All In One Wireless Loop Detector for Parking Lot

Parking Information System
01 FEATURES

- All-In-One Type Loop Detector
- Micro Power Consumption Technology Based Wireless Parking Detector
- Wireless Data Communication (ISM Band)
- Battery Operation (Very Long Life & Replaceable)
- Automatic Compensation Algorithm for Temperature
- Waterproof designed for Indoor & Outdoor Parking Application
- Heavy Duty Enclosure Design for Outdoor Parking Lot

01-1 All In One Wireless Loop Detector
- Consist of Loop Coil, Detect module, RF module and Battery
- Useful Indoor and Outdoor Parking Lot
- Automatic Compensation Algorithm for Temperature

01-2 Very Long Battery Life
- 5 ~ 10 Years (Typ.)
- Battery Replacement Available
- Lithium Battery A/D Type

01-3 Solar / Wireless Communication
- No Communication Line,
  No Power Line and No Installation Materials
- Solar and Battery Operation
- ISM BAND (Sub 1GHz)
- Communication Distance
  sensor ↔ receiver : 50m (Typ.)
  receiver ↔ field controller : 500m (Typ.)

01-4 Easy Installation
- Easy Installation use Anchor Bolt
- Attachment Method on the Floor
01-5 Various Applications
- Indoor, Outdoor Parking Information System
- Automatic Door Control Sensor

02 APPLICATION DETAIL

02-1 Outdoor
- Optimized Outdoor Parking Lot
- Use the ParkDisk™
- Automatic Compensation Algorithm for Temperature
- Easy Installation
- Battery Monitoring

02-2 Indoor
- Indoor Parking Lot Available
- Use the ParkDisk™-2
- Cost-Effective Application
- Easy Installation
- Battery Monitoring

02-3 Surface
- Detection of Large Vehicle
- Use the ParkRing™
- External Loop Coil
- Loop Head Failure Monitoring
- Battery Monitoring

02-4 The Roadside
- No Loop Coil Installation
- Best Reliable Performance
- Error Free Vehicle Detect
- Easy Installation
- Battery Monitoring
## 03 APPLICATION

### 03-1 Sensor
- Indoor / Outdoor Parking Lot Available
- Easy Installation
- Best Reliable Performance (Error Free Vehicle Detect)
- Waterproof & Heavy Duty Design
- Wireless Data Communication (ISM Band)

### 03-2 Receiver
- Sensor Data Receive & Repeat Function
- Low Power Operation
- Outdoor Enclosure : Solar & Battery Operation
- Wireless Data Communication (ISM Band)

### 03-3 GPRS Controller
- ISM Band Wireless Data Receiver with GPRS Cellular Network Interface Function

### 03-4 Field Controller
- Collect Data from Receiver
- Various Communication Port Available
- UPS Function (2Hour)
- Display Control (Option)
## 04 SPECIFICATION

### 04-1 Sensor

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Outdoor</th>
<th>Indoor</th>
<th>Outdoor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Name.</td>
<td>ParkDisk™</td>
<td>ParkDisk™-2</td>
<td>ParkRing™</td>
</tr>
<tr>
<td>Model No.</td>
<td>ML-D211</td>
<td>ML-D212</td>
<td>ML-D231</td>
</tr>
<tr>
<td>Size (Ø X H)</td>
<td>455mm X 60mm</td>
<td>370mm X 37mm</td>
<td>125mm X 105mm</td>
</tr>
<tr>
<td>Weight</td>
<td>3.7kg (Typ.)</td>
<td>1.5kg (Typ.)</td>
<td>1.2kg (Typ.)</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-34 °C ~ 74 °C</td>
<td>-34 °C ~ 74 °C</td>
<td>-34 °C ~ 74 °C</td>
</tr>
<tr>
<td>RF BAND</td>
<td>ISM Band (Sub 1GHz)</td>
<td>ISM Band (Sub 1GHz)</td>
<td>ISM Band (Sub 1GHz)</td>
</tr>
<tr>
<td>RF Coverage</td>
<td>50m (Typ.)</td>
<td>50m (Typ.)</td>
<td>50m (Typ.)</td>
</tr>
<tr>
<td>Application</td>
<td>Outdoor (Heavy duty)</td>
<td>Indoor</td>
<td>Outdoor</td>
</tr>
<tr>
<td>Battery (Lithium)</td>
<td>D Type / A Type *1</td>
<td>A Type*2 (Max.)</td>
<td>D Type &amp; Solar</td>
</tr>
<tr>
<td>Loop Coil</td>
<td>Built-in</td>
<td>Built-in</td>
<td>Not included</td>
</tr>
<tr>
<td>Battery Life</td>
<td>D Type : 10 Years (Typ.)</td>
<td>7 Years (Typ.)</td>
<td>About 10 Years + α</td>
</tr>
<tr>
<td></td>
<td>A Type : 5 Years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waterproof</td>
<td>IP67 Class</td>
<td>IP67 Class</td>
<td>IP67 Class</td>
</tr>
</tbody>
</table>

