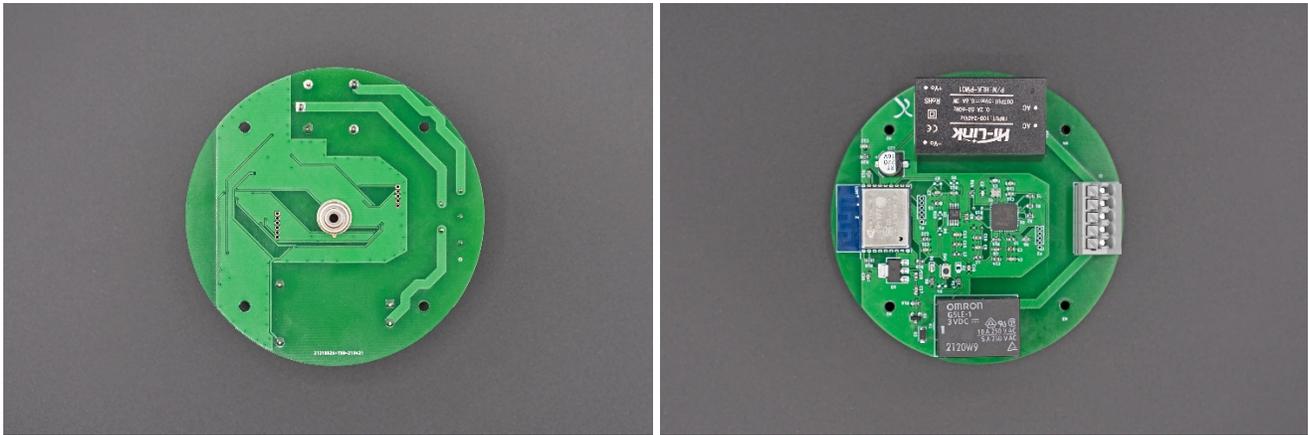# Datasheet
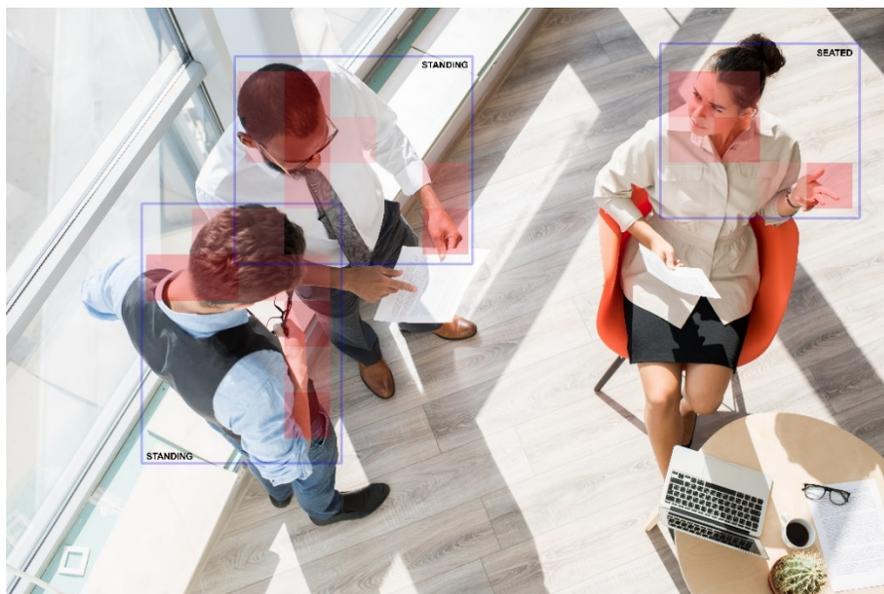
Presence Detector

Yugen Y9090HH_DTCT

Function Description

The Yugen Y9090HH_DTCT is an AI-powered presence sensor able to detect presence of one or more people in a space of 9 sqm. The sensor does not require a person to be moving to be detected and is, therefore, ideal for usage for room occupancy monitoring, desk usage monitoring, light controls and so on. The Y9090HH_DTCT combines a passive FAR infrared technology (for reliable person detection) with an innovative Edge AI software in order to provide information about a person presence, position and even its posture (as in standing, seated or lying down).

Technical Specifications

Type	People detector
Case	Sensor provided as naked electronics or with plastic casing
Dimensions (L x W x H)	86 x 86 x 42 mm
Mains power supply	220 – 240V, 50 / 60 Hz
Sensor Technology	Low-resolution Far Infrared
AI Technology	Supervised Embedded ML
Indoors/Outdoors	Indoors
Type of installation	Ceiling with concealed wiring
Mounting height	220cm to 350cm, optimally 280cm
Detection angle	90 x 90 deg (about 3m x3m)
Connectivity	Direct light control max 10A Dry contact WiFi Bluetooth
Protocols	MQTT IFFT TCP Socket Others on request
Manufacturer's Warranty	2 years
Version	Y9090HH_DTCT
EAN	(In draft)

Innovative Technology

Motion or presence sensors are very convenient and popular smart devices in a smart home/office in order to determine activity and manage resources accordingly. They can trigger all kinds of behaviors: from turning on/off lights in specific areas to control media devices and much more. The technologies currently used in available sensors are generally triggered by measuring movement in a certain area. The main difference among them lies in their sensitivity. All suffer when the monitored person is mostly stationary (e.g., sitting at a desk). The Yugen Y9090HH_DTCT, instead, is a true presence sensor able to detect people even when completely still (e.g., sleeping).

Technology detection capability comparison

Technology used	PIR	Ultrasonic	Microwave	Xetal AI Far Infrared
Moving Person	Y	Y	Y	Y
Slightly Moving Person	N	Y	Y	Y
Stationary Person	N	N	N	Y
Person Posture detection	N	N	N	Y
Person Position	N	N	N	Y
Thermal mapping	N	N	N	Y

Typical use cases

Light control	Light properly controlled also with completely stationary people
Desk occupancy	Detection of desk occupancy even with completely stationary people
Office space usage	Sensor provides presence and position even with completely stationary people
Retail point	Sensor detects one or more people presence and provides the distance from the product shelve and for how long