

GS100 Quick Start Guide

Thermal Imaging for Glass Processing

Use this QuickStart Guide for quick and easy mechanical, electrical, and software installation and start-up of the GS100 System.

Mechanical Installation

The GS100 System consists of the following components:

- MP50G51 Process Imager
- GS100 CD (contains DataTemp GS100 Software)
- RS485 cable (7.5m long) with RS485/RS232 converter with 25-pin to 9-pin adapter cable
- Industrial power supply (AC to 24VDC)
- Power supply cable (7.5m long)
- PC (customer supplied); min requirements: Pentium II, 200mhz, 64MB RAM, serial port, Windows® NT4/2000

Mounting the MP50

For optimum effectivity, the MP50 Process Imager must be mounted and positioned to view the entire width (W) of the heated glass parts as they exit the oven. The standard field of view (FOV) of the MP50 is 90° (45° can also be selected). In order to view the entire glass part with a 90° FOV, the MP50 must be installed at a minimum distance (D) from the part of $D = W/2 - 2.2$ inches (for a 45° installation, the minimum distance $D = W/0.8284 - 2.2$ inches). Give consideration to viewing the largest width part. Avoid mechanical obstructions within the FOV of the MP50. Refer to the MP50 Operator's Manual for further information.

Mounting the MP50 to view the glass part perpendicularly at its midpoint is ideal, but the MP50 can also be mounted at angles up to 25° off perpendicular.

Note: The actual installation geometry must be specified in the GS100 Software Configurator to properly display thermal images.

The MP50 must be securely mounted to a vibration-free, mechanically stable support. Please refer to the MP50 Operator's Manual (page 20) included with the GS100 System (on the GS100 CD) for information about MP50 mounting hole size and location.

When mounting the MP50 to view between the oven and forming sections, the MP50 requires a minimum 2-inch wide space to scan the part.

The MP50 operates in ambient temperatures up to 50°C (122°F). For optimum performance, use the built-in air purge provision to keep the MP50 window free of dust.

Caution: Prevent all contact between hot objects and the process imager to protect the process imager from overheating

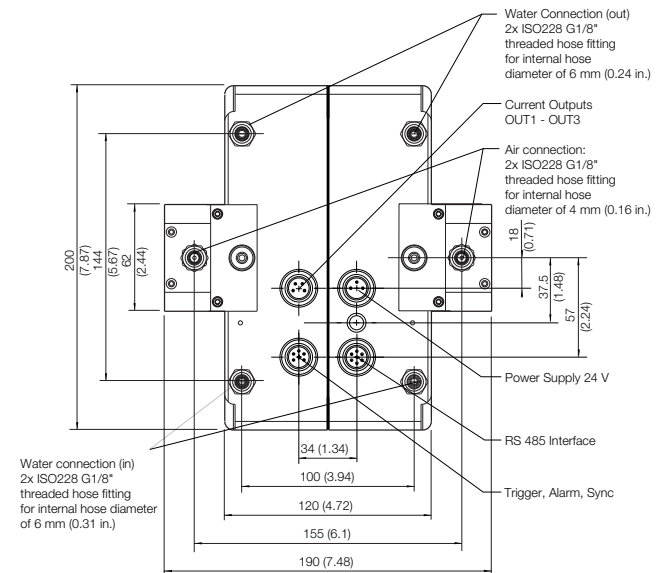
Water Cooling/Air Purge

Operating the MP50 in ambient temperatures exceeding 50°C (122°F) requires water cooling.

Only filtered water should be used in order to prevent mineral deposits in the cooling lines and connectors. Refer to the MP50 Operator's Manual for further information regarding water cooling and air purging.

Note: Always use the air-purge system when water-cooling is used.

1. Attach the water supply lines.
 2. Attach the water return lines.
 3. Attach the air purge lines.
- Use only filtered instrument quality air.



Fitting Locations and Dimensions

Air and Water Flow

Air Flow—Between 100 l/min (3.53 cfm) and 200 l/min (7.06 cfm) through each side.

