

CERTIFICATE

TUV Approved

Certificate number: 0000069250_00

Manufacturer:	LAND Instruments International Ltd. Stubley Lane, Dronfield S18 1DJ Derbyshire England
Product:	4750-PM PM-CEMS DUST MONITOR
Components:	dust
Test Report:	936/21243343/A dated 2018-06-05
Valid until:	2024-08-31

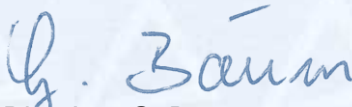
The measuring equipment
was tested and certified
in accordance with the "TUV Approved" Guidelines
of TÜV Rheinland.




Tested AMS
Regular
Surveillance

www.tuv.com
ID 0000069250

Cologne, 2019-09-02


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Test institute accredited to EN ISO/IEC 17025:2005 by DAkkS (German Accreditation Body).
This accreditation is limited to the accreditation scope defined in the enclosure to the certificate D-PL-11120-02-00.

Overview

The performance test of the 4750-PM PM-CEMS DUST MONITOR emission measuring system for the component dust was performed in accordance with the "TUV Approved" Guidelines based on European regulation EN 15267.

The test was carried out for the following component and ranges:

Component	Measuring range					Unit
Dust	0 - 15	0 - 50	0 - 100	0 - 500	0 - 1000	SLU*

* SLU = scattered light units

In conformity with the applicable standards, the following performance criteria were tested in the laboratory:

- Check of general requirements,
- CE labelling,
- Security,
- Output ranges and zero-point,
- Additional data outputs,
- Display of operational status signals,
- Checking of contamination of optical boundary layer (for in situ AMS),
- Degrees of protection provided by enclosures,
- Determination of response time,
- Lack-of-fit,
- Repeatability standard deviation at zero and at span point,
- Influence of ambient temperature,
- Influence of voltage variation,
- Influence of sample gas pressure (for in situ AMS),

Minimum requirements of EN 15267-3 for the laboratory tests have been fulfilled during performance testing.

A field test in accordance to EN 15267-3 was not carried out.

The manufacturing process of the 4750-PM PM-CEMS DUST MONITOR of LAND Instruments International Ltd. is controlled within the auditing procedure of EN 15267-2. For the validity of the certificate an annual audit of the production process is required.

Field of Application

The 4750-PM PM-CEMS DUST MONITOR is suitable for use at applications according to the certified components and measuring ranges. The tested ranges have been chosen with respect to the wide application range of the AMS.

The AMS is approved for the ambient air temperature range of -20 to +50°C.

Any potential user should ensure, in consultation with the manufacturer, that this AMS is suitable for the applications at which it will be installed.

Description of the AMS tested

This certificate applies to automated measurement systems conforming to the following description:

The 4750-PM PM-CEMS DUST MONITOR is a particle monitor which uses the scattered light principle (backward scattering). Measurement is contactless and continuous without extraction of a sample in the flue gas flow above the dew point. The red light of a laser diode beams through the measurement channel and illuminates dust particles in the measurement volume. The particles present in the measurement volume scatter this light. A photodiode then detects the backscattered light. The ratio of the scattered light intensity measured to the total light intensity emitted corresponds to the particle density in the measurement volume.

The basic version of the 4750-PM PM-CEMS DUST MONITOR measuring system only consists of the measurement head itself, a flange connection including a purge air connection and the purge air unit. The complete measurement technology is located inside the sensor head. The measuring system is operated via the keypad on the sensor head or via an external PC connected via USB.

The measuring system comprises the following components:

- Measurement head 4750-PM PM-CEMS DUST MONITOR
- Duct flange for the measurement head
- Blower purge

The tested software version is 5.3.