

Product Data Sheet



Eureka-411 Antenna

Eureka 411 Antennas

Used to read and write data to the Eureka 411 range of tags. The antennas emit an inductive radio frequency field to activate the tags. Available in a variety of sizes, shapes and field orientations to suit different applications.

For the two-way communication of data all 411 antennas contain a transmit coil to wake the tag from its quiescent state and a receive coil.

Two coaxial cables link an antenna to a 411 reader that can run to lengths of up to 50m without degradation of the signal. This allows each antenna to be remotely positioned from the reader unit, which is especially useful when designing applications needing to operate in harsh and or dirty environments.

Performance

For optimum performance, Eureka 411 tags have a preferred orientation with respect to the antenna. Different antenna construction techniques have been adopted to provide appropriate field orientation.

Antennas have maximum range when the long edge of the tag is parallel to the plane of the antenna. Standard antennas are generally used with the antenna mounted horizontally above or below the tag and side read antennas are generally mounted vertically to one side of the tag.

Tuning

The transmit coil must be tuned to achieve maximum range. Antennas are supplied pre-tuned but may require adjustment during system installation, particularly if the antenna is mounted near metalwork. A simple means of achieving this is provided within the antenna housing or terminal box and for difficult environments a 'Remote Tuning Unit' is available. This contains the necessary tuning components and is normally located in the decoder.

Standard Antenna Type

A standard antenna winding housed in an 0.3M x 0.3M ABS enclosure. A typical example of use would be for item level tracking, tote bin tracking and production lines. These antennas are typically installed horizontally and fixed to the floor or under a conveyor. The typical read and write range of this antenna is 0.8m.

Side Read Antennas

Two types of side read antenna 0.7m x 0.5m & 0.25m x 0.7m are typically used at door entry and exit points or for vehicle tag reading systems. A robust ABS housing and solid former for the two windings ensures that this antenna can operate in harsh environments. Often these antenna are installed in pairs on opposite sides of a double doorway, or production line, to cover greater distances. A single antenna can

achieve a tag read range of up to 1.25m and a pair installed opposite each other will comfortably cover a 2.5m distance.

Flat Mat Road Loop

Designed for reading tags on vehicles, flat mat road loop antennas are bonded to the road surface to provide a quick installation. Sizes vary from 2m x 1m up to 7m x 2m. A typical range of 1.25m can be achieved over most of the road loop area.

Embedded Road Loop

Embedded road loop antennas are placed into cut channels in the road surface and then sealed. Sizes vary depending on the application and area to cover.

A terminal/tuning box is required within 5 metres for either type of road loop antenna.

Orientation Free

Developed for personnel tracking applications, doorways and corridors up to 2.5m wide can be covered. 411 tags passing through the protected area will be read in any position or orientation.

For further information on antennas please contact us.