

INSTRUCTION MANUAL

Model 5010 OnLine Colorimeter

Sensor: PRO086
Firmware Version 3

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INTRODUCTION

Small size colorimeter designed for on-line color measurement. Sensor operates at temperatures up to 130-degrees F. The instrument uses a white light LED illumination source and reads via three CIELAB filters. Distance between the power supply and the sensor can be up to 4,000 feet using a RS 485 communications line.

MAIN FEATURES

- Accurate Low Cost OnLine Colorimeter.
- Reads CIELAB values.
- Small size 5-inch diameter by 8-inches tall.
- Reads large 100mm diameter spot at 70mm above the product
- Calibrated at 70mm distance above the product.
- Distance up to 12-inches above line.
- High speed reads 5 measurements per second.
- Data streams into an DLL file.
- Several instruments can be "Daisy-chained" on the same RS-485 line.
- Estimated 12 year life light source.
- Air curtain to keep contaminants out of instrument.
- Ambient light correction up to a delta E of 0.85 value.
- Operates up to 130-F.

SYSTEM COMPONENTS

- The 5010 online sensor.
- Adjustable mounting "C" bracket for sensor housing.
- Protective sensor housing.
- White calibration tile.
- Low voltage power supply.
- A RS485 comm line (6 meters) to colorimeter power supply
- A RS232 from Colorimeter Power Supply Box to Computer.
- Software reading CIELAB and Tristimulus values.

SENSOR SPECIFICATIONS

- d/0 (Wide area illumination/0 degree read geometry).
- Reads Specular component included (SCI).
- Illuminate "C" with 2° observer.
- 400-700nm visible range.
- Color values closely matches CIELab 1931.
- Output CIELab, Chromaticity and Tristimulus values.
- Long life LED illumination light source ~ 12 years.
- Operating range 10°C to 55°C (50°F to 130°F).
- Inter-instrument agreement better than +/-0.45 dE.
- Repeatability within 0.2 dE on white calibration plate.
- Twenty-four Hour stability +/-0.16 dE.
- Calibrated distance for CIELab 70mm (2.75-inches).
- Distance to sample 25 to 122mm (1 to 5-inches).
- Measurement spot 100mm diameter.
- Ambient light corrected out of reading. +/- 0.45 DE
- Measurement rate 5 readings a second.
- Communications via RS 485 to RS232.
- Sensor to Computer distance up to 1219m (4000 ft).
- Air curtain keeps contaminants out of instrument. (Use instrument air 4 bar pressure)

INPUT REQUIREMENTS

Electrical input clean instrument line 110 volts AC, 1 phase, 60 Hz, 1 ampere.

Optional air hookup

Clean instrument air 4 bar pressure

SOFTWARE QUICK START

- 1) Load the MLC82A CIELAB Color Checker, PC-Tool and DLL files
- 2) Open the PC-Tool software
- 3) Connect the sensor and turn on the power supply.
- 4) A LED light will light on top of the sensor.
- 5) Open the COM port by clicking on it.
- 6) A notice will come up that the instrument is connected.
- 7) To measure click on Start Measure Button
- 8) To measure continuously click on Continuous Measure Button
- 9) To stop measurement re-click Start Measurement Button.
- 10) Monitor Signal Quality OK light. If it turns red the product is too close or the protective cap is installed. Remove cap.

