

# SLEEGERS

## Electronic Level Sensors

### CMT tank meter Sentronic

The Advanced Sentronic is the latest version of the standard Sentronic CMT tank meter. The capacitive sensor, which has proven itself in the course of time, is now provided with an “intelligent” measuring converter based on a micro controller. This unit is approved to EN67 at -40C.



The Sentronic type sensors have been specially designed for liquefied gasses like propane, butane or LPG. The sensor doesn't have any moving parts and the measuring is based on the capacitance principle. The capacity changes according to the level in the tank. The built in converter transforms this capacitance into an electronic signal. This signal can be further processed or used to directly operate a display or read-out.

The design of both the mechanical and electronic constructions is such that an optimal level of safety and reliability is guaranteed at all times. A special construction, which can resist extreme differences in pressure, conducts the signal from the pressure vessel to the converter. The electronics, together with the connection cable, have been cast in a PU-resin.

The adjustments can be performed fully electronically. A special calibration unit must be connected to the sensor; the fourth (yellow) wire is used to communicate with the sensor. This must be done at the full-level; the output will then be set to the as 100%-defined signal. In this manner the end user can fine tune the sensor response to his exact vehicle configuration. Optionally the sensors can be fine-adjusted already at the factory.

### A summary of the typical characteristics:

- Electronic adjustment, so no more potentiometers and manual adjustments
- Univocal and reproducible characteristics. The reproducibility (under identical circumstances) is very good (> 99%), the absolute accuracy depends on a lot of parameters like calibration, temperature, mixture, etc.
- Standard output voltage is 1-5V (empty - full)
- Possibility for curve compensation. The level measurement is linear; the output could be converted according to the shape of the tank.
- Variable damping. An increased response time will reduce fluctuations of the signal caused by the moving liquid.
- Adjustable through a special Calibrator or PC-interface

Furthermore, the design is flexible in a way such that the output can be configured to give other values such as different voltages, or resistances to work with North American vehicle. These would be an option at an extra cost.

Further (electric) basic specifications are:

1. Operating voltage (12V-battery) 9-15V
2. Operating current 6-20mA
3. typ. analogue output (empty - full) 1-5V (+/- 5%)
4. typ. output resistance  $R_o$  appr. 1kOhm
5. automotive/industrial temp. Range  $-40^{\circ}\text{C} - +85^{\circ}\text{C}$
6. Protected against the increase and over-voltage on 12V-supply network
7. protected against improper connections (of all wires)

Wiring:

1. White: +12V (externally fused at T100mA)
2. Brown: minus or common (ground)
3. Green: output signal

The fourth, yellow wire is used for the communications with the Calibrator and/or PC-interface, normally it's not used.