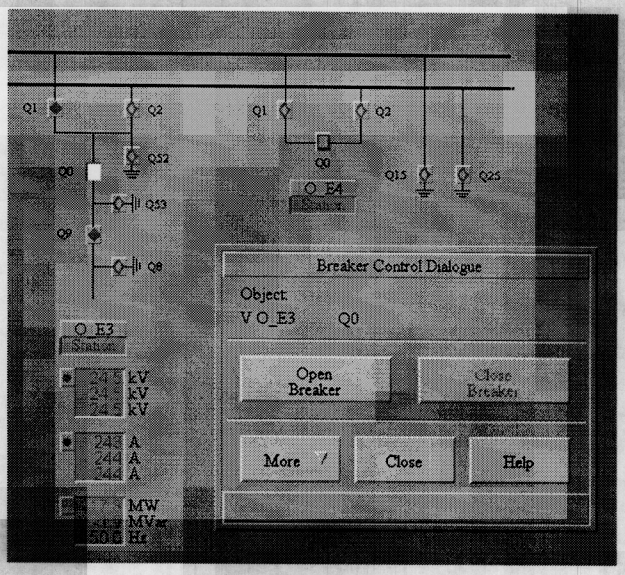
High voltage software modules

LIB 520*4.0.2

1MRK 511 065-BEN
Page 1
Issued September 1999
Status: New
Data subject without notice



Features

- Consists of standard library functions for easy application engineering of a station HMI
- Supervision and control via high voltage terminals
  (HV/Control package)
- Supervision, monitoring and control of voltage on secondary side of power transformer
  (HV/VCTR package)
- Collection of disturbances from high voltage terminals
  (HV/Collect package)
- Provides on-request information from RE.5xx terminals comprising:
  - setting and configuration of parameters
  - reading/resetting of indications
  - measured values at fault
  - service values from analogue and digital inputs
  - handling of spontaneous events and presentation in lists

  (HV/REx500 & HV/RET521 packages)

Application

The LIB 520 package provides the following main functions:

- User interface for interaction with the control system and the controlled process.
- Automatic supervision and control
- Alarm and event handling
- Data acquisition, calculating and reporting

The high voltage software modules are a complement to the standard MicroSCADA software and provides an easy-to-build and easy-to-use HMI for supervision, control, disturbance collection and SMS functionality in MicroSCADA.

The software is made for high voltage terminals, and are providing the same user interface as the LIB 500/510 standard library functions.

Design

The modules are designed as MicroLIBRARY functions for easy installation and configuration of the standard functions.

The control functions in HV/Control are designed to match the design of the bay and apparatus control in the control terminal REC 561.

The supervision, monitoring and control functions in HV/VCTR are designed to match the design of the voltage control function in the transformer differential protection RET521.

The module HV/Collect, finally, is designed to be as similar as possible to RECOM for collection of disturbances.

The design of the HV/REx5xx modules is made to have the same look and feel as in SMS (Substation Monitoring System).

For communication between the terminal/s and the MicroSCADA, a normal SPA or LON communication setup must be made.

HV/REx5xx are the software modules for parameter setting and event handling of the corresponding protection terminal in the REx5xx series.

Technical data

Table 1: General requirement

LIB 520 4.0.1C requires the MicroSCADA release 8.4.1C.
LIB 520 4.0.2 requires the MicroSCADA release 8.4.2 or newer.

