# Vision Watchdog

## Installation and Operation Manual

**PNEG-1588**

Date: 2007

GSI GROUP

GSI

PNEG-1588

Thank you for choosing a GSI Vision Series grain dryer. These units are among the finest grain dryers ever built; designed to give you excellent operating performance and reliable service for many years.

This manual describes the installation and operation for all standard production model dryers. These dryers are available with liquid propane or natural gas fuel supply, single phase 230 volt, three phase 230 or 460 volt (60Hz) electrical power.

**USE CAUTION IN THE OPERATION OF THIS
EQUIPMENT**

The design and manufacture of this dryer is directed toward operator safety. However, the very nature of a grain dryer having a gas burner, high voltage electrical equipment and high speed rotating parts does present a hazard to personnel which cannot be completely safeguarded against without interfering with efficient operation and reasonable access to components.

Use extreme caution in working around high speed fans, gas-fired heaters, augers and auxiliary conveyors which may start without warning when the dryer is operating on automatic control.

Continued safe dependable operation of automatic equipment depends, to a great degree, upon the owner. For a safe and dependable drying system, follow the recommendations within the manual and make it a practice to regularly inspect the operation of the unit for any developing problems or unsafe conditions.

Take special note of the Operating Precautions listed below before attempting to operate the dryer.

**Keep the dryer clean. Do not allow fine material to accumulate in the plenum chamber.**

**A CAREFUL OPERATOR IS THE BEST INSURANCE AGAINST AN ACCIDENT.**

# OPERATING PRECAUTIONS

**1.** Read and understand the operation manual before attempting to operate the unit.

**2.** Keep ALL guards, safety decals, and safety devices in place. Never operate dryer while guards are removed.

**3.** Keep visitors, children and untrained personnel away from dryer at all times.

**4.** Never attempt to operate the dryer by jumping or otherwise bypassing any safety devices on the unit.

**5.** Always set the main power supply disconnect switch to OFF and lock it in the OFF position using a padlock before performing any service or maintenance work on the dryer or the auxiliary conveyor equipment.

**6.** Before attempting to remove and reinstall the fan blade, make certain to read recommended procedure listed within the SERVICING section of the manual.

**7.** Keep the dryer and wet holding equipment CLEAN. Do not allow fine material to accumulate.

**8.** Set pressure regulator to avoid excessive gas pressure applied to a burner during ignition and when burner is in operation. See page 19 for operating gas pressures. Do not exceed maximum recommended drying temperatures.

**9.** Do not operate the dryer if any gas leak is detected. Shut down and repair before further operation.

**10.** Clean grain is safer and easier to dry. Fine material can be highly combustible, and it also requires removal of extra moisture.

**11.** Use CAUTION in working around high-speed fans, gas burners, augers, and auxiliary conveyors which can start automatically.

**12.** Be certain that capacities of auxiliary conveyors are matched to dryer auger capacities.

**13.** Do not operate in an area where combustible material will be drawn into the fan.

**14.** The operating and safety recommendations in this manual pertain to the common cereal grains as indicated. When drying any other grain or products, consult the factory for additional recommendations.

**15.** Routinely check for any developing gas plumbing leaks. Check LP vaporizer for contact with burner vanes.

# SAFETY ALERT SYMBOL

The symbol shown is used to call your attention to instructions concerning your personal safety. Watch for this symbol; it points out important safety precautions. It means "ATTENTION", "WARNING", "CAUTION", and "DANGER". Read the message and be cautious to the possibility of personal injury or death.

**WARNING! BE ALERT!**

Personnel operating or working around electric fans should read this manual. This manual must be delivered with the equipment to its owner. Failure to read this manual and its safety instructions is a misuse of the equipment.

# EMERGENCY STOP SWITCH

The emergency stop switch is located on the upper control box door. Pushing the emergency stop switch will interrupt the control power and stop all dryer functions.

