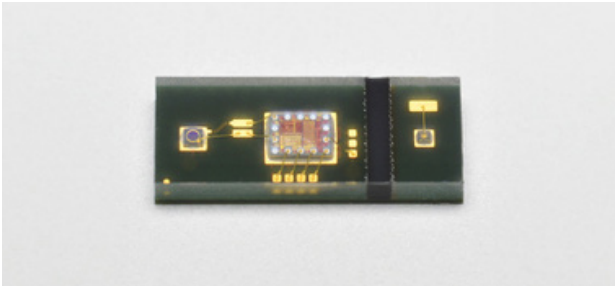


The critical role of optical moisture sensors

In the evolving field of moisture detection, precision and reliability are critical. To address these challenges, Hamamatsu introduces the P13567-02CT^[1], an innovative optical moisture sensor that leverages near-infrared (NIR) sensitivity to deliver unmatched accuracy and versatility. It has significant advantages including compactness, low power consumption, and an embedded LED driver for easy integration, making it an ideal choice for various moisture detection needs.



This new optical moisture sensor's near-infrared sensitivity, provided by the uncooled InGaAs PIN photodiode, is a significant advantage. Water has strong absorption bands in the near-infrared spectrum, especially at 970, 1200, and 1450 nm wavelengths. Thus, it can accurately detect moisture with **exceptional precision providing reliable data crucial for diverse applications.**

One of the most notable features of the P13567-02CT is its integrated NIR-LED driver, which simplifies product design. For those applications requiring flexibility, the sensor is available in two versions: one with a built-in LED and another (G13568-02CT) compatible with external LEDs. In addition, the sensor's **compact design allows for seamless integration** into various systems and applications without requiring significant space. It also features an I2C interface, enabling easy integration with existing systems and efficient data communication.

Its versatility makes it ideal for a wide range of applications. For example, it can be used in **indoor**

farming and soil monitoring, where precise moisture detection is crucial. It can also help optimize water usage by providing accurate soil moisture readings, ensuring plant health. Unlike traditional capacitive sensors used for moisture detection, the P13567-02CT performs non-contact measurements, offering several **advantages in durability and maintenance.**

In **building restoration and water damage monitoring**, professionals can greatly benefit from the P13567-02CT. Identifying the extent and source of moisture damage is essential to prevent rot, mold growth, and structural failures. This sensor helps in setting a baseline moisture content or 'drying goal,' ensuring effective moisture management. The sensor also effectively measures moisture in building materials such as wood, concrete, brick, and plasterboard. Accurate moisture detection in these materials can prevent structural damage and prolong the lifespan of buildings.

Moreover, this sensor can be integrated into **household appliances** such as refrigerators, dryers, air conditioners, and even small devices like microwaves, where moisture detection is essential for functionality and safety.

Overall, the P13567-02CT offers a compact, low-power, and easily integrated solution for accurate and reliable moisture detection. Whether for agriculture, building restoration, or home appliances, this sensor stands out as a versatile and efficient tool for modern moisture detection needs.

^[1] Hamamatsu Photonics, P13567-02CT: www.hamamatsu.com/eu/en/product/optical-sensors/infrared-detector/i2c-compatible-ingaas-photodiode/P13567-02CT