

## In-flow Density and Viscosity Meter DC-500



### Advantages:

- Wide application spectrum;
- Accurate density and temperature measurement in seconds;
- Viscosity measurements;
- Wide operating temperature range;
- Straight through flow;
- Automatic temperature compensation;
- Data transfer to PC or controller TDC-5;
- Measures any liquid with viscosity up to 100cSt;
- Easily ties into production process;
- Flexible results management;
- Compact and lightweight design.

### Applications:

- Crude oil and all petroleum products;
- Liquefied petroleum gases (LPG);
- Food products & beverages;
- Spirits;
- Cosmetics and pharmaceuticals;
- Chemicals.

### Sensor Specifications

Performances		Parameters
<b>Density range</b>		0.4200 g/cm <sup>3</sup> - 1.6000 g/cm <sup>3</sup>
<b>Temperature range</b>		- 40 - +85 °C
<b>Accuracy</b>	Density	± 0.0005 g/cm <sup>3</sup>
	Temperature	± 0.5 °C
<b>Resolution</b>	Density	± 0.0001 g/cm <sup>3</sup>
	Temperature	± 0.1 °C
<b>Ambient temperature</b>		- 40 - +85 °C
<b>Kinematic viscosity</b>		Up to 100 cSt
<b>Temperature compensation</b>		Automatic
<b>Environmental protection</b>		IP68
<b>Contact surface material</b>		Stainless steel
<b>Power supply</b>		From 6.5 to 15 VDC
<b>Diameter</b>		25 mm or 50 mm
<b>Liquid pressure</b>		Up to 913 Psi (63 Bar)
<b>Data transfer</b>		RS232, RS485, 4-20 mA
<b>Safety approval</b>		EEx ia IIC T6
<b>Dimensions</b>	Height	198 mm - 272 mm
	Length	202 mm - 312 mm
<b>Weight</b>		8.0 kg - 12.5 kg



In-flow Density Meter is designed to provide wide application range for a variety of **liquid products** from LPG and petroleum to foods and beverages.

**Resonant method** provides precise density and viscosity values in seconds. Built-in temperature sensor allows temperature compensation and accurate temperature measurements.

**Economical and easy to operate**, its **rugged design accommodates high-pressure conditions**.

DC-500 affords two ways of obtained data processing:

- **Windows®-based** software allows data transfer to PC and simplifies operation for personnel;

- Combined with controller TDC-5 it creates a **modern process managing system**, which can operate with different **executive mechanisms** via three included relay outputs.

Thanks to its special option, DC-500 allows you to make **kinematic viscosity (KV) measurements** of the liquid's flow. It is easy to calculate a dynamic viscosity (**DV**), using the obtained results of density ( ) and kinematic viscosity (**KV**) by a standard formula

$$DV = KV \cdot \rho$$

Connected to TDC-5 controller or PC it is made to discharge you from Dynamic Viscosity calculation. This parameter is calculated automatically.

# Controller for the DC-series sensors TDC-5



- Automatic temperature compensation
- Digital/graphic display with backlight
- Values readout units
- Automatic zero adjustment
- No data loss when switched OFF
- Tied with DC-series sensors
- Automates your technological process
- Great manager
- Easy to operate



The controller is modern, microprocessor based instrument made as a management function for the DC series density sensors. Equipped with three relay outputs and combined with computer it allows you to automate and control technological process.

## Controller Specifications

Performances		Parameters
<b>AC Power supply</b>		120/240 VAC, 50/60 Hz
	Range	96 - 256 VAC
<b>Power consumption</b>	Range	10 VA
<b>DC Power supply:</b>		16 - 36 VDC
<b>Display resolution:</b>	Density	0.0001 g/cm <sup>3</sup>
	Temperature	0.1 °C, 0.1 °F
<b>Analog output</b>		Isolated 4 - 20 mA, direct or reverse-acting, configurable across full range
<b>ALARM</b>		Indication, relay, the output with programmable value of current in the range 4 - 20 mA. The mode of ALARM may be switched off.
<b>Combined with computer</b>		IRDA, RS485
<b>Relay outputs:</b>	Contact rating (max) AC	100 VA, 240 VAC, 3A
	DC	50 W, 24 VDC, 3A
<b>Maximum sensor cable length</b>		Up to 2000 m without preamplifier
<b>Turn on time</b>		2 sec. typical, 4 sec. max.
<b>Housing</b>		IP67 aluminum alloy
<b>Dimensions</b>		185 x 125 x 65 mm
<b>Weight</b>		1.5 kg

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