

OPERATING INSTRUCTIONS

PC2010 TEMPERATURE MONITORING SYSTEM

By

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PC2010 Grain Temperature Information System

SOFTWARE

The software is written in a user-friendly Windows Format. To assist the user, we have incorporated the Help Menus. If the user has any questions or doubts on use of the software, they may click on the help up on the menu bar and help will “pop-up” on the screen.

The cables in the grain temperature system are displayed in a grid table on the screen. This enables the user to select or “tag” specific cables or sections of the system to be read or printed.

Use of the system involves 3 basic steps:

- 1) READING (Selecting specific cables, sections or the entire system)
- 2) PROCESSING (Updating the historical temperature information)
- 3) REPORTS (Temperature Rise “exception” Report, High Temperature Report, Color Graphics)

REPORTS

EXCEPTIONS REPORT: The software allows for **BOLD PRINTING** of thermocouples with a selected temperature rise (3°, 5°, 7°, etc.) over the previous reading. The user selects the desired temperature rise in order for the “Exceptions” to **BOLD PRINT**.

HIGH TEMPERATURE REPORT: The software also allows for a summary report of all cables which exceed a selected temperature (85°, 90°, 95°, etc.). For this report, the user selects the temperature point and the printout provides a summary of all cables which meet or exceed this point.

COLOR GRAPHICS: This feature, which is included, provides the ability to display the system cables in a color bar graph on color monitor. Each cable is represented by a vertical bar with temperature variations represented by different colors. This allows a quick visual check to identify potential or existing problem areas.

A capability which has been added to our system enables cable and switch analysis of the grain temperature system. What this feature does is instead of reading temperatures, the computer reads the Ohm resistance of the thermocouples. The Ohm resistance provides a "blueprint" of the condition of the system's cables and switches.

A few system problems that may be identified are:

- Shorted cables/thermocouples
- Improper connections/cables out-of-sequence
- Multiple switches being "on-line" to the instrument

The temperature presentation reports (either printed or visual) are also more efficient in identifying potential or existing problem areas. This results in less time being spent evaluating handwritten forms or other printouts.

When the computer is not being used for grain temperatures, it may be used as a PC. The software requires less than 1 mb of hard disk space.

A 3-year warranty is provided with all TSGC instrumentation and switching.

TSGC cannot accept responsibility for the condition of the existing cables. However, should work on this part of the system be required, we are capable of meeting your needs now and in the future.

TSGC looks forward to providing you quality equipment and service for many years to come.

Should you have further questions regarding this system, please call us at:

800-438-8367

PC2010 Documentation

OVERVIEW

The PC2010 is a system for the control, collection, and printing of grain temperature data.

PC2010 consists of three main parts:

Personal Computer and Printer

TempSys Control Unit

TempSys Software

The Personal Computer (or PC) is interfaced to the printer and the **Control Unit**. The **Control Unit** is the hardware that is responsible for:

Supplying power to the remote switches

Selecting the sections and cables in the remote switches

Selecting the T/C to be read

Converting the T/C signal so it can be understood by the PC

The Control Unit is usually mounted on the wall in proximity to the PC.

The Software:

Runs the Control Unit

Provides the operator interface

Prints reports

Does temperature graphics

OPERATION

Every PC2010 system is custom-built, using modules that have proven reliable in many installations. Your system has been installed and configured for your type of system and PC.

Basic steps to start TempSys:

Turn on PC

Turn on Printer

Turn on Control Unit

Load software:

If your system has a hard disk, select TempSys from the menu or type TEMPSYS at the C:> prompt.

If your system has only floppies, put your diskette in drive A before you turn on your PC.

NOTE: The software uses the PC's system date—be sure it is correct.

BASIC TEMPSYS SOFTWARE OPERATION

Instead of boring manuals, the software includes "context sensitive help." The program will walk you through with prompts and HELP screens. Simply (1) use the up and down arrow keys on the keyboard to highlight a topic, then press the F1 key; or (2) use the mouse to highlight a topic, then press the right mouse button.

Because the system is designed with many outs, never fear of making a terminal mistake.

A few points to remember:

- ◆ F1 or right mouse button for HELP.
- ◆ Always exit the program properly; don't just shut off the computer.
- ◆ Call us if you need help. We appreciate your input.
- ◆ Backup your hard disk often.
- ◆ The T/C reading routines in the software require a great deal of the microprocessor's attention and timing is critical. Therefore, never run any other programs in the background and don't install any device drivers other than those installed by TSGC, Inc.

SYSTEM CONNECTIONS

You will find packaged with the interface (1) telephone cord, (2) 9 pin connectors, and (1) 25 pin connector to connect the PC 2010 temperature interface to a computer.

The telephone cord is to be attached to the left most 9 pin connection on the interface with one of the 9 pin connectors. The other end of the telephone cord is to be connected to the serial port on the CPU using either the 9 pin or 25 pin connector.

The rest of the cables that will be connected to the interface have been marked (with little colored pointers or arrows) as to their location. The other ends of these cables are to be spliced according to the *CONTROL WIRE HOOKUP DIAGRAM* that is on the following page.