**WARNING: Pushing the emergency stop switch does not interrupt the main power to the upper control box panel.**

# SAFETY DECALS

The GSI Group, Inc. recommends contacting your local power company, and having a representative survey your installation so the wiring is compatible with their system, and adequate power is supplied to your unit. Safety decals should be read and understood by all people in the grain handling area.

If a decal is damaged or is missing contact:

The GSI Group, Inc.

1004 E. Illinois St.

Assumption, IL 62510

217-226-4421

A free replacement will be sent to you.

Decal: DC-1224

Decal DC-1224 is located in two places on the fan/heater control box. One on the lid and one on the front of the fan heater control box. Another location for this decal is inside the upper control box for the dryer.

Decal: DC-889
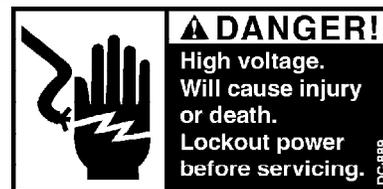
Decal DC-889 has two locations. One inside the fan/heater control box and another on the dryer upper control box door next to the main power disconnect.

# 1. Overview

## 1.1. Requirements

### Requirements

**System Requirements:**
· Pentium 75mhz or higher
· 32 megs of ram
· VGA graphics card
· Windows
· 4 megs of hard disk space

**You will need the one of the following items in order
to link your PC and your GSI grain dryer**:

### Setup 1
**Direct connect to a dryer (PC to dryer distance is less than 600')**

-Standard 9 pin M-F serial cable (Custom made to length)
-Null modem adapter 9 pin male to 9 pin female

### Setup 2
**Connect to a dryer via a telephone line**

-1 external modem (Minimum speed of 28.8k )
-9 pin female to 25 pin male serial cable
- Requires a different phone number then the PC running this software.

## 1.2. Cable hookup

Before making any electrical connections the Main Electrical Disconnect on the dryer should be turned to the OFF position.  To shut off the main breaker turn the handle on the upper control door of the dryer to the off position.

Carefully unpack your *Watchdog* package and take inventory of its contents. It should contain the following items:

**1 - External modem  (included in Extended Version package)**

**1 - Dryer adapter with a 9 pin female connector on one end and a 25 pin female connector on the other, part no. D03-0224. (included in Extended Version package)**

**1 - Dryer cable adaptor. (Part No. D01-1771V-07)**

**Installation CD ROM.**

**This owners manual.**

Connect your cables to your dryer and your computer as illustrated below



MODEM CONNECTION HOOKUP FOR WATCHDOG FOR TOUCH SCREEN

NOTES:
1.) EACH MODEM IS POWERED BY A SMALL POWER SUPPLY, WHICH IS SUPPLIED BY MODEM MANUFACTURER.

