

Fuel Level Gauges
(for Light oil, for Gasoline/ Alcohol mixed gasoline)

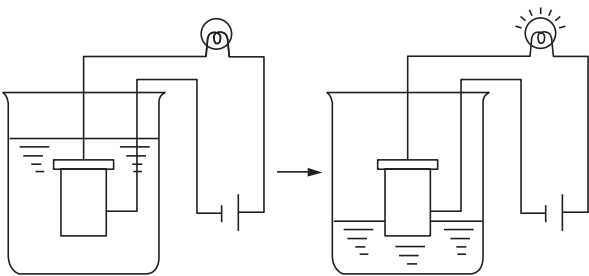
Type: ERTLГ



As a level gauge for inflammable liquid used as fuel for automobiles and other industrial equipment, this detects the liquid level electrically by contactless method with application of thermistor features, and indication by lamp.

Operating Principle

While thermistor is immersed in a liquid, it has difficulties to be self-exothermic due to heat discharge to the liquid. Accordingly, the lamp is not turned on because of high resistance value and small current flow. When the thermistor is exposed to air due to decrease of the liquid, it is abruptly heated, thus decreasing the resistance value. At this time, large current flows to turn the lamp on.



Features

- Small and simple construction
- Secure operation against vibration
- Contactless construction securing long service life with
- ELV compliant

Recommended Applications

- Level detection of alcohol mixed gasoline for automobiles (12 VDC)
- Level detection of fuel for diesel engine or industrial equipment using light oil

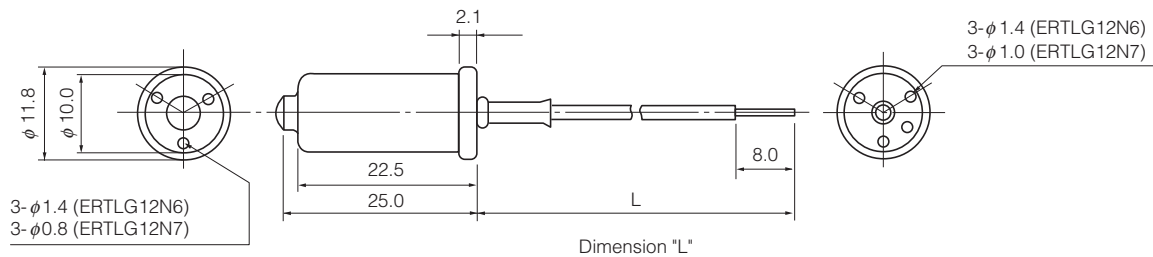
Explanation of Part Numbers

1	2	3	4	5	6	7	8	9	10	11	12
E	R	T	L	G	1	2					
Product Code		Product			Supply Voltage		Ground		Applications		Option
ERT	NTC Thermistors	LG	Fuel Level Gauges	12	12 VDC	N	⊖ Ground	6	Light oil		
						P	⊕ Ground	7	Alcohol mixed gasoline		

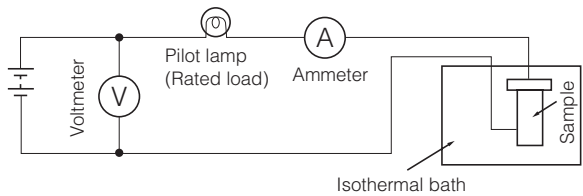
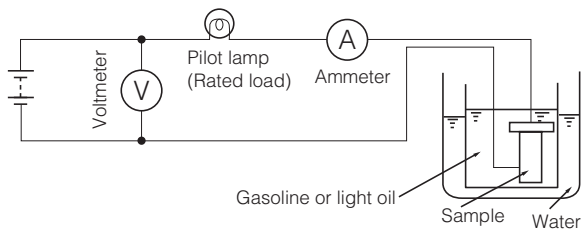
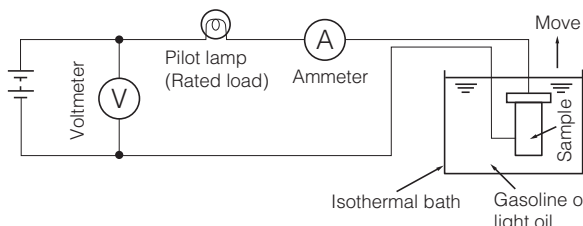
Ratings and Characteristics

Characteristics	Specifications	
	ERTLG12N6□□	ERTLG12N7□□
Rated Voltage	12 VDC	12 VDC
Operating Voltage Range	11 to 15 VDC	11 to 15 VDC
Operating Temperature Range	−10 to +60 °C	−10 to +60 °C
Rated Load	12 V, 3.4 W lamp	12 V, 3.4 W lamp
Lamp-“ON” Current	135 mA min.	135 mA min.
Lamp-“OFF” Current	80 mA max.	60 mA max.
Detection Time	400 seconds max.	300 seconds max.
Applicable Liquid	Light oil	Gasoline/Alcohol mixed gasoline

