

ToF & PIR Sensing Intelligence

MSD01 ToF Sensors for precise space and stock awareness.



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MSD01-D11

MSD01-D22



The MSD01 ToF Sensor Series are Bluetooth Low Energy sensors engineered to provide precise, real-time distance measurements using advanced Time-of-Flight (ToF) technology. The lineup includes the MSD01-D11 ToF Distance Sensor and the MSD01-D22 ToF Occupancy Sensor, which integrates an additional passive infrared (PIR) module. With millimeter-level precision ($\pm 10\text{mm}$), 99% detection accuracy, and a range of up to 5 meters, the MSD01 series enables fully anonymous and non-intrusive occupancy detection—ideal for demanding applications such as warehouse inventory monitoring, smart shelving in supermarkets, and desk occupancy management in libraries or workplaces.



Millimeter-level Precision



99% Accuracy



150° Adjustable Sensor Head



Possible for Split-Directional Sensing



100% Anonymous Detection



5 Years & Replaceable Battery

SPECIFICATIONS

	MSD01-D11 ToF Distance Sensor	MSD01-D22 ToF Occupancy Sensor
Size:	90 mm * $\Phi 34$ mm	110 mm * $\Phi 34$ mm
Weight:	63 g	72 g
Bluetooth Version:	Bluetooth® LE 5.0	
Transmission Distance:	150m (492ft) in open area	
Battery:	2,700 mAh lithium battery, replaceable	
Battery Life:	5 years	
Operating Temperature:	-10°C~+60°C (14°F~140°F)	-10°C~+45°C (14°F~113°F)
Operating Humidity:	$\leq 95\%$ RH, non-condensing	
ToF Measurement Range:	2.5 m (8.20ft)	
ToF Measurement Accuracy:	Short range: $\pm 10\text{mm}$ / Long range:+5%	
PIR Sensing Distance:	/	3m (9.84ft)
Button:	Power button & tamper alarm	
Installation:	Double-sided adhesive tape, magnetic mount with the included accessory	
ToF FOV	27°	
PIR FOV:	/	Horizontal 100° / Vertical 20°

APPLICATIONS



Product Residual Detection for Retail



Restroom / Cubicle Occupancy Detection



Desk / Workstation Utilization



Warehouse / Material Level Monitoring



Parking Spot Monitoring



Library / Shared Study Room Seat Detection

