

# **SPECIFICATIONS**

Hand-Held Particle Counter

## **KR-11A/KR-11B**



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## Outline

The hand-held particle counter (HHPC-2) KR-11A/KR-11B is designed to detect particles suspended in air, using the light-scattering method. The particle count is shown on a numeric display. The models KR-11A and KR-11B differ only regarding the available particle size ranges, otherwise they are identical.

The unit has the following features.

- Particle detection in two size ranges.
    - KR-11A:  $\geq 0.3 \mu\text{m}$  and  $\geq 0.5 \mu\text{m}$
    - KR-11B:  $\geq 0.5 \mu\text{m}$  and  $\geq 5 \mu\text{m}$
  - Sample air flow rate 2.83 L/min.
  - Three measurement modes are provided, allowing continuous monitoring and automatic measurement of a specified volume.
  - Measurement results can be displayed as cumulative count or particle concentration.
  - Capability for storing results of 100 counts in internal buffer.
  - Built-in serial interface for printout of measurement results on optional serial printer or for download to the computer using optional CSVDownloadUtility or a commercially available communication software.
  - Compact size and battery operation allow easy use in the field.
  - AC adapter can be used to power the unit from a regular outlet.
- \* All company names and product names mentioned in this specifications are trademarks or registered trademarks of their respective owners.

## Specifications

Optical system	90° sideway light-scattering method
Light source	Laser diode (Wavelength 790 nm, maximum output 50 mW)
Laser product classification	Class 1, IEC 60825-1 (1993-11) Internal particle detection mechanism uses Class 3B laser
Light detector	Photodiode
Sample flow rate	2.83 L/min
Calibration	Polystyrene latex (PSL) spheres with refractive index 1.6
Minimum measurable particle size	KR-11A: $0.3 \mu\text{m}$ KR-11B: $0.5 \mu\text{m}$ (for particles with refractive index 1.6)

Particle size ranges

KR-11A:  $\geq 0.3 \mu\text{m}$ ,  $\geq 0.5 \mu\text{m}$

KR-11B:  $\geq 0.5 \mu\text{m}$ ,  $\geq 5.0 \mu\text{m}$

Maximum rated particle concentration

KR-11A: 70,000 particles/L  
(counting loss 5% for  $0.3 \mu\text{m}$  particles)

KR-11B: 70,000 particles/L  
(counting loss 5% for  $0.5 \mu\text{m}$  particles)

Buffer function Rotating buffer for max. 100 data (measurement results)

Display LCD ( $4 \times 16$  characters)

Measurement modes

Rate mode Cumulative count of immediately preceding 10 seconds is used to calculate concentration (particles/L or particles/CF).

Totalize mode Measurement is carried out automatically for a specified sample volume and cumulative count is shown.

Concentration mode

Measurement is carried out automatically for a specified sample volume and concentration (particles/L or particles/CF) is shown.

Alarm indication

When battery must be charged, LO BATT flashes.

When sensor problem (light source or photo-electric conversion system) has occurred, CAL ALM flashes.

I/O port

Serial interface

Baud rate: 9,600 bps

Word length: 8 bits

Parity: None

Stop bits: 1 bit

Power requirements

Internal battery or AC adapter

Continuous measurement possible with AC adapter (supplied power cord only for use in Japan with 100 V AC)

Max. current consumption:

2.5 A (DC), 1.0 A (AC adapter)

Battery: nickel metal hydride (Ni-MH)

Continuous operation approx. 8 hours, can be charged with supplied AC adapter (charge time 2 hours).

AC adapter: Rated input voltage 100 to 240 V AC, 50/60 Hz

Ambient conditions for operation

10 to 40°C

20 to 90% RH (no condensation)

Ambient conditions for storage

-10 to 50°C

max. 90% RH (no condensation)

Dimensions 116 (W) × 251 (H) × 65 (D) mm (max.)

