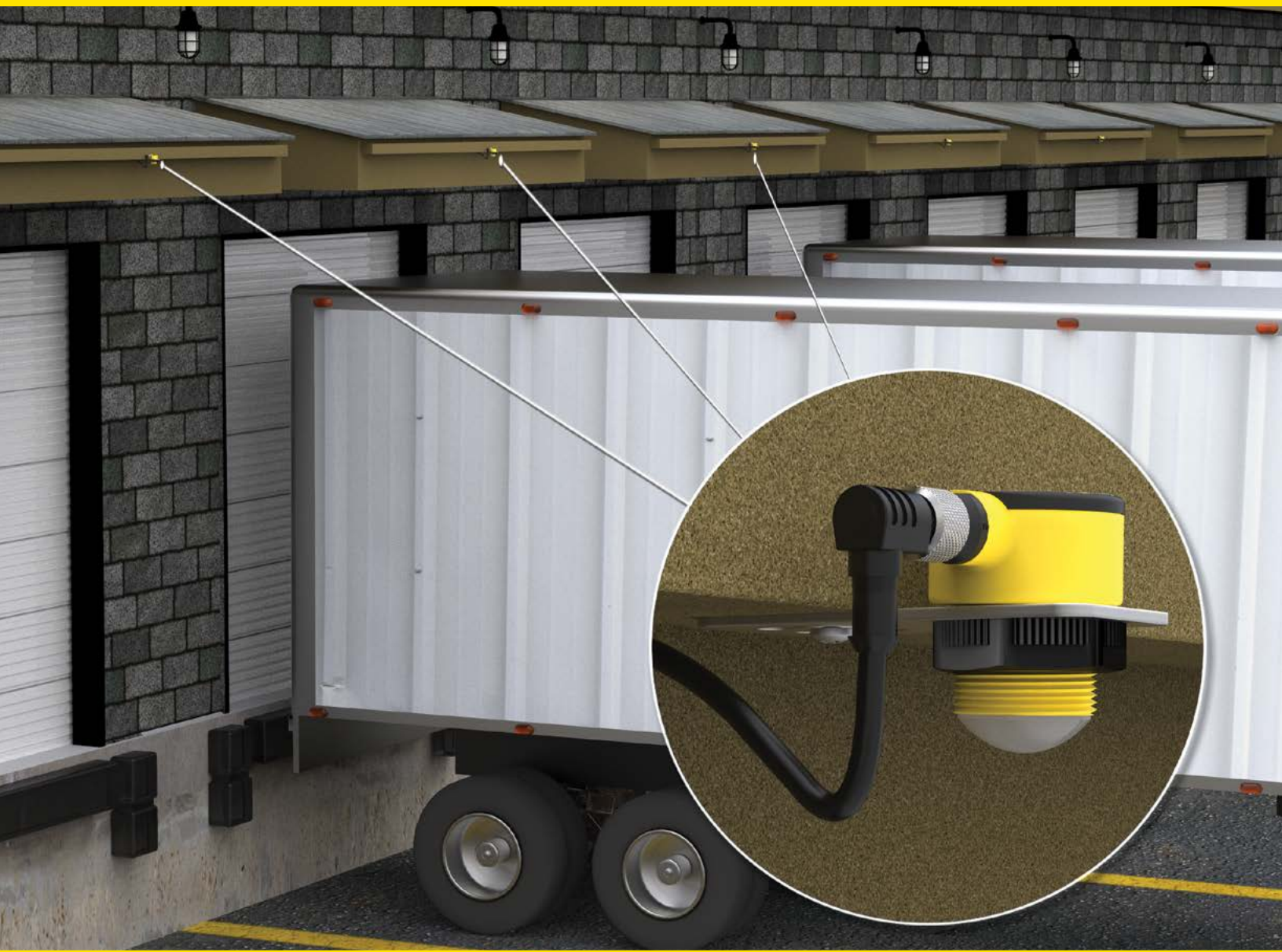


# T30R Series



## Detecting Where Others Cannot

- Robust, longer-range alternative to ultrasonics
- More precise and reliable alternative to traditional 24 GHz radar
- Easy setup—simple integration

# Bridging the Gap Between Ultrasonics and Radar

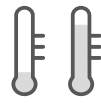


	Range	Dead Zone	Outdoor Durability	Measurement Precision	Crosstalk Immunity
Other Banner Radar (24 GHz)	✓		✓		✓
T30R (122 GHz)	✓	✓	✓	✓	✓
Ultrasonics		✓		✓	

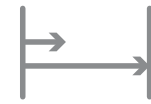
## Robust, Longer-Range Alternative to Ultrasonics



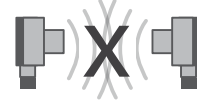
- Ideal for outdoor applications**
- Resistant to rain, snow, fog, steam, or sunlight
  - IP67 and IP69K-rated models available



- Temperature stability**
- Temperature interferes with ultrasonic (sound wave) sensors, but it does not affect radar (which uses radio waves)
  - Consistent measurement from -40 to 65 °C



- Detect near or far**
- Sensing range of 100 mm to 25 m



- No crosstalk**
- No problem mounting multiple sensors close together

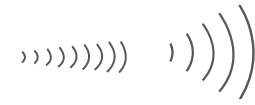
## More Precise and Reliable Alternative to Traditional 24 GHz Radar



