

# InlineSENS

## DENSITY MEASURING CELL

Density and concentration measurement  
with low energy gamma radiation



 **BERTHOLD**

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## DENSITY MEASURING CELL

The InlineSENS combines both a radiation source and a scintillation detector in one device. Its use of low-energy gamma radiation from an Am-241 or Cm-244 source provides for strong responses to even the slightest change in product composition, with extremely low dose rates.

### Features for high demands

The isotope Am-241 or Cm-244 is used as the radiation source. The advantage: Am-241 and Cm-244 have very low radiation energies, which correspond approximately to the energy of X-rays. The density measuring system InlineSENS offers high statistical accuracy and long-term stability by using a highly sensitive scintillation detector with patented drift compensation. The measuring system, which is made entirely of stainless steel, is permanently flanged to the pipeline and continuously measures the product density of liquids, suspensions, slurries, and bulk solids. In the case of the Am-241 version, the product pipe can also be supplied with a liner of Teflon (PTFE) or rubber if required. In the Cm-244 version, on the other hand, a polypropylene liner is installed as standard.



### Individually applicable

Depending on the existing pipeline, various flange and product pipe options are available including DIN flanges, ASA flanges, and threaded connections between DN 40 and 65.

## InlineSENS – Measuring unit for special applications

With the used isotopes Am-241 and Cm-244, the radiation absorption depends not only on the density but also strongly on the atomic number of the elements in the product to be measured. This means that changes in concentration can be measured even if the density of the mixture barely changes or does not change at all.

**Application examples:** %HCl, %H<sub>2</sub>SO<sub>4</sub> and %Zn in aqueous solution.

## Separate evaluation unit DuoXpert LB 474

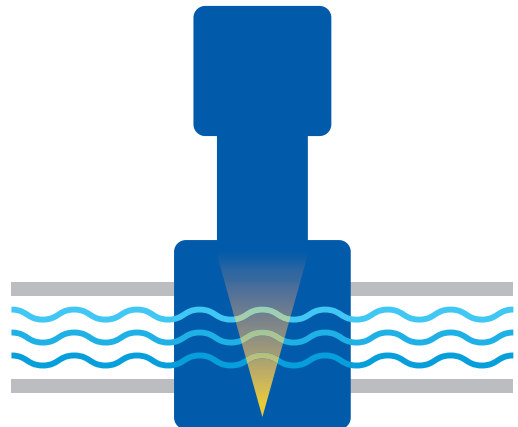
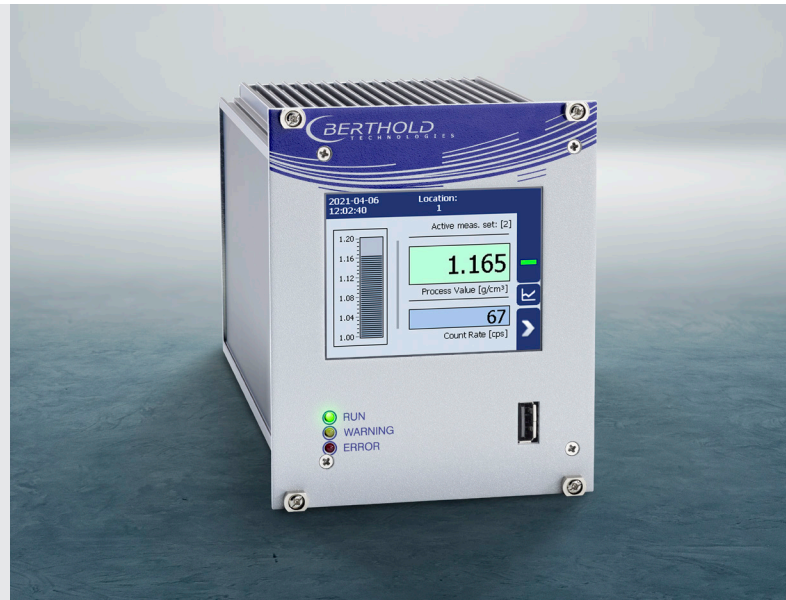
The density measuring system DuoXpert determines density with high accuracy and repeatability. Due to its outstanding performance, the DuoXpert is the first choice for demanding processes and wherever 2-wire based control room technology is required.

## Technical Features

- Minimal radiation exposure
- High statistical accuracy and long-term stability
- Very simple calibration

## Customer Benefits

- Contactless, continuous measurement
- Stainless steel construction
- Easy installation in existing pipelines
- Various flange and product pipe options



*Inline density measuring cell  
flanged to the existing pipeline*





## THE EXPERTS IN MEASUREMENT TECHNOLOGY

Berthold Technologies stands for excellent know-how, high quality and superior reliability. The customer is always the focus of our solution. We know our business!

Using our varied product portfolio, our enormous specialized knowledge and extensive experience, we develop suitable solutions together with our customers for new, individual measurement tasks in a wide variety of industries and applications. Berthold Technologies is specialized in radiometric process measurements for over 70 years. This is our core competence with state-of-the-art and innovative products and solutions covering a vast range of industries and applications.

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