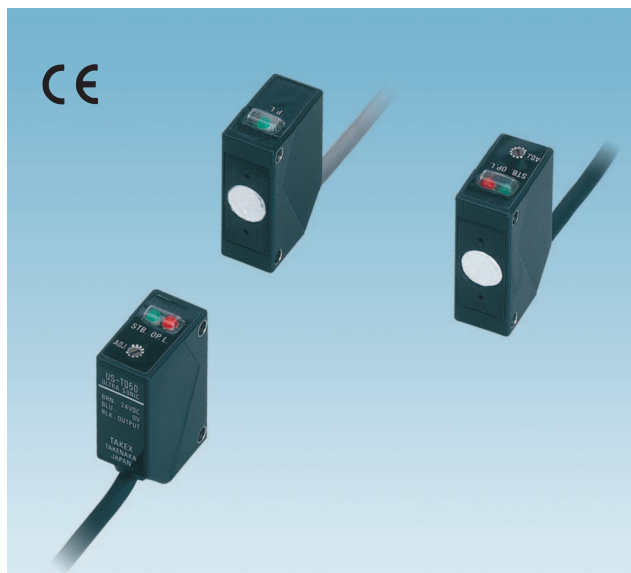


US-T50/R25

Ultrasonic Sensors



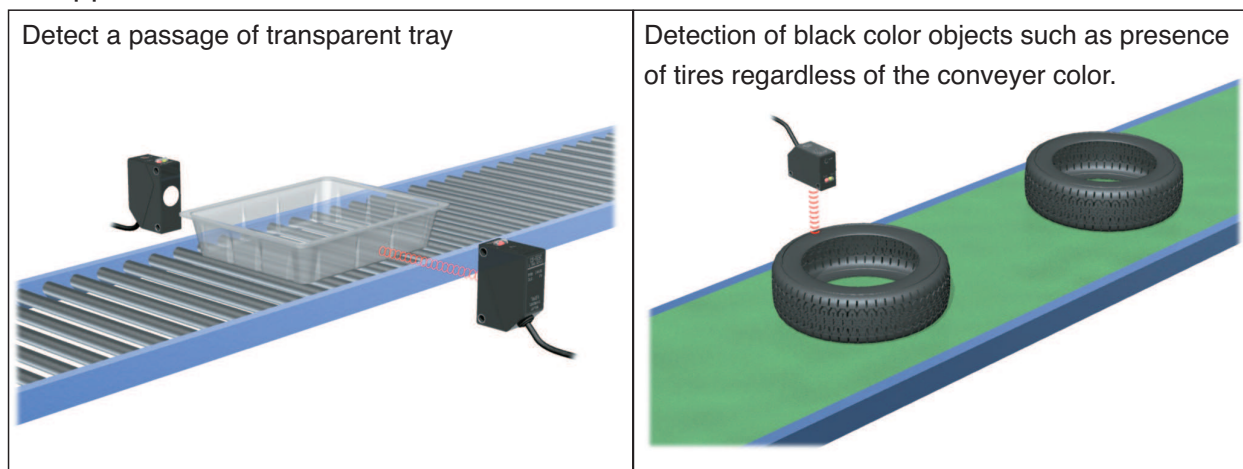
- Microminiature ultrasonic sensor embedded in a conventional sensor housing
- Reliably detecting transparent packaging PET bottle or container
- Adjustment POT are equipped on the both model

Type

Detection method	Detecting distance	Model	Operation mode	Output mode
Through	500mm	US-T50	Detect ON (Normally open)	NPN open collector output
		US-T50PN		PNP open collector output
Reflective	60-250mm	US-R25	Detect ON (Normally open)	NPN open collector output
		US-R25PN		PNP open collector output

*The model No. for the through type is a set model No.

