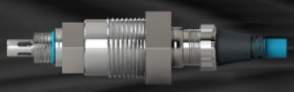
Fuel Quality Sensor DVD

Fuel quality analisys and product identification

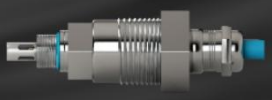
- Fuel Density ρ (kg/m³)
- Fuel Viscosity μ (cp)
- Fuel Dielectric constant ε
- Temperature (°C)
- Level and water interface (mm) with multi-parametric calculation

DVD description

Fuel quality sensor DVD is an integrated TUNING FORK sensor that will directly and simultaneously measure the viscosity, density, dielectric constant, temperature of fuels. Relying on patented tuning fork technology, the sensor monitors the direct and dynamic relationship between multiple physical properties to determine the quality, condition and contaminant loading of fuels such as diesel biodiesel, gasoline, Jet fuel, kerosene, biodiesel concentration and urea quality.
The multi-parametric analysis capability improves fluid characterization algorithms. The BS DVD provides in-line monitoring of fluids for a wide range of applications including fuel tanks, process lines and pressurized high flow conduits. A digital serial compliant protocol provides easy to connect interface to Consoles controller.



Circular connector version



Cable gland version

DVD features

- Patented Tuning Fork Technology with high accuracy
- Static and direct measurement, no moving parts, resistant to turbulence
- No dead zone, full range level measurement
- Rugged construction for high pressure and high flow environments
- Proprietary corrosion and contaminant resistant coating for wetted parts
- On-board microprocessor for real-time data analysis
- Highly reliable and long term stability
- ATEX Compliance, suitable for 0 zone.
  CEC 13 ATEX 052 Ⓔx II 1 G Ex ma ia IIC T4/T3 Ga
  ATEX compliance suitable for 0 zone ("stand alone" version):
  CEC 13 ATEX 051 Ⓔx II 1 G Ex ma IIC T5/T3 Ga

DVD applications

- Density solution for retail and depots automation
- Real time fuel quality
- Biodiesel in diesel concentration
- Anti-crossover fuels detection
- Sump and interstitial sensors with liquid discriminating (empty status / type of fuel / water).

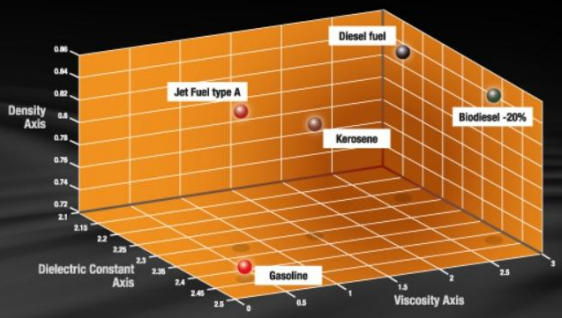
Fuel types

Simultaneous measurement with DVD sensor for three physical properties enables absolute fuel fingerprint analysis to confirm fuel type.

Certification

DVD integrated XMT probe:
Ⓔx II 1 G Ex ma ia IIC T4/T3 Ga IP66/68 DVD+XMT

Stand-alone process in-line:
Ⓔx II 1 G Ex ma IIC T5/T3 Ga IP66/68



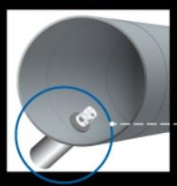
DVD PERFORMANCE SPECS MAXIMUM RATINGS

Ratings	Symbol	Value	Unit
Supply Voltage (Peak)	Vcc	12	Vdc
Supply Current (steady state)	Iavg	55	mA
Ambient Operating Temperature (electronics)	Te	-40 +125	°C
Ambient Operating Temperature (fluid)	Tf	-40 +150	°C
Storage Temperature** Tstg -50 to +150 °C	Tstg	-50 +150	°C
Input Current @12Vdc (In rush)	Imax	<200	-
Operating Pressure	P	25	Bars
Vibration (Peak)		20	Grms

DVD METROLOGICAL CHARACTERISTICS MULTI-PARAMETRIC MEASUREMENT

Multi-Parametric Measurement Ranges	Symbol	Min	Typ	Max	Unit
Density	ρ	0.70	0.80	0.85	g/ml
Density Accuracy		± 2	± 2	± 2	Kg/m³
Viscosity (dynamic)	μ	0,5	15	30	mPa-s (cP)
Viscosity (dynamic) Accuracy for viscosity < 10 mPa-s (cP)			± 0,2		mPa-s (cP)
Dielectric Constant	Ɛ	1,5	2,0	4,0	-
Dielectric Constant Accuracy		-3	± 1	+3	% Value
Temperature Accuracy	T		±0.2		°C
Fluid Temperature	T	10		40	°C

Installations



In-line, continuous process density monitoring for pipe installations

In tank density meter up to 20 meters