

K50R Series

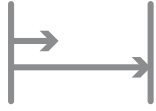


Robust Detection, Industrial Package

- Self contained, all-in-one radar sensor
- Large field of view offers powerful alternative to ultrasonic or photoelectric sensors
- Detect a wide variety of materials, indoors and outdoors

All-in-One Sensor

Reliable detection in any environment, easy setup and simple integration



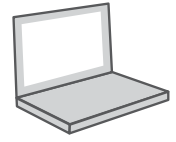
Accurate measurement

- Short dead zone of 0.1 m
- 3.0 m range



Ideal for outdoor applications

- Resistant to rain, snow, fog, steam, or sunlight
- IP67-rated
- Consistent measurement from -40 to 60 °C



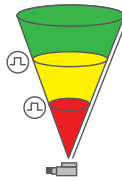
Simple setup and configuration

- PC GUI configuration and remote input for configuration



Senses more objects

- 60 GHz radar detects a wider range of low-dielectric materials for use in many applications



Solves more problems

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



Direct integration with Banner lights

- No separate controller needed

Pro Sensing and Indication

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

K50R Standard

Standard models available with power and output indications

No Output



Output 1 and 2



LEDs Disabled



Performance Modes Optimize Functionality

Use performance modes to customize the K50R sensor to an application

| Performance Modes | Range (m) | Accuracy | Signal Strength | Response Time |
|-------------------|-----------|----------|-----------------|---------------|
| Standard | 0.1–2.5 | ✓ ✓ | ✓ | ✓ |
| Faster Response | 0.15–1.0 | ✓ ✓ | ✓ ✓ | ✓ ✓ |
| High Power | 0.5–3.0 | ✓ | ✓ ✓ ✓ | ✓ |



Electric Vehicle Charging

Challenge

Shared electric vehicle services require a method to keep unauthorized non-electric vehicles from parking at charging stations, which are generally located in outdoor public places.

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. Because the K50R has a short operating range with a maximum distance of 2.5 meters, it can safely ignore irrelevant targets outside of the parking area. The sensor can be housed within the body of typical charging stations to prevent potential vandalism.

Detecting Parking Spot Availability in a Public Ramp

Challenge

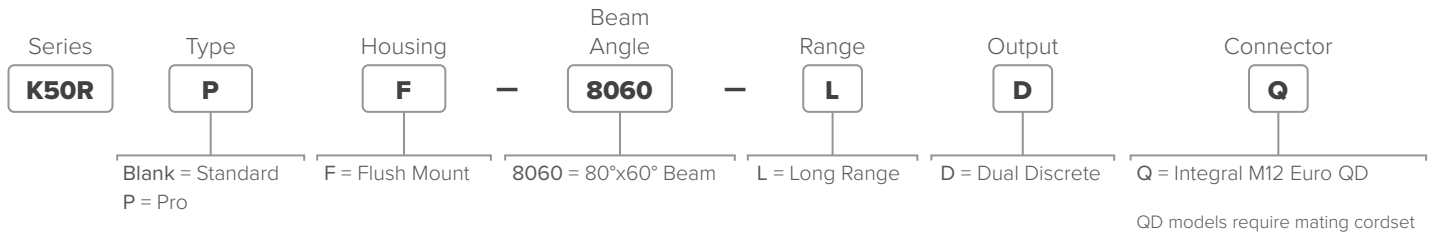
Drivers entering major multi-level parking structures often struggle to find open parking spaces. To improve efficiency, a method is needed to inform them of real-time parking availability and guide them to the appropriate open spaces.

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 Radar Sensor



Specifications



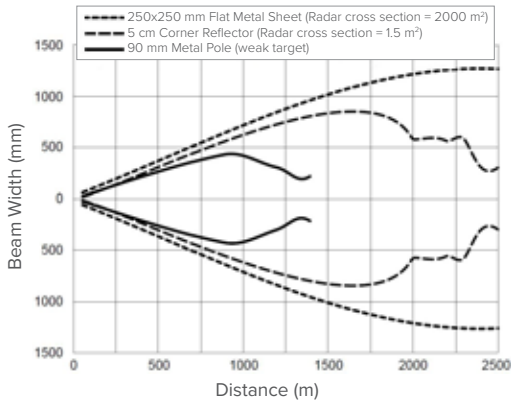
| | |
|-----------------------------|--|
| Power | 10 V dc to 30 V dc |
| Power Consumption | < 1.0 W at 24 V |
| Response Speed | Standard Mode: 200 ms Faster Response Mode: 100 ms High Power Mode: 250 ms |
| Operating Conditions | -40 to +60 °C |
| Environmental Rating | IP67 |
| Construction | Polycarbonate |
| Sensing Range | Standard Mode: 100 mm to 2.5 m Faster Response: 150 mm to 1 m High Power Mode: 500 mm to 3 m |

Country or Region of Compliance US, UK, EU, Canada, Australia/New Zealand

Certifications



Contains FCC ID: 2AQ6KA1001
Contains IC: 24388-A11



Accessories

Pro Converter Cable
MQDC-506-USB



5-Pin M12 with Shield
Straight connector models listed; for right-angle, 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)



Banner Engineering Corp.

9714 10th Avenue North • Minneapolis, MN 55441 • 1-888-373-6767 • www.bannerengineering.com