

NEW! FluorLite-P™ Sensor

Online fluorescent sensor for protein measurement

FEATURES

- ❖ Low Protein Level Sensitivity – measures as low as 1 PPM whey protein
- ❖ Measures “True” Protein
- ❖ PLC Based Operation
- ❖ PLC Based Calibration
- ❖ Temperature Compensated Fluorescent Response
- ❖ Economical
- ❖ 4-20 mA Output
- ❖ LED Based (no bulbs to replace)



The FluorLite-P sensor is designed to measure fluorescence of tryptophan – an amino acid in all proteins typically at 1 to 2% content.

The optical configuration uses front face fluorescence combined with a 280 nm UV LED technology to excite tryptophan and photodetector to measure the resulting fluorescence between 300 and 475 nm.

The target application is the monitoring and detection of “true” protein in whey permeate of cheese processing.

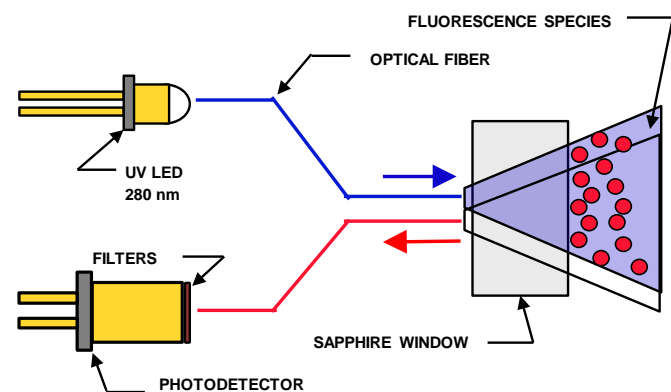


Fig. 1. Optical Configuration of the FluorLite-P™ sensor.

FluorLite-P™ Technical Specifications

❖ Standard Compliance	NEMA 4X (water tight, corrosion resistant); 3A Sanitary Standard 46-03 (pending)
❖ Product Contact O-Rings	Viton
❖ Sensor housing and ferrule	316 SS
❖ Window	Sapphire
❖ Cable	Quick disconnect, water tight, IP 69k Rated
❖ Operating Temperature Limits	Fluorescent measurement 5 - 60°C; Sensor 100°C
❖ Connections	2" Tri-Clamp
❖ Power Supply	+24 VDC, 100 mA max., low noise
❖ Serial Number	SN and date etched onto SS (323-20180125)
❖ Output	One 4-20 mA signal
❖ Signal Input	One 24V digital signal

The FluorLite-P measures the amino acid tryptophan which is a component of whey proteins. The sensor's response to WPI diluted in pure water is shown in Figure 2.

The response of the FluorLite-P in a whey processing system is shown in Figure 3.

The FluorLite-P is totally controlled by the plant PLC and dimensions are illustrated in Figure 4.

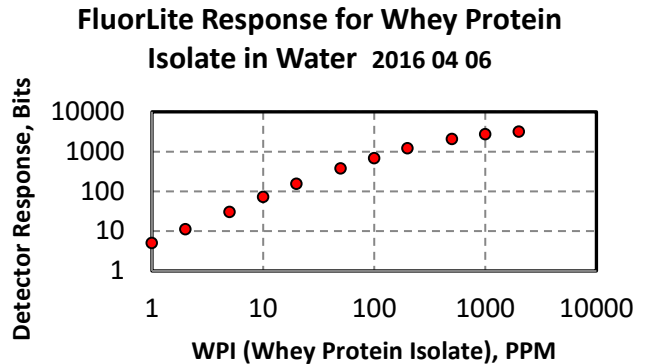


Fig. 2. Response of the FluorLite sensor to WPI concentration in water.

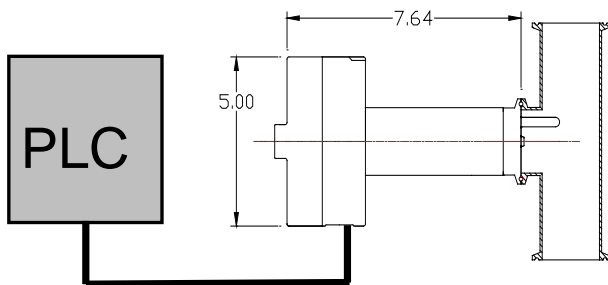


Fig. 4. The FluorLite sensor connects direct to a PLC for 24V power, digital trigger signal, and 4-20 mA output measurement. Calibration is conducted through the PLC.

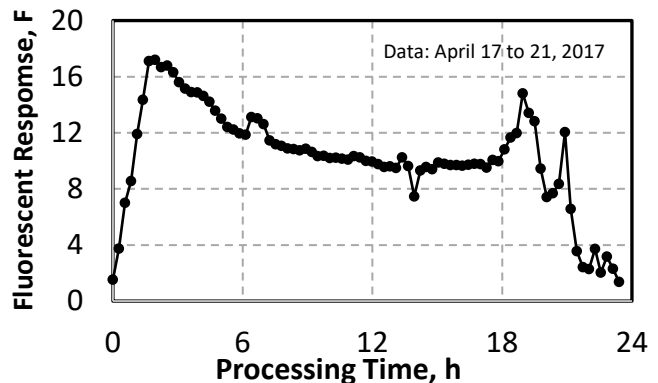


Fig. 3. Response of the FluorLite sensor to protein in whey permeate. Average of 4 days response.