Density | Entry Long Range

Measuring and improving our footprint on the world

Entry Long Range uses improved radar hardware and configurations tuned for entryways. It generates accurate threshold data without requiring calibration. The sensor hardware mounts above doors using a new Entry bracket and arm. Entry LR provides enhanced accuracy over previous Entry sensors.

Frequency and Bandwidth

Bandwidth
- 2.2 GHz

Center frequency
- 61.25 GHz

Operating frequency range
- 60.15-62.35 GHz

Framerate
- 16 frames/second

Connectivity

Ethernet
- 10/100/1000 MBits

WiFi
- Frequency: 2.4GHz
- Security: WPA, WPA2

Time
- Network Time Protocol (NTPv4) configured via DHCP

DNS
- Density strongly recommends an internal caching forwarding DNS server
- Internal server IP address should be provided via DHCP (option 6)
- Density devices SHOULD NOT be configured to access external DNS servers directly (such as 8.8.8.8)

Proxy
- Density devices support HTTP proxies, however we do NOT support SSL inspection
- Proxies can be configured via Web Proxy Auto Discovery (wpad). DNS and DHCP wpad methods are supported

IP Address
- DHCP
- Static

Maximum offline data storage
- 28 days

Power

Input
- IEEE802.3af 57Vdc PoE PD Compliant

Voltage
- 37Vdc - 57Vdc

Power
- PoE PSE switch or power injector that provides at least 15.4W per port

Powered
- PinsMode A and Mode B

Cable
- CAT5e or later

Environmental

Temperature
- 32°- 95°F (0°- 35°C)

Relative humidity
- 20% to 80% non-condensing

Rated for indoor installation only

Ingress Rating
- None

Physical Installation

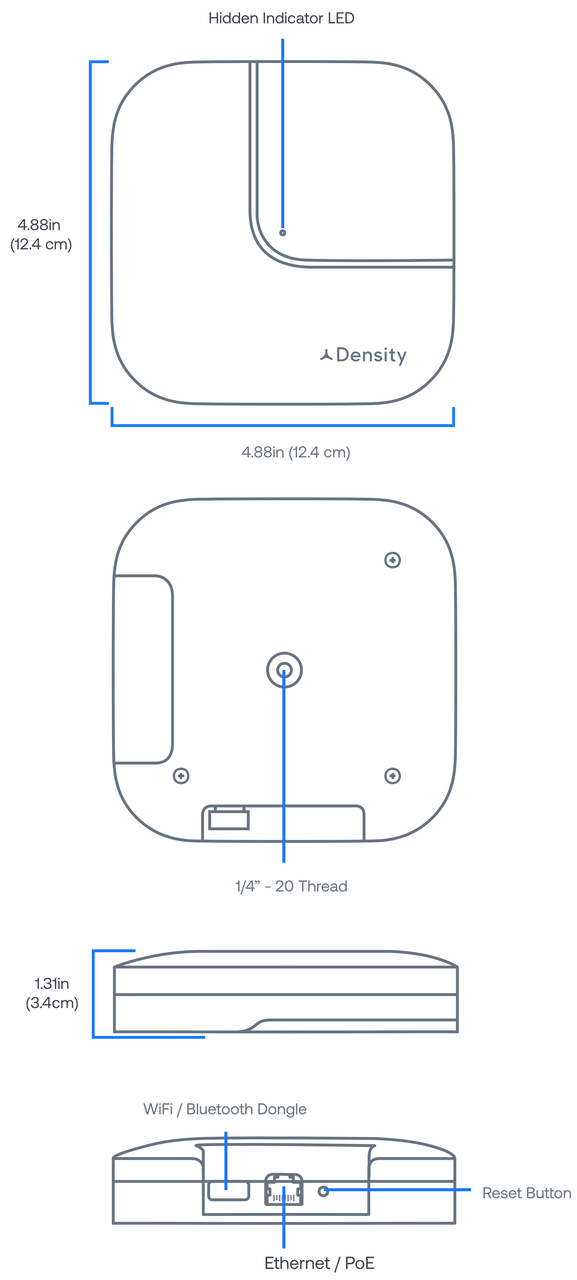
Above Door Mount Height Minimum
- 6 ft 7 in (2.0 meters)

Above Door Mount Height Maximum
- 10 ft 8 in (3.25 meters)

Minimum distance above swinging door
- 10 in (0.25 m)

Necessary clearance for installation
- 6 in (15 cm) from the base of the mount to the ceiling

