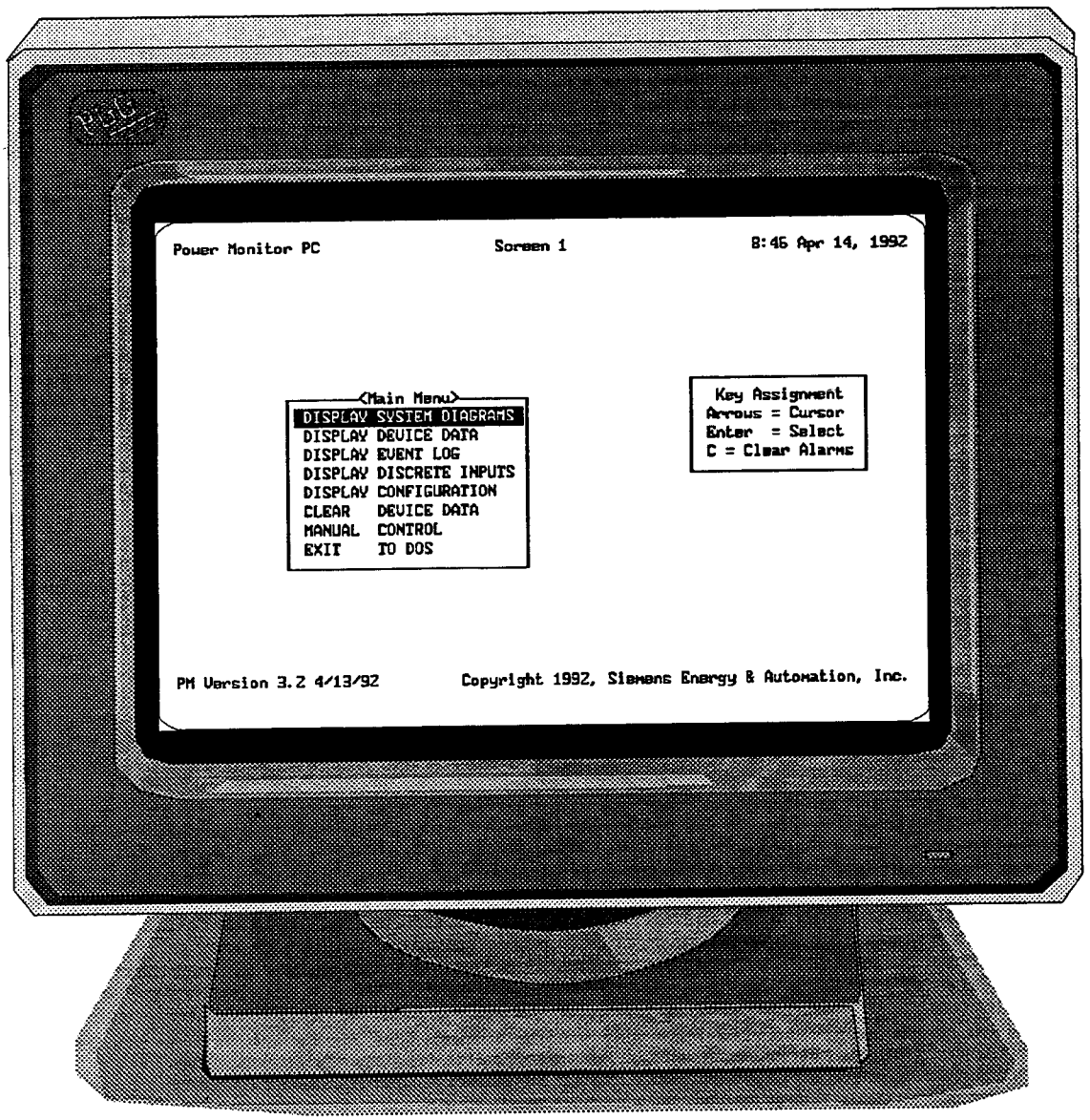
SIEMENS

# Power Monitor PC™

## Communications and Supervisory Software

User's Manual

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# 1 About Power Monitor PC™ Software

The Power Monitor PC™ communications and supervisory software is a DOS-based version of the program that operates the Siemens' switchgear-mounted Power Monitor™ display and monitoring unit. Power Monitor PC software offers the same functionality as the Power Monitor unit by allowing you to monitor your electrical system from your own personal computer, which gives you the capability to monitor your system from a remote location.

