Intelligent
Parking Guidance System

DKEE DKEE Inc.

Why the parking count system is needed?

Do you consider to apply the parking guidance system by ultrasonic sensors?

▪ As you may know that the parking guidance system is required a lot sensors, aisle light and piping/cabling for parking guidance system.

▪ Some parking lot may required that kind of solution but the most owner of the parking lots hesitates or refuses that solution.

▪ Because most buyers think that to display vacant spaces by ultrasonic sensors is too much expensive.

▪ So, we've developed a new concept Parking Guidance System for indoor and outdoor with low cost.

▪ Our parking guidance system counts numbers of parking block or floor by passing in or out vehicles.

▪ And it displays vacant spaces of block or floors at intersection to guide available parking.

High Accuracy & Low Costs

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2step : **Intelligent Auto-correction**

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1step : **Classify valid vehicles**

Intelligent Parking Counter System with automatic correction

▪ Our Parking Guidance System with two steps correction functions manages to keep high accuracy rate by analyzing processing in the system.

▪ The I/O controller is for the first step that it analyzes signals which was sent from vehicle detector.

▪ And the Management Computer is the second step that it has automatic correction function to keep high accuracy rates.

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[First step at the I/O controller]   [Second step at the traffic computer]

Features of Parking counter system

High accuracy rate with two step corrections

▪ The I/O controller analyzes signals which was received from vehicle detectors whether it's error cause of broken etc. so that the I/O controller can send only correct signals to the traffic computer.

▪ The Traffic computer has automatic correction function that it keeps high accuracy rates by analyzing operation status.

First step at I/O Controller

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Second step at traffic computer

Application to Indoor & Outdoor parking lots

● INDOOR PARKING LOTS

Indoor parking lot can be divided by floors to guide vacant spaces, but it can also divided with several blocks in the same floor to guide more detail.
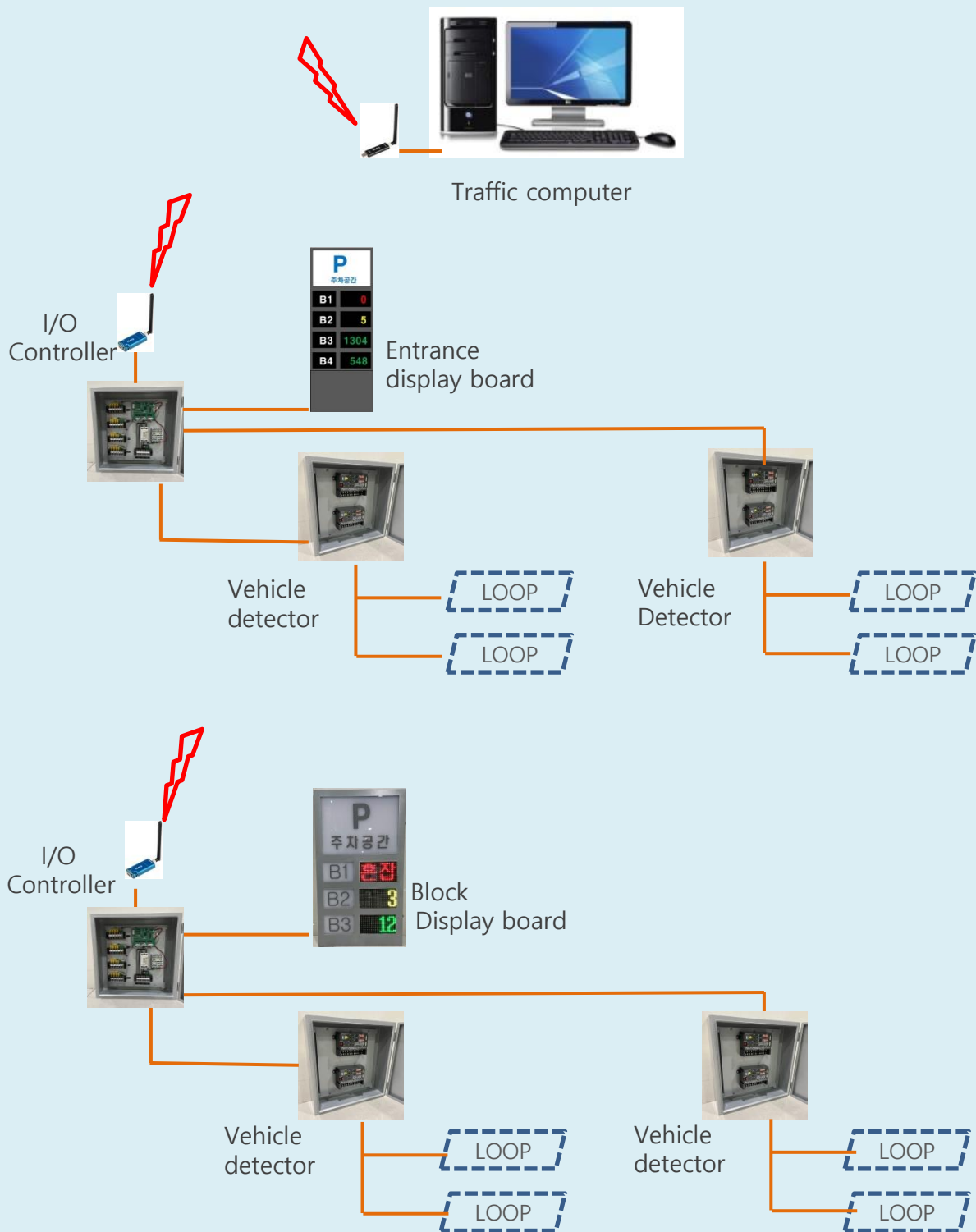
● OUTDOOR PARKING LOTS