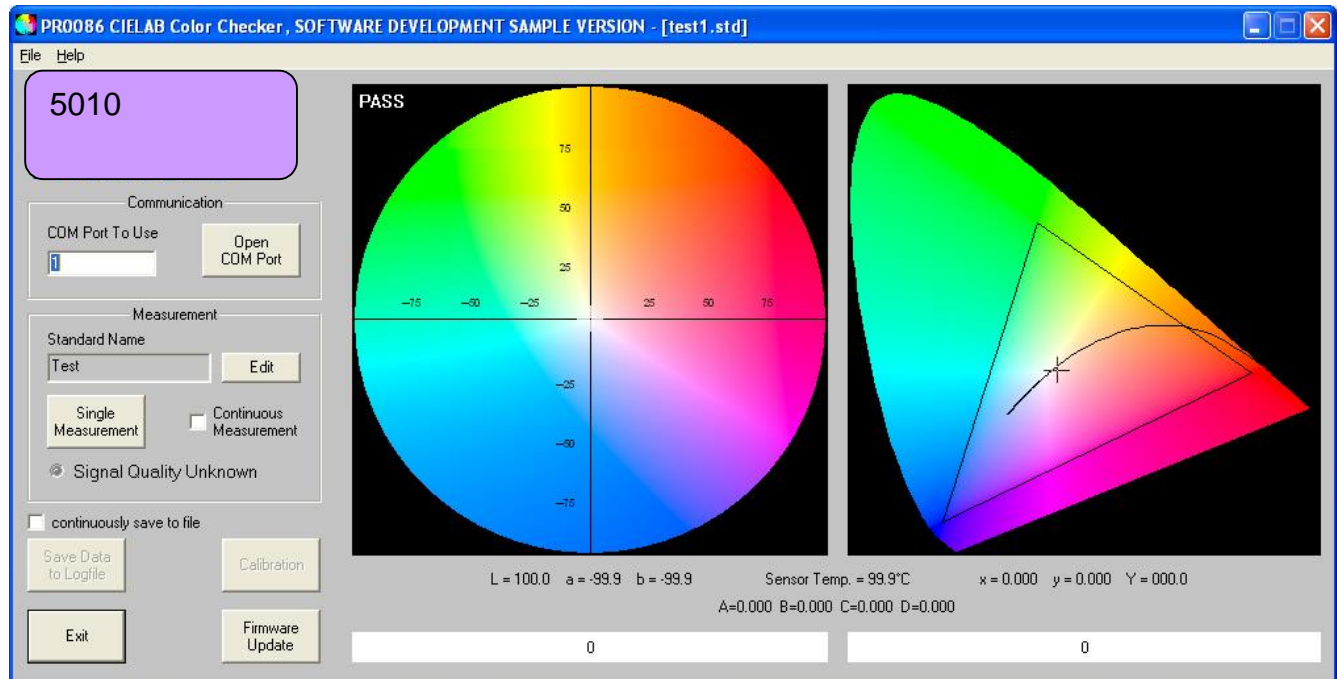
SAVE AND RECALL A STANDARD

1. Creating new standard

To create new standard, choose “New” from “File” menu.

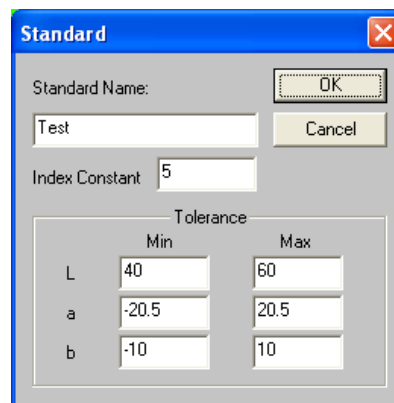
The new standard is named 'Untitled' as default.

To edit its name and tolerance values, click “Edit” button on the main dialog.



2. Save/Save As Standard

Each standard and its tolerance values are stores in a file with extension “std”.



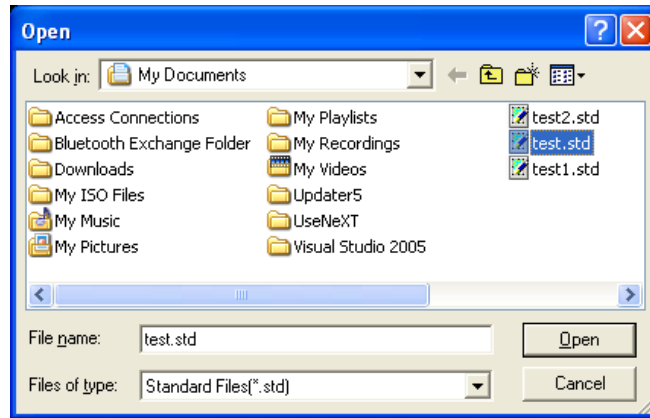
Choose “Save” to save current standard data to the last opened file.

