

IoT & AI Based Electric Fire Prevention and Detection Solution

FIPAS

Fire Patrol & Alarm System

Patent No.10-1856479 | Patent No.10-1645648

IoT-based Smart Electric Fire Prevention System

“ Nobody knows when electric fires or electric safety accidents occurs.

From now on, FIPAS system allows you to prevent them in advance. ”



SMART HOME | SMART FARM | SMART FACTORY

FS, Inc
DIGITAL SOLUTIONS

Smart Electric Fire Prevention System

Electric fire prevention system applying IoT integrated sensor and status pattern analysis algorithm. The IoT integrated sensor detects the electric fire in advance through the pattern analysis using artificial intelligence and sends SMS and PUSH notification, and provides fire station reporting function.

FIPAS device

Power
Current
Voltage
Overcurrent
Leakage Current



Smart Electrical Status Detector



Electric fire indication detection

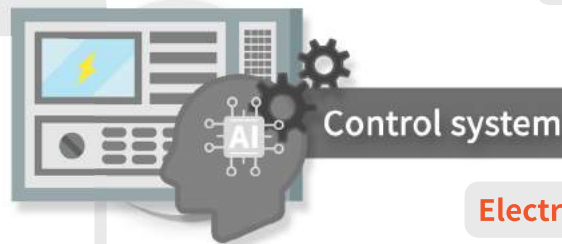
IoT communication

LoRa G/W



Zero cost with
Self-developed LoRa Network

FIPAS Control Interface

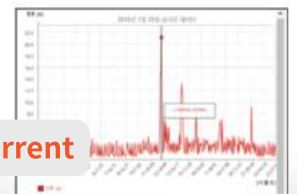


Electrical short



Detection of
anomalous indication

Overcurrent



Before a fire

When a fire is detected



Remove the risk of
electric fire



Report of 119 dispatch to
jurisdictional fire department

▶ Power related multi functional solution

- Ultra-compact size with the power consumption metering + electric safety + wireless communication + SMPS
- Integration of remote power consumption metering and electric safety

1

▶ Insulation resistance measurement in live wire

- Implementation through highly reliable measurement of resistive leakage current (the highest level in Korea)
- Separated measurement of three elements of leakage current (I_{go}, I_{gr}, I_{gc})

2

▶ Easy installation

- Convenient installation even in a limited space with ultra compact size (the smallest model in Korea)

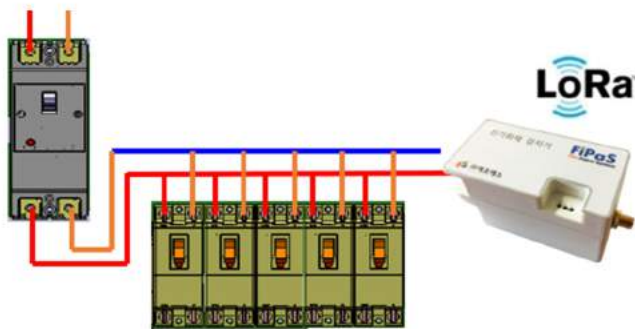
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▶ Prevention

- Protection of persons, property, and facilities through prevention of electric fire and electric shock accidents

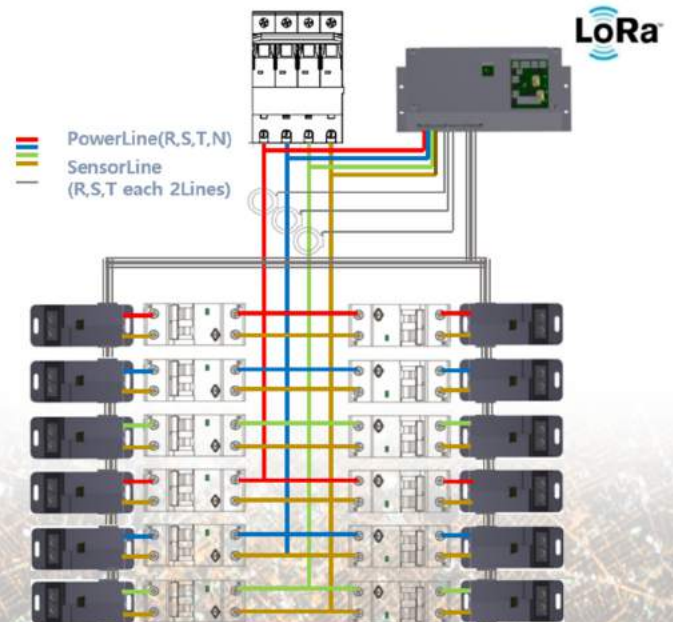
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▶ Single phase panel board



Power / Current / Voltage /
Overcurrent / Leakage Current /
Real time monitoring

▶ Three phases panel board



- ✓ Electric fire prevention system combined with latest IoT technology and AI technology
- ✓ Application of certified equipment and AI to minimize malfunction
- ✓ Power saving through real-time monitoring of energy usage

Easily check your power usage anytime, anywhere, and avoid electrical fire and electrical safety accidents.

Expected Effects and Applications

▶ Electric fire prevention

- Real time monitoring and notification of short circuit and overcurrent
- Early response in case of electric fire



▶ Prevention of electrical safety accidents

- Prevention of electric shock accident
- Real-time monitoring of power failure and prompt response



▶ Power saving

- Real time monitoring of electricity usage and induction of power saving through the notification on progressive electric charge in advance



▶ Minimize malfunction by applying AI

- Application of electric fire detection algorithm
- Application of status recognition and pattern analysis technology



Applications



Residential space and shopping area (smart home)

Traditional markets, apartments, general shopping areas, underground shopping malls and various functional facilities.



Agriculture and plant facilities (smart farm / smart factory)

Business facilities, cattle shed and agricultural greenhouses, factories, military facilities and power generation facilities



Welfare facility

Welfare facilities such as children, elderly people, disabled residents, training centers, hospitals



Cultural assets and temples

20% of fire of cultural properties and temples are occupied with electric fire

Practical applications of the system

Daejeon Central Railway Market (11 stores), Daejeon Taepyeong Market (7 stores), Daejeon Information Culture Industry Promotion Agency (7 offices).