IJF 07/11/07
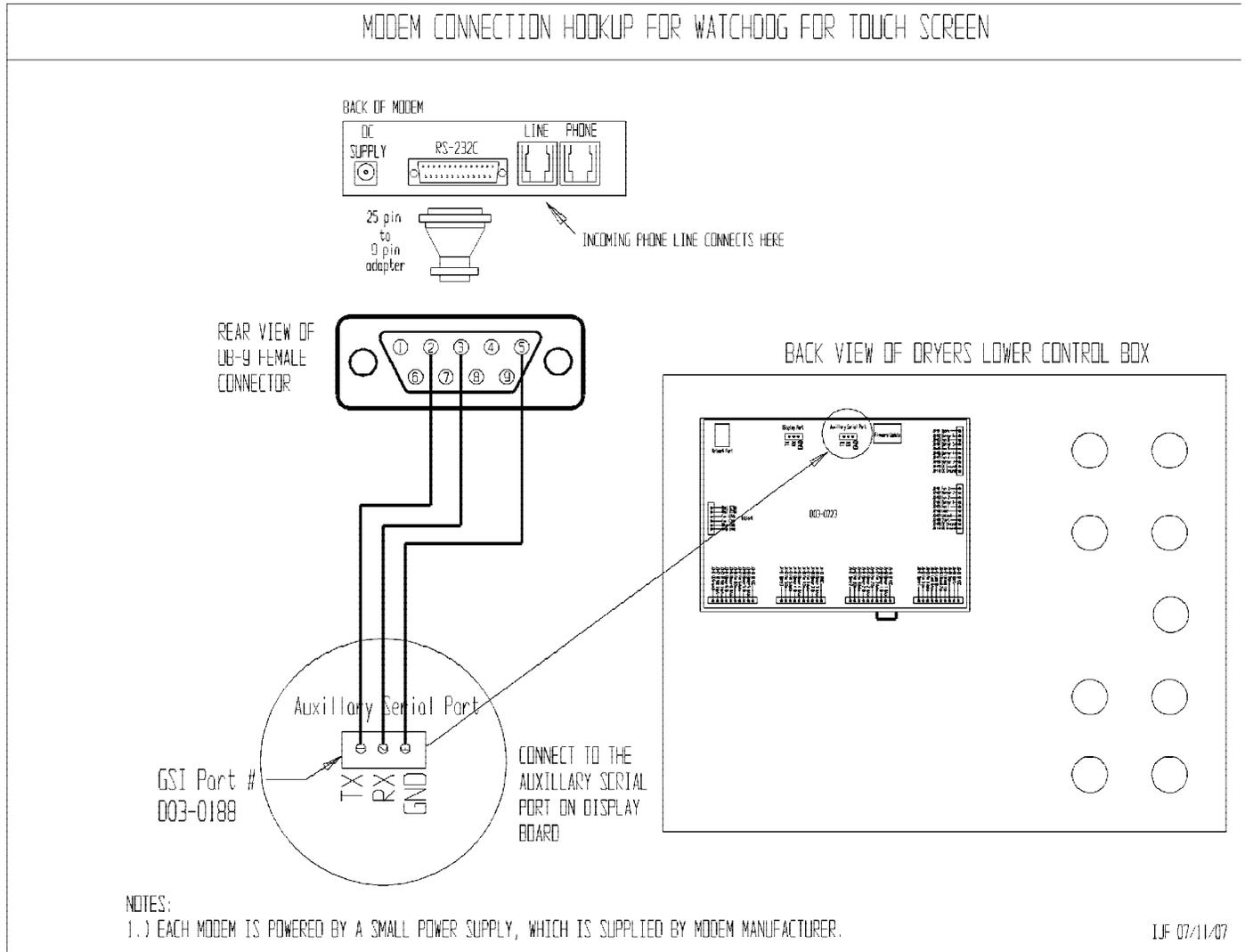
## 1.3. Technical Support

**Technical Support**

This Watchdog User's Guide are designed to address the majority of user's questions.

If you are having problems connecting to your Touch Screen Grain Dryer, make sure to check the following before contacting GSI or FFI:

**Have you correcty configured your computer for use with a modem?**

You need to make sure that you have installed your modem as per your modem manufacturers recommendations.  Also make sure that you have selected the correct **Communications port** after you have installed watchdog. If you are not sure of the correct port your modem is connected to, then you may try experimenting with Com1, then Com2 and so on until you hear or see activity from your modem.  If you a somewhat aquainted with computers, you can check the modems properties by going to the **Start menu** | **Settings** | **Control panel** and then select **Modems**. You will see a Modem Properties window pop up, select the diagnostics tab and unless you have more then one modem connected to your computer, you should see only one modem listed and the com port # it is installed on.  Make sure your Watchdog software is configured using this port #.

**Is your modem getting a dial tone when you try to dial your dryer?**

Check your telephone cables going to your modems both at your dryer and at your computer.  Be sure that moisture hasn't corroded the terminals on the telephone jack or cable.

**Is the Grain dryer getting power and has the Start Dryer button been pressed?**

In order for Watchdog to be able to communicate with your GSI grain dryer, you need to make sure that the control power is on for the computer and that you have pressed the **START DRYER** button to initialize the computer software.  If you don't press the **START DRYER** button, then the dryer will not send any data out the onboard serial port which  is connected to the modem on your dryer or connected directly (depending on your setup configuration).

