NephSystem Technologies RTLS System

Overview:

NephSystem Technologies' Real-time locating systems (RTLS) are used to automatically identify and track the location of objects or people in real time, usually within a building or other contained area. NephSystem's 125KHz/2.45GHz dual frequency of RTLS tags are attached to objects or worn by people.

The system contains the following items to be a whole RTLS package –

1. Activators that work under 125KHz low frequency range (Model NSAR-820)

2. 125KHz and 2.45GHz dual frequency band of tags (Model NSAT-708RTLS and NSAT-709)

3. 2.45GHz NSAR 800 series gain adjustable active RFID reader/writers (Model NSAR-800/850)

NephSystem Technologies NSAR-820 Activator is a stand-alone and fully ruggedized (IP68 rated) signal transmitter that provides a low frequency activation signal (125KHz) which activates or wakes up NephSystem's special activation type of tags (Model NSAT-708RTLS, NSAT-709) as the tags pass through the NSAR-820 Activator. Then the RTLS tag transmits the tag's unique ID along with NSAR-802 activator's address ID together over to NephSystem's NSAR series of active RFID reader/writers to provide the tag's precise location. This combination can realize the regional location service and make the asset/people movement detection possible.

As long as the compatible wake-up type of RTLS tags is not being activated by the NSAR-820 activator, they will be working at the sleep or quiet mode (no RF signals are being transmitted under this sleep mode) so that the battery life in those tags could be significantly improved or expanded. The NSAR-820 Activator can also be configured via serial port by connecting to a regular PC for some specific parameters such as address, name, reading distance, etc. It is very easy to install activators in the field and their features offer the flexible and versatile applications including coverage for perimeter doors, interior zones, vehicle lanes and other control points throughout the facility.

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Specifications of NSAR-820 Activator:

Operating Frequency	125KHz±1KHz
Tag Activating Area	0-7m (the reading radius is adjustable through software)
IP Rating	IP68
Antenna Output Power	<5W
Indicator	LED, Buzzer
Dimensions	188mm×88mm×40mm (L×W×H)
Weight	Built-in software controllable relay channel
Power Consumption	7W
Operating Temperature	-40ºC ~ 60ºC
Storage Temperature	-40ºC ~ 80ºC
Humidity	5% ~ 95% (non-condensing)
Certificates	CE/FCC/RoHS

Specifications of NSAT-708RTLS and NSAT-709 Tag

Operating Frequency	125KHz±1KHz and 2.45GHz
Output Power	NSAT-708RTLS@-6dBm; NSAT-709@0dBm
Reading Distance with NSAR Reader	0~100 meters
IP Rating	IP68 for NSAT-708RTLS; IP67 for NSAT-709
Wake-up Sensitivity	100 uVRMS
Battery Life	4 years for NSAT-708RTLS; 6 years for NSAT-709
Dimensions	250mm × 31mm × 15mm for NSAT-708RTLS; 87mm×55mm×4.7mm (L×W×H) for NSAT-709;
Weight	40g for NSAT-708RTLS; 22g for NSAT-709
Operating Temperature	-40ºC ~ 60ºC
Storage Temperature	-40ºC ~ 80ºC
Humidity	5% ~ 95% (non-condensing)
Certificates	CE/FCC/RoHS