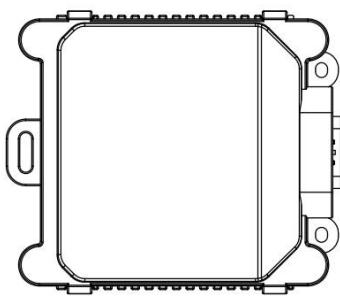




## Q-Global QRM150SST Radar Sensor

### DATASHEET

Radar-based Dual-Zone Sensors for Detection of Moving and Stationary Targets.



FMCW radar, operating frequency 77-79G, detects distance, azimuth and speed of moving and static objects.  
Maximum beam width is 90 to 105 degrees.  
Maximum detection range is about 150 meters for small cars and 200m for big trucks.  
Multiple antenna is configured to detect target with CAN\UART connector.  
The program is able to be upgraded through CAN connector.  
Fast startup time of less than 100ms.  
Operating temperature: -40-85°C.  
Power short circuit, positive and negative connection protection.

Model	Sensing Range	Connection	Supply Voltage	Output
QRM150SST	1 to 150+ meters	MOLEX-49671000	12 to 24V DC	CAN/UART DATA



#### FCC Warning

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.



If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

#### **FCC Radiation Exposure Statement**

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment .

This transmitter must not be co - located or operating in conjunction with any other antenna or transmitter.

This equipment should be installed and operated with minimum distance 20cm between the radiator& your body.

## **Overview**

The Q-Global radar sensor emits a well-defined beam of high-frequency radio waves from an internal antenna. Some of this emitted energy is reflected back to the receiving antenna. Signal processing electronics determine the distance from the sensor to the object based on the time delay of the return signal. The sensor can be configured to two independent sensing zones, (mimo/beamforming).

The two sensing zones are factory pre-set to default distance; The sensor is plug-in ready for immediate operation.

The sensitivity is precalibrated at the factory, assuming that the sensing field will be clear of obstacle.

