



Grown...to meet challenges

SAPCON INSTRUMENTS PVT. LTD.

30+ Years in Process Control Instrumentation

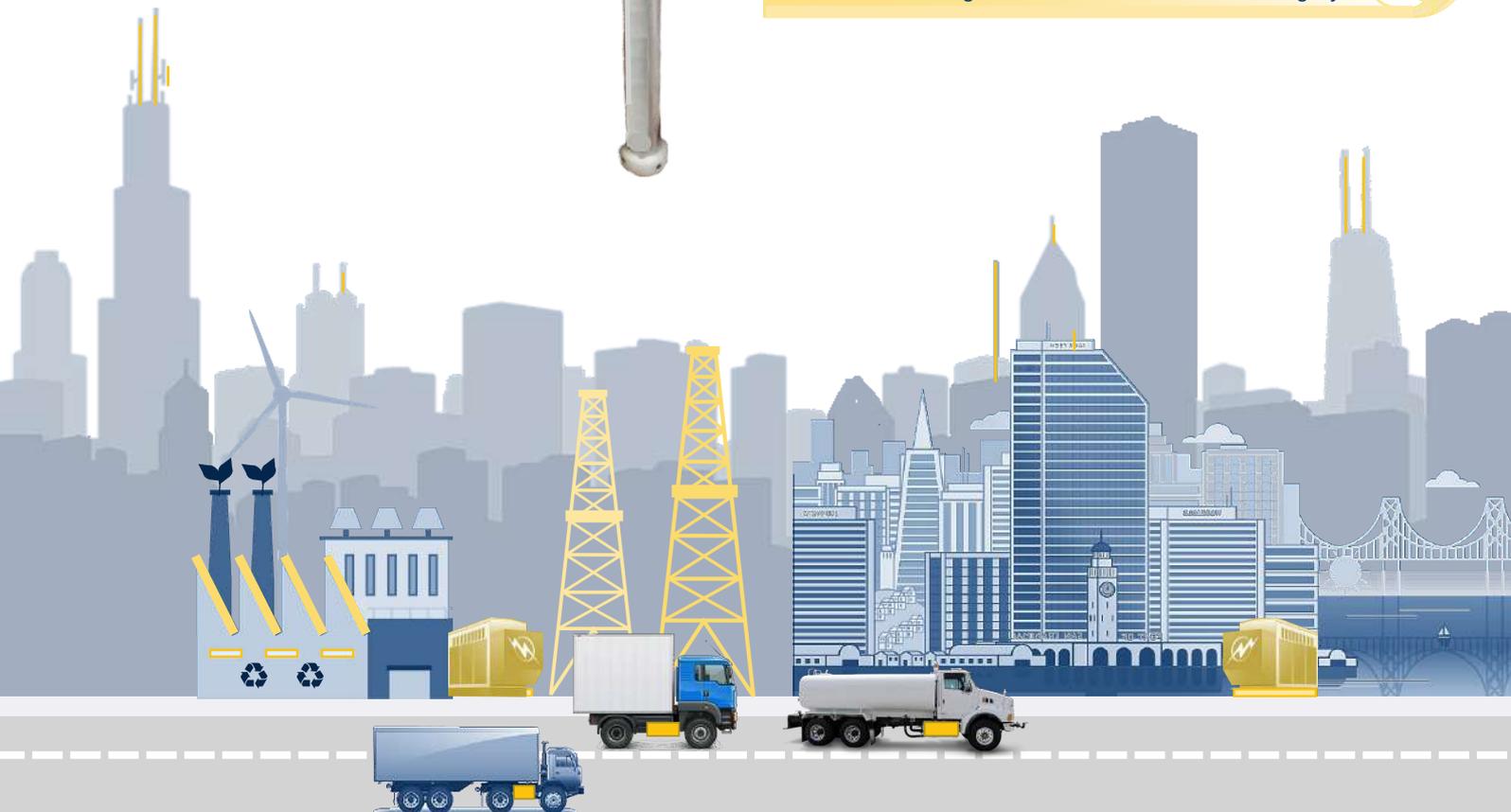
An ISO 22000 company



Capvel - FUEL

Volumetric Fuel Level Sensor

For Fuel Monitoring in DG Sets and Vehicle Tracking Systems





Capvel-FUEL

Volumetric Fuel Level Sensor



With the cost of fuel increasing by the hour, it has become inevitable to use fuel judiciously and completely stop its misuse, pilferage and wastage. Fuel monitoring has thus become an integral part of sectors like fleet management, vehicle tracking, civil construction, telecommunications, oil and gas, etc. Fuel monitoring can help in optimizing operational costs, managing assets efficiently and improving profitability. Using an experience of 30 years in level instrumentation, SAPCON has launched Capvel-FUEL, a volumetric fuel level sensor to address the problem of fuel management. Capvel-FUEL is a compact level transmitter which works on the principle of capacitance. It comes with a step-by-step guide in the form of a desktop application, Capvel-FUEL-Connect. Capvel-FUEL-Connect is intuitive and easy to use and can help configure and calibrate the sensor in a few button clicks.



Level to Volume Configuration

Choose among four different output options: Level in Percentage, Level in Voltage, Level in Height and Volume in Millilitres. Capvel-FUEL can convert the measured level into volume, according to the shape of tank.



Application Guided Installation

Use a step-by-step desktop application that will comfortably take you through the entire process of calibration. Aided by pictures, this user-friendly app will save time and make sure you do it right the first time.



