PRESS RELEASE

SICK enters a cooperation with Genius5-Instruments GmbH for worldwide sales and service of the PmCTrace biogenic CO2 measurement system

Waldkirch, Kottingbrunn, June 2024 - For future worth living it is crucial to decrease the carbon dioxide (CO2) and other greenhouse gas (GHG) emissions rapidly. SICK is a world leading supplier of Continuous Emission Monitoring Systems (CEMS), raw gas measurement systems, and further sensor solutions for a sustainable development in various industries.
To support the efforts of thermal waste treatment as a complete solution provider, SICK incorporates the biogenic CO2 measurement solution from **Genius5-Instruments GmbH** in its portfolio.

Burning fossil fuels releases carbon that has been locked up in the ground for millions of years, while burning biomass emits carbon that is part of the biogenic or bio-based carbon cycle. Fossil carbon is released from coal, oil or natural gas.

Waste incineration facilities are part of the biogenic carbon cycle, emitting a mixture of biogenic and fossil CO2. The PmCTrace system measures the portion of the biogenic fraction exactly, using continuous proportional sampling from the flue gas stream, collection in a cartridge and analyzing in a laboratory based on the radioactive carbon isotope C14. Fossil CO2 has zero PmC (Part of modern Carbon), biogenic CO2 has 100 PmC.

The main reasons for the need of biogenic CO2 determination

Emission Trading Systems (ETS) like EU ETS, UK Environment Agency's Pollution Inventory Guidance, German BEHG and China Certified Emission Reduction (CCER) are in operation. All laws differ between fossil and renewable carbon. Carbon tax has only been paid for fossil carbon, to increase the use of renewables. The complete CEMS of SICK with the PmCTrace system as well as the accurate ultrasonic volume flow measuring device FLOWSIC100 are important parts to reduce the share of the fossil fraction.
The EU ETS scheme aims to reduce GHG emissions within the EU. It sets a cap on the total amount of GHG that polluters are allowed to release. This cap will be gradually lowered to reduce the total allowable emissions to zero by 2050. EU emissions trading currently covers about 40 % of GHG emissions in the EU and will step by step be extended to cover all emissions.

Thermal waste treatment facilities with **Carbon Capture** units will provide a major contribution of negative CO2 emissions due to the biogenic portion of the heterogeneous feedstock. Net zero GHG emissions are only achievable with significant negative CO2 emissions balancing the remaining GHG (e.g. from agriculture). Knowing the negative CO2 emissions with best possible accuracy is desired. For further utilization of captured CO2 the green portion is important for ecological, bio-based evaluation.

Furthermore, the **renewable share of the recovered energy** by Waste-to-Energy plants is of high public interest.

In some European cities the **management of waste per capita** is based on the fossil portion. Also for this purpose the determination of the fossil and biogenic CO2 fractions is required.

For these reasons SICK started the cooperation with Genius5-Instruments GmbH for worldwide sales and service of the PmCTrace biogenic CO2 measurement system, a future part of CEMS in waste incineration plants.

SICK is one of the world's leading solutions providers for sensor-based applications in the industrial sector. Founded in 1946 by Dr.-Ing. e. h. Erwin Sick, the company with headquarters in Waldkirch im Breisgau near Freiburg ranks among the technological market leaders. With more than 60 subsidiaries and equity investments as well as numerous agencies, SICK maintains a presence around the globe. SICK has more than 12,000 employees worldwide and generated a group revenue of around EUR 2.3 billion in the 2023 fiscal year. Further information on SICK is available on the Internet at www.sick.com.

Genius-Instruments GmbH is a small company based in Kottingbrunn, Austria, near Vienna, with excellent development capabilities that have led to the design of the PmCTrace biogenic CO2 measurement system. About us (genius5-instruments.com)