## Specifications

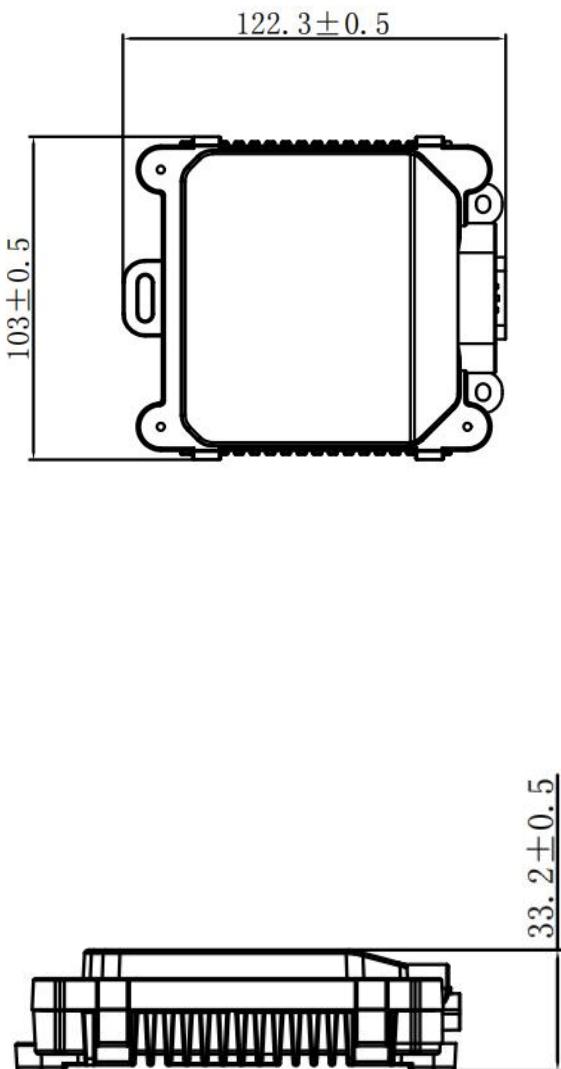
---

- Range  
The sensor is able to detect a proper object (see Detectable Objects) from 1 to 150m+, depending on target
- Detectable Objects  
Static objects and Moving objects
- Operating Principle  
Frequency modulated continuous-wave (FMCW) radar
- Operating Frequency  
77-79GHz
- Supply voltage  
12-24V dc
- Supply Protection Circuitry  
Protected against reverse polarity
- Delay at Power-up  
Less than 100ms
- Output Protection  
Protected against short circuit conditions (self-recovery fuse)
- Construction  
Front Housing: PPO  
Rear Housing: Aluminium Alloy  
Connector Cap: SPS/Nylon
- Operating Temperature  
-40-85 °C
- Environmental Rating  
IP67
- Connections  
8-PIN, MOLEX-49671000
- Certifications  
To be issued
- Beam Angles  
Long distance mode: azimuth 9°, elevation 15°.  
Short distance mode: azimuth 90°, elevation 25°.

## Dimensions

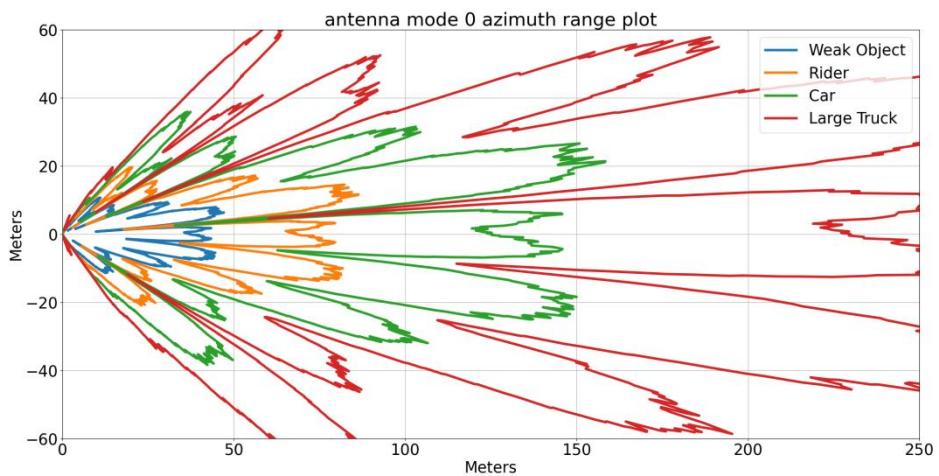
---

All measurements are listed in millimeters, unless otherwise stated differently.