**Are all your cable plug in connections securely seated?**

Open the bottom control box and visually inspect your cable connections.  Vibration can cause these cables to sometimes work themselves loose.  Also try unplugging the cable and reinsert it back into the socket. This can help clean any dust or corrosion that may have settled in the socket.   Even the slightest amount of corrosion on these terminals that can cause problems with erratic behaviour.

**Is the dryer you are attempting to connect the correct model for this software?**

Currently this software will only work with our Vision dryers and is not backward compatable with earlier versions of Watchdog or our C series dryers.

**Getting More Help**

If the above-mentioned sources fail to address your question or problem, contact us at:

> GSI Group, Assumption IL
> (217) 226-4421
> (217) 226-4428 Fax

or email us at our website:

www.grainsystems.com

# 2. Operation

## 2.1. Watchdog Setup

To get started, after the program has been installed on your computer, click on the shortcut that was place on your Desktop called **VisionDryerPc.exe**.



### System Status

At the bottom of the screen is the System Status section of the program. The system status bar provides allows you to select between simulation functions of the Watchdog or connecting to a remote dryer.
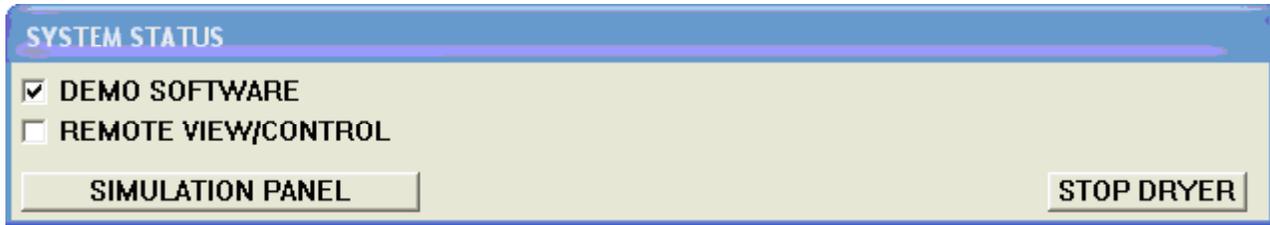
Below is a brief description of the selections on the system status bar and what they do.

### Demo Software
Leaving this checked allows you to simulate the functions of the Touch Screen software that is built into your portable dryer. Use this in conjunction with the SIMULATION PANEL to simulate shutdowns and view most of the available screens.

### Remote View/Control
Check this option to communicate to a portable grain dryer with touch screen controls and remotely display the screen that is present on the dryer on your portable computer.

### Simulation Panel
Clicking this button will place a Dryer Simulation Panel next to the display. On this panel you can select different models of dryers, simulate dryer shutdowns and view help files that are internal to the programming.

## Communication Setup

In order for you to connect to a portable grain dryer, we need to setup the the program. Click on the **Remote View/Control** selection as shown below.
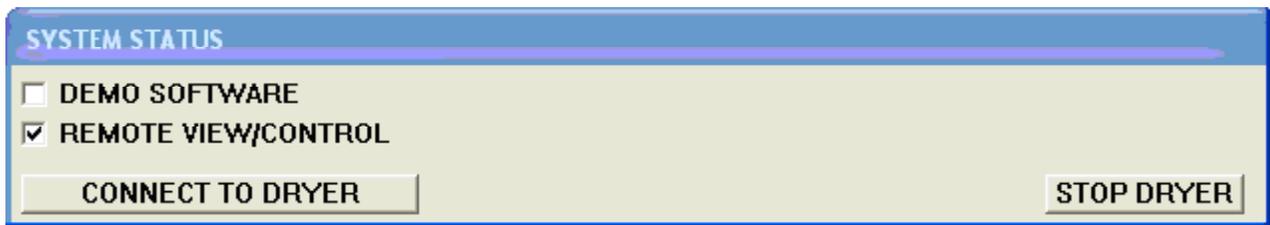