Outdoor parking lot can be divided by several blocks, and it indicates vacant spaces of block on the block display board which was installed at front of the block.

[Indoor parking lot]

[Outdoor parking lot]

Block diagram of Parking guidance

Traffic computer

I/O Controller

P
주차공간
B1   0
B2   5
B3   1304
B4   548

Entrance display board

Vehicle detector

LOOP

LOOP

Vehicle Detector

LOOP

LOOP

I/O Controller

P
주차공간
B1 휴잠
B2 3
B3 12

Block Display board

Vehicle detector

LOOP

LOOP

Vehicle detector

LOOP

LOOP

Display boards

Entrance display board
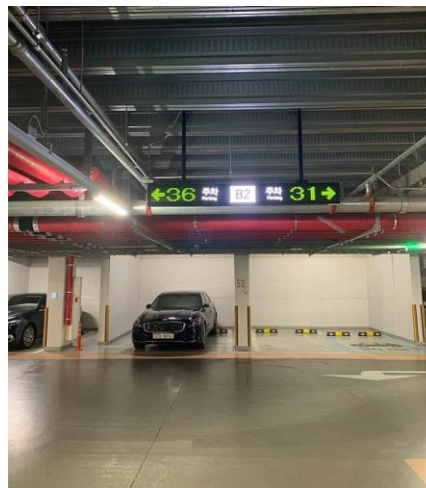

[Self-stand]

[Wall mounted]

Block displays
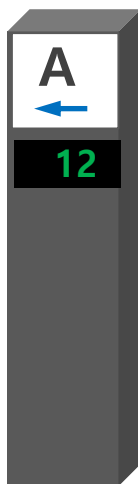
[Self- stand for outdoor]

[Ceiling mounted, indoor]

Major features 1

Traffic Computer

- Counting numbers S/W with auto correction.
- Application : Indoor or Outdoor parking lot
- Type of counts : occupancy or passing counts
- Contents : name, capacity, parked numbers, vacant spaces, vacant rate(%)
- Manage floors : Max. 20 floors or blocks
- Communication : RS-485 (to I/O controller)
- Converter : USB-RS485 converter
- Computer : Windows 10 or 11
- Remote connection : needed Internet
- Power : AC220V
- Operating Temperature : 0°C ~ 50°C

