

# Diode Array 7440 SD

Process NIR Instrument



All types of Snack Foods



Fat, Moisture, Salinity



Industrial, Sanitary Design



Web-based User Interface

Reliable, Accurate, Real-time



# Pointing your process in the right direction.

**The DA 7440** measures fat, moisture, salinity and more in snack food processing.

*Thanks to the Diode Array technology, the DA 7440 is an instrument that measures correctly even if you change batch, processing conditions or raw materials. The Diode Array technology enables us to provide sophisticated yet easy-to-use calibrations that provide accurate measurements using only one calibration for all your products. The instrument measures continuously and in real time, and the results are easily integrated into an existing automation system.*

*The DA 7440 sets new industry standards.*



**Chips**



## Measurement Parameters

- Fat
- Moisture
- Salinity



**Baked snacks**



## Optimize the frying process

Measuring in real time after the fryer and before packaging, the instrument can be used to automatically control the process and optimize the moisture and fat content. Running the process at its optimum saves money by optimizing the use of raw materials, increasing output and reducing scrap. The continuous measurement and control also results in a more uniform end-product that is sure to meet the specifications.

## Information integration

By integrating the instrument into the SCADA system, the operator can see the results in a familiar operating environment. Further, the results are available for automated controls and reporting through a central reports system. The DA 7440 offers a range of communication options including.

- OPC DA
- Fieldbus including Profibus DP, Modbus, etc.
- Ethernet TCP/IP based Modbus/TCP & PROFINET
- Analogue outputs

Further, data can easily be downloaded from the web-based user interface for evaluation.



## Industrial Design

The DA 7440 SD is designed to be installed in food production areas and meet the particular demands of this environment. The Sanitary Design (SD) housing is easy to clean, is made of stainless steel with high ingress protection (IP 69 k) and the cabling is kept to an absolute minimum, all in order to be suited for food production areas. The Smart Sensor is equipped with an Air-purge window that ensures the sensor window is kept clean and free from contamination.

The sensor communicates over Ethernet and can be plugged straight into an existing plant network or connected to a wireless network. This connectivity reduces the need for additional cabling to be run separately.

The light indicator on the sensor indicates operating status and alarm conditions with different colors, making it easy for operators to see that everything is working as expected.





## Process Plus



Process Plus is the dedicated process instrumentation software from Perten Instruments. Process Plus is a modern and easy to use software that is built with the specific demands of the process industry in mind. The software includes a web-based user interface with both numerical and graphical displays as well as functions for setting up instrument and product specific features. Process Plus can be installed either on a dedicated PC on the network or on a server with automated back-up and redundancy. Process Plus is part of the Perten Plus software suite.

## Operator At-line display

Further enhancing the functionality of the instrument, we offer an at-line display. The large and clear screen provides at-a-glance information of actual measurement results in graphical or numerical form. The instrument status is shown with signaling and status messages, clearly showing the current status. The touch-sensitive display is also used when taking grab samples. When the sample button is pushed, the instrument tags the corresponding measurements in the instrument database for use at later validation or calibration enhancements.