Applications



US-T50/US-R25

Rating/Performance/Specification

Model	NPN output	US-T50	US-R25
	PNP output	US-T50PN	US-R25PN
Detection method	Through		Reflective
Detecting distance	500mm or less		60-250mm
Detection object	10 x 30mm		30 x 30mm*
Power supply	24V DC \pm 10% / Ripple 10% or less		
Current consumption	TE50:25mA or less / TD50:15mA or less	25mA or less	
Response time	10ms or less	ON: 30 ms or less / OFF: 50 ms or less	
Output mode	NPN output	Rating: Sink current 100 mA (30 VDC) or less	
	PNP output	Rating: Source current 100 mA (30 VDC) or less	
Operation mode	Detect ON		Detect ON
Operating angle	20°(receiver)		-
Hysteresis	-		10% or less
Ultrasonic frequency	380kHz \pm 10kHz		360kHz \pm 15kHz
Indicator	Operation indicator (red LED) / Stability indicator (green LED)		
Volume	Sensitivity adjustment		Distance adjustment
Material	Case/nut	Heat resistant ABS resin	
	Detection side	Carbon calcium (Silicone-Acrylic coating) conductive EPDM	
Connection	Attached cord (ϕ 4mm) Transmitter: 0.2 mm ² x 2 cores, 2 m Receiver: 0.2 mm ² x 3 cores, 2 m		Attached cord (ϕ 4mm) : 0.2 mm ² x 3 cores, 2 m
	Weight	80 g or less (transmitter/receiver)	
Accessory	Operation manual, mounting bracket, screw for adjustment		

*Sample object: 1-mm thick aluminum plate

Environmental Specification

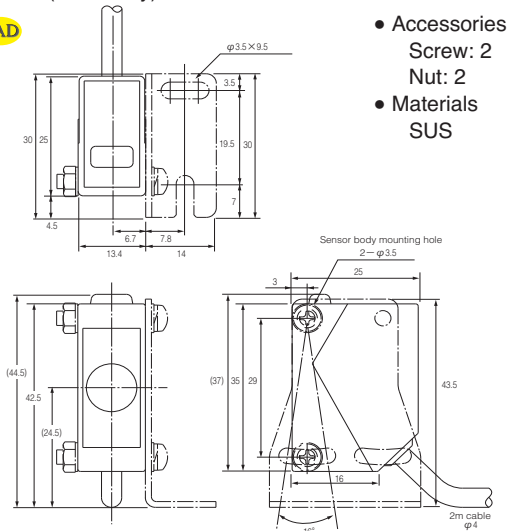
Ambient temperature	-10 - +55 °C (non-freezing)
Ambient humidity	35-85%RH (non-condensing)
Ambient wind speed	1m/s max.
Protective structure	IP54 (no drops of water allowed on head)
Vibration	10 - 55 Hz / 1.5 mm double amplitude / 2 hours each in 3 directions
Shock	500 m/s ² / 3 times each in 3 directions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

Dimensions (in mm)

For all models (transmitter/receiver)

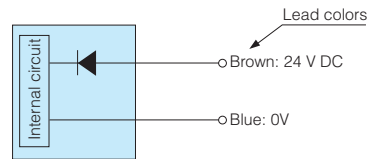
(Dotted lines show the dimensions with the mounting bracket (accessory) attached)

CAD



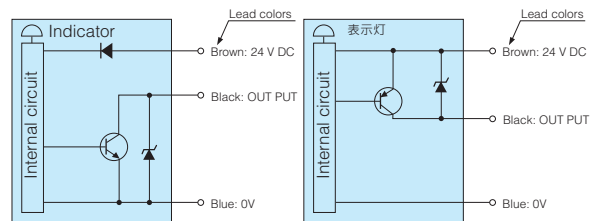
Input/Output Circuit and Connection

Model US-TE50 (Transmitter)



Model US-TD50 Model US-R25

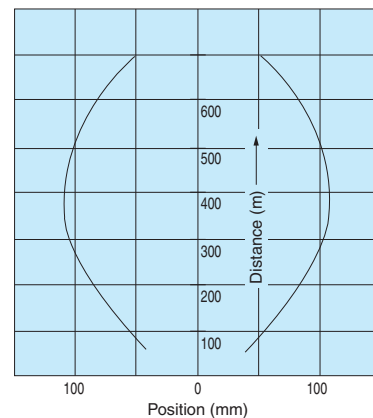
- NPN output
US-TD50
US-R25
- PNP output
US-TD50PN
US-R25PN



Performance Curves (Typical)

- Response Curves: Beam Pattern

US-T50 US-T50PN



- Response Curves: Detecting Position

US-R25 US-R25PN

