

# DHI-ITARD-024SA-ST

## Narrow Wave Tablet Radar



- Fast response ensures high capture rate and real-time signal processing.
- Advanced radar signal processing and real-time data processing technologies.
- Adopts new algorithm for enhanced location stability and prolonged operation sustainability.
- Ideal for flexible and extensive applications.
- Low microwave radiation and power consumption, long service life, and high stability and reliability.

### System Overview

This radar is a narrow beam radar with planar antenna system. It is specifically designed to detect moving vehicles to meet modern traffic management challenges.

The product uses modern microwave radar technology and high-speed digital signal processing technology for precise positioning and accurate speed measurement.

### Functions

#### 24 GHz MMIC technology

Adopts 24 GHz MMIC technology, light-weighted and efficient.

#### High precision

High-precision capture at fixed position. Position error within  $\pm 1$  m (3.28 ft).

#### Attractive antenna design

High-gain and low-sidelobe microstrip planar array antenna design helps effectively avoid echo interference of adjacent lanes.

### Scene

The radar detector can be applied to a wide range of complex road environments such as tunnel entrance and highway interchanges, providing real-time traffic information and forensic evidence for traffic speed violations.

**Technical Specification**

Basic

Antenna	Microstrip planar array antenna
Modulation	Continuous wave (CW) modulation
Frequency	(24.150 ± 0.045) GHz
Transmit Power	20 dBm
Antenna 3dB Beamwidth	6° (H) × 6° (V)
AD Sampling Frequency	37 KHz
Communication	RS-232
Cable	Red: + 12 VDC Black: - 12 VDC Yellow: RS-232 RXD Green: RS-232 TXD Brown: RS-232 GND

Performance

Distance Accuracy	± 1 m (3.28 ft)
Lane Coverage	1 lane
Object Data	Vehicle speed (instantaneous)
Capture Rate	≥ 99% (when traffic is smooth)
Indoor Speed Simulation Error	± 1 km/h
Speed Error during Road Test	Error when vehicle speed < 100 km/h: ± 2 km/h Error when vehicle speed ≥ 100 km/h: ± 2%
Speed Detection Range	10 km/h–250 km/h
Capture Distance	18 m–28 m (59.06 ft–91.86 ft) when the radar is installed at around 6 m (19.69 ft) high

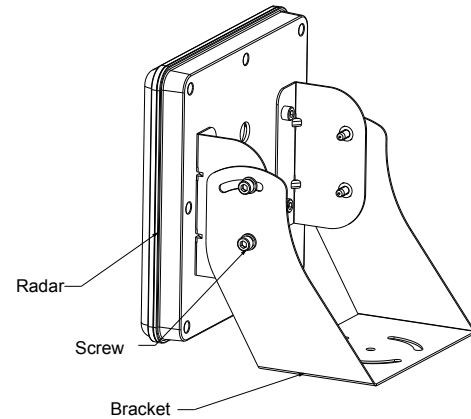
General

Power Input	12 VDC, with over-voltage, over-current, and reverse connection protection for safe and stable power input
Interface Protection	Output interfaces are designed with over-current and over-voltage protection
Operating Environment	Operating temperature: -40°C to +80°C (-40°F to +176°F) Operating humidity: 10%–90% (RH)
Dimensions	Radar: 209.9 mm × 210.0 mm × 35.0 mm (8.27" × 8.27" × 1.38") Bracket: 163.4 mm × 100.0 mm × 155.0 mm (6.43" × 3.94" × 6.10")
Weight	1 kg (2.2 lb) (bracket excluded)
Accessory	Bracket
Installation	Center mount

**Ordering Information**

Type	Model	Description
Radar	DHI-ITARD-024SA-ST	Narrow wave tablet radar
Accessory		Bracket

**Installation**



**Dimensions (mm[inch])**