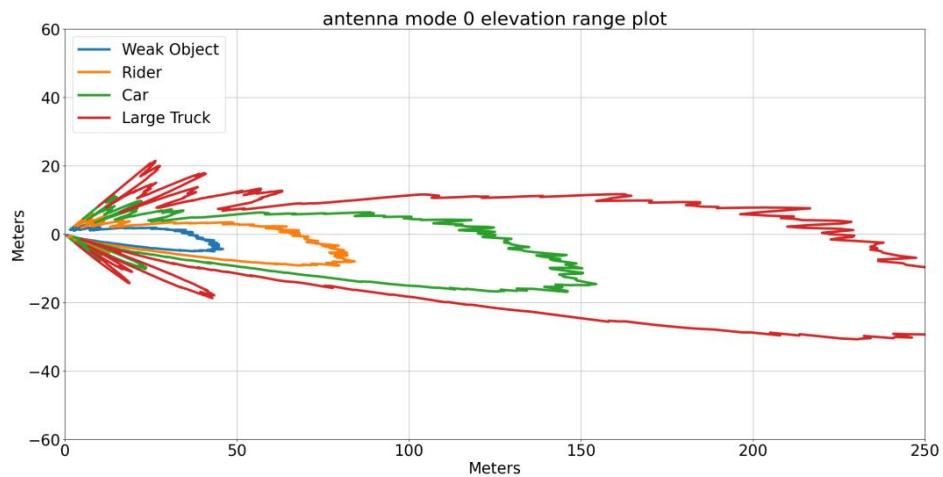


## Beam Patterns

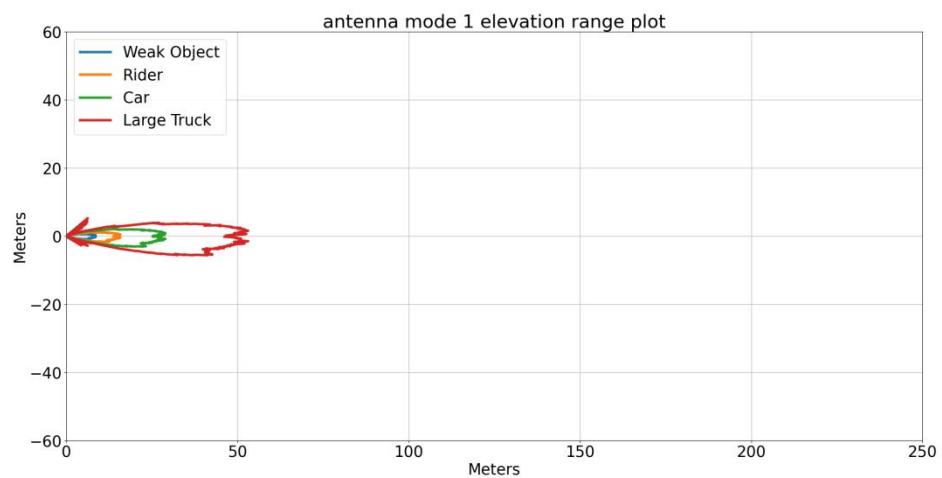
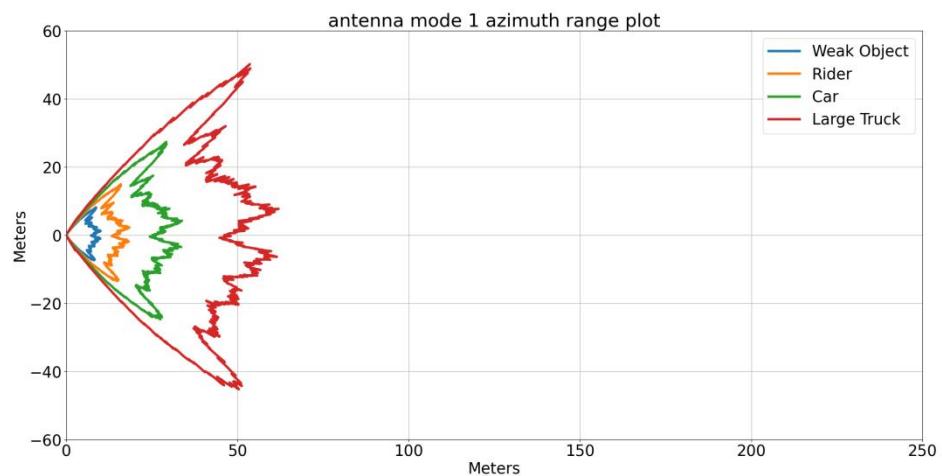
Horizontal



Vertical



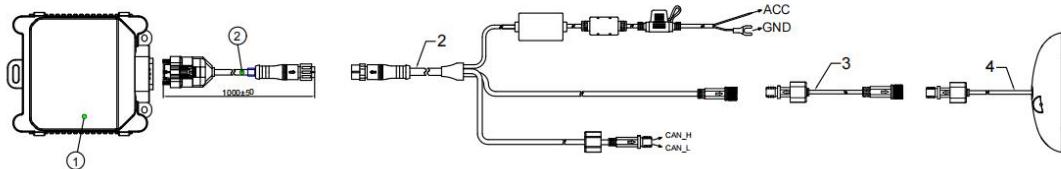
Antenna configuration 0 mainly detects dynamic



Antenna configuration 1 mainly detects static

- 1:Weak Object (RCS = -10)
- 2:Rider (RCS = 0)
- 3:Car (RCS = 10)
- 4:Larger Truck (RCS = 20)

## Wiring



### System components

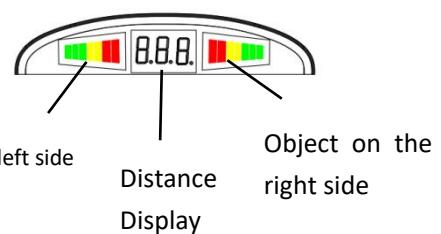
NO.	Parts	Count
1	Radar	1
2	Main Cable	1
3	Display Extension Cable 2M	1
4	LED-Display	1
5	Accessories bag	1