# 2 About This Document

This document is intended for users of Siemens Power Monitor PC software. It contains only information that is related to loading and starting the DOS-based version of the program that operates in the Siemens Power Monitor display and monitoring unit. This document does not contain any information about using Power Monitor PC software to monitor the devices on your ACCESS™ electrical distribution communications system. For information on using the software once it is running, refer to Siemens *Power Monitor Display and Monitoring Unit* (manual no. SG-4018-01).

Specifically, this document contains information only on the following topics:

- what you need to run Power Monitor PC software
- how to connect your PC to the ACCESS system
- how to load Power Monitor PC software on your PC
- how to run Power Monitor PC software
- how to respond to error messages

# 3 What You Need to Run Power Monitor PC Software

To run Power Monitor PC software on your personal computer, you need the following equipment and minimum capability:

- Power Monitor PC program diskette (with the files PM.EXE and PM_OWNER)
- personal computer with a 386 processor running at 20 MHz or faster
- 3.5" high-density floppy diskette drive
- disk storage space of 1.5 Mb
- 3 Mb of RAM (random access memory)
- 16-color display (CGA, EGA, VGA, or Super VGA monitor)
- RS-232 serial communications port (two serial ports if your system has a Host PC)
- Isolated Multi-Drop™ RS-232 to RS-485 converter or other RS-232 to RS-485 converter (If you choose a converter other than the Isolated Multi-Drop converter,

make sure that it provides both isolation and surge protection to guard your computer against electrical anomalies.)

At this time, Power Monitor PC software cannot run in a DOS window under Microsoft® Windows™ because of a conflict with the protected memory mode environment created by extended memory managers necessary to run Windows. If Windows is installed on your computer, you may need to reconfigure your computer to run Power Monitor PC software, or you can boot your computer from a DOS system diskette. These special needs for running Power Monitor PC software are discussed fully below in "Running the Power Monitor PC Program."

## 4 Connecting Your PC to the ACCESS™ System

Before you can use Power Monitor PC software to communicate to the field devices on your electrical distribution system, you must physically connect your computer to the SEAbus communications loop that links the devices on the ACCESS™ system. To connect your computer to the SEAbus loop, use the Isolated Multi-Drop RS-232 to RS-485 converter, which converts the RS-232 signal from the serial port on your computer to an isolated RS-485 signal used by SEAbus devices.

You have three options for connecting your computer to your system:

1. use an RS-232 cable to connect directly to a local Isolated Multi-Drop converter
2. use short-haul modems to connect to a remote Isolated Multi-Drop converter
3. use dial-up modems to connect to a remote Isolated Multi-Drop converter

For complete information on choosing the right option and on installing the Isolated Multi-Drop converter, refer to *Isolated Multi-Drop RS-232 to RS-485 Converter* (manual no. SG-6048). You may also want to refer to *Installing the ACCESS System* (manual . SG-6028), which provides complete information on installing all SEAbus devices on the ACCESS system.

## 5 Loading the Power Monitor PC Software on Your Computer

Because of the size of the Power Monitor PC program and the data files it generates when running, you cannot run the software from the diskette on which it is shipped. Instead, you must load the program onto the hard drive on your computer, as described in this section. (Before you continue with the procedure for loading the Power Monitor PC software, you should make a backup copy of the program diskette. If you do not know how to make a backup copy, refer to your DOS user's manual for instructions.)

