

Title (en)

SYSTEM AND METHOD FOR LOCATING RADIO FREQUENCY IDENTIFICATION TAGS USING THREE-PHASE ANTENNA

Title (de)

GERÄT UND VERFAHREN ZUM ORTEN VON RADIOFREQUENZ-IDENTIFIKATIONS-TRANSPONDER MITTELS DREIPHASENANTENNEN

Title (fr)

SYSTEME ET PROCEDE DE LOCALISATION D'ETIQUETTES D'IDENTIFICATION RADIOFREQUENCE A L'AIDE D'UNE ANTENNE TRIPHASEE

Publication

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Application

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- US 40609299 A 19990924
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Abstract (en)

[origin: WO0122118A2] A system and method for determining the position of a radio frequency identification (RFID) transponder (520) with respect to a sensor. In one embodiment, the system comprises a plurality of stationary sensors (402) located in an array (404, 406, 408) within certain physical areas. Each sensor comprises a plurality of antenna coils (1002, 1032, 1062) arranged in unique physical orientations and capable of transmitting radio frequency signals of differing phase. The RFID transponder includes an antenna (1402) which receives the plurality of signals generated by the antenna coils, and compares (1912) the phase of at least two of the signals to determine the relative position of the transponder. In a second aspect of the invention, the aforementioned antenna coils emit two direction finding mode (DFM) signals in succession; the first signal (1804) with all antenna coils turned on, the second (1810) with one of the coils turned off (1808). The spatial relationship of the transponder antenna and individual antenna coils precludes all of the signals in each sensor from being rejected by the transponder during emission of both the first and second DFM signal. Hence, the transponder is kept in constant communication with the sensor in all orientations. In another embodiment, the location of the transponder with respect to two or more sensor(s) is determined through measurement of the intensity of the signals received by the antenna coil of the transponder. The invention also includes a system and method for transmitting data between a sensor and a dormant (motionless) RFID transponder using a hand-held high intensity RF probe (2002).

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US 5708423 A 19980113 - GHAFFARI TOURAJ [US], et al

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