Process Aerosol Photometer PAP 612

Process Aerosol Photometer PAP 612 with connection cable for power supply and data transfer

The PAP 612 is a combined in-line extinction and scattered-light photometer with double-running test sections and two wavelengths, which can operate in over- or underpressure e.g. for measurements of gushes of oil. The device is primarily designed for investigations of crankcase ventilation of combustion engines. Thus it should support the development and testing of filter systems. Due to its compact design, its use is conceivable on test rigs for engines, on swivelling test rigs, under lab conditions as well as for test drives in field use.

Principle

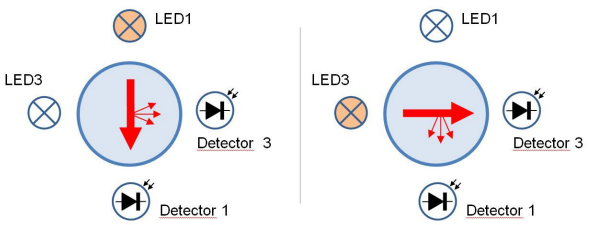
The measurement system is based on a dual extinction and scattered-light measurement which are offset at an angle of 90°. By an alternating circuit of the lighting unit (switching of the LEDs) the two extinctions and the two scattered-light intensities are measured successively. The PAP 612 records measuring signals which are internally evaluated. Via a RS485 interface and a digital output peripheral devices can be connected.

Special Advantages

- Transmission and scattered-light measurements of 2 wavelength with high time resolution
- Low uncertainty of measurement through two different measuring lengths
- Compact design for the use at laboratory, engine and tilt test stands and for field use
- Operation in over- and underpressure
- Use for aerosols and suspensions

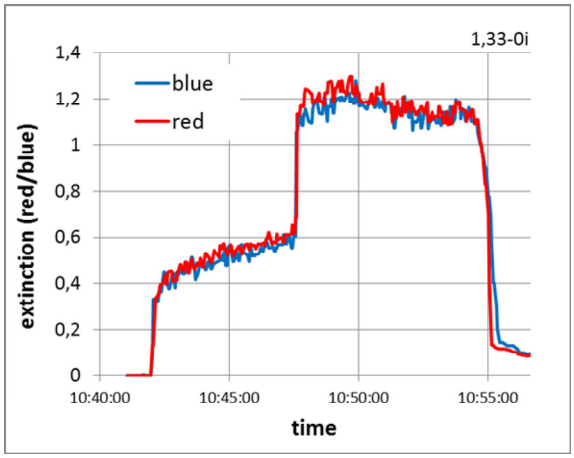
Applications

- In-line characterisation and concentration monitoring of blow-by aerosols
- Concentration measurements in aerosols, suspensions and emulsions
- Determination of particle sizes of monodisperse submicron aerosols
- Detection of unwanted fluids in pipe systems for gas transport (e.g. gushes of oil or detection of condensation)
- Review and monitoring of processes



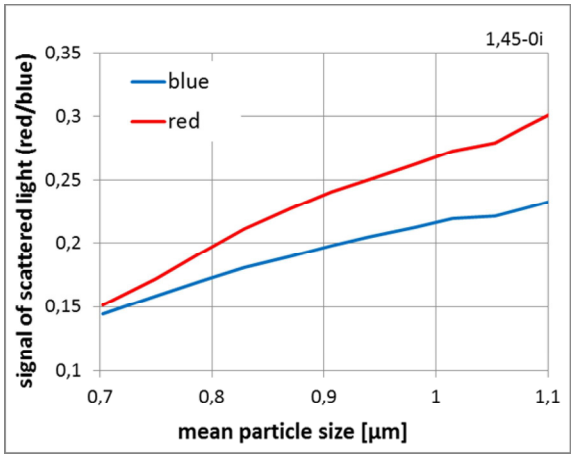
Structure diagram of the PAP 612

Specifications



Time resolved progress of the extinction for monitoring of the concentration of an aerosol

The upper diagram shows an example of the usage of the extinction signals for the in-line control of the aerosol concentration of an aerosol with a refractive index of 1.33.
The diagram below shows the dependency of scattered light of both wavelengths to the particle size of monodisperse aerosols with a refractive index of 1.45.



Dependency of the signal of scattered light to the mean particle size of an aerosol

Technical Data

Measuring range of extinction	0...10 (equates to a transmission of 100-0,005%)
Wavelengths	470 nm; 630 nm
Measurement parameters	Extinction, Scattering intensity (90°-light scattering)
Optical path length	25 mm
Max. pressure	4 bar
Temperature range	-10 … + 60°C
Nozzle connection dimension	Pipe diameter 28 mm
Wetted materials	Aluminium, FKM, Sapphire glass
Communication	RS485
Signal output	Open-Drain-Output (max. 0,5 A, 24 V)
Power supply	24 V DC (18-36 V), 200 mA
Dimensions (L x Ø)	approx. 190 x 80 mm
Weight	0,62 kg

QMS certified to DIN EN ISO 9001.

12 100 11908 TMS

For more information please visit our website at www.topas-gmbh.de

Specifications are subject to change without notice.

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