



thing you want is for your power to cut out.

Thermal imaging is advantageous in the sense that you can repair any faulty equipment or electricals within your property in good time, before it gets too expensive!

Thermal Cameras are also a real-time infrared cameras, scanning at **30 Hz or 30 images per second**. This greatly increases productivity by allowing workers to scan miles of piping from a moving vehicle or pan wide-angle for broad views of piping systems without concern for image distortion or smear. In short thermal cameras save time, money and resources and keep the oil and gas product facility and its workers safe."

Use of thermal cameras during the COVID – 19 Pandemic

As per Hegde, "With the increasing cases due to the pandemic, social distancing is of paramount importance. By using Hikvision's Thermal Screening Solutions, one can help reduce close contact and also increase efficiency by the use of our Deep Learning technology. With a large number of employees returning to work post the lockdown, many of our customers are turning to us for the wide range of Hikvision Thermal Screening Solutions to cater to their needs and help set up their SOP's

(Standard Operating Procedures). With the use of our $\pm 0.5^{\circ}\text{C}$ (without blackbody) accurate Solutions customers are better prepared to keep their employees safe. Instead of using the very close range and slower IR Thermometers for screening all the employees, customers prefer to use Hikvision Thermal Screening Solutions, which allow them to screen their employees at a safe distance of more than a metre. Also, since face masks are mandatory in all offices and work environments, Hikvision is offering its unique Thermal Screening Face Recognition Terminal solution, which can detect whether the person is wearing a face mask or not and accordingly bar them if they are not wearing a face mask."

According to Holla, "Thermal cameras when used in the current scenarios to detect the body heat differential which will lead health care authorities and government authorities to asses who have been infected and who are not. Furthermore, these cameras can be used in hospitals to detect patients with high fever and diagnose them appropriately."

As per Gokhale, "thermal cameras are being used in the COVID – 19 pandemic in a few ways:

- Thermal camera System is used as a "Walk Through System"

- High Temperature Detection generates **Real Time Alarm**
- **0.05°C variation** in Temperature Detection and Reading
- Temperature Accuracy with maximum **0.05°C variation**
- **Dual sensor** (Normal Video Image and Thermal Image) with **Thermal Overlay** is used for **recognition of people.**"

Dhaggal said, "Thermal imaging technologies have now also become part of the arsenal used to halt the spread of Covid-19 pandemic. Infrared cameras at airports railway stations detect high body temperature as passengers pass through airport terminal checkpoints. The cameras, which can detect changes in body temperature as small as one-tenth of a degree Fahrenheit, were initially used in Southeast Asia in response to outbreaks of SARS and bird flu, and more recently to alert officials to individuals who might have contracted Ebola.

Aerial thermal sensing is also helping to stop the spread of the Coronavirus. Drones with built-in thermal cameras serve as a huge asset in containing the virus. Via high accuracy infrared, the drone can scan the temperature of each individual that passes. A great use-case for such drones is in highly dense areas, and as a result, eases onsite management and ensures greater efficiency in evacuation management as well.

In India, thermal cameras are used not only for measuring forehead temperature but they also detect facemasks and social distancing violations. The thermal screening system with additional analytics like facemask and social distance monitoring generates alarm in case of any deviations.

The camera is likely to be useful at entrances to events, airports, metro stations, manufacturing plants, buildings, hotels, commercial complexes, shopping malls, and gated societies.

The camera with AI-based face mask detection and social distance monitoring can generate real-time alerts." **AVS**