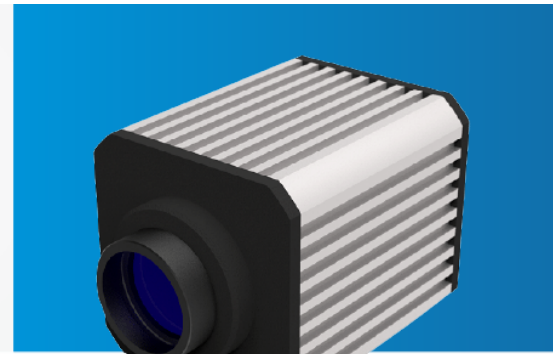


# Thermal Imaging Solutions For Injection Molding



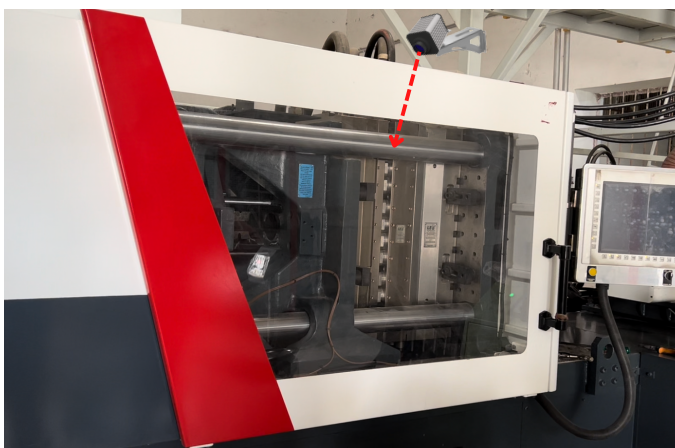
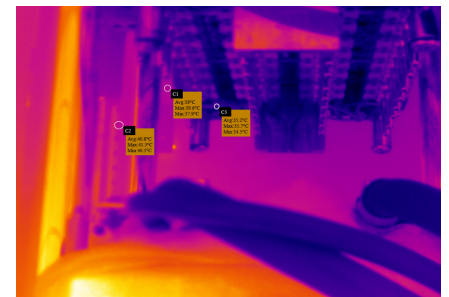
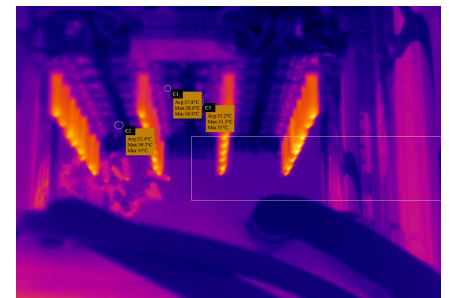
In any plastic industry, the manufacturing process comprises of different process like injection molding, thermoforming etc. During each of these stages, temperature plays an important role in the quality of final product. Maintaining the temperature and it's measurement assures the quality of a product.

Traditionally used contact type temperature sensors have a very short life span, So non-contact temperature measuring instruments like pyrometers or thermal cameras can be used for this application.

## Injection Molding

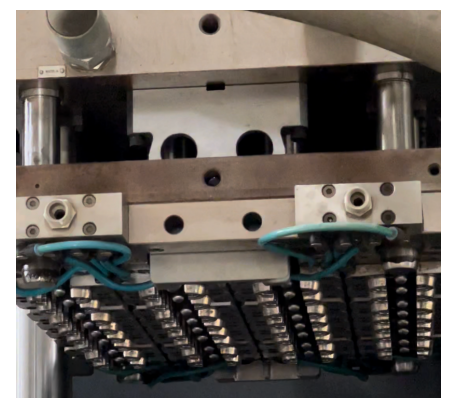
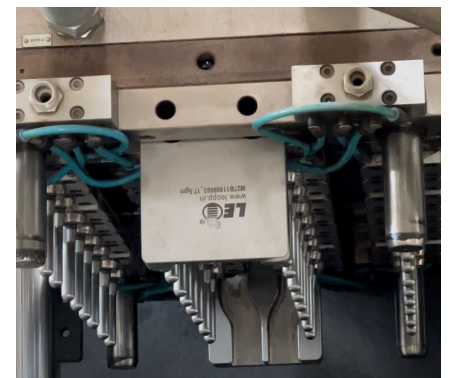
In injection molding process the plastic granules are heated to the liquid stage and then injected into the mold. After injecting into the mold it is allowed to cool down.

To avoid twisting and deforming during the process, our fixed thermal imager **ThermCAM-384** can be used to monitor the process. Temperature overshoot and undershoot (hot-spots and cold-spots) can be determined by temperature monitoring of shaped parts while taking off the mold, with this mold temperature can also be easily measured and timely mold temperature can be adjusted.