Water Flow—2 l/min (0.52 gallons/min) when using 30°C(86°F) water.

Connecting the Electrical Cables

Once the MP50 is mounted:

1. Connect the AC power wires to the terminals of the power supply (see *MP50 Operator's Manual, page 19*).
2. Connect the power cable (3-pin connector) into the back of the linescanner.
3. Connect the RS485 cable (6-pin connector) to both the MP50 and to the RS485/RS232 converter.
4. Connect the RS232 side of the converter to the 25-pin to 9-pin adapter; then connect the 9-pin adapter to the serial port of the PC. Note which PC Com Port the cable is connected to. The port number needs to be inputted into the GS100 Configurator to insure communication between the PC and the MP50.
5. Do not apply AC power to the power supply until after the GS100 Software has been installed in the PC.

Software Installation

To install the software into your computer:

1. Insert the CD into the CD-ROM drive. A text box appears on your desktop.
2. Select a **Language**. Click **Next**.
3. The DataTemp DP window appears. Click **Next**.
4. In the new window, check **GS100**. Click **Next**.
5. Select a **Language**. Click **Next**.
6. Check **Yes** to approve the license agreement if you agree to the terms.
7. Wait for the software to install.
8. Click **Finish**.

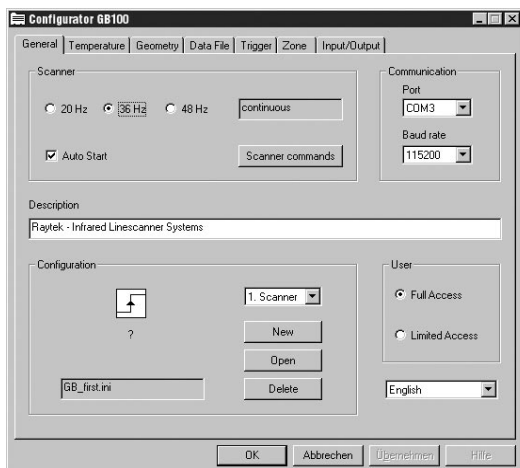
The software places two shortcut icons onto your desktop.

1. GS100 English (or chosen language) runs the GS100 Software Program.
2. GS100 Configurator configures the GS100 system operating parameter values.

Note: GS100 English (or the language you chose) and the GS100 Configurator are both installed in the Windows Programs File.

Configurator

The Configurator allows you to change settings, edit, or create new initialization files for the MP50 linescanner.



Configurator Set-up

To set up the Configurator:

1. Click the **GS100 Configurator** icon on your desktop to open the program.
2. On the General page, check **36Hz**.
3. Select the **Com Port** that connects your computer to the linescanner. (Refer to step 4, in "Connect the Electrical Cables.")
4. Select the **Baud Rate**.
5. Click the **Geometry** Tab.
6. Check **Line Linearization**.
7. Click the **Trigger** Tab.
8. In Trigger Box, check **Temperature**.
9. In **SnapShot Start**, check **Rising Slope**.
10. In **SnapShot End**, multiply the scan rate by the amount of time it takes to scan the product, and add 10%.
(e.g. $36\text{Hz} \times 5 \text{ sec.} = 180 + 18 = 198 \text{ lines}$)
Record the number in the **Text Box**.
11. Click **Apply** to save.

Note: If you do not click Apply, the changes will not be saved.

Refer to the GS100 Manual for additional configuration information.

Start Scanning

Apply AC power to the power supply. Check to make sure the red light on the rear of the MP50 is **ON**. The MP50 linescanner is now ready to measure temperature.

To begin scanning your products, open GS100 English (or chosen language). When the program opens, it automatically begins scanning.

Mechanical and Software Support

Mechanical

- Refer to the MP50 Operator's Manual and GS100 Manual for technical information.
- For technical support call 1.800.227.8074 (x 224) and ask for RAD Service.

Software

- Refer to the GS100 Manual for technical information.
- For technical support call 1.800.227.8074 (x224) and ask for RAD Service.

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