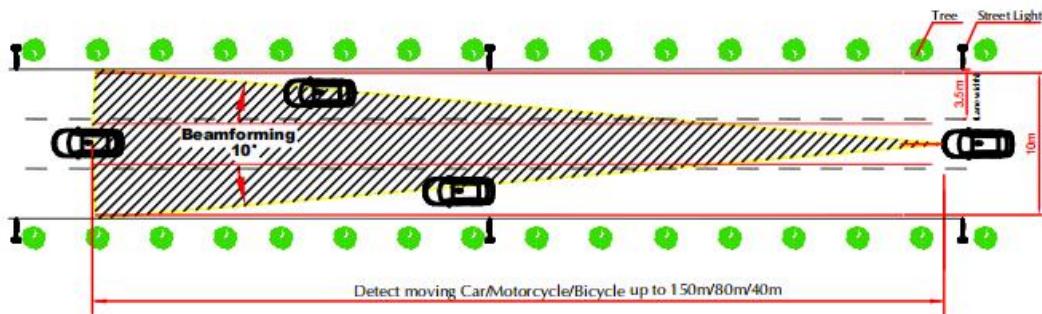
#### Accessories bag:

Adjustable bracket x 1 set;  
 Spring washer x 10;  
 M3 screw x 7;  
 M3 Self-tapping screw x 3;  
 3M glue x 1;  
 Cable tie x 8;  
 Fuse X 1;  
 Alcohol swab X 1;  
 Silicone Case X 1;  
 Rubber X 1.

## System Function

1. The crescent shaped LED is showing digital figures in the centre with warning lights green/yellow/red on each side.
2. The detection distance varies in accordance with the speed of the driving car. Green light on each side of LED showing the target car is still far way but being detected. For front detection: Yellow light on both sides will always light up simultaneously which gives a signal that one should pay more attention to the distance between driving car and car/s ahead. Red light is a sign that you should stop your car immediately.
3. LED's digital figures in the centre is showing the distance detected between the driving car and the object.
4. All detection functions start from a driving speed more than 20KM/H.
5. For static objects detection: 10 meters for pedestrians and 20 meters for other objects.





## Warranty

Q-Global warrants its product to be free from defects in material and workmanship for 3 years following the date of shipment. Q-Globle will repair or replace, free of charge, any product of its manufacture which, at the time it is returned to the factory, is found to have been defective during the warranty period. This warranty does not cover damage or liability for misuse, abuse, or the improper application or installation of the Q-Global product.

THIS LIMITED WARRANTY IS EXLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES WHETHER EXPRESS OR IMPLIED (INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE), AND WHETHER ARISING UNDER COURSE OF PERFORMANCE, COURSE OF DEALING OR TRADE USAGE.

This warranty is exclusive and limited to repair or, at the discretion of Q-Global replacement. IN NO EVENT SHALL Q-GLOBAL BE LIABLE TO BUYER OR ANY OTHER PERSON OR ENTITY FOR ANY EXTRA COSTS, EXPENSES, LOSSES, LOSS OF PROFITS, OR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES RESULTING FROM ANY PRODUCT DEFECT OR FROM THE USE OR INABILITY TO USE THE PRODUCT, WHETHER ARISING IN CONTRACT OR WARRANTY, STATUTE, TORT, STRICT LIABILITY, NEGLIGENCE, OR OTHERWISE.

Q-Global reserves the right to change, modify or improve the design of the product without assuming any obligations or liabilities relating to any product previously manufactured by Q-Global. Any misuse, abuse, or improper application or installation of this product or use of the product for personal protection applications when the product is identified as not intended for such purposes will void the product warranty. Any modifications to this product without prior express approval by Q-Global will void the product warranties. All specifications published in this document are subject to change; Q-Globle reserves the right to modify product specifications or update documentation at any time. For the most recent version of any documentation, refer to: [www.q-solutions.com.cn](http://www.q-solutions.com.cn).