- Accurate measurement**
- Linearity and repeatability less than 1 cm



- Senses more objects**
- 122 GHz radar detects a wider range of low-dielectric materials for use in many applications

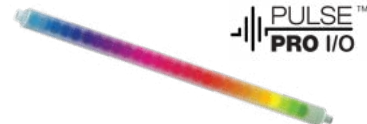


- Precise measurement up to 15 meters**
- Sensors use two independent, adjustable sensing zones and operate at 122 GHz, which enables higher-precision measurements with a narrow or wide beam pattern up to 15 meters away

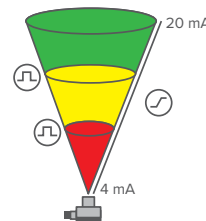
## Easy Setup—Simple Integration



- Flexible setup and configuration**
- Optional PC configuration, push buttons, IO-Link or remote teach



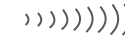
- Direct integration with Banner lights**
- No separate controller needed



- Solve more problems**
- Dual discrete outputs for slow and stop
  - Analog and IO-Link for absolute measurement values
  - Available in 15°x15° and 45°x45° beam patterns

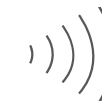
## Beam Pattern Considerations

Radar sensors are available in narrow and wide beam patterns. Narrow beam patterns avoid false detection of objects outside of the region of interest and allow for a more precise measurements. Wide beam patterns provide coverage of larger areas and provide more robust detection of irregular surfaces and targets presented at steep angles.



### Narrow Beam Applications

- Drive-through
- Overhead crane
- Tank level
- Gantry crane
- Loading docks



### Wide Beam Applications

- Mobile equipment collision avoidance
- Vehicle detection: trains, cars, boats



### Provide Reliable Position Feedback

Dual Discrete outputs are available for slow and stop positions for port equipment such as reach stackers and container handlers. Analog and IO-Link outputs are also available for absolute distance measurement values for ground support equipment such as baggage handlers or de-icing vehicles.



### Level Monitoring in a Plastic Tank

With the help of a Banner mounting bracket, a T30R can be installed outside the tank, with its high-frequency radio wave signal penetrating through the plastic container wall down to the liquid's surface. The shorter dead zone of the Near Range T30R allows measurement of the liquid even closer to the sensor.



### Reliable Vehicle Detection in Challenging Environmental Conditions

Banner radar is resistant to rain, wind, and snow and has a wide operating temperature range, making it ideal for vehicle detection at loading docks, tolls, gates, and car washes.



### Reliable Collision Avoidance

The T30R measures the distance of ground support equipment from an aircraft and signals an alert when it reaches a programmed distance to prevent collisions. With the 45°x45° beam pattern, the T30R can detect curved surfaces, such as an airplane, more reliably, since a smaller beam can be deflected by the target's curvature.



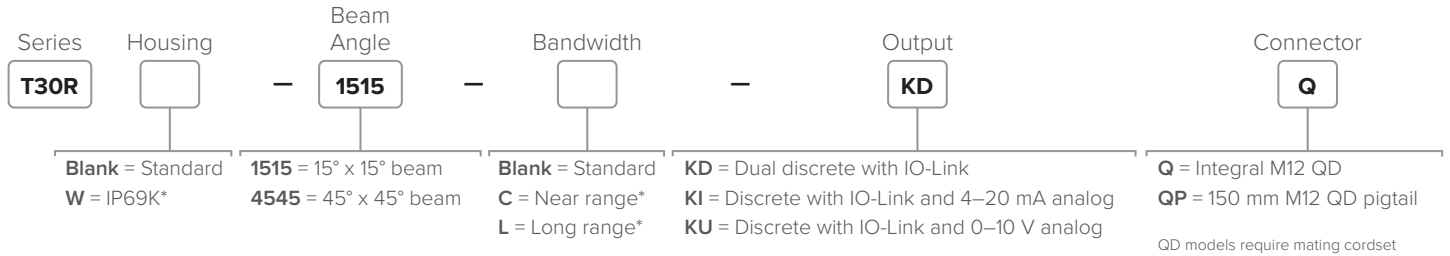
### Challenging Level Management

The T30R can see through steam, dust, and debris buildup on the sensor face, while ultrasonics may struggle. Banner's T30R also measures up to 15 m for larger tanks where ultrasonic range isn't sufficient.

Pulse Pro output for direct integration with Banner lights. Direct process feedback which only requires power; no controller needed.



# T30R Radar Sensor



## Specifications



	1515-C	1515	1515-L	4545
<b>Beam Pattern</b>	15° x 15°	15° x 15°	15° x 15°	45° x 45°
<b>Dead Zone</b>	0.10 m	0.15 m	0.15 m	0.30 m
<b>Detection Range</b>	6 m	15 m	25 m	10 m
<b>Linearity</b>	< ±4 mm	< ±20 mm at < 500 mm < ±4 mm > 500 mm		
<b>Approvals</b>	USA	USA, Europe, Canada, Malaysia, Australia/New Zealand		

Note: For the most reliable detection, the target should be larger than half of the beam width.

## Accessories

### T30R Brackets



### T30RW Brackets



Banner Engineering Corp.

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