Save and Reuse Tank Configuration Profiles

Skip configuring your entire fleet of trucks / DG-sets every time you have to calibrate Capvel-FUEL. Simply save and reuse a common profile in the application for all tanks with the exact same dimensions and speed up the process of calibration.



On Site Adjustable Probe Length

We understand that different applications have different requirements. Adjust the length of your Capvel-FUEL using the "Cutable and Extensible" feature of its probe.



Convenient Outputs for Remote Monitoring Systems

RS-485 modbus RTU and RS-232 digital outputs. Additionally, its analog output can be directly used for pre-installed conventional fuel gauge. Sensor is ready for IOT when you are.



IP-67 Certification, RoHS Compliance

Capvel-FUEL is less prone to accidental damages, and thus guarantees a longer life.



Algorithm for Turbulence Compensation

Rugged environments don't affect the measurement of Capvel-FUEL. A special algorithm embedded in the sensor compensates for the effect of turbulence and allows setting up of different degrees of turbulence tolerance.



Special Features





Technical Specification



Power supply

- ▶ DC Supply: 7-30 V DC
- ▶ Power consumption (maximum): 130 mA at 7 V DC



Output

- ▶ Voltage Output: 0.5 - 4.5 V / 0.1 - 4.9 V adjustable
- ▶ Digital output: RS-485 Modbus-RTU, ASCII
RS-232 ASCII
- ▶ Analog Fuel Meter Compatible Output



Measurement Specification

- ▶ Accuracy: +/- 1% FSL
- ▶ Operating Temperature: -20°C to 70°C
- ▶ Response Time: 1 sec to 5 sec (dynamic)
- ▶ Resolution: 2mm
- ▶ Indication: Bi-color LED



Application Material

- ▶ Oil, diesel, kerosene, gasoline, biodiesel:
Only for liquids
(Not applicable in conductive materials)