Mounting Above Door
- Initial kit reuses Entry arms with new OA1b mount bracket
- Future-proof for ceiling mount using OA kits



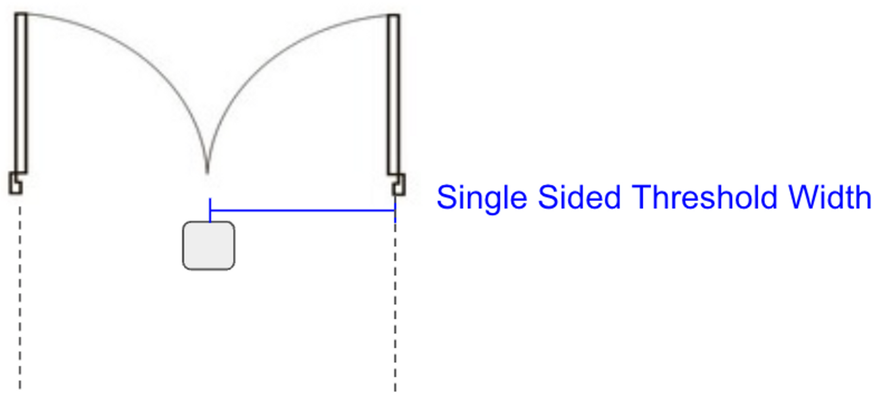
Threshold Width

This is the width of thresholds we're able to accurately cover with an Entry LR sensor. The width varies depending on the height of installation and is measured by the distance we're able to cover on either side of the sensor. Entry LR sensors do not need to be centered above a doorway, but it does have to be within a certain distance from the edge of a door threshold.

Mount height	Max Single-Sided Threshold Width
6 ft 7 in - 7 ft 4 in (2.0m - 2.25m)	3 ft 3 in (1.0m)
7 ft 4 in - 10 ft 8 in (2.25m-3.25m)	4 ft 11 in (1.5m)

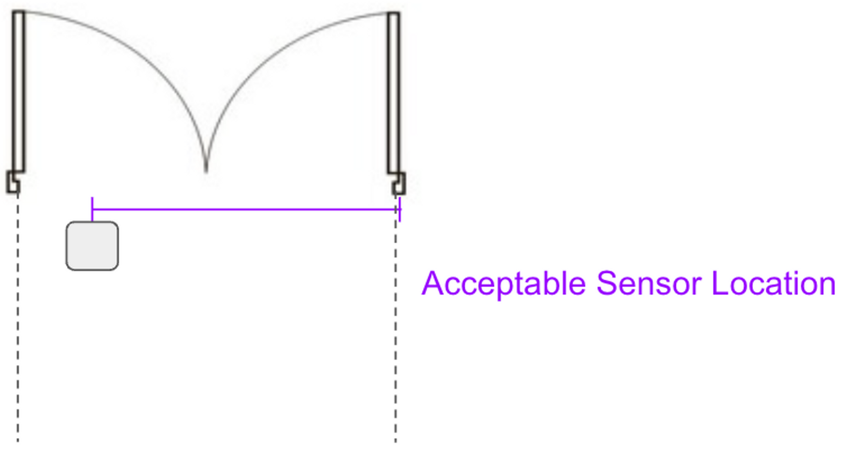
What's a Single-Sided Threshold Width?

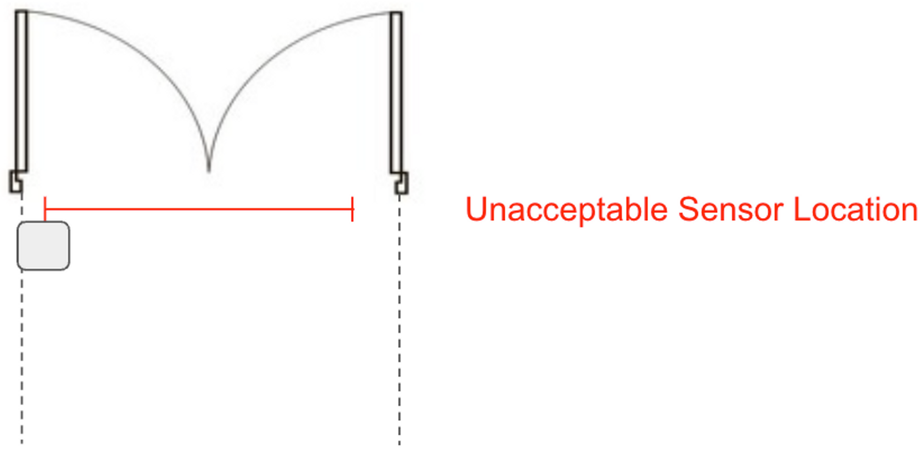
A Single-Sided Threshold width is the along-the-wall distance from the center of the device to the edge of the threshold. You can measure to either edge of the threshold and in practice a device is limited by the side farthest from the edge of the threshold. There is only a maximum spec, not a minimum distance to the threshold edge.