Dimensions in mm (not to scale)

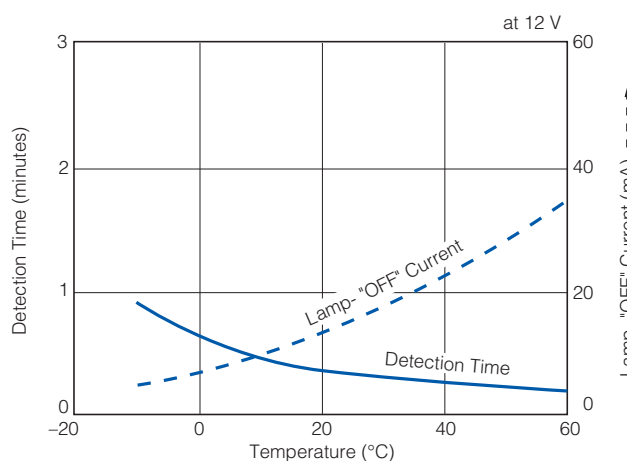


Performance Characteristics (Fuel Level Gauges)

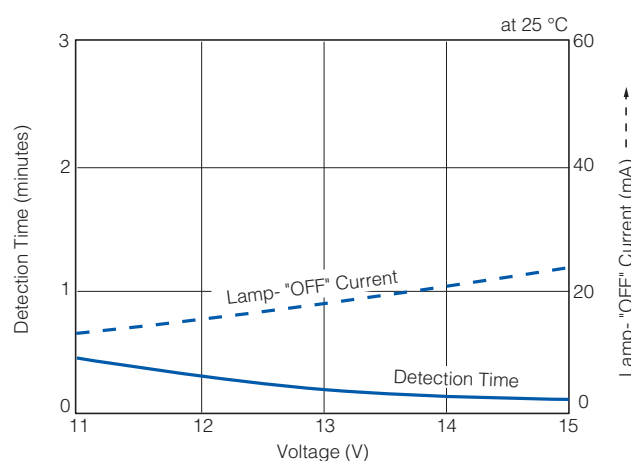
Item	Test Method	Specifications
“ON” Characteristic	<p>Measure the time required for the circuit current to reach the specified lamp-“ON” current, when the minimum operating voltage (tolerance$^{+0.1}_{-0.2}$ V) is applied to the test circuit below with the sample kept in the still air of the minimum operating temperature (tolerance$^{+0.5}_{-1.0}$ °C).</p> 	To meet the specified detection time and lamp-“ON” current
“OFF” Characteristic	<p>Measure the saturation current in the test circuit below when the maximum operating voltage (tolerance$^{+0.2}_{-0.1}$ V) is applied to the circuit with the sample immersed in the still light oil or gasoline of the maximum operating temperature (tolerance$^{+1.0}_{-0.5}$ °C).</p> 	To meet the specified lamp-“OFF” current
Accuracy of Detection	<p>Apply the standard voltage to the test circuit below and move the sample from the liquid to the air of 25 °C at the speed of 1 mm/min, and measure the position of the sample when the lamp turns on.</p> 	The specified position : ±2 mm

Typical Characteristics

Temperature Characteristics



Voltage Characteristics



Fuel Level Gauges

Handling Precautions

Please follow "Safety Precautions" and "Application Notes" as misuse of the Fuel Level Gauge may cause a failure of the gauge, damages to relating devices, ignition, explosion, burns and injuries.

1. ⚠ Safety Precautions

1.1 Prohibition of Modification

The Fuel Level Gauge has an explosion-proof structure. Do not modify dimensions/shapes of the gauge as such change carries a high risk and deteriorates the structure.

1.2 Applicable Fuels

Each part number of the Fuel Level Gauge indicates which fuel should be used for the gauge. Operation with improper fuel may deteriorate the characteristics, such as explosion proof, performance and endurance, of the gauge.

1.3 Rated Range of Use

Do not use the Fuel Level Gauge beyond all rated ranges set for each gauge.

2. Application Notes

2.1 Drop Impact

Do not use the Fuel Level Gauge if once dropped. Impressing a strong force may damage the gauge. Do not impress an extreme pulling/bending force beyond the rated range upon lead wires of the gauge.

2.2 Environmental Conditions

Do not use or store the Fuel Level Gauge in the following conditions :

- a) In an environment where these products are directly exposed to water or salty water
- b) In direct sunlight or an environment where these products cause dew condensation
- c) In corrosive atmosphere such as hydrogen sulfide, sulfurous acid, chlorine and ammonia