Choose “Save As” to let you save current standard data to another file.

3. Open a Standard

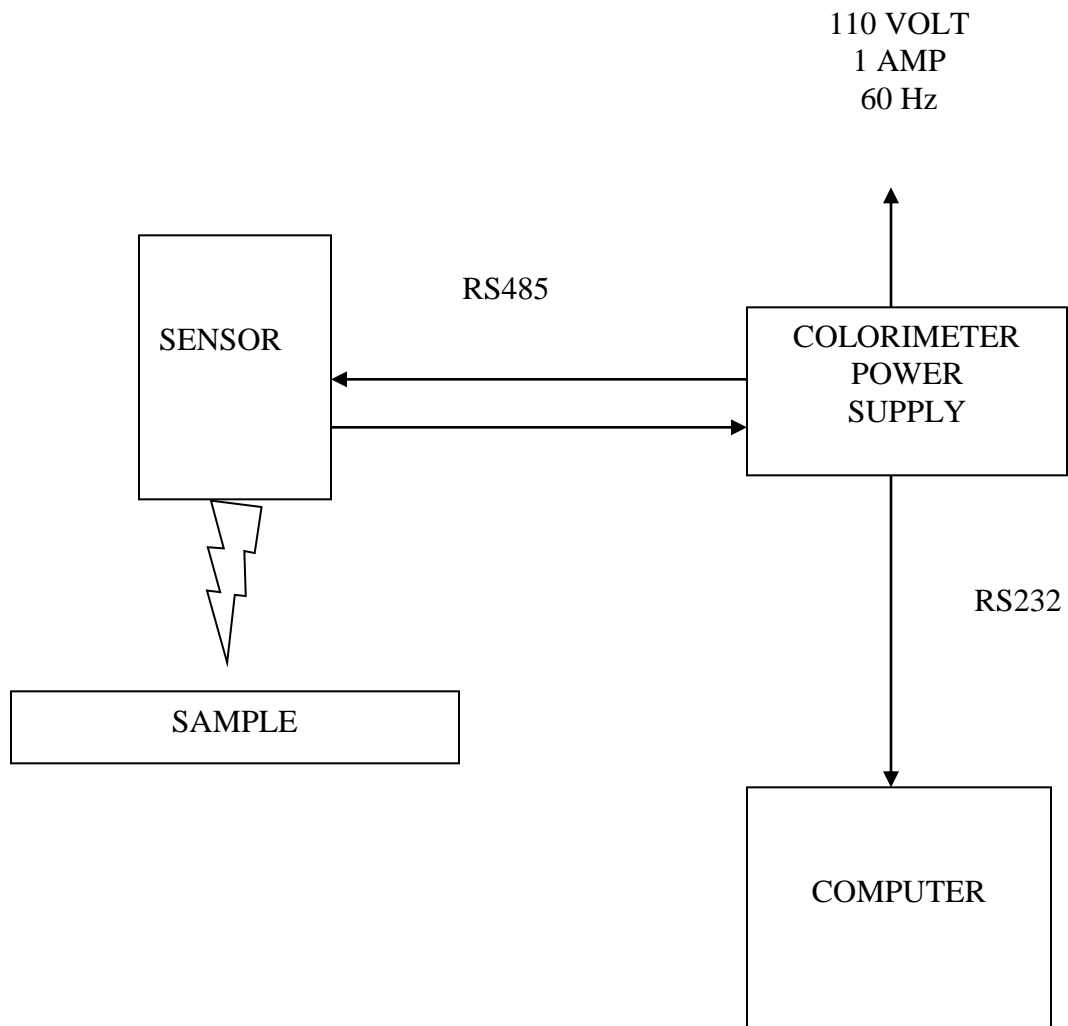
Choosing Open from File menu, a File dialog appear to let you choose the standard file (*.std).

Browse to your desired file to open it.

