

## TS-98 Ultrasonic Level Meter

### ◆ *Special Characteristics*

The TS-98 Ultrasonic Level Meter is a new type of instrument for measuring the amount of solid or liquid material in a container. The instrument uses a type of non-contact measurement which combines ultrasonic wave technology and several other types of technology. The measurement system is based on the principles of reflected ultrasonic waves used to detect the distance between the surface of the material in the container and the detector. Then the instrument uses this distance to calculate the height of the material or the percentage of the container that the material occupies.

The Meter also features a temperature sensor which measures the temperature of the material in the container. Based on the temperature of the material, the Meter can then make adjustments in the ultrasonic wave speed, thus eliminating any errors that may occur due to the temperature, and increasing the precision of the instrument. It uses a high- powered detector head, large-scale integrated circuitry and TGC (Time Gain Control) circuitry, so that the detection distance can be anywhere from a few meters to 50 meters. It also uses dynamic blind zone technology. When the material is getting close to the top of the the container, the Meter will automatically decrease the pulse width of the ultrasonic waves, thus decreasing the blind zone to within 0.5 meters. Another feature of the Meter is its "empty container threshold value curve" technology. This technology allows the Meter to make corrections for any objects within the material such as mixers and other components of the container.

The instrument is compsed of a ultrasonic detector and a secondary display meter. The secondary display meter features a 6-digit LED numerical display and four function keys which each control a number of different functions of the instrument. The Meter also has three different output ports allowing for effective computer management of the whole system.

### ◆ *Main Technological Data*

#### *1 Largest detection distance*

(1)13K Detector	Liquid 50m	Solid 20m
(2)21K Detector	Liquid 20m	Solid 10m

#### *2 Detector Wave Angle*

(1)13K Detector	approx. 7°
(2)21K Detector	approx. 9°

<i>3 Precision</i>	Better than 1%
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<i>4 Resolving Rate</i>	0.1% or 8mm
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<i>5 Dynamic Blind Zone</i>	0.5~1.5m Automatic Adjustment
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<i>6 Display Output</i>	6-digit LED Display
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|---|---|
| (1)Height of Material in Container            | 0~10~50m                                  |
| (2)% of Container Occupied by Material        | xx% (auto display)                        |
| (3)Distance of Material from Top of Container | xx. xm (auto display)                     |
| (4)High/Low Level Warning                     | xx. xm (according to user's requirements) |

### *7 Display Output Ports*

- (1)Mini Printer Port
- (2)Analog Quantity (4—20mA) Port
- (3)Serial Communications Port

### *8 Conditions for Use*

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|------------------------|-------|
| (1)Working Temperature | 0~40℃ |
| (2)Working Humidity    | ≤95%  |

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| <i>9 Electric Supply</i> | AC 220V±15% 50Hz±1% Power Consumption 15W |
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