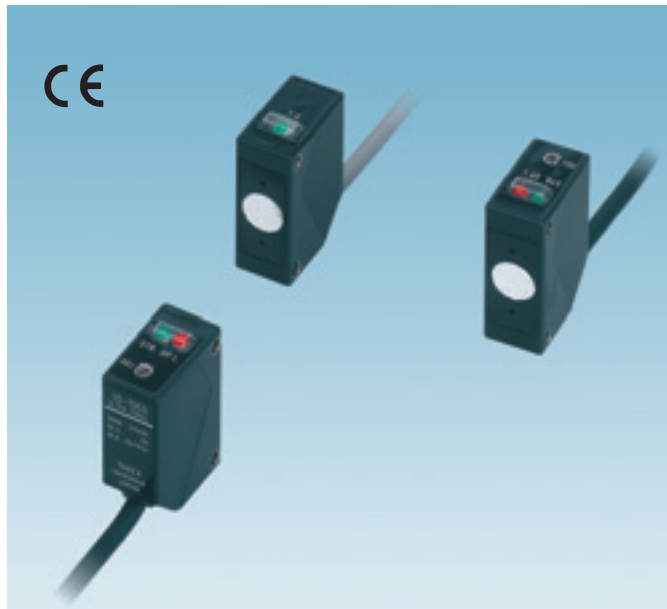




US-T50/R25

Ultrasonic Sensors



- Microminiature ultrasonic element translates to compact sensor size
- Through-beam model is ideal for detecting transparent packaging or container
- Reflective model is suitable for detecting either a black sheet or a transparent container

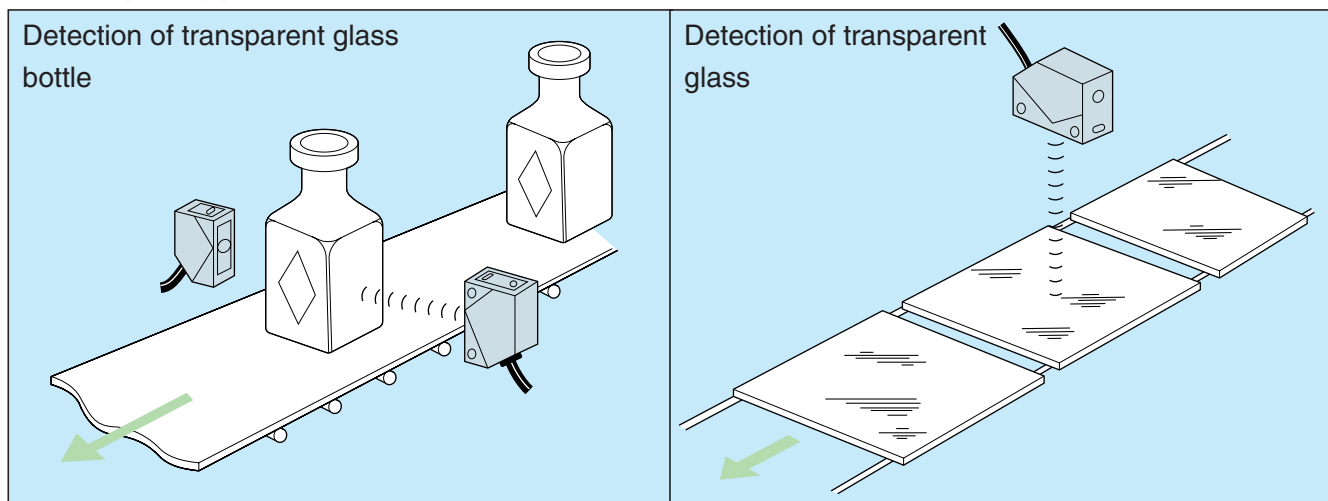
Type

Detection method	Detecting distance	Model	Operation mode	Output mode
Through-beam type	 500mm	US-T50 ※	Wave-OFF	NPN open collector output *1
Reflective type	 60-250mm	US-R25	Wave-ON	

*The model No. for the through-beam type is a set model No. For prices of the transmitter and receiver for separate purchase, see the Price List at the end of this book.

*1 For ordering a PNP output mode type, add PN at the end of the model No.