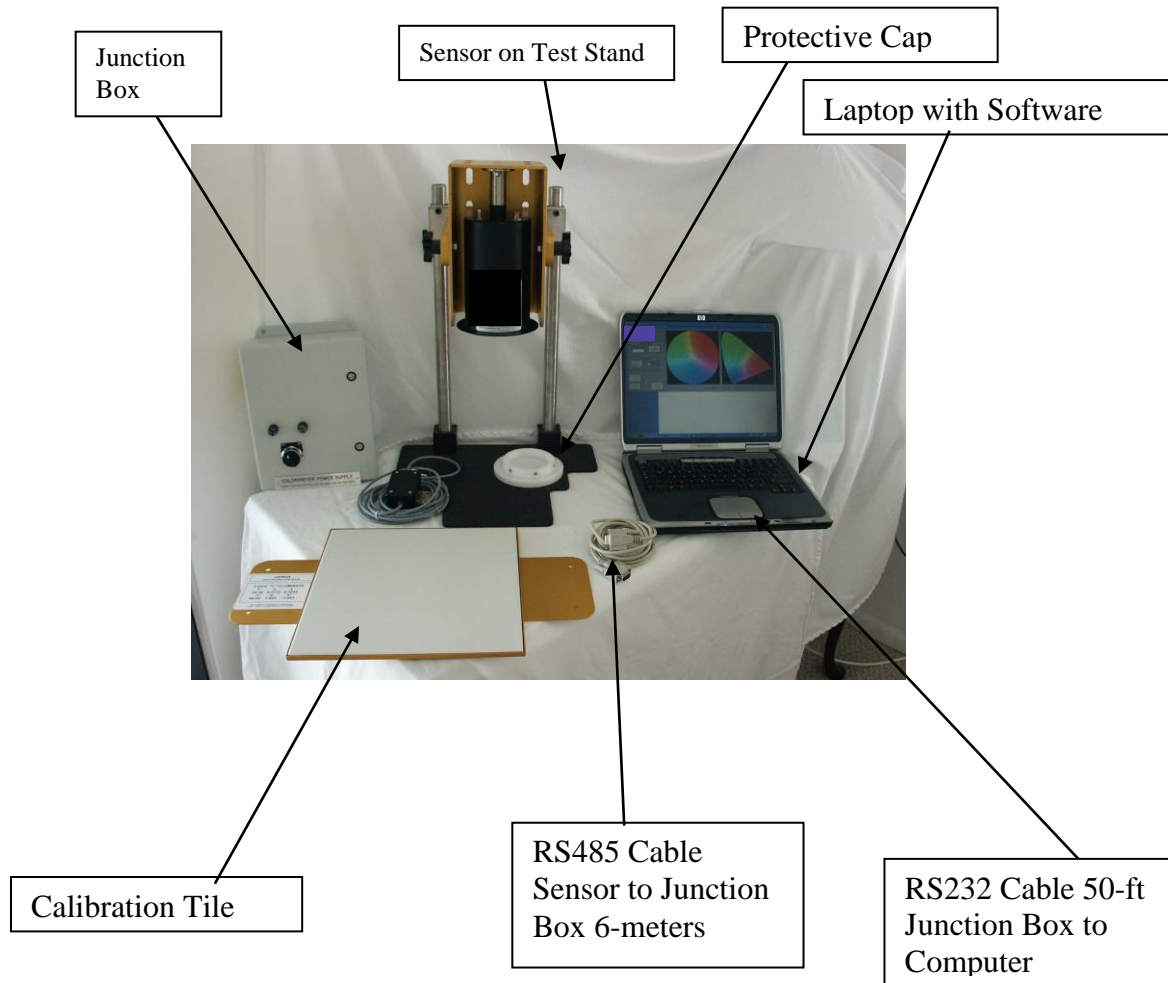


Standard name and tolerance values are recall from this file.

BASIC LAYOUT



SYSTEM PHOTOGRAPH



WIRING DIAGRAM

5010 COLORIMETER POWER SUPPLY BOX

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