UNGMUQDD GCS900-2D, GCS900-3D

UNGMUQDD GCS900 Digital Readout Display User Manual

Models: GCS900-2D, GCS900-3D

1. Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of the UNGMUQDD GCS900 Digital Readout (DRO) Display. The GCS900 series is designed for precision measurement on milling machines, lathes, drills, and other CNC equipment, offering reliable and accurate position feedback. Please read this manual thoroughly before operating the device to ensure proper use and safety.

2. Safety Information

- Always ensure the power supply matches the specified voltage range (110V-240V/50-60HZ) to prevent electrical damage.
- Do not expose the DRO display to moisture, excessive dust, or extreme temperatures outside the operating range (-20 to 40 °C).
- Ensure proper grounding of the machine and the DRO system to prevent electrical shock.
- Only qualified personnel should perform installation, maintenance, or repair tasks.
- Disconnect power before making any connections or performing maintenance.
- Avoid placing heavy objects on the display or subjecting it to strong impacts.

3. Product Overview

The GCS900 Digital Readout Display is available in 2-axis (GCS900-2D) and 3-axis (GCS900-3D) configurations. Both models feature bright LED displays for position feedback and a comprehensive keypad for various functions.

3.1 GCS900-2D Front Panel



This image displays the front panel of the GCS900-2D model. It features two large LED displays for the X and Y axes, along with a full numeric and function keypad on the right side. Below the main displays, there is a graphical representation of tool positions or other settings. Keypad buttons include axis selection (X, Y), clear (CLS), calculator functions (+, -, *, /), trigonometric functions (sin, cos, tan), and specific DRO functions like zeroing (ZERO), metric/imperial conversion (M/I), and tool compensation (TOOL).

3.2 GCS900-3D Front Panel



This image shows the front panel of the GCS900-3D model. Similar to the 2D version, it includes three large LED displays for the X, Y, and Z axes. The keypad layout is identical, providing access to all necessary functions for 3-axis operation, including axis selection (X, Y, Z), clear (CLS), calculator functions, trigonometric functions, and specific DRO functions.

4. Installation and Setup

4.1 Mounting

Mount the DRO display securely to a stable surface near your machine. Ensure it is positioned for easy viewing and access to the keypad, away from excessive vibration or heat sources.

4.2 Power Connection

Connect the power cable to the power input port on the rear of the DRO display. Ensure the power switch is in the OFF position before connecting. The unit supports a voltage range of 110V-240V at 50-60Hz. Use the appropriate plug type (AU, EU, US, UK) for your region.

4.3 Linear Scale Connection

Connect your linear scales to the corresponding DB9 interface ports on the rear of the DRO display. The GCS900 accepts TTL input from linear scales. Ensure each scale is connected to its designated axis port (X, Y, and Z for 3-axis models).

4.4 GCS900-2D Rear Panel Connections



This image illustrates the rear panel of the GCS900-2D. It shows the main power input socket, a power switch, and two DB9 connectors labeled for the X and Y axes. A caution label regarding power supply and replacement parts is also visible.

4.5 GCS900-3D Rear Panel Connections



This image displays the rear panel of the GCS900-3D. It features the main power input socket, a power switch, and three DB9 connectors clearly labeled for the X, Y, and Z axes. Similar to the 2D model, a caution label is present providing important power supply information.

5. Operating Instructions

5.1 Power On/Off

- To power on, flip the power switch on the rear panel to the 'ON' position.
- To power off, flip the power switch to the 'OFF' position.

5.2 Basic Axis Operations

- **Axis Display:** The large LED segments show the current position for each connected axis (X, Y, Z).
- **Zeroing an Axis:** Move the machine to the desired zero point for an axis, then press the corresponding axis button (X, Y, or Z) followed by the 'ZERO' button. The display for that axis will reset to 0.000.
- **Clear All:** Press the 'CLS' button to clear all current coordinate values.

5.3 Keypad Functions

- **Numeric Keys (0-9):** Used for entering values.
- **Arithmetic Operations (+, -, *, /):** For basic calculations.
- **Trigonometric Functions (sin, cos, tan, arc):** For advanced calculations.
- **M/I (Metric/Imperial):** Toggles between metric (mm) and imperial (inch) units.
- **1/2 (Half Value):** Divides the current displayed value by two, useful for finding center points.
- **TOOL:** Used for tool compensation or offset functions. Refer to specific application guides for detailed use.
- **HA:** Likely for hole array or similar pattern functions.
- **Sift:** May be used for shifting coordinate systems or specific modes.

- **ENT (Enter):** Confirms input or selection.

6. Advanced Features

6.1 Resolution Setting

The GCS900 DRO supports various reading resolutions including 0.5µm, 1µm, 2µm, 5µm, and 10µm. This setting is typically configured during initial setup or through a dedicated menu. Consult the detailed programming guide for instructions on adjusting resolution to match your linear scales.

6.2 Application Modes

The GCS900 is versatile and can be configured for specific machine types such as lathes, milling machines, drills, and other CNC applications. Specific functions and display behaviors may vary slightly depending on the selected application mode.

7. Maintenance

- **Cleaning:** Use a soft, dry cloth to clean the display and keypad. Avoid abrasive cleaners or solvents that could damage the plastic or screen.
- **Environment:** Keep the DRO display in a clean, dry environment. Protect it from metal chips, coolant, and other debris common in machine shops.
- **Ventilation:** Ensure the ventilation openings (if any) are not obstructed to prevent overheating.
- **Cable Inspection:** Periodically check all cables for signs of wear or damage. Replace damaged cables immediately.

8. Troubleshooting

- **No Power:**
  - Check if the power cable is securely connected to both the DRO and the power outlet.
  - Ensure the power switch on the rear panel is in the 'ON' position.
  - Verify the power outlet is functional.
- **No Display/Garbled Display:**
  - Power cycle the unit (turn off, wait 10 seconds, then turn on).
  - If the issue persists, contact technical support.
- **Incorrect Readings/No Movement on Display:**
  - Check if the linear scales are properly connected to their respective DB9 ports.
  - Ensure the linear scales are clean and free from debris.
  - Verify the resolution setting matches your linear scales.
  - Inspect linear scale cables for damage.
- **Keypad Not Responding:**
  - Ensure the unit is powered on.
  - Clean the keypad surface.
  - If individual keys are unresponsive, contact technical support.

9. Specifications

Feature	Specification
Model Numbers	GCS900-2D, GCS900-3D
Voltage Range	110V-240V / 50-60HZ
Power Consumption	25W
Operating Temperature	-20 to 40 °C
Interface Type	DB9 (for linear scales)
DRO Reading Resolution	0.5µm, 1µm, 2µm, 5µm, 10µm
DRO Acceptable Input	TTL
Certification	CE
Application	Lathe, Milling, Drill, CNC Machine

10. Warranty and Support

The UNGMUQDD GCS900 Digital Readout Display comes with a**1-year warranty** from the date of purchase, covering manufacturing defects. This warranty does not cover damage caused by improper installation, misuse, accidents, unauthorized repairs, or normal wear and tear.
For technical support, warranty claims, or service inquiries, please contact your retailer or the manufacturer directly. When contacting support, please have your product model number and purchase information ready.

Ask a question about this manual

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

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Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question