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Mobile and Hot Spot Measurement with Optical Particle Counting Based Dust Monitor EDM264

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Abstract : With the EDM264, GRIMM offers a solution for mobile short- and long-term measurements in outdoor areas and at production sites. For research as well as permanent areal observations on a near reference quality base. The model EDM264 features a powerful and robust measuring cell based on optical particle counting (OPC) principle with all the advantages that users of GRIMM's portable aerosol spectrometers are used to. The system is embedded in a compact weather-protection housing with all-weather sampling, heated inlet system, data logger, and meteorological sensor. With TSP, PM10, PM4, PM2.5, PM1, and PMcoarse, the EDM264 provides all fine dust fractions real-time, valid for outdoor applications and calculated with the proven GRIMM enviro-algorithm, as well as six additional dust mass fractions pm10, pm2.5, pm1, inhalable, thoracic and respirable for IAQ and workplace measurements. This highly versatile instrument performs real-time monitoring of particle number, particle size and provides information on particle surface distribution as well as dust mass distribution. GRIMM's EDM264 has 31 equidistant size channels, which are PSL traceable. A high-end data logger enables data acquisition and wireless communication via LTE, WLAN, or wired via Ethernet. Backup copies of the measurement data are stored in the device directly. The rinsing air function, which protects the laser and detector in the optical cell, further increases the reliability and long term stability of the EDM264 under different environmental and climatic conditions. The entire sample volume flow of 1.2 L/min is analyzed by 100% in the optical cell, which assures excellent counting efficiency at low and high concentrations and complies with the ISO 21501-1standard for OPCs. With all these features, the EDM264 is a world-leading dust monitor for precise monitoring of particulate matter and particle number concentration. This highly reliable instrument is an indispensable tool for many users who need to measure aerosol levels and air quality outdoors, on construction sites, or at production facilities.

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