RFID Based School Student Attendance And Trace Tracking Solution

Solution Summary

The RFID student attendance and positioning system is a high-tech solution designed to enhance campus security and streamline attendance record-keeping. Using RFID technology, the system allows students carries a 2.4G active card go through 2.4G RFID reader to record attendance and location information. This data is then transmitted to a central database, giving administrators real-time access to attendance records and students' whereabouts.

The system can be customized to meet the specific needs of educational institutions, including features such as parent notifications for late arrivals or absent students, automatic record-keeping, and detailed reporting. This makes it easier for schools to monitor attendance and ensure the safety of students.

The RFID student attendance and positioning system offers a range of benefits, including reducing the time and resources spent on manual attendance records and improving accuracy. With its advanced technology, the system provides schools with a cost-effective and efficient solution for managing student attendance and location data.

The RFID Student Attendance and Positioning System also called as RFID Based School Student Attendance and Trace Tracking Solution, Automated Attendance Monitoring System, Time and Attendance System, RFID Smart Attendance System or Student Tracking Solution.

ID:student xx
Bus in:6:00 Bus out: 6:40

ID:student xx
school in:6:40 school out 11:30

ID:student xx
10:00: in canteen spend: 1USD

System Architecture

MarktraceRFID use 2.4G RFID Reader MR7901P for school gate entry/exit identify and 2.4G RFID Reader MR7902 for classroom in-door trace tracking.Each student wears a Active Card Tag with unique ID . When he enter the gate, reader nearby detect tag ID immediately and upload information to server/system. Students don't have to stop in queue, to slide card one by one. The system automatically records all attendance information.

School Gate: Entry/Exit

School Bus: In/Out
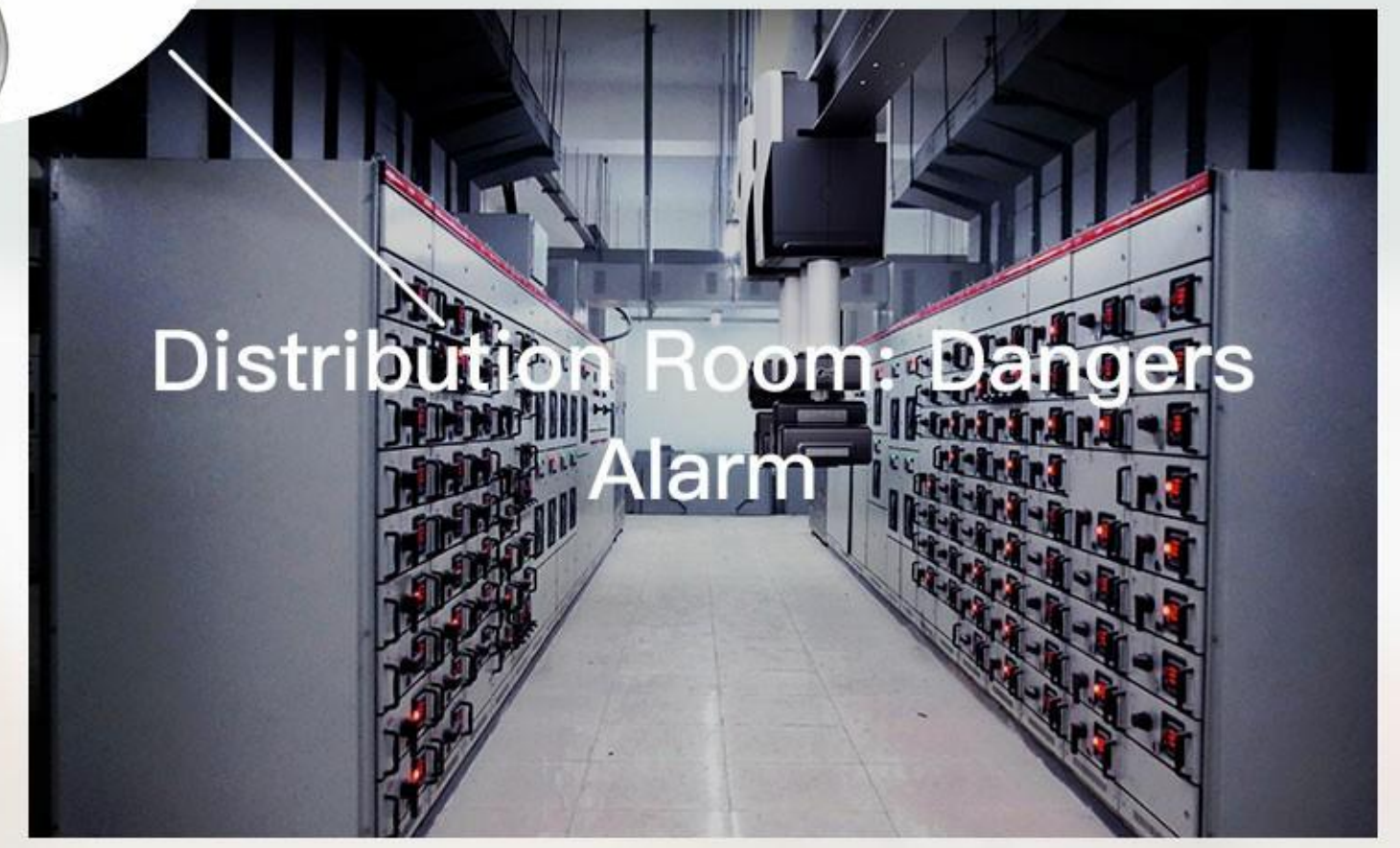
Classroom:Present/Absent