Certifications & Approvals

- ▶ IP-67 Certification
- ▶ ROHS Compliant

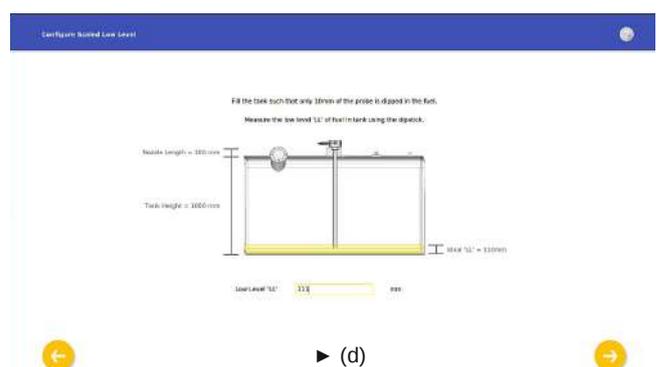
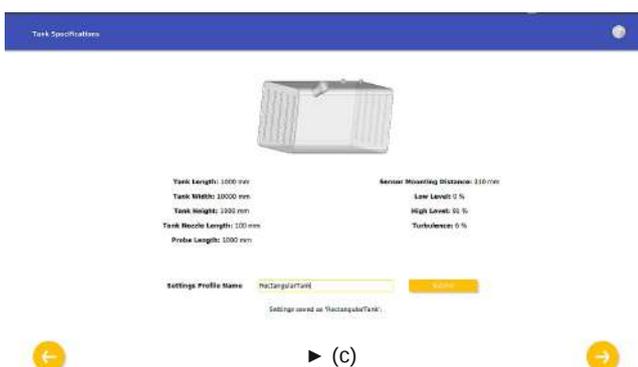
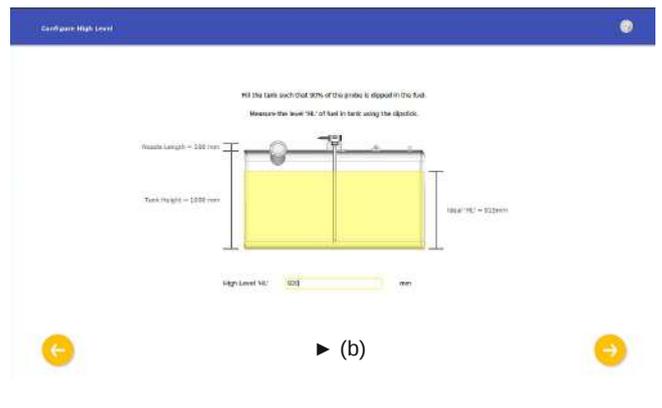
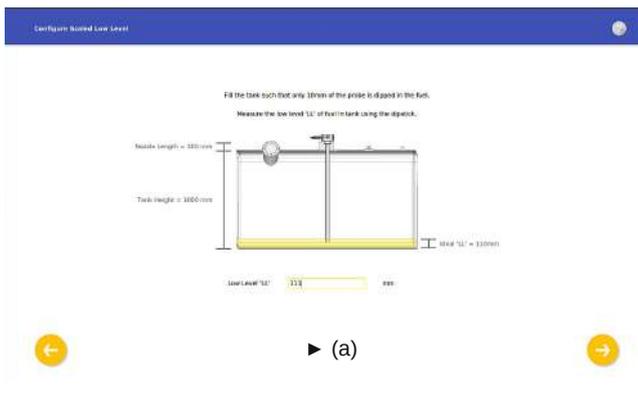


Construction

- ▶ Housing and Probe Material: Aluminium
- ▶ Probe Length: 100 - 1500mm (standard length)
- ▶ Insulation: PTFE, Delrin
- ▶ Mounting: SAE 5-bolt pattern & 1.5" BSP thread
& optional SAE 6-bolt flange

Desktop App Accessibility

Leverage Capvel-FUEL's precise fuel level measurement by using a step-by-step desktop application guide. Simple button clicks make calibration and installation simpler and remove the need to memorize complicated hardware button functions. Once the tank configurations are loaded, the application presents steps to calibrate high and low levels of fuel (See Figures (a.) and (b.)). Tank configurations can also be saved and reused for other similar tanks to expedite calibration (See Figure (c.)). Finally, an "all-in-one" window displays the current level of fuel in four output formats (mm, ml, % and V) along with all other installation related specifications (See Figure (d.)). This window can be used to monitor fuel level and to remotely debug sensor performance.



