FluorLite-LX™ Sensor

Measures Protein in Dairy Permeates

Updated: April 9, 2024

FEATURES

- Measures protein from 0.01 to 0.30%
- Compensates for Solids to 10%
- No Plant Calibration Needed
- Standard 4-20 mA Output

The FluorLite-LX delivers the following:

1. Measures the fluorescence of the amino acid tryptophan, a component of dairy proteins, and relates this to protein content. Ignores non-protein nitrogen.

2. Calibration ranges of 0.10, 0.20, or 0.30% and automatically corrects for permeate solids which typically varies from 1 to 10%.

3. Corrects the fluorescent measurement for temperature and reduces the effect of air bubbles in the process stream.

4. Delivers a 4-20 mA output signal proportional to tryptophan-containing protein.

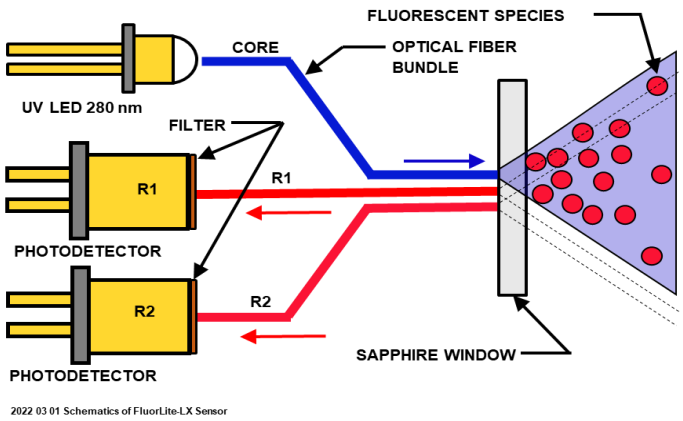

Fig. 1. Optical Configuration of the FluorLite-LX™

FluorLite-LX™ Technical Specifications

❖ Standard Compliance:	NEMA 4X (watertight, corrosion resistant) 3A Sanitary Standard 46-04; EC 1935/2004
❖ Product Contact O-Rings	Viton
❖ Sensor housing	316 SS
❖ Optical Window	Sapphire and Grade 2 Titanium
❖ UVLED wavelength	280 nm
❖ Cable	M12, watertight, IP 68 Rated
❖ Operating Temperature Limits	Fluorescent measurement 5 - 60°C; Sensor 100°C
❖ Connections	2” Tri-Clamp
❖ Power Supply	Isolated +24 VDC, 500 mA max., grounded
❖ Output Signal	4-20mA proportional to tryptophan-containing protein
❖ Serial Number	S/N and date etched onto SS (420-20201231)

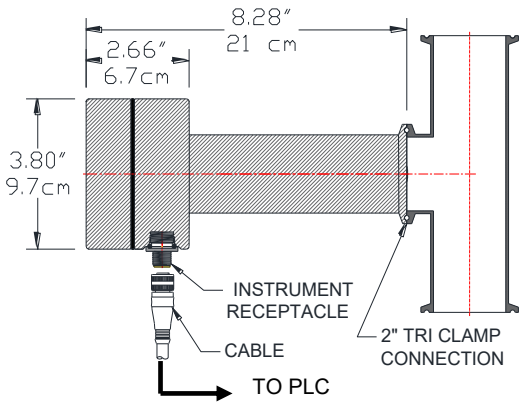

Fig. 2. FluorLite-LX sensor dimensions and suggested installation orientation. Requires isolated +24VDC power and one 4-20 mA analog input. Measurement validation is conducted through the PLC.

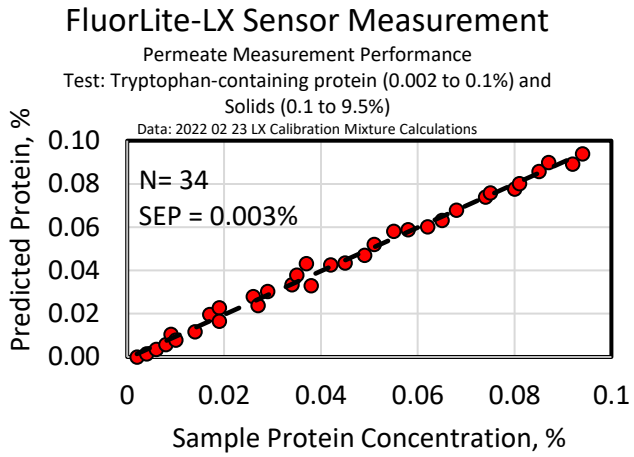

Fig. 3. FluorLite-LX measurement of protein in whey permeate with varying protein and solids concentrations.

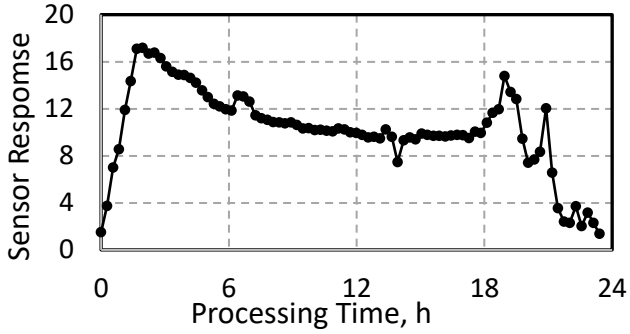

Fig. 4. Response of the FluorLite-LX sensor in whey processing.

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