I/O controller

- It analyzes detection signals whether the signal is correct or not automatically.
- Application : passing or occupancy vehicles
- Input   : 16ports
- ID   : 1~19
- Communication : RS-485 3ports
- Power   : AC220V
- Operating temperature : -20°C ~ +60°C

Major features 2

Vehicle detector

- Detects passing vehicle and send it to I/O controller
- Application : detects passing vehicles
- Channels　　 : 2 channel (or 4chennels)
- Type　　　 : loop detection type
- Sensitivity : 16 steps
- Frequency : 4 steps
- Timer　　　 : 0~30seconds
- Warning lamp : Yes
- Power　　　 : AC220V
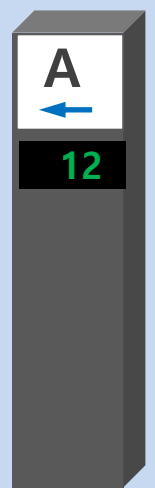- Operating temperature : -20℃ ~ +60℃
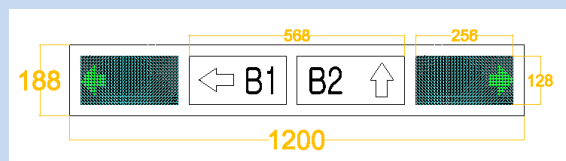

Entrance, Block(Floor) display board

- Entrance display : 560(W) x 1500(H) x 120(D)mm
- Floors display　 : 1200(W) x 188(H) x 120(D)mm
- Block display　　: 350(W) x 1500(H) x 350(D)mm
- Numbers　　　 : 4 digits
- Letter display　 : English, Korean can be set
- Display module : 128 x 256mm LED module,
- Communication : RS-485
- Power　　　　 : AC220V
- Operating temperature : -20℃ ~ +60℃
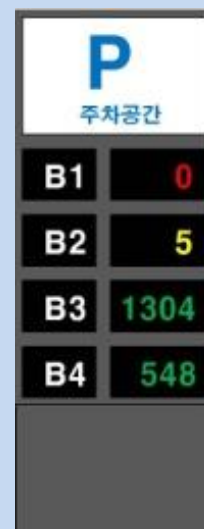
Entrance display

Block display

Floor display

Radio communication convertor

uLory to USB convertor

- Application LoRa with low power and long ranges
- Provided separated network with Lorynet
- Support USB 2.0
- Support Industrial temperature -40~85°C
- Support smart phone app. for setting
- Frequency   : 917~923Mhz
- Radio power : Max. 25mW
- Security   : AES 128
- Communication : USB 2.0 high speed
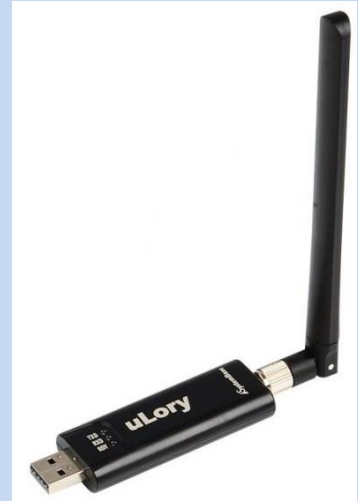
LoryNet sLory

- Lora convertor for serial port
- Support I port serial RS-485
- Support industrial temperature : -40 ~ +85°C
- Communication Speed : Max. 921.6kbps
- Surge protection ± 15KV IEC ESD
- Frequency   : 917Mhz ~923Mhz
- Distance range : Max. 20km on opened air
- Security   : AES128
- Number of port : 1 port
- Interface   : RS-485
- Power   : DC5V