NEXT GENERATION

Perlite Carbon Ground Module
OMNI G-2PS

KOREAN INVENTION PATENT (No. 10-0875504)
**Purpose of Perlite Carbon Ground Module**

Perlite Carbon Ground Modules connect telecommunication devices, electric measurement devices, lightning protection devices and electric power equipments to ground electrically so that it can flow surge current caused by power system fault or lightning into ground.

- Grounding for lightning protection, incoming panel, distribution panel, industrial systems line, wireless communication protection and etc.

**Structure of Perlite Carbon Ground Module**

![Structure Diagram](image)

**Core technology of Perlite Carbon Ground Module**

<table>
<thead>
<tr>
<th>Features of Electrolyte</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Humid Soil Condition</strong></td>
</tr>
<tr>
<td><strong>Dry Soil Condition</strong></td>
</tr>
</tbody>
</table>

Enhanced Constructability (Lighter Weight)

Eco-friendly & Enhanced Corrosion Durability

- Carbon Ground Module
- Perlite Ground Module
Main function of Perlite Carbon Ground Module

The Perlite Carbon Ground Module is made of graphite, Perlite (pearlstone) and vermiculite. It flows lightning currents into ground rapidly. It has high-durability to prevent damages from lightning currents or external shocks and it is easy to deliver for its light weight.

<table>
<thead>
<tr>
<th>Item</th>
<th>Next Generation Perlite Carbon Ground Module</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specified</td>
<td><img src="image_url" alt="Image" /></td>
</tr>
<tr>
<td></td>
<td>● Size : $\varnothing$ 260 × 1000 [mm]</td>
</tr>
<tr>
<td></td>
<td>● Weight : 38 kg ± 10 %</td>
</tr>
<tr>
<td></td>
<td>● Korean invention patent (No. 10-0875504)</td>
</tr>
</tbody>
</table>

### Functionality

- Emits electrolyte (NaCl) into ground depending on changes of soil moisture to soil resistivity resistance greatly and expand grounding area.
  - by contacting more area in ground to increase capacitance.

- The carbon ground module is made of Perlite (pearlstone) and vermiculite which has strong water absorption and moist retention to keep low ground resistance.

- Keeps low ground resistance at even - 40 °C with minor changes of resistance value.

- Resistant to cracks or breaks from repetitive strong lightning currents – with stainless still cast and fixed covers at each end.

- Easy to wrap and deliver

### Simplicity of Manufacturing

- Easy to manufacture
  - Material insertion and compression progress could be easy because the structure of the Perlite Carbon Ground Module is binding units, it is compatible to variable length.

### Simplicity of Installation

- Easy to move and install
  - There are fixed covers on both ends of a rod. Casted with stainless steel board with holes, it is protected from damages during delivery.
  - Its weight is 38 kg, it is lighter than the old model (60 kg)
Performance comparison - Ground resistance measurement

- Date: 2013.11.15 ~ 2015.03.20 (17 months)
- Location: OMNI LPS Co., Ltd. Factory located in Gimpo
- Content: Measure ground resistance of buried ground electrodes

<table>
<thead>
<tr>
<th>Item</th>
<th>Ground Resistance [Ω]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper (Cu) Electrode</td>
<td>55.5</td>
</tr>
<tr>
<td>Carbon Ground Module (Old type)</td>
<td>25.1</td>
</tr>
<tr>
<td>Perlite Carbon Ground Module</td>
<td>14.8</td>
</tr>
</tbody>
</table>

- Perlite Carbon Ground Module kept the lowest ground resistance.
- Method of Measurement: Fall of potential method (tripartite observation method)
- Measuring Equipment
  - Ground Resistance Measuring: C.A6470 (CHAUVIN ARNOUX)
  - Measurement Range: 0.01 Ω ~ 100 kΩ

Ground resistance graph

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