Now you will need to set up your Watchdog so it will know which serial port to use to communicate to your dryer. Click on the [CONNECT TO DRYER] button to open the communications setup panel.
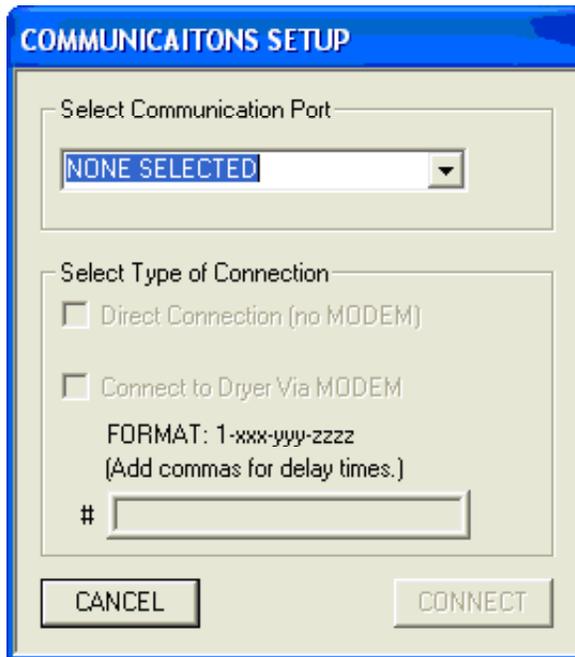
Move your mouse pointer to **Select Communication Port** pulldown and select the port you will be using to connect to your dryer. Once this information is entered, your dryer will be configured to dial out or connect on this port. *(Unless you change your modem to another serial port).*
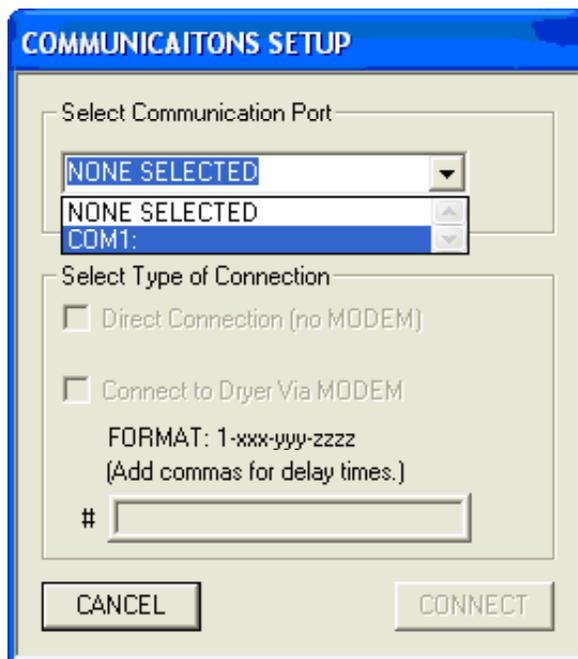


*Note: Usually your modem or cable will be connected to port One (1) or Two (2) on your pc.*

## 2.2. Dial up Dryer

**Connect to Dryer via MODEM** if you have a modem connected to the dryer with a separate phone number. You will also have to add the phone number of the dryer in the box provided.
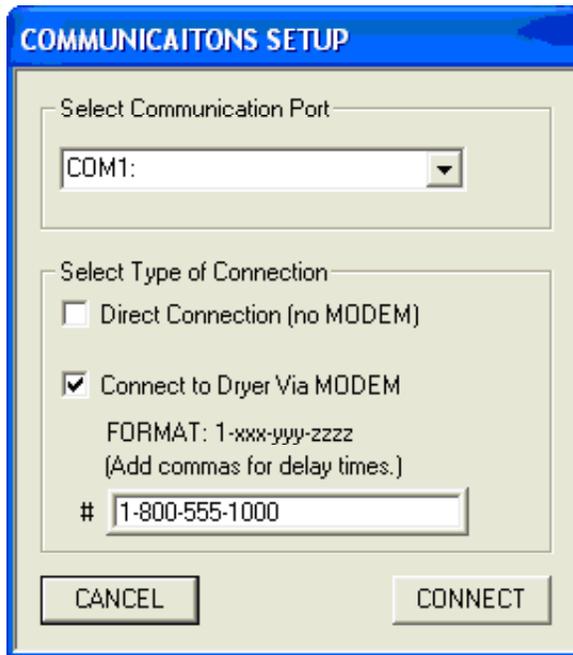
Click on the  CONNECT  button to complete the connection to your dryer.