Table 2: Serial communication

Terminal	Note
REL 501*2.0, REL 511*2.0, REL 521*2.0, REL 531*2.0, REL 551*2.0, REL 561*2.0, REB 551*2.0, REC 561*2.0 RET 521*2.1	SPA port (control or monitoring)
	LON port (control)

Table 3: Fibre optic loop data

Type	Maximum fibre length
Plastic fibre cable	30 m (between two units)
Glass fibre cable	500 m (between two units)

Table 4: Requirements for the MicroSCADA computer 8.4.1

Software module	Disc space required	MicroSCADA software required
HV/Control	3,5 MB	SYS500 ver. 8.4.1C; LIB520, ver. 4.0.1C; MicroNET, ver. 8.2C; PCNET, ver. 8.4.1 (97-04-21 or later)
HV/Collect*	1 MB	SYS500 ver. 8.4.1C; LIB520, ver. 4.0.1C; ** MicroNET, ver. 8.2C; PCNET, ver. 8.4.1 (97-04-21 or later)
HV/Rex500***	6 MB	SYS500 ver. 8.4.1C; LIB520, ver. 4.0.1C; ** MicroNET, ver. 8.2C; PCNET, ver. 8.4.1 (97-04-21 or later)

* Note that the HV/RE.5xx module for the terminal in question is also required in order to run HV/Collect. If e.g. disturbances shall be collected from REL511, then both HV/Collect and HV/REL511 is required.
** SPA_TOOL in LIB 510 is required.
*** If you want to order HV/REL501, 511, 521, 531, 551 561, REB551, REC561 terminal versions earlier than 2.0, please contact an ABB Automation Products sales representative.

Table 5: Requirements for the MicroSCADA computer 8.4.2

Software module	Disc space required	MicroSCADA software required
HV/Control	3,5 MB	SYS500 ver. 8.4.2; LIB520, ver. 4.0.2; MicroNET, ver. 8.2C; PCNET, ver. 8.4.2
HV/Collect*	1 MB	SYS500 ver. 8.4.2; LIB520, ver. 4.0.2; ** MicroNET, ver. 8.2C; PCNET, ver. 8.4.2
HV/Rex500	6 MB	SYS500 ver. 8.4.2; LIB520, ver. 4.0.2; ** MicroNET, ver. 8.2C; PCNET, ver. 8.4.2
HV/RET521	3,4 MB	SYS500 ver. 8.4.2; LIB520, ver. 4.0.2; ** MicroNET, ver. 8.2C; PCNET, ver. 8.4.2
HV/VCTR	1 MB	SYS500 ver. 8.4.2; LIB520, ver. 4.0.2; MicroNET, ver. 8.2C; PCNET, ver. 8.4.2

* Note that the HV/RE.5xx module for the terminal in question is also required in order to run HV/Collect. If e.g. disturbances shall be collected from REL511, then both HV/Collect and HV/REL511 is required.
** SPA_TOOL in LIB 510 is required.

