

K50R Radar Sensors



Reliable, Cost Efficient Sensing for Challenging Environments

- Superior and consistent operation in any environment
- Cost efficient alternative to long-range ultrasonic sensors
- Simple integration and streamlined troubleshooting



Effective, valuable sensing solution

Superior and consistent operation in any environment



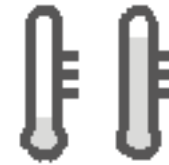
Ideal for outdoor applications

- Resistant to rain, snow, fog, steam, wind, or sunlight
- P67-rated



Ideal for challenging indoor applications

- Immune to dust, dirt, and steam
- Superior performance to ultrasonics for level measurement applications in any environment



Temperature stability

- Minimal temperature effect for stable measurement in a wide range of temperatures
- -40 to 60°C operating temperature

Cost-effective alternative to long range ultrasonic sensors



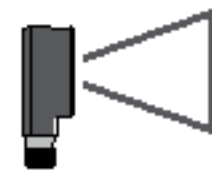
Wide measuring range

- Short dead zone of 50 mm
- 5 m range



No crosstalk

- No problem mounting multiple sensors close together



Wide beam angles

- 40° x 30° models closely match ultrasonic performance
- 80° x 60° models offer a broad coverage to detect targets

Intuitive interface enables seamless integration

K50R Pro

Pro models available with configurable RGB LEDs to customize any application

No Output



Output 1



Output 2



Output 1 and 2



Warning Zone Indication



Real Time Distance Feedback



Near Sensing Window Far



Solves more problems

- Dual discrete outputs for slow and stop
- Analog and Pulse Pro for measurement values
- K50R Pro with programmable LED indication



Banner Measurement Sensor Software

- Clear view of the entire sensor view for setup and troubleshooting
- Tamperproof
- Download and use software for free



Tank Level Measurement

Challenge

A car wash poses multiple challenges to accurate sensing of detergent, protectants, and other chemicals in tanks. Ultrasonic sensors can't detect through tank exteriors and retrofitting existing tanks with interior sensors is costly.

Solution

A K50R radar sensor placed on top of each tank offers a reliable, cost-efficient solution to precisely measure the level of chemicals inside. A key benefit to using radar technology is that it can ignore certain materials, such as plastic tank walls, so that it may be mounted externally while still measuring the liquid level within the tank. The K50R sensor has a broad -40 to 60 °C operating temperature range and a robust P67-rated housing.

Vehicle Detection at EV Charging Stations

Challenge

EV charging stations in public areas require a method to keep unauthorized non-electric vehicles from parking at them and blocking access.

Solution

A K50R radar sensor installed inside a charging station can detect the presence of a vehicle parked at that station, at any time of day and in any weather condition. If a parked vehicle is detected but not plugged in for charging, a signal is sent to a central location, alerting authorities so that the vehicle can be removed. The Banner Measurement Sensor software can be used to easily set range limitations so the sensor only focuses on a specific area, ignoring anything beyond that.



Detecting Parking Spot Availability in a Public Ramp

Challenge

Drivers entering a multi-level parking structure often struggle to find open parking spaces. To improve efficiency, a method is needed to inform them of real-time parking availability and guide them to the appropriate open spaces.

Solution

Placing a K50R sensor above each parking space in a ramp or garage provides an accurate method for counting the number of occupied or available parking spaces. K50R Pro sensors feature RGB LEDs, which can be set to illuminate red or green depending on the availability (or lack of availability) of a given space—drivers can easily see these lights from a distance to find an open parking space quickly. Even when used for every available parking spot in a ramp or garage, radar sensors provide a cost-competitive alternative to vision sensors. K50R sensors can be placed in ramps that are exposed to outdoor air and varying temperatures.

K50R RadarSensor

Series	Type	Housing	Beam Angle	Range	Output	Connector
K50R	P	F	8060	L	D	Q
Blank = Standard P = Pro		F = Flush mount	8060 = 80° x 60° beam	L = Long range	D = Dual discrete	Q = Integral M12 QD
QD models require mating cord set						

Series	Type	Housing	Beam Angle	Range	Output	Connector
K50R	P	F	4030	L	D	Q
Blank = Standard P = Pro		F = Flush mount B = Base mount	4030 = 40° x 30° beam	L = Long range	D = Dual discrete I = 4–20 mA analog U = 0–10 V analog	Q = 5-pin Integral M12 QD
QD models require mating cord set						

Specifications

	Power	10 to 30 V DC
	Power Consumption	< 10 W at 24 V
	Response Speed	Standard Mode: 200 ms Faster Response Mode: 100 ms High Power Mode: 250 ms
	Operating Frequency	60 GHz
	Operating Conditions	-40 to +60 °C
	Environmental Rating	IP67
	Construction	Polycarbonate
	Sensing Range	8060 Models: Standard Mode: 100 mm to 2.5 m Faster Response: 150 mm to 1 m High Power Mode: 500 mm to 3 m 4030 Models: 50 mm to 5 m
	Country or Region of Compliance	US, UK, EU, Canada, Australia, New Zealand
Certifications		 Contains FCC ID: 2A06KA1001 Contains IC: 24388-A11

Accessories

 SMB30A Rightangle mounting bracket	 SMB50RA Rightangle mounting bracket	 Required Accessory for Device Configuration PRO-KIT Power supply, splitter, Pro converter cable	 5-Pin M12 with Shield Straight connector models Listed; for rightangle, add RA to the end of the model number (example, MQDEC2-506RA) MQDEC2-506 2 m 6.5 ft MQDEC2-515 5 m 15 ft MQDEC2-530 9 m 30 ft
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