The maximum single-sided threshold width is how far a sensor can be from the threshold edge before it won't be able to accurately count all ingress and egress. As long as the dotted line is within the max width, then the sensor will be able to accurately count.

Here's an example of a sensor placement as far from the center as it can go and one that is too far from the farthest threshold edge.

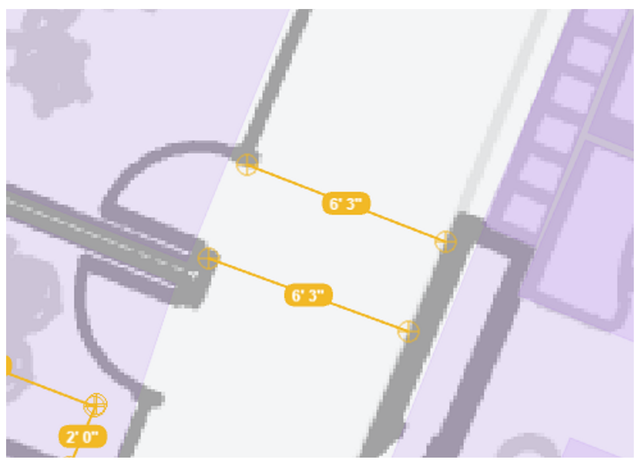




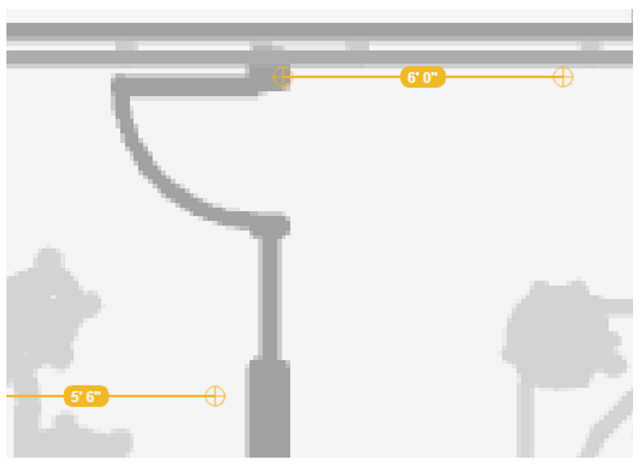
💡 **We require the mount height to be 0.25m above any swinging doors**

Walls and Obstructions

Entry LR benefits from a larger FOV than Entry, which also means we need to position sensors in a way that benefits from that expanded view of the area. It requires 6 ft (1.8 meter) of open space directly in front of the full width of the threshold to guarantee. The team has started to call this the “throw distance”.



This door has the necessary clearance for Entry LR mounting

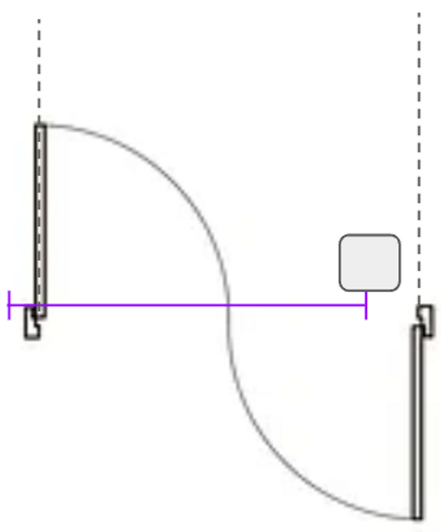


This door has a perpendicular wall next to it, but the area outward is unobstructed

Door Swings

Whenever possible, install Entry LR sensors on the side of thresholds without door swings to give the sensor a clearer view of the area. This is especially important for wider thresholds (6ft+) as doors may obstruct the sensor’s view. If a sensor is placed above a door swing, it’s preferable to be closer to the handle side of the door than the hinge.

Putting it all together - here’s the recommended install location on this curious door



Supported Environments

- Commercial Office Space

Supported Markets

- USA
- Canada
- EU
- Note: This device is NOT compliant in India