

# Scanning Laser Range Finder

## UTM-30LX FDA approval

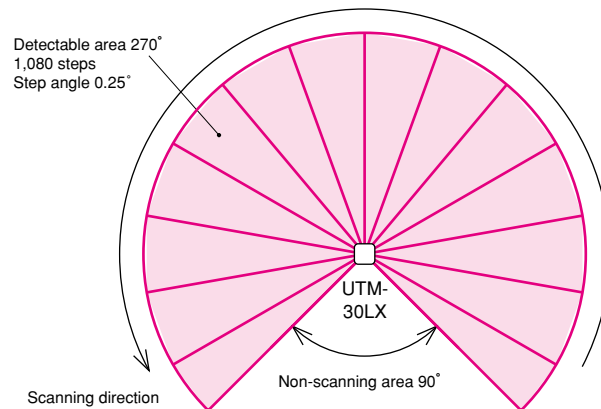
### Long distance scanning 30m!

UTM-30LX is a 2-dimensional laser sensor for measuring the distance to the objects.

- Wide range scanning, 30m and 270° .
- Available for outdoor use because of 100,000lux for ambient illuminance and IP64 for protective structure.
- High-speed response, 25msec.
- 12VDC.



### System structure



Note) The above figure shows the detectable area for white Kent sheet (500mm×500mm). Max.detection distance is 30m. Detection distance may vary with size and object.

### Specifications

Kinds	Data output type (serial type)
Model No.	UTM-30LX
Power source	12VDC $\pm 10\%$
Current consumption	700mA or less (rush current approx.1A)
Light source	Semiconductor laser diode $\lambda = 905\text{nm}$ (FDA approval, Laser safety class 1)
Detectable object	500×500mm white sheet or more
Scanning range	0.1 to 30m
Scanning accuracy	0.1 to 10m: $\pm 30\text{mm}$ , 10 to 30m: $\pm 50\text{mm}^*$
Scanning angle	270°
Resolution	1mm
Angular Resolution	Step angle: approx.0.25° (360° /1,440 steps)
Beam diameter	Approx. $\phi 400\text{mm}$ (at 30m)
Scanning time	25msec/scan
Interface	USB2.0 (Full Speed)
Communicating specifications	Exclusive command (SCIP Ver.2.0)
Output	OUTPUT 1 pce, synchronous output
Indication lamps	Power lamp (green): Lights up when normal operation, Operation lamp (red): Lights up when normal operation
Connection	Power and synchronous output: cable 2m, USB:2m cable with type A plug
Ambient illuminance <sup>note)</sup>	Halogen/mercury lamp: 10,000lux or less, incandescent lamp: 6,000lux or less
Ambient temperature	-10 to +50°C (-25 to +75°C when stored)
Ambient humidity	85%RH or less, not icing, not condensing

<b>Insulation resistance</b>	10MΩ 500VDC megger
<b>Vibration resistance</b>	Double amplitude 1.5mm, 10 to 55Hz, each 2 hour in X, Y and Z directions
<b>Impact resistance</b>	196m/s <sup>2</sup> , each 3 time in X, Y and Z directions
<b>Protective structure</b>	IP64 (IEC standard)
<b>Life</b>	5 years (motor life, vary depending on use conditions)
<b>Noise</b>	25dB or less (at 300mm)
<b>Case materials</b>	Polycarbonate
<b>Weight</b>	Approx.370g (including cable)

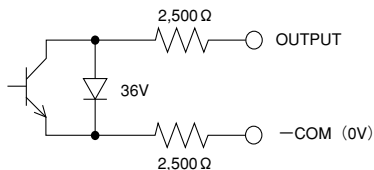
\*It may reduce the accuracy when receing strong light like sunlight etc. directly.

**Note** This sensor is not a safety device/tool.

**Note** This sensor is not for use in military applications.

### Connection

#### Output circuit



#### Wiring table

##### ● Cable 1 power and output

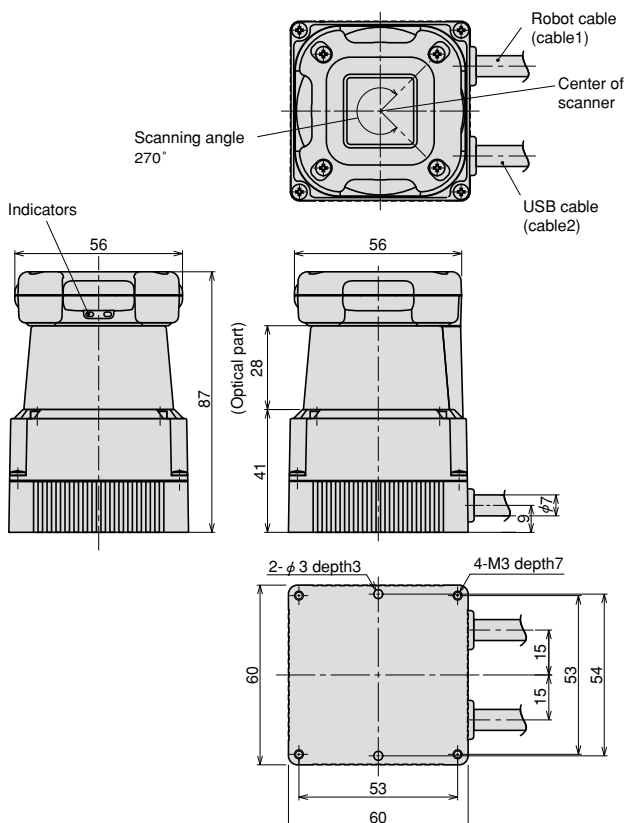
Cable colors	Signals
Brown	+VIN (12VDC)
Blue	-VIN (0V)*
Green	Synchronous output
White	COM (0V)*

\*Power and output (0V) are not connected inside.

**Note** I/O direction is on the basis of UTM-30LX.

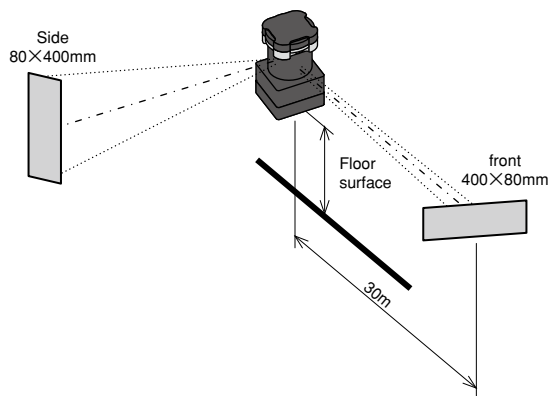
##### ● Cable2 USB Type A(4 pins)

### External dimension



### Caution for installation

- (1) When installation, don't close light-projection/reception window or interrupt area.
- (2) Don't make a wiring with high-voltage line or load line because of avoiding noise or surge induction.
- (3) Install it 200mm or more away from floor. If 200mm or less, install it 1° upward. Spread of sensor beam is  $\phi 400\text{mm}$  (Reference value) at 30m.



### Supplement

- Scanning direction is counterclockwise from topview.
- About USB driver
  - It is connected as software COM port through CDC (Communication Device Class). It can be handled as well as COM port from applicatoin program of host. But this doesn't provide plug & play function.
- This sensor has higher radiation value because of high speed processing and so please install it with radiation plate at the bottom. (Recommend: aluminum plate with 200×200×2) because radiation is found on the bottom cover.
- It may make a false detection in case of close installation. In case that, make filtering processing of data.