

Accuris MR9600-T

Accuris SmartReader 96 Microplate Absorbance Reader (MR9600-T) User Manual

Model: MR9600-T

1. INTRODUCTION

The Accuris SmartReader 96 is a microplate absorbance reader designed for laboratory use, specifically for measuring concentration or absorbance in 96-well plates. This instrument operates as a standalone unit, eliminating the need for a separate computer or additional software for basic functions. Its intuitive 7-inch color touch screen and graphical interface simplify operation.

Key features include a filter-based system with a broad wavelength range from 340 to 750nm, an integrated multi-speed plate shaker, and an 8-channel vertical optical path with zero dispersion. The device supports data transfer via a USB flash drive for convenient saving and processing of results.



Front view of the Accuris SmartReader 96, showing its 7-inch color touch screen and plate loading area.

2. SETUP

1. **Unpacking:** Carefully remove the SmartReader 96 from its packaging. Retain all packaging materials for future transport or storage.
2. **Placement:** Place the instrument on a stable, level surface in a laboratory environment with adequate ventilation. Ensure sufficient space around the unit for operation and maintenance.
3. **Power Connection:** Connect the provided power cord to the instrument's power input and then to a grounded 115V AC power outlet.
4. **Filter Installation:** The integrated filter wheel accommodates up to 8 filters. The SmartReader 96 comes with four popular filters pre-installed: 405nm, 450nm, 492nm, and 630nm. Additional filters (340nm to 750nm) can be purchased separately and installed as needed. Refer to the filter replacement section for detailed instructions on adding or changing filters.
5. **Initial Power-On:** Press the power button located on the instrument. The 7-inch color touch screen will illuminate, displaying the startup sequence.
6. **Optional Mouse Connection:** For users who prefer external input, a USB mouse can be connected to the USB port on the side of the instrument.

3. OPERATING INSTRUCTIONS

3.1 Navigating the Touch Screen Interface

The SmartReader 96 features an intuitive 7-inch color touch screen. All primary functions and settings are accessible through this interface. Tap icons or menu options to navigate. A connected USB mouse can also be

used for control.

3.2 Programming a Reading Protocol

1. **Select Wavelength:** From the main menu, choose the desired wavelength filter(s) for your assay. The integrated filter wheel allows selection from installed filters (340nm to 750nm range). Up to two filters can be selected for comparative measurements.
2. **Set Shaking Parameters:** If your assay requires mixing, configure the multi-speed plate shaker settings, including speed and duration.
3. **Define Plate Layout:** Use the graphical representation of the 96-well plate on the screen to label each well. Designate wells as samples, standards, controls, or blanks.
4. **Configure Reading Details:** Specify reading parameters such as reading type (e.g., endpoint, kinetic), number of reads, and incubation temperature (if applicable).
5. **Data Calculations:** Set up desired data calculations, including standard curve fitting or other analysis methods.

3.3 Performing Measurements

1. Load your 96-well microplate into the designated plate holder.
2. Initiate the programmed reading protocol from the touch screen.
3. The instrument will perform the measurements according to the defined parameters.

3.4 Data Management

After a reading is complete, results are displayed on the screen. Data can be saved directly to a USB flash drive inserted into the side port. Files are saved in universal .csv format, allowing for easy transfer to a computer for further storage or processing. A data port is also available for direct connection to a computer or a basic printer.

4. MAINTENANCE

4.1 Cleaning

- **Exterior:** Wipe the exterior surfaces of the instrument with a soft, damp cloth. For stubborn stains, use a mild detergent solution. Avoid abrasive cleaners or solvents.
- **Touch Screen:** Clean the touch screen with a soft, lint-free cloth specifically designed for electronic displays. Do not use harsh chemicals.
- **Plate Area:** Regularly inspect and clean the plate loading area to prevent contamination from spills. Use a damp cloth or cotton swab.

4.2 Filter Handling

When handling filters, always wear gloves to avoid fingerprints or contamination. Store unused filters in their protective cases. Refer to the service manual for detailed instructions on filter replacement.

4.3 General Care

Keep the instrument free from dust and debris. Ensure proper ventilation around the unit. Avoid exposing the instrument to extreme temperatures or humidity.

5. TROUBLESHOOTING

- **Instrument Does Not Power On:**

- Check if the power cord is securely connected to both the instrument and the power outlet.
- Verify that the power outlet is functional.

- **Touch Screen Unresponsive:**

- Restart the instrument.
- If a USB mouse is connected, try using it to navigate.

- **Reading Errors or Inconsistent Results:**

- Ensure the microplate is correctly seated in the plate holder.
- Verify that the correct filters are selected for the assay.
- Check for any obstructions or contamination in the plate reading area.
- Ensure reagents are prepared correctly and within their expiry dates.

- **USB Data Transfer Issues:**

- Ensure the USB flash drive is properly inserted.
- Try a different USB flash drive.
- Check the file system of the USB drive (FAT32 is generally recommended).

If issues persist after attempting these troubleshooting steps, contact customer support.

6. SPECIFICATIONS

Brand	Accuris
Model Name	MR9600-T
Manufacturer	Benchmark Scientific
Display Technology	LCD
Screen Size	7 Inches
Display Resolution	1024x600
Human Interface Input	Touchscreen
Connectivity Technology	USB
Absorbance Range	0.0 to 4.0000 Abs
Wavelength Range	340 to 750nm
Included Filters	405nm, 450nm, 492nm, 630nm
Special Features	Temperature Controlled Incubation, Multi-Speed Plate Shaker, Wide Wavelength Range
Power Input	115V
Battery Description	Rechargeable battery (internal)

UPC	094308464008
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7. WARRANTY INFORMATION

According to product specifications, this product is sold with **No Warranty**. Please refer to your purchase agreement or contact your vendor for any specific return or service policies that may apply.

8. SUPPORT

For technical assistance, service inquiries, or to purchase additional filters and accessories, please contact your authorized Accuris distributor or the manufacturer, Benchmark Scientific. Refer to your purchase documentation for specific contact details.