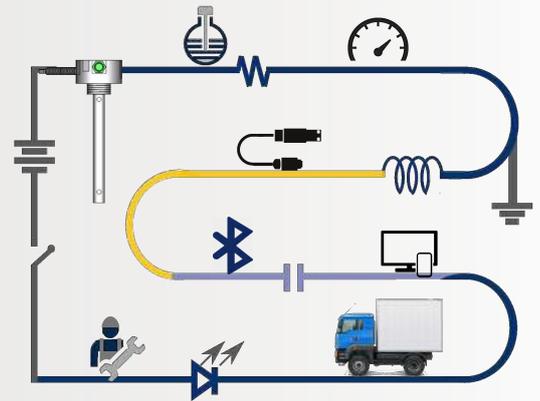


Accessories

- ▶ Mounting plate for tank (5-SAE) - Aluminium
- ▶ Wisher with rubber for tank - MS / SS
- ▶ M5 screw* 10 (5-SAE) for mounting to tank (self tapping) - MS/SS
- ▶ Rubber gasket for mounting plate - Neoprene
- ▶ Rubber gasket for housing to mounting plate - Neoprene
- ▶ Capvel-FUEL Calibrator

The Sapcon Advantages

- ▶ Prompt in Delivering Solutions
- ▶ Ease for User, Empowering the Buyer
- ▶ Customer Support
- ▶ Inhouse R&D, Masters in Customization
- ▶ Customer Orientation
- ▶ 30+ years in Process Control Instrumentation



Capvel-FUEL Calibrator

Capvel-FUEL offers two modes of calibration: 'Quick' and 'Comprehensive'. 'Quick Calibration' sets High and Low calibration points for the sensor using a magnetic key. 'Comprehensive Calibration' is done using Capvel-FUEL-Connect, a desktop application that comes with Capvel-FUEL. Using this application, current level of tank can be monitored through the application's user-interface. Furthermore, tank configurations can be loaded and saved for future reuse.

To support both modes of calibration, Capvel-FUEL comes with a 'Calibrator' that can switch between these modes using a switch. When switched to operate in 'Quick Calibration' mode, the calibrator is powered using its internal battery. In 'Comprehensive Calibration' mode, the calibrator connects the sensor with the desktop using a USB cable and operates accordingly.

The 'Calibrator' houses three LED's that indicate the operational status of Capvel-FUEL.

Pan India Network

- ▶ Delhi 98105 44450
- ▶ Chennai 90030 40160
- ▶ Kolkata 98314 99998
- ▶ Mumbai 93246 12687
- ▶ Surat 93225 15607
- ▶ Vadodara 98250 60678
- ▶ Ahmedabad 98250 75840
- ▶ Pune 98900 77173
- ▶ Nashik 94227 58366
- ▶ Kolhapur 94220 45207
- ▶ Bangalore 80850 77767
- ▶ Hyderabad 93923 55001
- ▶ Coimbatore 90030 40180

Subset of our Clientele

- ▶ Hindustan Unilever Ltd
- ▶ Ambuja Cement
- ▶ ACC Limited
- ▶ UltraTech Cement
- ▶ Reliance Industries Ltd
- ▶ Parle
- ▶ Tata Chemicals Ltd
- ▶ NTPC
- ▶ NALCO
- ▶ SAIL
- ▶ JSW Steel
- ▶ Lanxess Chemicals
- ▶ Hindalco
- ▶ Surat Municipal Corporation
- ▶ Murugappa
- ▶ Hindustan Zinc Ltd
- ▶ Nestle
- ▶ Buhler India
- ▶ Fowler Westrup
- ▶ RB Agro
- ▶ KBL
- ▶ Dawat Food
- ▶ Shakti Bhog
- ▶ Sagar Cement
- ▶ Dalmia Group
- ▶ Birla Corporation
- ▶ NDDDB
- ▶ IDMC
- ▶ Parag Milk
- ▶ Mahananda Dairy
- ▶ Malganga Dairy
- ▶ R.B. Aggarwala
- ▶ Hinduja Foundry
- ▶ JP Foundry
- ▶ Ranba Casting
- ▶ Sound Casting
- ▶ Syngenta Fertilizers
- ▶ Greenstar Fertilizers
- ▶ Coromandal Fertilizers

Connect to us

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