High Voltage Surge Arresters
Buyer’s Guide — Section EXCOUNT-I
EXCOUNT-I is a surge counter with basic leakage current measurement function. The counter provides a number of unique features such as short-circuit safety and a well proven electronic display which is easy to read, even in direct sunlight. EXCOUNT-I is specially designed for use with all makes and types of gapless arresters and in diverse environments.

The electronic display is of Cholesteric Liquid Crystal Display type. This ensures highest readability, even in direct sunlight. The display is Bi-stable, which means that power is only required during refresh of the display.

Surge registration
EXCOUNT-I registers the surge each time the arrester has discharged a current over 10 A. The accumulated number of surges is continuously shown on the electronic display.

Leakage current measurement
ABB’s unique design ensures that total leakage current through the arrester can be measured without risking personnel safety.

The measurement is initiated by triggering a light sensitive diode using a standard laser pointer. This will initiate EXCOUNT-I to start measuring the total leakage current for several cycles and shortly thereafter display the average value (in mA). The counter will then automatically return to its normal state and display number of impulses. Thus, the measurement can be made at a discreet distance without coming into direct contact with the equipment.

Maintenance free
EXCOUNT-I is a maintenance free product in outdoor applications. The display and solar panels might however need to be wiped off before measurement in extremely polluted conditions.
EXCOUNT-I
Technical data

**General**

<table>
<thead>
<tr>
<th>Climatic conditions</th>
<th>Sealed water-tight design, IP67</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short-circuit capability</td>
<td>65 kA according to IEC 60099-4</td>
</tr>
<tr>
<td>Power supply</td>
<td>Built-in solar cells</td>
</tr>
<tr>
<td></td>
<td>(battery alternative for indoor use)</td>
</tr>
</tbody>
</table>

**Surge registration**

- Minimum counting threshold (8/20 µs): 10 A
- Surge counting memory capacity: 999999 registrations (wrap-around)
- Time resolution: < 0.5 s

**Leakage current measurement**

- Measuring range of total leakage current: 0.1 - 50 mA<br>
- Measuring frequency range: 48 - 62 Hz
- Laser pointer wavelength: 630 nm

**EXCOUNT-I versions**

EXCOUNT-I can be supplied with an output connection (auxiliary contact) for interfacing to external signalling equipment. Versions with only surge counting function are also available.

<table>
<thead>
<tr>
<th>Model</th>
<th>Surge counting</th>
<th>Leakage current measurement</th>
<th>Auxiliary contact</th>
<th>Laser pointer included</th>
</tr>
</thead>
<tbody>
<tr>
<td>1HSA440000-C</td>
<td>Yes</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1HSA440000-E</td>
<td>Yes</td>
<td>-</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>1HSA440000-J</td>
<td>Yes</td>
<td>Yes</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td>1HSA440000-L</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

The auxiliary pulse contact is suitable for use with AC or DC voltage (max. 250V, 1A). An auxiliary relay of suitable type must be connected separately to the EXCOUNT-I auxiliary contact (not included as standard).

**Dimensions**

- Approx. 500
- 76
- 14
- Ø 14
- 100
- 158
- 40
- 95
- 69.5
- 11
- 191

**Auxiliary contact brought out via dual-core (2 x 1 mm) cable**

1HSA440000-E and 1HSA440000-L
For more information please contact:

**ABB AB**
High Voltage Products
Surge Arresters
SE-771 80 Ludvika, Sweden
Phone: +46 (0)240 78 20 00
Fax: +46 (0)240 179 83
E-Mail: arresters.div@se.abb.com

www.abb.com/arrestersonline

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