![Picture]

![Dimension]
## 04-2 Receiver (Indoor/Outdoor)

<table>
<thead>
<tr>
<th></th>
<th>Indoor Receiver</th>
<th>Outdoor Receiver</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model No.</td>
<td>MXM-B302</td>
<td>MXM-B302-ES</td>
</tr>
<tr>
<td>Output Contact</td>
<td>4ch. (Photo-Mos Relay Contact)</td>
<td>Not Available</td>
</tr>
<tr>
<td>Data Output Port</td>
<td>Wire</td>
<td>Wireless</td>
</tr>
<tr>
<td>Communication Type</td>
<td>RS-232</td>
<td>ISM Band (Sub 1GHz)</td>
</tr>
<tr>
<td>Communication Range</td>
<td>500m to Field Controller (Typ.)</td>
<td>500m to Field Controller (Typ.)</td>
</tr>
<tr>
<td>Detector Limit</td>
<td>120 Sensors (Max.)</td>
<td>120 Sensors (Max.)</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-34 ºC ~ 74 ºC</td>
<td>-34 ºC ~ 74 ºC</td>
</tr>
<tr>
<td>Weight</td>
<td>200g (Include Antenna)</td>
<td>2kg (Include Solar Equipment)</td>
</tr>
<tr>
<td>Size (W X H X D)</td>
<td>120mm X 45mm X 40mm</td>
<td>190mm X 190mm X 60mm</td>
</tr>
<tr>
<td>Waterproof</td>
<td>-</td>
<td>IP67 Class</td>
</tr>
<tr>
<td>Power &amp; Battery</td>
<td>External Power (DC 5~24V)</td>
<td>Solar &amp; Battery / DC</td>
</tr>
</tbody>
</table>

## 04-3 Field Controller / GPRS Controller

<table>
<thead>
<tr>
<th></th>
<th>Field Controller</th>
<th>GPRS Controller</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model No.</td>
<td>MXM-C110</td>
<td>MXM-C1101</td>
</tr>
<tr>
<td>Communication Type</td>
<td>TCP/IP 1Port, RS-232 3Port</td>
<td>Wireless (GPRS / CDMA)</td>
</tr>
<tr>
<td>Size (W X H X D)</td>
<td>300mm X 400mm X 180mm</td>
<td>276mm X 225mm X 142mm</td>
</tr>
<tr>
<td>Power</td>
<td>100 VAC ~ 250 VAC (50watt. Max.)</td>
<td>100 VAC ~ 250 VAC (50watt. Max.)</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-34 ºC ~ 74 ºC</td>
<td>-34 ºC ~ 74 ºC</td>
</tr>
<tr>
<td>Weight</td>
<td>15kg (Max.)</td>
<td>3.2kg (Max.)</td>
</tr>
<tr>
<td>Communication Range</td>
<td>-</td>
<td>500m from Receiver (Typ.) / 1,000 Sensors (Max.)</td>
</tr>
<tr>
<td>UPS Module</td>
<td>12V 7Ah Lead-Acid Battery (2Hour) (Option)</td>
<td>-</td>
</tr>
<tr>
<td>Etc.</td>
<td>Built-in Noise Filter, Circuit Breaker (20A) (Option)</td>
<td>IP67 Class</td>
</tr>
</tbody>
</table>
### 05 Case of Installation

05-1  Namsan Cable Car Station  
- Seoul, Korea

05-2  SK Ventium Factory  
- Gunpo-si, Korea

05-3  Namhansanseong Park  
- Gwangju-si, Korea

05-4  Public Parking Lot in Yeosu  
- Yeosu-si, Korea

05-5  Bus Parking Lot  
- Seoul, Korea

05-6  the Republic of Chile  
- Santiago, Chile