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Technical Particle Counter PCE-PCO 1

PCE-PCO 1 Particle Counter
Measures 6 particle sizes / Features built-in camera, air temperature and relative humidity sensors

PCE-PCO 1 is a laser particle counter for measuring the concentration of particles in the air. The PCE-PCO 1 particle counter:

- Measures 6 sizes of particles: 0.3 µm, 0.5 µm, 1.0 µm, 2.5 µm, 5.0 µm, 10 µm
- Offers a robust, 80 MB internal memory
- Features a large, full-color LCD display with backlight
- Includes a built-in camera for image and video recording
- Contains sensors for measuring air temperature and relative humidity

The PCE-PCO 1 particle counter is ideal for monitoring clean rooms, indoor air quality, exposure to exhaust, smoke, mold, respirable crystalline silica dust (RCS) and other harmful air pollutants, and levels of airborne combustible dust such as agricultural dust, carbonaceous dust, chemical dust, metal dust, plastic dust and wood dust.

A variety of materials are explosible in dust form. Some examples include: food (e.g., candy, sugar, spice, starch, flour and feed), grain, tobacco, plastics, wood, paper, pulp, rubber, pesticides, pharmaceuticals, dyes, coal and metals (e.g., aluminum, chromium, iron, magnesium and zinc). These materials are used in agriculture, chemical manufacturing, pharmaceutical production, furniture, textiles, fossil fuel power generation, recycling operations, metal working and processing (including additive manufacturing and 3D printing) and many other industries and processes.

In addition to being a combustion hazard, certain kinds of dust can be a health hazard. Exposure (such as skin contact, eye contact and inhalation) can be linked to sneezing, a stuffy or runny nose, itchy or red eyes, headaches, fatigue, fever, cough, shortness of breath, dermatitis, asthma, bronchitis, pneumonia (e.g., Legionnaires' disease and hypersensitivity pneumonitis), silicosis and asbestosis, as well as mesothelioma, lung and other cancers.

General technical specifications

Environmental conditions	0 ... 50 °C, 10 ... 90 % RH (non-condensing)
LCD Display	2.8 " / 320 x 240 pixels, back-lit, color
Rechargeable battery	Operating time ~ 4 hours
Dimensions	240 x 75 x 55 mm
Weight	420 g
Memory	Internal: 80 MB External: Micro SD card up to 8 GB (optional)

Particle counting specifications

Measurable particle sizes (channels)	0.3 µm / 0.5 µm / 1.0 µm / 2.5 µm / 5.0 µm / 10 µm
Flow rate	0.1 cfm (2.83 L/min)
Coincidence error	<5% at 2,000,000 particles per cubic foot
Counting efficiency	50 % at particle size 0.3 µm 100 % at particle size> 0.45 µm (per ISO 21501)
Data storage	5000 records
Counting modes	Cumulative, differential, concentration

Air temperature and relative humidity measuring specifications

Air temperature measuring range	0 … +50°C
Air temperature precision	±0.5 °C with +10 ... +40 °C Otherwise ± 1 °C
Dew point temperature measuring range	0 … +50°C
Dew point temperature precision	±0.5 °C with +10 ... +40 °C Otherwise ± 1 °C
Relative humidity measuring range	0 ... 100 % RH
Relative humidity precision	±3 % RH with 40 ... 60 % ±3.5 % RH with 20 ... 40 % and 60 ... 80 % ±5 % RH with 0 ... 20 % and 80 ... 100 %

Delivery contents

1 x PCE-PCO 1 particle counter
1 x zero filter
1 x rechargeable battery
1 x charger
1 x USB cable
1 x user manual
1 x CD-ROM (software)
1 x tripod
1 x hard case