To load the program onto your hard disk, make a separate directory for the program files and the data files it generates, and then copy the program files into that directory. Make sure that you have at least 1.5 megabytes of free space on your hard drive, and then follow these steps:

1. From the DOS (C:)) prompt on your PC, type "md PMPC". This command creates a directory named "PMPC". If you prefer another name for your directory, substitute your preference for "PMPC" in the command line. (Remember that DOS limits you to an eight-character name.)
2 Next, type "cd PMPC". This command makes the new Power Monitor PC software directory the current directory.
3 Now type "copy A:*.*" to copy the Power Monitor PC program files from the source diskette into the PMPCdirectory. (Or if your computer's 3.5" diskette drive is the B drive, type "copy B:*.*" instead.)
4. To verify that you have successfully copied the files from the source diskette, type "dir". This command lists the names of all files in the current directory, so you should see only the files PM.EXE and PM_OWNER listed.

Now you are ready to run the Power Monitor PC program.

# 6 Running the Power Monitor PC Program

This section gives you simple instructions for getting the Power Monitor PC program up and running on your computer. As indicated above in section 3, some minor operating restrictions exist for running the Power Monitor PC program. Version 3.2 of the program cannot run with Microsoft Windows, and it may not run on a computer that is configured to run Windows, because of a conflict with the protected memory mode environment created by extended memory managers necessary to run Windows.

If you don't understand everything stated in the preceding paragraph, don't worry. The remainder of section 6 tells you how to easily get your Power Monitor PC program up and running. Section 6.1 describes the basic procedure for starting the Power Monitor PC program, assuming that your computer is properly configured to run the program. Section 6.2 tells you what to do if your computer is *not* configured to run the program.

## 6.1 Starting the Power Monitor PC program

After loading Power Monitor PC software on your PC as described in section 5, you are ready to start the Power Monitor PC program, if your computer is properly configured to do so. If you are not sure whether your computer is ready to run Power Monitor PC software, follow these steps anyway:

1. From your computer's DOS (C:\)) prompt, type "cd PMPC" to make the PMPC directory the current directory.
2. Now type "pm". As a result, you should see the start-up sequence of Power Monitor PC software screens, which ends with the program's Main Menu screen.

If, instead of this start-up sequence, you see the error message "Conflicting protected mode environment detected," follow the procedure described in section 6.2 below.

The very first time you run Power Monitor PC software, you will also see a series of error messages quickly displayed at the bottom of the screen. These errors occur because Power Monitor PC software is looking for eight "Data" files that contain the configuration information for your system. When it does not find these files, it generates the error messages and creates default versions of the files. The Power Monitor PC software data files are discussed more fully in the next section.

### 6.2 Configuring Your Computer to Run Power Monitor PC software

If your computer is set up to run Microsoft Windows or some other software that requires an extended memory manager, you may not be able to run Power Monitor PC software without reconfiguring your computer. In this case, you will see the error message "Conflicting protected mode environment detected." The procedure in this section tells you what to do if you have this problem so you can run Power Monitor PC software.

Although you could change your computer's CONFIG.SYS and AUTOEXEC.BAT files, the easiest way to configure your computer for running Power Monitor PC software is to start your computer with a bootable DOS disk that does not contain these files. This practice ensures that only DOS is running on your computer, thereby eliminating conflicts between different modes of operation.

The following steps tell you how to create a bootable (system) diskette, restart your computer, and run Power Monitor PC software:

1. Load an unformatted floppy diskette into your computer's A: diskette drive.
2. From the DOS (C:\)) prompt on your PC, type "format a: /s". This command tells DOS to format the diskette in drive A: as a system diskette.
3. When formatting is complete, restart your computer either by pressing the Ctrl, Alt, and Delete keys simultaneously or by turning the power off and on again. (Be sure to leave the newly formatted system diskette in drive A: when you restart your computer.)
4. From the A:\) prompt, type "C:" to switch to the DOS (C:\)) prompt.
5. Now type "cd PMPC" to make the Power Monitor PC software directory the current directory.
6. Finally, type "pm". As a result, you should see the start-up sequence of Power Monitor PC software screens, which ends with the program's Main Menu screen.

