

# LASER TYPE LEVEL INDICATOR **LASER SERIES**



**Non-contacting type of long span/pinpoint measurement.  
Best suitable for places where it is  
highly difficult or dangerous to measure!!**

**Highly powered laser generates the higher rate of its response and enables pinpoint measurement of a long span up to 30m.**



Sensor



Controller



Longrang Type

## LASER RANG-L

Measuring range up to 30m at the maximum. Besides sensor/control one-unit or separate type meeting the installation site in the plant, flange-fix type, platform-fix type & others for surveillance camera can be designed and manufactured in accordance with each application. It is best suitable for non-contacting measurement at the places where it is highly difficult or dangerous to measure with conventional level meters.

### ■ Features

- Non-contacting measurement up to 30m at the maximum can be possible.
- It is possible to measure by pinpoint at the places where there are many obstructions.
- You can visually observe the measuring spot as it is dotted in red.
- It is possible to measure from outside through an observation window or hole on a tank and so on if any.
- Various optional products to meet customers' needs.

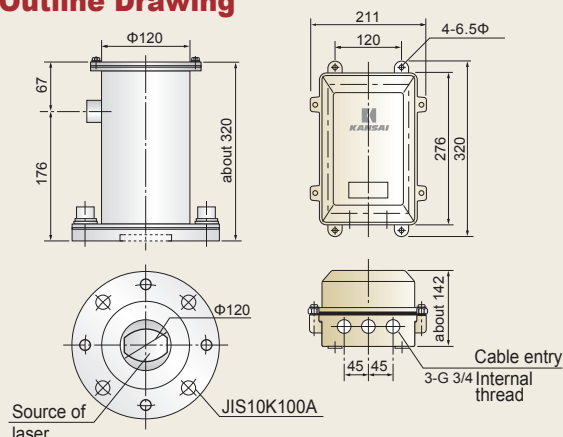
### ■ Applications

- Collision avoidance of an overhead traveling crane.
- To measure the stuff thickness of extruder/winder.
- To measure level of garbage, ash and others in a waste disposal plant.
- Level measurement at crushing and grinding plant.
- To measure food, processed stuffs and others in a non-contact manner.

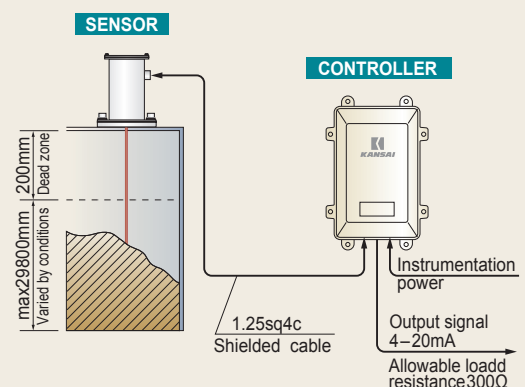
### Standard Specification

- Type :** LASER RANG-L
- Range :** 0.2–30m (varied by conditions)
- Output :** 4–20mA DC Load Resistance below 300Ω
- Temperature :** –10°C to +45°C (No freezing, No condensation)
- Housing Rating :** IP54 equivalent
- Housing Material :** Flange: 304SS Sensor: 304SS Controller: Aluminum mold
- Laser Specification :** Class 2 Semiconductor laser radiation, 620–690nm 0.95mW max
- Power Voltage :** 90–240VAC or 24VDC
- Power Consumption :** 0.34A (at 100VAC)

### Outline Drawing



### Configuration Diagram



**Being compact and light body, it can closely measure a short span up to 10m. No conditioning is needed.**

Class  
2



## LASER RANG-S

Shortrang Type

It is a level meter developed in the pursuit of compact, light and budget-priced model for the purpose of measuring a short span up to 10m. It can be fixed on by a small-bore (G2 thread). It is possible to measure from outside just as Laser Rang-L. It is best suitable for non-contacting measurement at the places where it is highly difficult or dangerous to measure with conventional level meters.

### ■ Features

- Non-contacting measurement up to 10m at the maximum can be possible.
- Besides the advantages of Laser Rang-L, it is compact, light and budget-priced.
- It is possible to measure from outside through an observation window or hole on a tank and so on if any.
- The measuring range is adjusted before shipment, and no other adjustment is needed after wiring/installation.

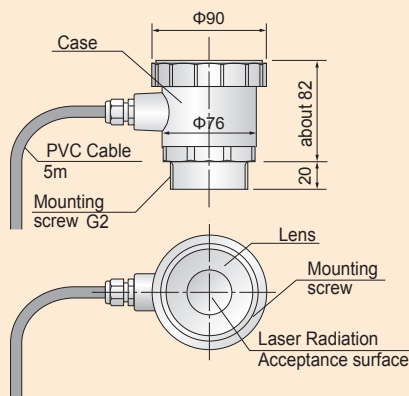
### ■ Applications

- To measure the distance to the face of chromatic object in a tank.
- To measure level in an open vessel with the unit fixed on ceiling.
- Level measurement at crushing and grinding plant.
- To measure food, processed stuffs and others in a non-contacting manner.

