

# OPTICAL LIQUID LEVEL DETECTOR

## Model No. OLS-1003

### SPECIFICATIONS

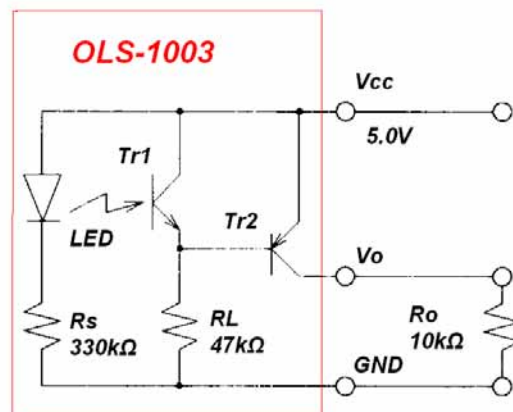
1. Model No. OLS-1003
2. External dimension (For the details, see below drawing.)
  - Housing Resin molded
  - Dimension 9.5 x 42H
  - Structure Photo reflector with prism
  - Emitter: Red LED
  - Detector: Photo-transistor
  - Output: Switching transistor



3. Maximum Rating ( $T_a=25^\circ\text{C}$ )

Parameter		Symbol	Ratings	Unit
Emitter	Forward Current	$I_F$	50	mA
	Reverse Voltage	$V_R$	5	V
	Power dissipation	$P_D$	70	mW
Detector (TR1)	Collector-to-emitter Voltage	$V_{CEO}$	20	V
	Emitter-to-collector Voltage	$V_{ECO}$	5	V
	Collector current	$I_C$	20	mA
	Collector power dissipation	$P_C$	60	mW
Operating condition	Temperature	$T_{OPR}$	-20~+60	
	Humidity		5~95	%
Storage condition	Temperature	$T_{STG}$	-30~+70	
	Humidity		5~95	%

### Measuring Circuit



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### 4. Operating Characteristics (Ta=25 )

Parameter		Symbol	Condition	Min	Typ	Max	Unit
Output	Voltage in the air*	V <sub>AH</sub>	V <sub>CC</sub> =5V, R <sub>O</sub> =10k at 0 lx			1.0	V
	Voltage in the liquid**	V <sub>OH</sub>		4.0			V
Maximum Power consumption			V <sub>CC</sub> =5.0V			18	mA

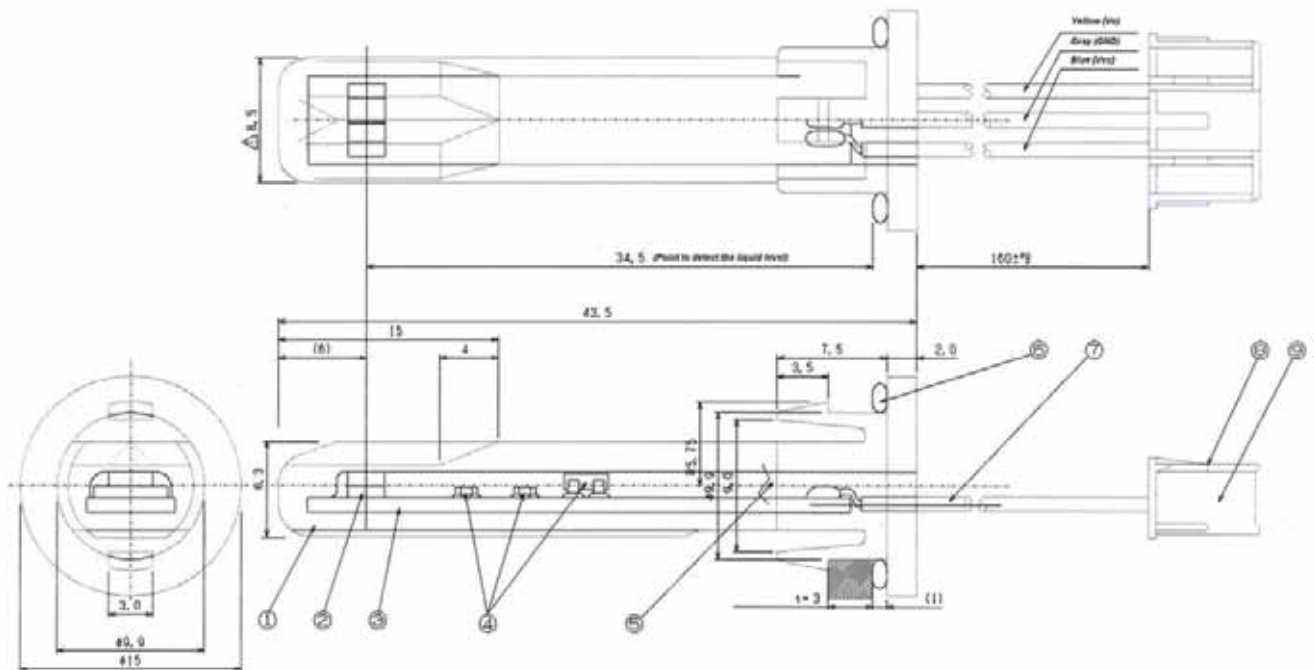
Remarks:

- (1) \* Output voltage in the air in case that OLS-1003 is used as the liquid level sensor
- (2) \*\* The liquid should be "ethyl alcohol".
- (3) The ambient illuminance should be max. 50lx.

### 5. The point to detect the liquid level

- (1) in the liquid: 34 ± 1.5mm from the inserting fixed side.
- (2) in the air: 34 ± 1.5mm from the inserting fixed side.
- (3) The detecting point in the liquid should be min. 0.3mm shorter than the one in the air.

### 6. External Dimension



Case	O-Ring
Photo reflector	Leading wire
PWB	Housing
Resistor, transistor	Contact
Resin	