Sample Applications



US-T50/R25

Rating/Performance/Specification

	Model	Set model US-T50		US-R25
		Transmitter model US-TE50	Receiver model US-TD50	
Rating/performance	Detection method	Through-beam type		Reflective type
	Detecting distance	500mm max.		60-250mm
	Detection object	10 x 30mm		30 x 30mm*
	Power supply	24V DC $\pm 10\%$ / Ripple % max.		
	Current consumption	TE50:25mA max. TD50:15mA max.		25mA max.
	Response time	10ms max.		ON: 30 ms max. / OFF: 50 ms max
	Output mode	NPN open collector output Rating: sink current 100 mA (30 VDC) max.		
	Operation mode	Wave-OFF		Wave-ON
	Operating angle	20°		-
	Hysteresis	-		10% max.
Specification	Ultrasonic frequency	360kHz ± 15 kHz		
	Indicator	Operation indicator (red LED) / Stability indicator (green LED)		
	Volume	Sensitivity adjustment	Distance adjustment	
	Connection	Permanently attached cord ($\phi 4$)		Permanently attached cord ($\phi 4$)
		Transmitter: 0.2 mm ² x 2 cores, 2 m Receiver: 0.2 mm ² x 3 cores, 2 m		: 0.2 mm ² x 3 cores, 2 m
	Mass	80 g max. (transmitter/receiver)		80 g max.

(*1) *Sample object: 1-mm thick aluminum plate

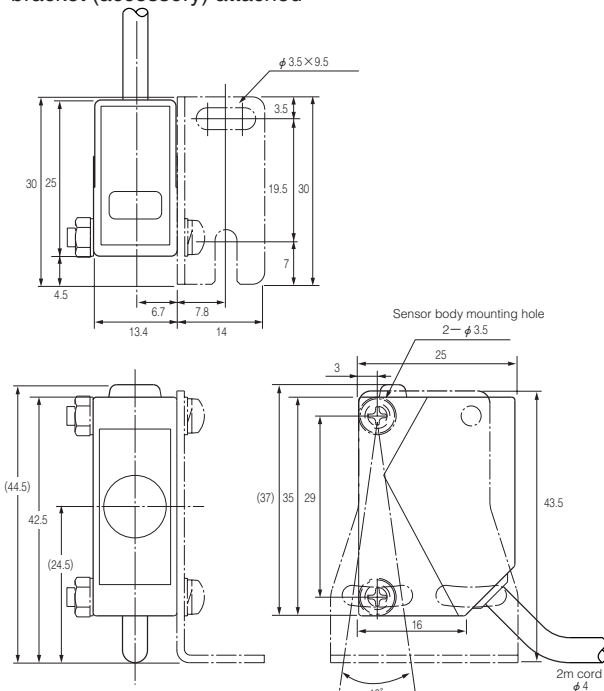
Environmental Specification

Environment	Specification
Ambient temperature	-10 - +55 °C (non-freezing)
Ambient humidity	35-85%RH (non-condensing)
Ambient wind speed	1m/s max.
Protective structure	IP54 (no drops of water allowed on head)
Vibration	10-55 Hz / 1.5 mm amplitude / 2 hours each in 3 directions
Shock	500 m/s ² / 3 times each in 3 directions (ultrasonic element excluded)

Dimensions (in mm)

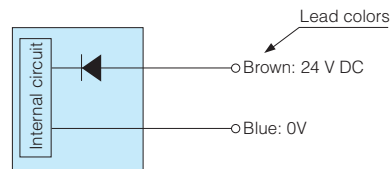
For all models (transmitter/receiver)

(Dotted lines show the dimensions with the mounting bracket (accessory) attached)

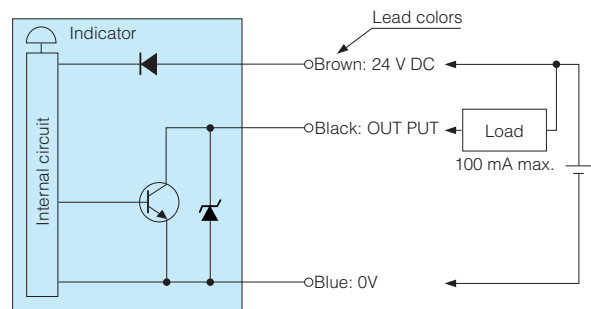


Input/Output Circuit and Connection

Model US-TE50



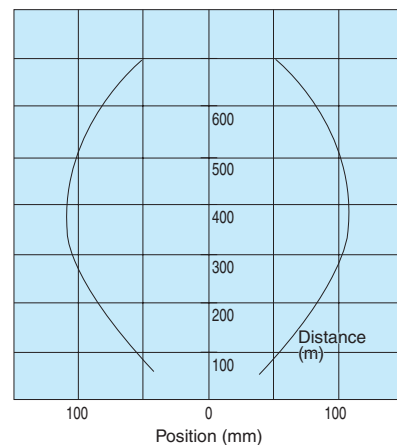
Model US-TD50 Model US-R25



Characteristics (Typical Example)

• Directional characteristics

US-T50



• Activation area characteristics

US-R25