## 6.3 About Power Monitor PC software Data Files

When you first start the Power Monitor PC program, it generates default versions of the eight data files that store information about the system configuration. The default versions contain the information necessary for Power Monitor PC software to run, but you will modify these files by establishing your own system configuration as described in section 3 of *Power Monitor Display and Monitoring Unit.*

**Note:** You should modify these files only within the Power Monitor PC program. If you try to change them from outside the program, you will corrupt the files.

The following list gives you the DOS names of the eight files and a description of the kind of information stored in each:

- DATA_G Global parameters
- DATA_U Device and circuit configuration
- DATA_A Alarm configuration
- DATA_I Discrete inputs configuration
- DATA_T Protective settings configuration
- DATA_M Min/Max data
- DATA_E Event Log entries
- DATA_S System diagrams configuration

### *6.3.1 Backing Up Your Data Files*

After you configure the Power Monitor PC program for your electrical distribution system, make copies of these files, both in a separate directory on your hard drive and on a separate floppy diskette. If your system configuration is ever corrupted, you can restore it by simply copying these backup files into your Power Monitor PC directory.

**Note:** If you ever need to restore configuration information in this way, your system settings and operating parameters will be restored, but you will lose any Min/Max data and Event Log entries stored in their respective data files. To avoid losing this data, use the Print Screen key on you keyboard to print the screens that display this information, before you restore the backup files.

### 6.4 Printing Options in Power Monitor PC software

You can print the information from any Power Monitor PC software screen simply by pressing the Print Screen key on your computer's keyboard. You should use a printer that supports the IBM graphics character set, so that the borders and boxes on Power Monitor PC software screens will be printed correctly. (Refer to your printer's users manual to find out if it supports the IBM graphics character set and how to select that character set for printing Power Monitor PC software screens.)

Power Monitor PC software is also designed to print entries from its Event Log directly to a dedicated printer connected to a parallel port on your computer. If you want Power Monitor PC software to print the Event Log, then select "Log events to printer" on the Global Settings screen. (This option is available only with Power Monitor PC software. The Global Settings screen is otherwise fully described in section 3.1 of *Power Monitor Display and Monitoring Unit* [manual no. SG-4018-01].) When you make this selection, Power Monitor PC software writes a line to your printer stating that what follows are entries from its Event Log. Whenever you turn off this option, it sends a similar message indicating that it has ceased to print entries from its Event Log. Once your system is setup, Power Monitor PC software prints each Event Log entry to your printer as it occurs in the system, while still maintaining the Event Log screen on line.

Finally, you can print the Event Log from Power Monitor PC software's Event Log screen by pressing the F2 key.

## 7 Error Messages

In addition to Alarm and Event messages, you may see other error messages displayed at the bottom of Power Monitor PC screens. This section presents the error messages you are most likely to encounter when running the software and tells you how to respond to correct the problem. Refer to the table below if you see an error message while running the Power Monitor PC program.

| Error Message | Explanation |
|---|---|
| Conflicting protected mode environment detected | PMPC displays this message if you try to run Power Monitor PC software with an incompatible extended memory manager on your PC. Refer to the instructions in section 6.2 above to correct this problem. |
| Disk error writing <filename> | This message indicates either insufficient disk space or a disk error. You are most likely to see this message if you try to run the program from a floppy diskette. Siemens recommends that you install the software on your hard drive according to the instructions in section 5 above, remembering that you need at least 1.5 Mb of disk space for the program and the eight data files it needs to run. |

*(table continues)*

| Error Message | Explanation |
|---|---|
| Disk error reading <filename> | This message indicates that DOS cannot read the file, probably because it cannot find it. PMPC displays this message for each of the eight data files when you first start up Power Monitor PC software. Thereafter, this message may indicate any number of other problems, so you may need to consult your DOS user's manual for more information about correcting this error. |
| <data type> data corrupted | This message indicates that one of the Power Monitor PC data files has been corrupted. If you see this message, you need to delete the corrupted file and reconfigure the system, or you can use the back-up copy of the file as described in section 6.3.1. |