EXERGEN GLOBAL INFRARED SENSOR HELPS MICROSTEP-MIS DEVELOP A UNIQUE SOLUTION TO MEASURE THE EXACT SURFACE TEMPERATURE OF SNOW

Exergen Global Joins MicroStep-MIS in Kazakhstan to Help Solve Complexity in Measuring of Surface Temperature of Snow in Various High-end Meteorological Stations

WATERTOWN, Mass. And ZIJTAART, the Netherlands - Exergen Global today announced that its IRt/c.10, infrared unpowered sensors with a field of view of 10:1, are being used to measure the temperature of snowy, icy, grungy surfaces by over 20 complex meteorological stations in Kazakhstan.

The meteorological stations measure many variables for data acquisition for weather forecasting and meteorological research. The Kazakhstan government employs these stations in mountainous areas where there's seasonal risk of flooding. By accurately measuring snow surface temperature, in combination with other parameters such as snow height, ambient temperature and humidity, a reliable prediction can be made how much melting water is generated, allowing flood forecasting for safety measures.

"The problem we had to solve was pretty complex as we are dealing with variable 'cold' temperatures, various layers of snow and changing temperatures during the day because of the sun. This is the real world in Kazakhstan, a vast country of Central Asia with very cold winters from cold air masses of polar or Siberian origin", said Abdul Razakov, Project Manager of MicroStep-MIS.

The temperature in the Northern part of Kazakhstan can drop to -50°C (-58°F) in wintertime, where the northern wind can cause snowstorms, whilst there are over 100 days with snowfall each year in the Northern part and 60 days in the central region. Those harsh conditions demand solutions enabling to measure the temperature of the surface very accurately. This data needs to provide reliable information when snow or ice will melt, causing possible flooding. The measuring was done manually and for safety and cost- efficiency reasons, this needed to be automated. Initially a contact temperature probe was employed on the station, but this method was very unreliable especially with varying snow heights.

"For this environmental safety monitoring, Exergen's IRt/c.10 provides a very solid solution. As it offers a very narrow field of view at a rather large distance, it is still able to measure small spots very accurately. If there is a lot of snow, no snow, or only ice, this sensor provides very precise measurements automatically, which is exactly what complex meteorology stations need", said Bram Stelt, CEO Exergen Global.

"The additional plus, what we consider as very unique, is that the IRt/c.10 is unpowered. Complex meteorology stations in Kazakhstan always face problems with batteries. The system works approx. 5 hours a day and the fact that the IRt/c.10 is not requesting any power, is an additional nice benefit", added Abdul Razakov of MicroStep-MIS.

Product overview and specification EXERGEN IRt/c.10:

- Infrared Thermocouple IRt/c
- Non-contact
- Self-powered
- Intrinsically safe
- Repeatability 0,01°C (0.02°F)
- Interchangeability ±1%
- Resolution approx. 0,0001°C (0.0002°F)

Technical data:

- Sensing range -45°C to 650 °C (-49°F to 1202°F)
- Field of view approximately 10:1 (6°)
- Minimum spot size 20 mm (0.8")
- Spectral response: 6,5 – 14 µm
- Response time: 100 milliseconds
- Dimensions: 96 mm x 35 mm (3.8" x 1.4")
- Housing: stainless steel, hermetically sealed, exceeds NEMA4, 4x; IP65, 67, Built in Air-Purge for cleaning and cooling

The solution has been thoroughly tested and has already been integrated in 20 high end stations. For the future it is expected that every year 10 additional stations will be equipped with this unique solution.

About Exergen and Exergen Global (now known as CleverIR):
Exergen Global, the global leader in industrial and medical temperature technology, provides non-invasive temperature measurement devices at lower cost, higher accuracy, less invasiveness, and greater reliability than ever previously before. Exergen is well known for its award-winning temporal artery thermometer in the healthcare and consumer market. The company was founded by Harvard Research scientist Dr. Francesco Pompei who holds over 75 patents. Exergen is based in Watertown, Massachusetts, USA. Exergen Global, an HP strategic partner for years, is the worldwide solutions provider of Exergen Corporation's industrial non-contact infrared temperature sensor solutions.

About MicroStep-MIS
MicroStep-MIS, a state-of-the-art developer and manufacturer specialized in monitoring hardware and information systems, processing acquired data, research and numerical modelling has been operating in the area of environmental monitoring since 1993. For the past 27 years they have established themselves as the accepted and respected worldwide player, with a strong focus on constant development, ongoing research, and steady innovation. The final outcome is an effective and timely weather-related decision- making by their clients which is based on reliable and timely data provided by their monitoring systems.

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