

## **NEW! FluorLite™ Sensor**

### **Online fluorescent sensor for protein measurement**

#### **FEATURES**

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

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

A front face fluorescence configuration is combined with 280 nm UV LED technology to excite the amino acid tryptophan in proteins and measure the resulting fluorescence between about 300 and 475 nm.

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

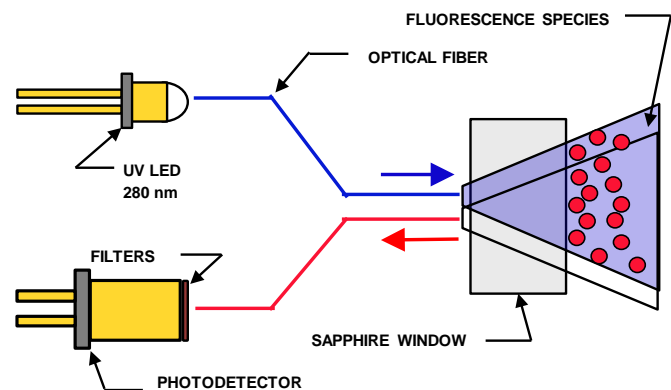


Fig. 1. Optical Configuration of the FluorLite™ sensor.

# FluorLite™ Technical Specifications

- |                                |   |
|--------------------------------|---|
| ❖ Standard Compliance          | NEMA 4X (water tight, corrosion resistant);<br>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 (323-20140125)   |
| ❖ Output                       | One 4-20 mA signal  |
| ❖ Signal Input                 | One 24V digital signal  |

The FluorLite measures the amino acid tryptophan which is component of whey proteins. The graphical response of diluted WPI in pure water is shown in Figure 2. Measurements as low as 1 PPM WPI have been measured. The response of the FluorLite to diluted skim milk is shown in Figure 3. The FluorLite is totally controlled by the plant PLC.

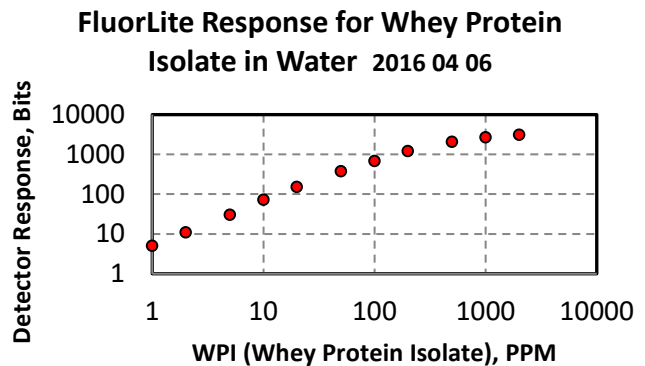


Fig. 2. Response of the FluorLite sensor to WPI concentration in water.

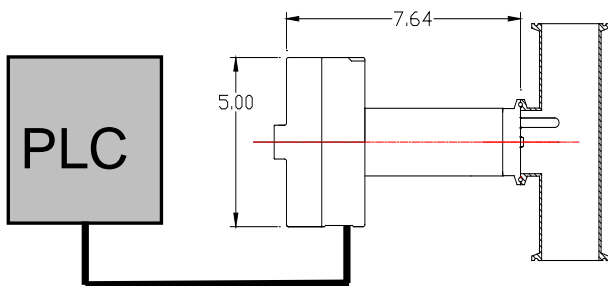


Fig. 4. The FluorLite sensor connects direct to a PLC for 24V power, digital trigger signal, and 4-20 mA measurement.

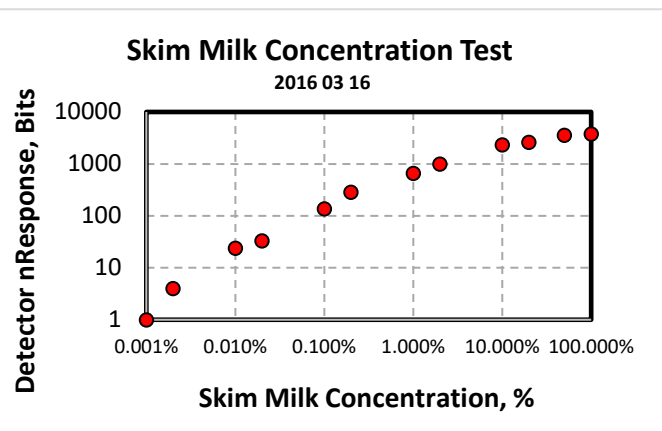


Fig. 3. Response of the FluorLite sensor to WPI concentration in water.