116 (W) × 211 (H) × 65 (D) mm (excluding protruding parts)

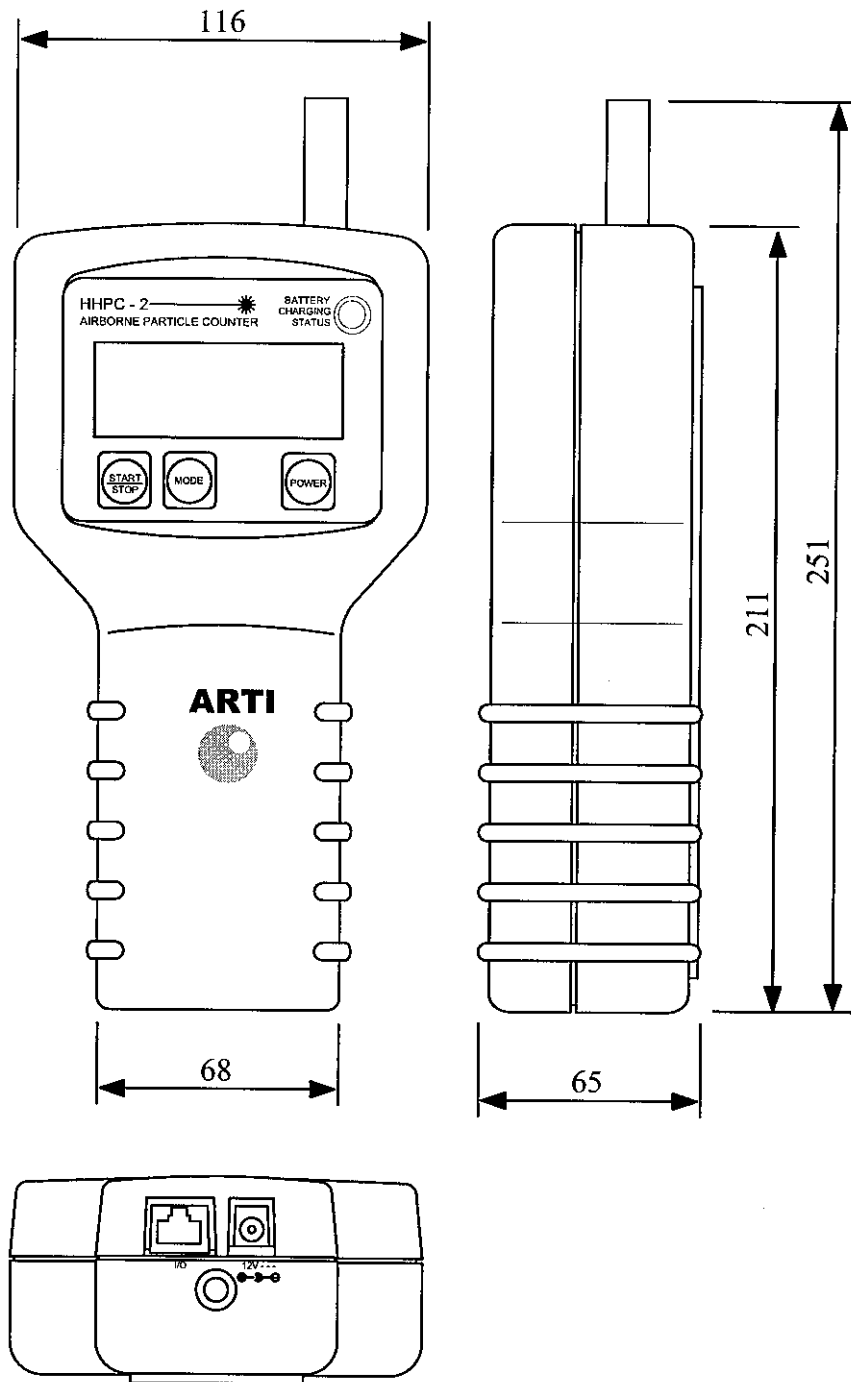
Weight Approx. 1 kg

Supplied Accessories

AC adapter	1
Power cord	
(only for use in Japan with 100 V AC)	1
1/8 inch hose barb adapter	1
1/8 inch tube	1
Zero count filter	1
Carrying case	1
Hand strap	1
Instruction manual	1
Inspection certificate	1

Optional Accessories

Thermal printer (Seiko Instruments DPU-414)  
Printer cable  
Modular cable  
PC connector adapter  
CSVDownloadUtility



Hand-held particle counter KR-11A/KR-11B dimensions Unit : mm

Specifications subject to change without notice