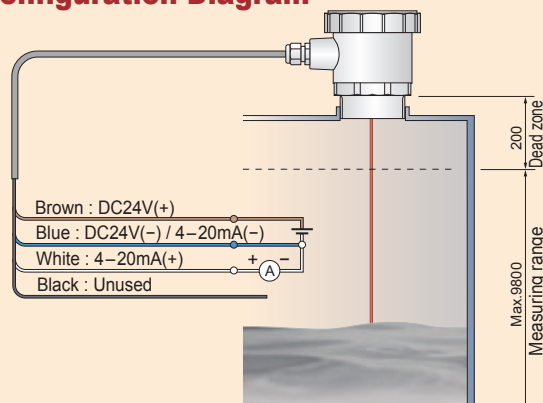
### Standard Specification

- Type :** LASER RANG-S
- Range :** 0.2–10m (varied by conditions)
- Output :** 4–20mA DC Load Resistance below 300Ω
- Cable :** with cable in 5m
- Temperature :** -10°C to +45°C (No freezing, No condensation)
- Housing Rating :** IP43 equivalent
- Housing Material :** PVC
- Laser Specification :** Class 2 Semiconductor laser radiation, 620–690nm 0.95mW max
- Power Voltage :** 24VDC ±10%
- Power Consumption :** 150mA

### Outline Drawing



### Configuration Diagram



**Sensing by pin spot whether the laser is broken or not.  
A distant object by 20m can be detected by millimeter.**



## TK-LASER-TN/RN

It is a level switch utilizing laser as a light source, consisting of two facing units.

The use of the strong laser power by 3A makes it possible to reliably detect in transmitting into such an environment as vapor and dust, whose detection was not easy with conventional photoelectric switches.

Class 3A

### Features

- A pair of facing units can be separated by 20m at the maximum.
- Built-in interlock circuit.
- Built-in delay circuit preventing any glitch.
- Built-in alarm lamp while laser is emitting.

### Applications

- Control the filter cloth position of sludge processor.
- Detecting falling objects from a conveyor belt.
- Control level of crushed papers.

### Standard Specification

Type : TK-LASER-TN/RN

Measuring Range : Distance of two facing units within 20m

Output : 1 SPDT 250VAC 10A  
ON Delay 0.1-10sec variable

Temperature : -10°C to +50°C  
(No freezing, No condensation)

Housing Rating : IP54 equivalent

Housing Material : Case : ADC  
Flange : AC  
Boss, Lightproof pipe:304SS

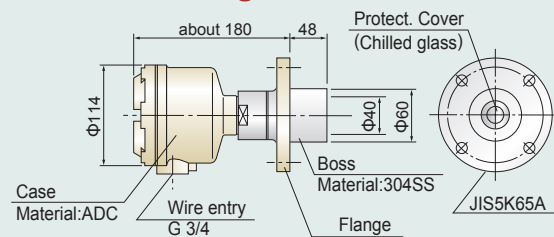
Laser : Class 3A Semiconductor laser

Specification : radiation, below 635nm 5mW

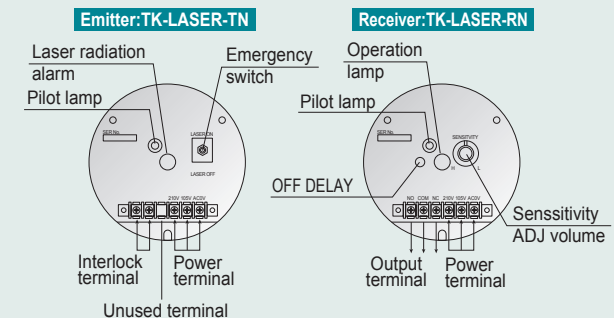
Power Volyage : 105/210VAC ±10%

Power Consumption : TN: 20VA, RN: 10VA

### Outline Drawing



### Configuration Diagram



\*Make sure of the notes on the right in order to safely use  
LASER RANG -L  
LASER RANG -S &  
TK- LASER TN/RN.



- The power density of laser beam is high and may pose a danger to public health.  
Take adequate safety measures.
- Never peer into the lens.  
Taking a long look at laser beam may seriously harm your

### Class of Visible-light Laser (400 - 700nm)

	Class 1	Class 2	Class 3A	Class 3B
Opticer	below 6.8μ W	below 1mW	below 5mW	below 0.5W
Danger	Intrinsically safe in design	Low output laser-safe by turning eyes away	Optical observation into the beam is dangerous.	Visual observation into the beam is dangerous.
Class label	Required	"Caution" label	"Danger" label	"Danger" label

### Line of business

- Rotary Paddle Type Level Switch
- Vibration Type Level Switch
- Swing Type Level Switch
- Acoustic Level Switch
- Capacitance Type Level Switch
- Capacitive Proximity Sensor
- Capacitance Type Level Indicator
- Diaphragm Type Level Switch
- Tiit Switch
- Leak Type Level Switch
- Microwave Type Switch
- Sounding Bob Type Level Indicator
- Flow Switch
- Conductance Type Level Switch
- Float Switch
- Float Type Level Indicator
- Ultrasonic Type Level Indicator
- Equipments For Conveyor Lines
- Dust Monitor System
- Zirconia Oxygen Analyzer
- Laser Type Level Indicator
- RADAR Type Level Indicator
- On-line Sensors for Accurate Liquid Analysis
- Ultrasonic Flow meter

\*Please be sure to read USER'S GUIDE, Installation & Operation Instructions before using the instrument.

\*The specifications herein may be subject to change without advance notice.

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