*Thermal Camera installed at top, viewing from the top opening in the machine. Lens selected covers the complete area need to be monitored*

**ThermCAM-384**  
 Pixel Resolution: 384 x 288 Pixels  
 Temperature Range: -20°C to 120°C/  
 100°C to 1000°C Switchable via software



The injection molding machine has heating bands that are mounted around NRV (Non-returnable Valve) through which plastic is melted to the liquid state. The temperature profile of these heating bands usually lies between 149° C to 426°C. Thermal camera helps in monitoring the uniform heating and temperature control.

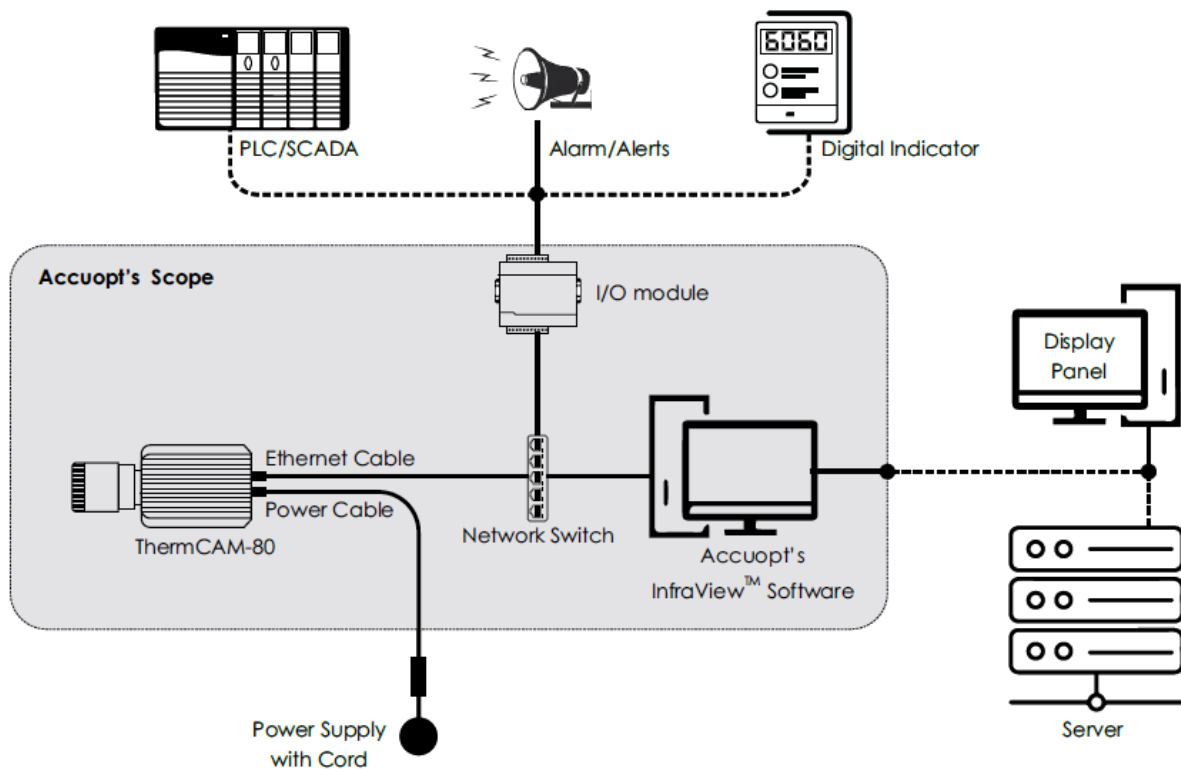
# System Configuration

## Advantages

- On-time temperature adjustment of molds.
- Improves the quality of finished products.
- Reduce the cycle time.
- Reduce the number of discarded goods and reduce the cost of rejection.
- Generate alarms on detection of hot spots, which helps in indicating predictive maintenance which reduces high maintenance costs.

## Key Features

- Provide continuous thermal video in InfraView™ Software.
- Different types of ROI (Region Of Interest) can be drawn for localized temperature monitoring.
- Histogram and trend chart of ROI can be generated for data analysis.
- Includes 9 different color palates which can be selectable as per the user demand



## Thermal Camera Connections

- ThermCAM-384 provides Ethernet output. The camera has two connectors at the back side one is power connector and another one is RJ45 Ethernet connector.
- The camera get connected to PC installed with InfraView™ software which allows to stream thermal videos/images.
- This camera output can also be taken over PLC/SCADA, digital indicators or hooters/ alarms etc. through I/O module via a network switch.
- This Accuopt's I/O module provide 2 relay outputs and 4 analog output of 4-20mA.