

DIWICON-F DW 194 UV

EXPLOSION PROOF UV LIQUID PHASE SENSOR

OVERVIEW

The DW 194 UV Liquid Interface Detection Transmitter makes use of high intensity Ultra Violet LEDs to detect, with a high degree of sensitivity, the changes in composition of liquids passing through it. Because it uses UV light as opposed to visible light, it is effective in detecting interfaces even in liquids that are colorless in the visible spectrum.

CHARACTERISTICS

- Three different UV sources
- High sensitivity resolution
- Explosion proof rating: IIC G EEx d IIC T5

DESIGN

- Operational temperature range: -25°C to +60°C
- Protection: IP67 (IEC 529 conform)



APPLICATION

One of the most economical ways to transport liquid products is through pipelines. The DW 194 UV further helps to maximize the efficiency of multi-product pipelines by instantly and precisely detecting the start and end of interfaces between two liquids.

TECHNICAL DATA

General Features

Power supply:	24 V DC
Current:	50 ± 5 mA
Output performance:	1.02 to 1.32 W
Operational Temperature::	-25°C to +60°C
Power capacity:	-40°C to +80°C
Humidity:	5 to 95 RH%
Dimensions (L×W×H):	400×400×300 mm
Protection:	IEC529 conform IP67

Communication Features

Communication output:	serial RS 422
Communication cable type:	HELUKABEL, DATAPUR-C
Communication cable connection:	M25x1,5 opening for cable
Power cable connection:	M20x1,5 opening for cable
Technological pipe size:	DN 25 mm
Karima standard:	DIN 2636

OPERATION

The operation of the interface sensor is based on the tendency of a liquid to absorb specific light wavelengths. The wavelength sensitivity of the light sensors ranges from 200 nm to 400 nm. The color sensor's transmitter uses one blue reference light source and three Ultra Violet light sources. These are each beamed individually through the liquid. The UV source wavelengths used depends on the types of liquids to be measured.

The sensor on the other side, senses the intensity with which the given wavelength passes through the column of liquid. The change in intensity of the individual wavelengths in comparison to the reference light indicates the type of liquid or the degree of interface.

Due to the device's high sensitivity, it is able to instantly detect even the smallest changes in composition indicating the arrival of a liquid interface.

Due to the device's fast reaction time measurement results are continuous and real-time.

The design of the measurement cell does not disturb the qualities (dynamics, pressure, temperature, chemical effects) of the liquid passing through it.

The wavelength information delivered should be averaged depending on the quality of the liquid.

CALIBRATION

The device does not require special calibration. The software automatically performs the necessary calibration operations wavelength detection.