## 2.3. Direct Connect to Dryer
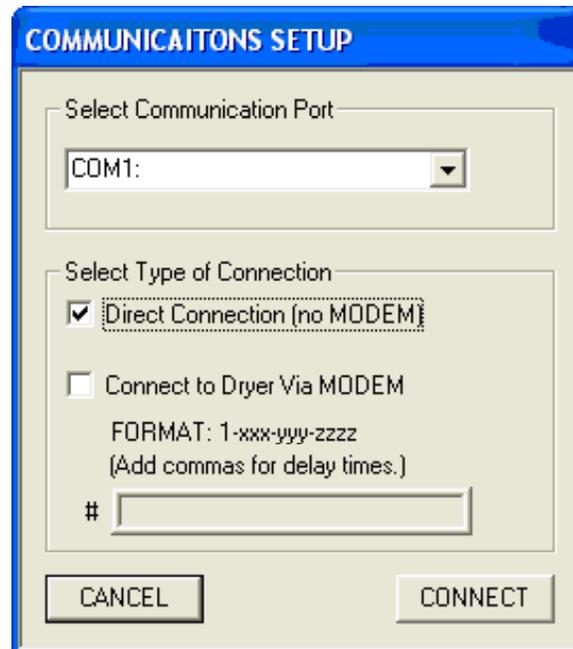


When you have selected the correct Communication Port, you should now be able connect to the dryer using a serial cable by selecting  CONNECT  button.

*Note: You can only use this option if you have a serial cable connected between your computer and the dryer.*

## 2.4. Connected

This screen is currently showing that **Watchdog** is in its inactive state. All of the text and indicators are greyed. Compare this to the next screen below and you will see the difference between active and inactive states.



After you have successfully connected to the dryer you will get a screen that looks like this.
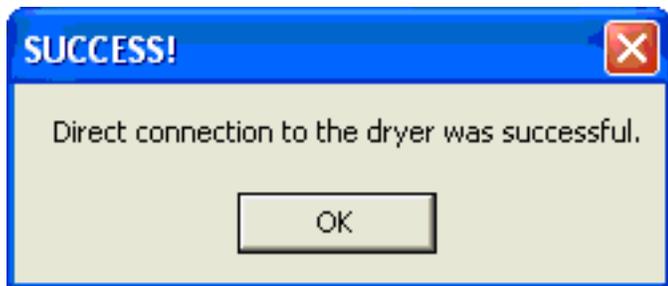


Click OK on this screen to close it and the connecting screen.

If the computer is unable to communicate with the modem, you will get a error message like this.

This usually indicates that you have either selected the wrong communication port in the communications setup screen.

If you were unable to connect to the dryer you will get a screen that looks like this.
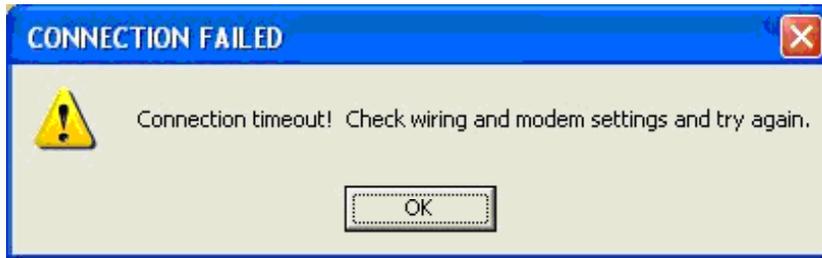


Check your wiring between the PC and the dryer, and also check that you have selected the correct communications port on the communications setup screen.