Diagrams

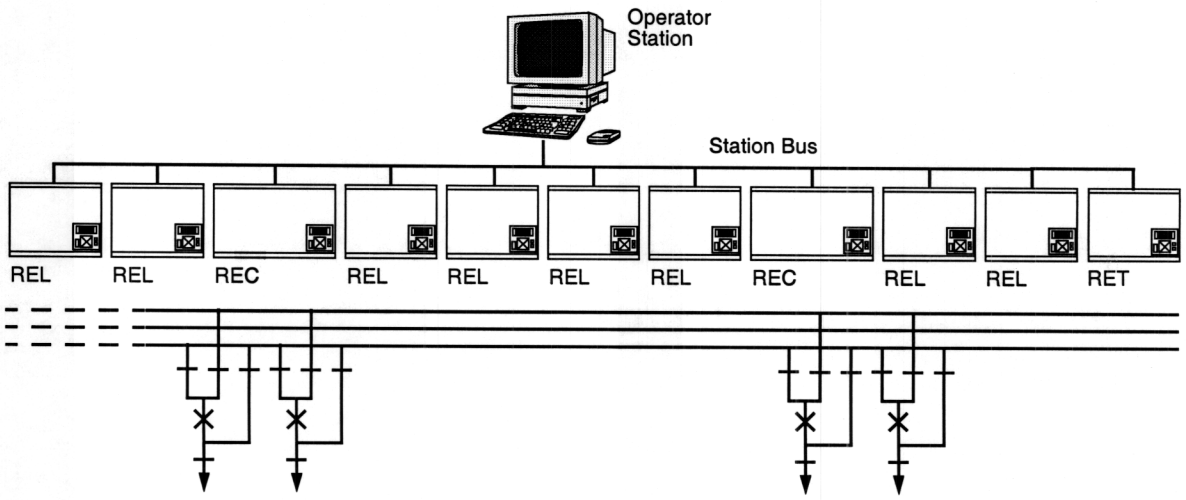


Fig. 1 The MicroSCADA is connected to the station bus. Terminal data is read/written to and from the MicroSCADA. Events are transferred over the station bus.

Ordering

Specify:

- Type designation and ordering numbers
- Software version in terminal or ordering number for terminal
- Quantity
- End user of the document: Customer name, company, address and project

Software modules Type designation	Terminal version	for MicroSCADA 8.2 (UNIX-version) Ordering No.	for MicroSCADA version 8.4.1 (Windows NT-version) Ordering No.	for MicroSCADA version 8.4.2 (Windows NT-version) Ordering No.	Printed user's manual excl. software modules
HV/Control v2.2	1.1 a)	–	c)		
HV/Control v2.3	2.0	–	d)		
HV/Control v2.4	2.0	–		e)	1MRK 001 934-AA f)
HV/Collect v2.1	b)	–	1MRK 001 132-BB		
HV/Collect v2.2	2.0	–	d)	e)	1MRK 001 934-CA f)
HV/VCTR v2.1	2.1	–		e)	1MRK 001 934-EA f)
HV/REL 501 v1.1	1.1	1MRK 000 524-AA	–		
HV/REL 501 v2.2	1.2	–	c)		
HV/REL 511 v1.1	1.1	1MRK 000 524-BA	–		
HV/REL 511 v2.2	1.2	–	c)		
HV/REL 521 v1.1	1.1	1MRK 000 524-CA	–		
HV/REL 521 v2.2	1.2	–	c)		
HV/REL 531 v2.2	1.0	–	c)		
HV/REL 551 v1.1	1.1	1MRK 000 524-DA	–		
HV/REL 551 v2.2	1.2	–	c)		
HV/REL 561 v1.1	1.1	1MRK 000 524-EA	–		
HV/REL 561 v2.2	1.2	–	c)		
HV/REB 551 v1.1	1.1	1MRK 000 524-FA	–		
HV/REB 551 v2.2	1.2	–	c)		
HV/REC 561 v2.1	1.0	–	1MRK 001 132-LB		
HV/REC 561 v2.2	1.1	–	c)		
HV/RET 521*2.1	2.1	–		e)	1MRK 001 934-DA f)
HV/REx 500 v.2.0	2.0		d)	e)	1MRK 001 934-BA f)

a) Version of REC 561
b) Used for all terminal versions. Note that the HV/RE.5xx module for the terminal in question is also required
in order to run HV/Collect. If e.g. disturbances shall be collected from REL511, then both HV/Collect and HV/REL511 is required.
c) HV modules incl. documentation are available on CD, LIB 520*4.0.1B. Please contact ABB Substation Automation Oy.
d) HV modules incl. documentation are available on CD, LIB 520*4.0.1C. HV/REx 500 supports all the above 500 terminals v2.0. Please contact ABB Substation Automation Oy.
e) HV modules incl. documentation are available on CD, LIB 520*4.0.2. HV/REx 500 supports all the above 500 terminals v2.0. Please contact ABB Substation Automation Oy.
f) Please contact ABB Automation Products AB.

References

Panorama Station Automation	1MRK 500 016-BEN
SMS 010	1MRK 511 014-BEN

Manufacturer

ABB Automation Products AB
Substation Automation Division
SE-721 59 Västerås
Sweden
Tel: +46 (0) 21 34 20 00
Fax: +46 (0) 21 14 69 18