MR7901P 2.4G RFID Reader

MR7902 2.4G RFID Reader

Library: Study Time 2 hours Movement

Canteen: Payment

Distribution Room: Dangers Alarm

System Benefits

01 Ensures complete safety and security of the child.

02 Enable administrators to quickly take real–time attendance

03 Provides robust, secure and automatic attendance movement management

04 Supply a communication and interactive way from school to home.

Main Device

MR7901P
2.4G RFID Reader

Model	MR7901P
Identify type	4 antenna inside, can use as omnidirectional and directional both
Signal modulation mode	GFSK
Traffic rate	1Mbit/s
Working frequency	2440MHz
Lateral tension (wind-proof)	20N (Typhoon level 12)
Lightning protection level	≧4000V
Antenna gain	12dBi Dual polarization directional antenna
MAX receive sensitivity	-90dbm
Reading range	MAX 400m (based on tag type)
IP	IP65
Material	ABS, high temperature resistant, white color
Dimension	230*106*106mm
Input voltage	9-12V
Net weight	2kg
Power consumption	300mA
Power adaptor	12V 2A
Operating temperature	-20°C~+60°C
Storage temperature	-45°C~85°C
Protocol	MarktraceRFID protocol
Transfer method	4G and TCP/IP
Certifications	FCC and CE

MR7902
2.4G RFID Reader

Model	MR7902
Material	ABS, high temperature resistant
Dimension	φ168*51.5mm
Way to install	wall-mounted, ceiling fixed
Net weight	0.3kg
Gain	3.5dBi
Reading range	200m MAX (based on tag type)
Signal modulation mode	GFSK
Traffic rate	1Mbit/s
Working frequency	2440MHz
MAX receive sensitivity	-90dbm
Input voltage	9-12V
Power consumption	300mA
Power adaptor	12V 2A
Color	White
Protocol	MarktraceRFID protocol
Transfer method	4G and TCP/IP
4G capabilities	Based on country
Operating temperature	-20°C~60°C
Storage temperature	-40°C~85°C
Certifications	FCC and CE

HX607
2.4G Active Card

Model No	HX607
Type	2.4G Card type (Beacon type)
Inductive mode	Initiative transmit, transmit every second
Material	ABS, heat resistant ,White color
Dimension	86*55*5.5mm
Battery	battery life up to 3 years
IP Grade	IP67
Installation	Carry on
Signal modulation	GFSK
Communication speed	1Mbit/s
Operation frequency	2.44GHz
Output power	0dbm
Average current	<7uA
Battery model	CR2032
Battery capacity	220mA
Operating temperature	-20°C~+60°C
Storage temperature	-30°C~+65°C
Operating humidity	<85%
13.56MHz Features:	
Memory	8Kbit
Protocol	ISO14443A
Communication Speed	106kbit/s
Certifications	FCC and CE