

A highly reliable particle sensor that can measure 0.1  $\mu\text{m}$  particles. Measurements can be made using only small amounts of samples due to high counting efficiency.



# Liquid-Borne Particle Sensor KS-42A/42AF

[Compatible with Hydrofluoric acid]

- Detects particles down to 0.1  $\mu\text{m}$  size, ( $\geq 1.0 \mu\text{m}$  support available as option) at a flow rate of 10 mL/min
- Particle size range  
Up to 10 user selectable channels (by KE-40B1) from 0.1  $\mu\text{m}$  to 0.5  $\mu\text{m}$   
Factory default setting : five channels ( $\geq 0.1 \mu\text{m}$ ,  $\geq 0.15 \mu\text{m}$ ,  $\geq 0.2 \mu\text{m}$ ,  $\geq 0.3 \mu\text{m}$ ,  $\geq 0.5 \mu\text{m}$ )
- Integrated leak sensor with alarm output
- A sapphire flow cell is used in KS-42AF

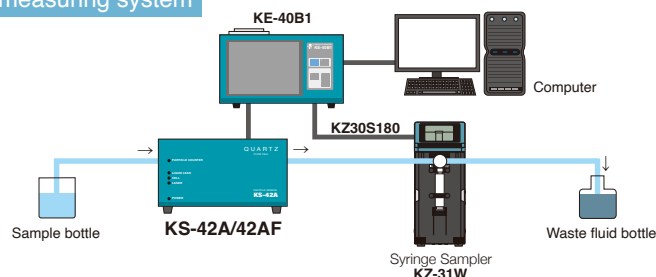


## Specifications [KS-42A/42AF]

Optical system	Light-scattering method
Light source	Laser diode (wavelength 830 nm, rated output 200 mW)
Laser product class	Class 1, IEC 60825-1
Light detector	PIN type photodiode
Materials of parts exposed to sample	KS-42A: Synthetic quartz, PFA KS-42AF: Sapphire, PFA
Allowable sample type	Any liquid that does not corrode contacting materials
Calibration	Polystyrene latex (PSL) particles (refractive index 1.6) in pure water
Size range	
5 channels (factory default)	$\geq 0.1 \mu\text{m}$ , $\geq 0.15 \mu\text{m}$ , $\geq 0.2 \mu\text{m}$ , $\geq 0.3 \mu\text{m}$ , $\geq 0.5 \mu\text{m}$ ( $\geq 1.0 \mu\text{m}$ support available as option)
User selectable channels	1 channel to 10 channels, setting made from Controller
Setting range	0.1 $\mu\text{m}$ and 0.13 $\mu\text{m}$ to 0.5 $\mu\text{m}$
Counting efficiency	KS-42A: $70 \pm 15 \%$ KS-42AF: $60 \pm 15 \%$
Flow rate	10 mL/min
Maximum particle number concentration	1 200 particles/mL (at 5 % coincidence loss for 0.1 $\mu\text{m}$ particles)
Sample pressure range	300 kPa (gauge pressure) or less
Sample inlet/outlet	2 (dia.) x 4 (dia.) flared joint for tube
Purge air port	Rc1/8 (1/8 PT female screw)
Input/output connector	
CONTROLLER connector	Connecting to KE-40B1
LIQUID LEAK	Alarm output terminal shorted during normal operation, open when internal leak is detected
ALARM connector	
Power	DC12 V (supplied by KE-40B1)
Environmental conditions for operation	+15 °C to +35 °C, less than 85 % RH (no condensation)
Dimensions and weight	125 (H) x 240 (W) x 151 (D) mm (excluding protrusions), Approx. 4 kg
Accessories	Tube A vacuum pack x 1 (2 x 4 dia. PFA tube with flared joint at one end, 1.5 m x 2, Union joint x 1), Connection cable A (1 m) x 1

Option	Connection cable B (5 m) KS-42-123
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## Example of measuring system

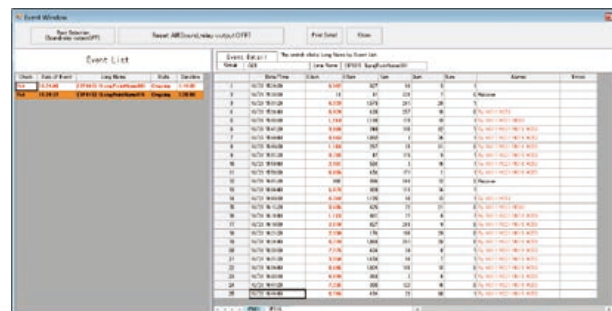


## RP Monitor Evo10 K1701 Ver.2

Option

Used for controlling particle counters to regulate the start/end of measurement and turn the light source/built-in pump on and off. Available setting parameters include measurement time, period, number of measurements, alarm, and conversion.

- Allows control of up to 8 particle counters in serial mode, using 8 ports.
- Operating system: Microsoft Windows 10 Pro 64 bit / 11 Pro 64 bit



Sample display

## Syringe Sampler KZ-31W

For batch measurement of liquid-borne particle sensor.

\*Connecting cable (KZ30S180, option)



For operation control of particle sensor and display of measurement data

## Controller KE-40B1

- Particle size range can be freely set for up to 10 channels.
- Built-in printer. Measurement data can be stored on memory card (CF card).



## Specifications [KE-40B1]

Display	
Display items	Particle size range (max.10 channels), Count (max. 8 digits)
Controls	Touch panel, Sheet switches
Measurement	
Measurement time	10 seconds to 2 hours, or manual
Measurement modes	Manual measurement Automatic measurement: mean value measurement, moving average measurement, periodic measurement, scheduled time measurement
Alarm	When measured value in a selected channel reaches the preset alarm level, a buzzer sounds and alarm terminals are shorted by relay contacts Maximum connected load: DC 30 V, 1 A
Communication	RS-232C
Printer	Printout of measurement results, date and time
Recording paper	Thermal paper: TP-08, Clean thermal paper: TP-10
Memory	CompactFlash (CF) card®(automatic storage in TSV format)
Power	100 to 240 V AC, 50/60 Hz, approx. 130 VA
Dimensions and weight	140 (H) x 240 (W) x 146 (D) mm (excluding protruding parts), approx. 3 kg
Accessories	Power cord x 1, Thermal paper TP-08 x 2 rolls
Options	Communication cable CC-61A/63A, Thermal paper TP-08, Lint-free thermal paper TP-10, Memory card MC-25CF2 (256 MB)
Factory option	D/A converter interface KE-40-S06

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