Features

• Platform program for substation management system SMS 010
• Easy addition of required software modules of the SMS 010 system
• Navigator for the power structure and editor for setting relays, terminals, annunciators, etc.
• Communication functions for the transfer of data and settings to/from substation secondary equipment
• Error correction and supervision for the communication system
• Telephone modem handling for Hayes compatible modems
• Telephone number lists used for remote communication
• Flexible tools for working with the power structure
• Measuring transformer settings
• Terminal emulator for tracing communication problems
• SPA terminal emulator for SPA communication
• Terminal emulator for commissioning of SACO and SRIO data communicators for the REPORT system
• Password handling on station level
• Printing functions
• Multi-lingual capability

Application

The platform program SMS-BASE is required in all SMS 010 substation management system applications. Other programs and module packages are added to the SMS-BASE, thus forming the SMS 010 system. The SMS-BASE provides the necessary tools for setting and communicating with the protection terminals in the SMS 010 system. The SMS-BASE program is also used for creating, modifying and navigating in the five-level power structure, which is an essential part of the SMS 010 applications.
Design

From the SMS-BASE environment other programs are started and the protection terminals are handled according to their specific configuration files. The base for most operations in the SMS 010 system is the five-level power structure, which is managed and maintained by the SMS-BASE. The SMS-BASE synchronizes the operation of the whole SMS 010 system.

Technical data

Operating requirements for the SMS-BASE software

Table 1: Hardware requirements

<table>
<thead>
<tr>
<th>Terminal end</th>
<th>Substation equipment</th>
<th>SPA protocol equipment incorporated in the SMS 010 module library, e.g. SPACOM devices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication protocol</td>
<td>SPA</td>
<td></td>
</tr>
<tr>
<td>Connection alternatives</td>
<td>Fibre-optic loop</td>
<td>Directly via cable to the terminal</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Remote communication</th>
<th>Leased telephone lines</th>
<th>modems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Switched telephone line</td>
<td>Modern with auto-answer at the substation</td>
<td></td>
</tr>
<tr>
<td>Telephone line standard</td>
<td>CCITT</td>
<td></td>
</tr>
<tr>
<td>Telephone modem control at the PC end</td>
<td>“AT” commands</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Personal computer</th>
<th>Type of PC</th>
<th>IBM® AT® (80286) or better</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compatibility</td>
<td>100% IBM compatible</td>
<td></td>
</tr>
<tr>
<td>Operating system</td>
<td>MS-DOS® 3.3 or higher</td>
<td></td>
</tr>
<tr>
<td>Main memory</td>
<td>500 kB available</td>
<td></td>
</tr>
<tr>
<td>Hard disk space for SMS-BASE shell</td>
<td>2.5 MB</td>
<td></td>
</tr>
<tr>
<td>Free disk space recommendation</td>
<td>&gt;20 MB</td>
<td></td>
</tr>
<tr>
<td>Disk space for a typical example structure</td>
<td>1.5 MB</td>
<td></td>
</tr>
<tr>
<td>Disk space for example structure</td>
<td>~1 MB</td>
<td></td>
</tr>
<tr>
<td>Serial port, COM1 or COM2</td>
<td>1 for the modem</td>
<td></td>
</tr>
<tr>
<td>Serial port, if SPTOED editor used</td>
<td>1 for the mouse</td>
<td></td>
</tr>
<tr>
<td>Parallel port, LPT1</td>
<td>1 for the printer</td>
<td></td>
</tr>
<tr>
<td>Floppy disk drive</td>
<td>3 1/2 inch, 1.44 MB</td>
<td></td>
</tr>
<tr>
<td>Code page</td>
<td>437, 860, 863 or 865</td>
<td></td>
</tr>
</tbody>
</table>
### Power structure and data memories

The power structure represents the actual physical structure of the power system with substations, bays/cubicles and terminals and it enables the user to select terminal and data memories of interest.

#### Table 2: Power structure and data memories

<table>
<thead>
<tr>
<th>Power structure</th>
<th>Number of terminals</th>
<th>unlimited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of structures</td>
<td>unlimited</td>
<td></td>
</tr>
<tr>
<td>Number of selections per level</td>
<td>unlimited</td>
<td></td>
</tr>
<tr>
<td>Storing of SPACOM device data on disk</td>
<td>Storing of historical data</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Storing of settings</td>
<td>Yes</td>
</tr>
<tr>
<td>Communication settings</td>
<td>Serial ports</td>
<td>COM1, COM2, COM3, COM4</td>
</tr>
<tr>
<td></td>
<td>Transfer rates</td>
<td>300, 1200, 2400, 4800, 9600, 19200 or 38400 Baud</td>
</tr>
<tr>
<td></td>
<td>Transfer protocols</td>
<td>SPA, SRIO</td>
</tr>
<tr>
<td>Data transmission time at 2400 Baud</td>
<td>Remote acquisition</td>
<td>0.15 s/variable</td>
</tr>
<tr>
<td>when no SACO/SRIO data communicator is used</td>
<td>Remote send</td>
<td>0.3 s/variable</td>
</tr>
<tr>
<td></td>
<td>Time to establish a modem link</td>
<td>10 s typically</td>
</tr>
</tbody>
</table>
Fig. 1 In the SMS 010 system the SMS-BASE platform program handles navigation in the power structure. The handling of the terminals installed, i.e. parameterization, resetting, reading and loading of parameters from/to the protection terminals, etc., is done from the SELECT menu, while the UTILITIES menu contains separate SMS-BASE tools, e.g. for power structure handling and communication settings.

### Ordering

<table>
<thead>
<tr>
<th>When ordering, please specify:</th>
<th>Ordering example</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Type designation and quantity</td>
<td>SMS-BASE, 1 piece</td>
</tr>
<tr>
<td>2. Order number</td>
<td>RS 881 007-AA</td>
</tr>
<tr>
<td>3. Software end user: Name, company and address</td>
<td></td>
</tr>
</tbody>
</table>

### Order numbers

| Platform program SMS-BASE English | RS 881 007-AA |

### References

<table>
<thead>
<tr>
<th>Additional information</th>
<th>1MRS 750146-ESD</th>
</tr>
</thead>
</table>

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