**Junction box** To ease the installation, we offer a junction box that includes:

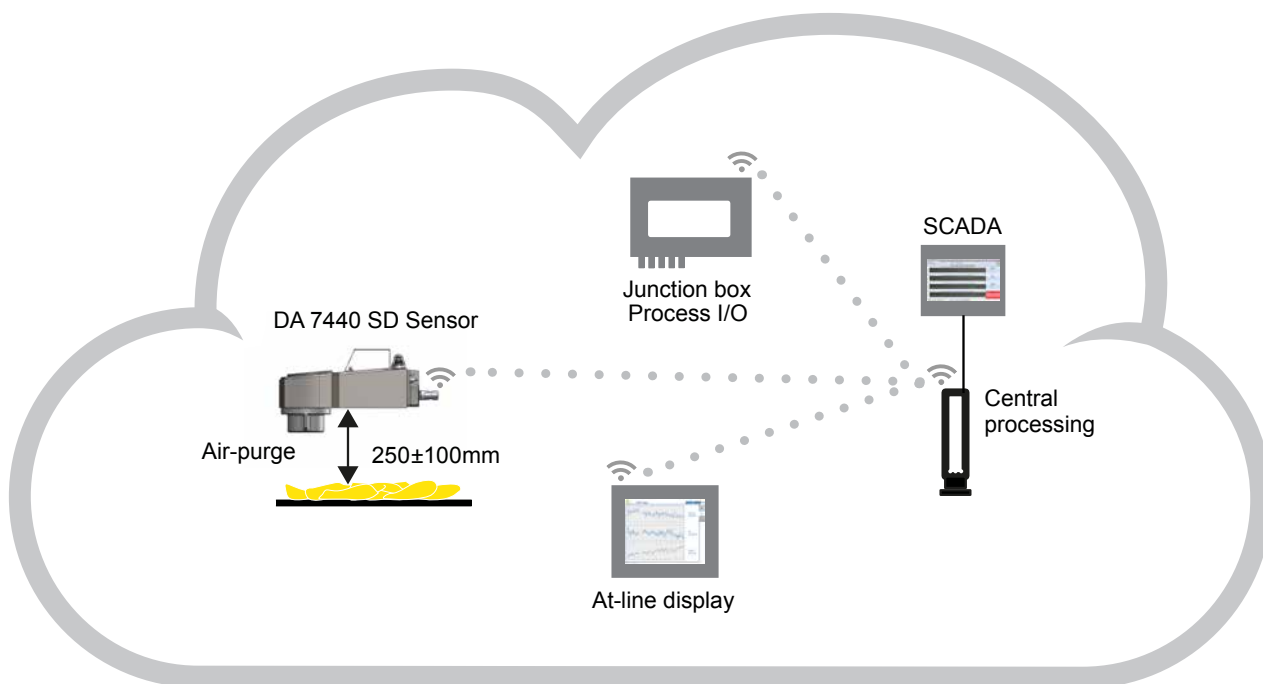
- 24V DC power supply
- 4 port switch
- Wireless access point
- Gateway for Analogue output and Fieldbus interfaces
- External sample button input

The junction box is typically mounted in the vicinity of the sensor and provides a convenient way to quickly install the required supplies to the sensor.

*12" Touch screen Operator Interface*







*Multiple sensors with one processing unit is possible.*

## Modern communication infrastructure



Communication between the various system components is over Ethernet. The system is available with wired or wireless interface between sensor, central processor and peripherals. The user interface is web-based, meaning that any user can access real-time measurement information from a web-browser anywhere on the network. For example, whilst the operator is using the At-line display, the product manager can view measurements in his office in real time. The laboratory can, simultaneously and independently, add reference analysis results to the manual sampling report, allowing a quick and continuous verification of sensor performance. This multi-user capability requires NO additional software to be installed on any computer.

## Advantages

- **Accurate and precise results for all products**
- **Web-based user Interface**
- **Easily integrated into SCADA**

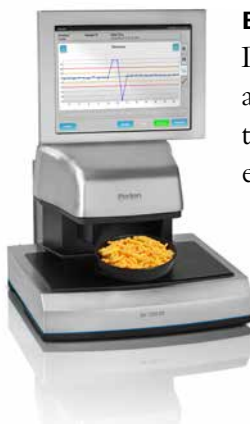


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**Calibrations** In difference to instruments that use only a few NIR wavelengths to make the measurement, the Diode Array technology captures a complete part of the NIR spectra. This facilitates the use of modern calibration techniques such as PLS or the proprietary HR method. Perten offers ready-to-use calibrations for all important parameters and continued support for the calibrations. Alternatively, the customer can chose to develop and maintain PLS calibrations, using third party software, the Unscrambler® from Camo.

**Support** Managing ones assets in order to ensure optimum performance becomes more and more profitable. Perten offers a range of affordable support packages to ensure your instrument keeps performing as new, year after year. The support includes calibration maintenance and up-dates, replacement of certain consumables as well as software updates.



**Bench-Top Analysis** The DA 7440 is complemented by the DA 7250 bench-top analyzer. The DA 7250 can accurately analyze raw materials, semi-finished products and end-products taken from production in 6 seconds. The instrument is very easy to use and can confidently be operated by production personnel as well as laboratory technicians. Thanks to the open face dish sample presentation, there is no sample preparation required and the required clean-up is minimal. The DA 7250 and the DA 7440 uses similar software so operators can easily use both models without the need for extensive training.

**RVA** The RVA measures the viscosity of materials during heating and mixing. Use it to characterize ingredients, intermediates and finished products to optimize final quality.

**TVT** Texture Analyzer measure texture on a wide range of products. A fast and simple test to determine performance and quality characteristics.