HOW TO DRAW THE MAXIMUM CURRENT FROM AN INDUCED POLARIZATION TRANSMITTER

An Induced Polarization transmitter features three main specifications:
- its maximum output current \( I_{\text{max}} \)
- its maximum output power \( P_{\text{max}} \)
- its maximum output voltage \( V_{\text{max}} \)

The value of the current which is driven into the ground depends on the one hand on the value of the ground resistance \( R \) of the electrodes and on the other hand on the three previous specifications:

a- for low ground resistances, the current is limited by the maximum output current of the transmitter:
\[ I = I_{\text{max}} \]

b- for medium ground resistances, the current is limited by the maximum output power of the transmitter:
\[ I = (P_{\text{max}} / R)^{1/2} \]

c- for higher ground resistances, the current is limited by the maximum output voltage of the transmitter:
\[ I = V_{\text{max}} / R \]

EXAMPLES (see diagram)

<table>
<thead>
<tr>
<th>PRODUCT name</th>
<th>Power kW</th>
<th>Voltage V</th>
<th>Current A</th>
</tr>
</thead>
<tbody>
<tr>
<td>VIP 3 000</td>
<td>3</td>
<td>3000</td>
<td>5</td>
</tr>
<tr>
<td>VIP 4 000</td>
<td>4</td>
<td>»</td>
<td>»</td>
</tr>
<tr>
<td>VIP 5 000</td>
<td>5</td>
<td>»</td>
<td>10</td>
</tr>
<tr>
<td>VIP 10 000</td>
<td>10</td>
<td>»</td>
<td>20</td>
</tr>
</tbody>
</table>

PRACTICAL CONSIDERATIONS

As a consequence of previous physical laws, it is recommended to always try to decrease the ground resistance of the electrodes as much as possible so to draw the maximum current from a given transmitter.

The current of the VIP transmitters increases logarithmically by pressing the “\( I \uparrow \)” key of the front panel. When getting nearer from the maximum theoretical value of the current, it is recommended to increase by step of 100mA by pressing the “\( I \uparrow \)” key and then the “R” key until the new value of the current appears on the LCD display.