After a successful connection, the picture shown on the left hand side of the Watchdog screen shows the status of dryer by displaying the temperatures, moisture in, moisture out, unload rate and more.
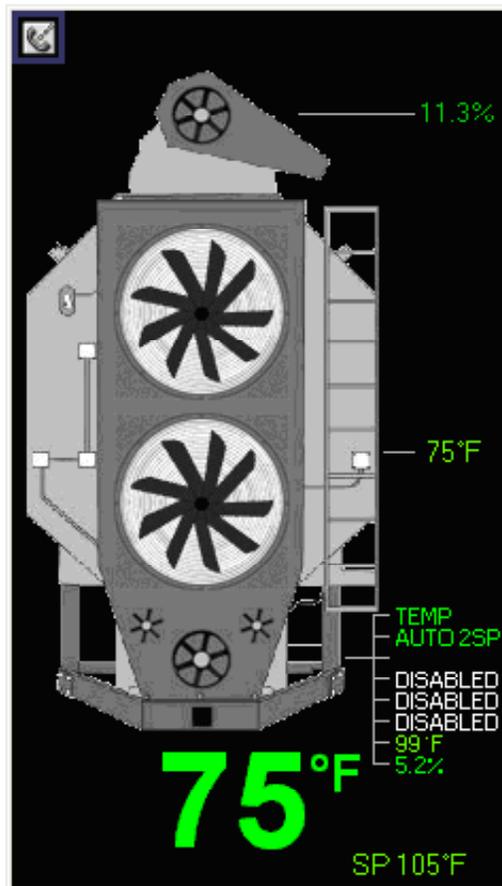


Notice the phone  on the screen in the upper right hand corner, this indicates that the communcations between your PC and dryer are currently active.

# 4. Software License Agreement

## 4.1. Software License Agreement

THIS IS A SPECIAL VERSION OF WATCHDOG THAT CAN ONLY BE USED AND DISTRIBUTED FOR USE WITH GSI GRAIN DRYING EQUIPMENT with Touch Screen Cotnrols. IT CANNOT BE RE-DISTRIBUTED OR POSTED ONLINE. THIS VERSION IS SUBJECT TO THE TERMS OF THE SOFTWARE LICENSE AGREEMENT BETWEEN THE MANUFACTURER OF YOUR HARDWARE AND GSI GROUP.

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1. USE OF THE PRODUCT. You must not (a) defeat, or try to defeat, messages displayed by the Product; (b) modify or prepare derivative works of the Product; (c) or reverse engineer, decompile or disassemble the Product; (d) use any means that would cause this software to be used contrary to the license agreement between the manufacturer of the product it was bundled with.

2. BACKUP COPIES. You may make copies of the Product which are necessary for normal backup purposes only. You agree not to make any other copies of the software, the manual(s), or any part of them, or sell or give any copies to others.

3. LEGAL DISCLAIMER. THIS SOFTWARE IS PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PRODUCT IS WITH YOU. SHOULD THE PRODUCT PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

IN NO EVENT WILL GSI, OR ANY OTHER PARTY WHO MAY HAVE DISTRIBUTED THE PRODUCT AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PRODUCT (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PRODUCT TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

4. GOVERNING LAW. This License Agreement shall be construed and governed in accordance with the laws of the State of Illinois, USA.

5. COSTS OF LITIGATION. If any action is brought by either party to this License Agreement against the other party regarding the subject matter hereof, the prevailing party shall be entitled to recover, in addition to any other relief granted, reasonable attorney fees and expenses of litigation.

6. SEVERABLILITY. Should any term of this License Agreement be declared void or unenforceable by any court of competent jurisdiction, such declaration shall have no effect on the remaining terms hereof.

This Equipment shall be installed in accordance with the current installation codes and applicable regulations which should be carefully followed in all cases. Authorities having jurisdiction should be consulted before installation occurs.

**GSI**

The GSI Group, Inc.
1004 E. Illinois St.
Assumption, IL 62510-0020
Phone: 217-226-4421
Fax: 217-226-4420
e-mail: gsisales@grainsystems.com
internet: http://www.grainsystems.com