 50% RH. *4 SK-H055 is required. *5 Within ±100 V. In other ranges, display value has an accuracy of ±10% (display value).

*6 The laser classification for FDA (CDRH) is implemented based on IEC60825-1 in accordance with the requirements of Laser Notice No. 50. *7 10 to 60% RH when using SK-H055.

I In-line type sensor head

Model			SK-050	
Charge potential measurement	Measurement mode		High-precision mode	Wide-range mode
	Reference distance		25 mm 0.98"	100 mm 3.94"
	Measuring distance		5 to 50 mm 0.20" to 1.97"	60 to 120 mm 2.36" to 4.72"
	Measuring range *1		±2 kV	±50 kV
	Measuring accuracy *2		±10 V	±100 V *3
	Sampling cycle		Approx. 1.4 ms	
Temperature measurement	Measuring range		0 to 50°C 32°F to 122°F	
	Measuring accuracy *4		±1°C ±1.8°F	
	Display resolution		0.1°C 0.18°F	
	Sampling cycle		1 s	
Humidity measurement	Measuring range		10 to 85% RH	
	Measuring accuracy *4		±5% RH	
	Display resolution		0.1% RH	
	Sampling cycle		1 s	
Ion balance measuring mode *5	Ion balance measuring mode	Ion balance measuring range	±1 kV	
		Measuring accuracy *6	±10 V	
		Display resolution	1 V	
Environmental resistance	Operating ambient temperature		0 to 50°C 32°F to 122°F (no freezing or condensation)	
	Operating relative humidity		10 to 85% RH (no condensation)	
Material			Body case: PC, Metal parts: SUS, Cable: PVC	
Weight			Approx. 35 g	

*1 If the distance to the sensing target is shorter than the reference distance, even if the conditions are within the measurable range, measurement cannot be performed up to the upper limit of the measuring range.

*2 Within ±100 V when using high-precision mode; within ±1 kV when using wide-range mode. In other ranges, display value has an accuracy of ±10% (display value). Values are obtained from a mean of 256 measurements.

*3 Measuring accuracy is satisfied in the range of ±30 kV. *4 25°C 77°F, 50% RH. *5 OP-87934 is required. *6 Within ±100 V. In other ranges, display value has an accuracy of ±10% (display value).

I In-line type amplifier unit

Model		SK-1000	SK-1050
Type		DIN rail mounting	
Main unit/expansion unit		Main unit	Expansion Unit
Display	Display resolution	0.001 kV	
	Display range	±99,999 kV to 99 kV (4-level selection available)	
Analog voltage output *1		±5 V, 1 to 5 V, 0 to 5 V, output impedance 100 Ω	N/A
Analog current output *1		4 to 20 mA, maximum load resistance 350 Ω	
Control input *2	Zero-shift input	Non-voltage input	
	Timing input		
	Reset input		
	Bank input		
Control output *3	Judgment output	Open collector output (NPN/PNP switching, N.O./N.C. switching)	
	Alarm output	Open collector output (NPN/PNP switching, N.C.)	
Power supply	Power supply voltage *4	10 to 30 VDC, including 10% ripple (P-P)	Supplied from main unit
	Power consumption (excluding load current of each output) *5	1650 mW or below (55 mA or below with 30 V)	1170 mW or below (39 mA or below with 30 V)
Environmental resistance	Operating ambient temperature	0 to 50°C 32°F to 122°F (no freezing or condensation)	
	Operating relative humidity	10 to 85% RH (no condensation)	
Material		Body case and front cover: PC, Key top: POM, Cable: PVC	
Weight (including accessories)		Approx. 150 g	Approx. 140 g

*1 ±5 V, 1 to 5 V, 0 to 5 V, or 4 to 20 mA selected for use.

*2 Inputs are assigned to the four external input lines. Non-voltage input rating: ON voltage 2 V or lower, OFF current 0.02 mA or lower. Voltage input rating: maximum input rating is 30 V, ON voltage 7.5 V or higher, OFF current 0.05 mA or below.

*3 NPN open collector output rating: maximum 50 mA/ch (20 mA/ch when expansion units are added) 30 V or below, residual voltage 1 V or below (1.5 V or below when adding 6 or more expansion units, including main unit). PNP open collector output rating: maximum 50 mA/ch (20 mA/ch when expansion units are added) below power supply voltage, residual voltage 2 V or below (2.5 V or below when adding 6 or more expansion units, including main unit).

*4 Use 20 to 30 V as power supply voltage when 6 or more expansion units, including main unit, are to be used. *5 When connecting 8 units for DL connection, maximum power is consumption 11.3 W.

BAR TYPEUltra High-Speed Sensing Ionizer
SJ-HA Series

Type	Bar type with built-in controller 360 mm - 3000 mm 14.17" - 118.11"
Method	Pulse AC
Ion balance	±30 V
Features	Excellent static elimination and low maintenance.

BLOWER TYPEWide Area Sensing Ionizer
SJ-F2000/F5000 Series

Type	Blower type
Method	Pulse AC
Ion balance	±5 V
Features	High-speed, high-precision blower for tabletop or equipment use.

SPOT TYPEUltra-Small Integrated Sensing Ionizer
SJ-M Series

Type	Spot type
Method	Pulse AC
Ion balance	±15 V
Features	Flexible mounting and attachment options.

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Please read the instruction manual carefully in order to safely operate any KEYENCE product.

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