Keyence TM-3000 Connection Guide
Measure2D™

I.   Introduction

Welcome to the Keyence TM-3000 Connection Guide, This document provides specific instructions for connecting the Keyence TM-3000 controller in conjunction with the Measure2D™ Software.

The Measure2D™ Software was written and is fully compatible with Keyence TM-3000 controller under the following configurations:

- Keyence TM-3000 Controller
- Keyence TM-006, TM-040, and/or TM-046 measurement heads (single head mode only – Head A). The Software does NOT provide support for measurements made by a second measurement head (Head B).
- A **Keyence PN OP-96368 Serial Cable and OP-26041 RS-232 Conversion adapter are required.** This cable/adapter will be used to connect the Keyence Controller to the Windows based computer that will be running the Software. Roth Technologies may provide an equivalent to these two part numbers if it was included in your quotation.
- A USB Cable is required between the Host computer and the Keyence TM-3000 Controller. This connection is required for running/executing the Keyence TM-H1 Software.
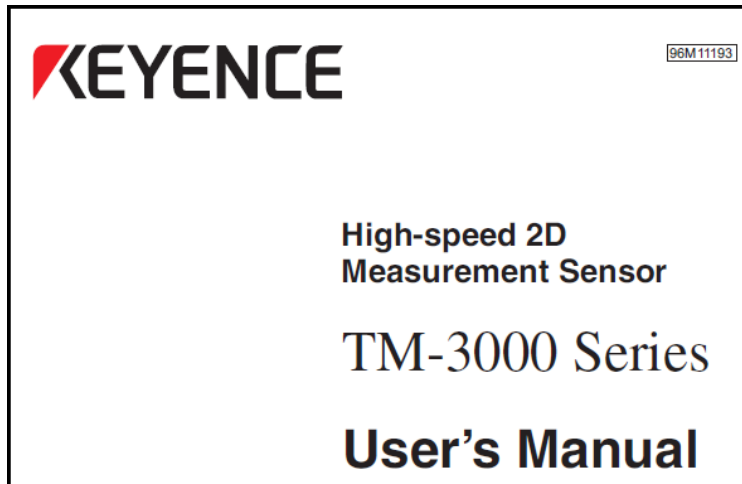- The Software does NOT support the Memory Card option.

The Measure2D™® Software (henceforth referred to as "SOFTWARE") provides a simple way to optimize the use of your Keyence TM-3000 2D Measurement system. At the time of connection the SOFTWARE provides the following functions:

- The SOFTWARE will automatically determine the Host Computer's Serial Port that is connected to the the Keyence Controller. If you have multiple serial ports on your computer the SOFTWARE will poll and utilize the Serial Port that is connected to the Keyence Controller. **If your computer does not include a Serial Port then you will need to purchase and install a USB to Serial Port converter.** We recommend StarTech.com USB to Serial Adapter - 2 Port - Wall Mount - Din Rail Clips - Industrial - COM Port Retention - FTDI - DB9 (ICUSB2322I) which is available on Amazon.

- The SOFTWARE provides a configuration tool (MSpecify® for Measure2D™) that allows the importing of Keyence configuration files (PRS files).

- The SOFTWARE includes a mechanism for switching between Keyence Programs that are located on the physical controller (TM-3000).

The Software does NOT provide a mechanism of programming the Keyence Programs and Outputs. The User will need to use the TM-H1 Navigation Tool prior to running the Software. The Keyence TM-3000 program configuration that is loaded from the TM-H1 Software will need to be saved to an external file (i.e. a PRS file). This file will need to be read into the Software in order to setup a Test Profile in the Measure2D™ Software.
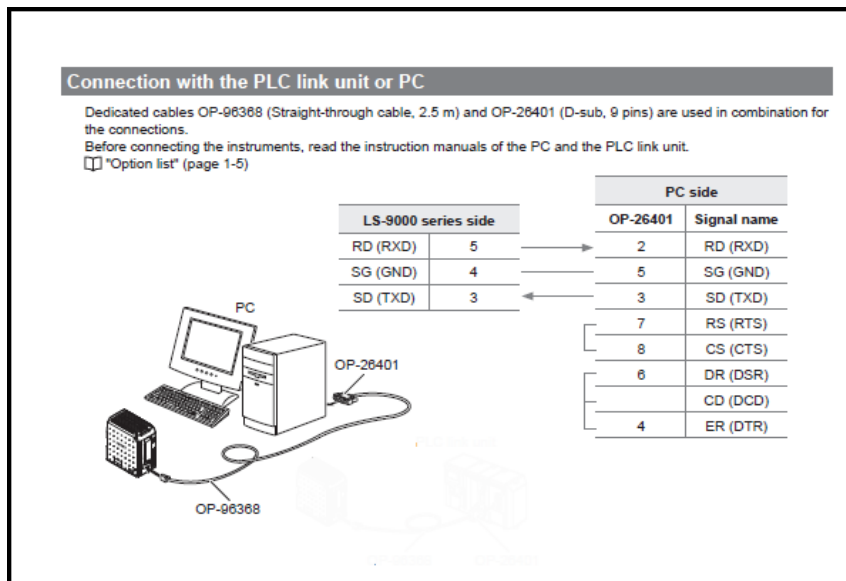
III. Connection Instructions (USB Cable and Serial Cable)

1. Install the Keyence TM-3000 and TM-0XX measurement head per Keyence User's Manual 96M11193.

2. Connect the Keyence PN OP-96368 cable to the Keyence Controller. Connect the other end Keyence PN OP-96368 cable to Keyence PN OP-26401 (D-sub 9 Pin adapter). Alternatively - use the Roth Technologies equivalents to these two part numbers.

4. Connect the of the D-sub 9 Pin adapter to an available serial port on the computer that will be running the Software. The Software has been written such that it will "search" all available serial ports installed on the computer and will find the one that is connected to the Keyence Optical Micrometer automatically. Tighten the connection screws to ensure the serial cable does not come loose (finger tight).
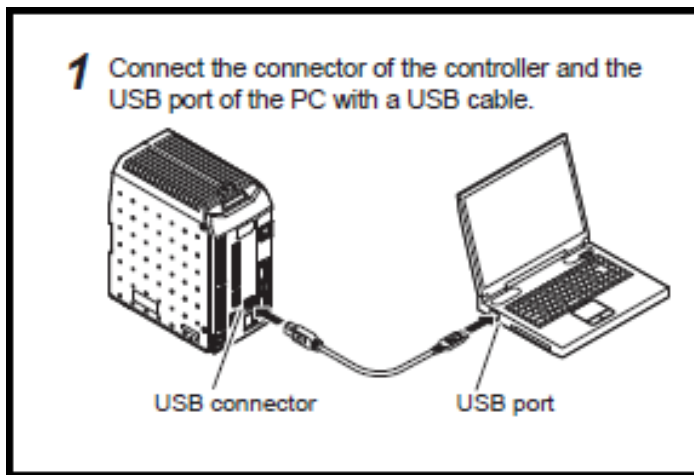
4. The Measure2D™ Software utilizes the default RS-232 connection values that the factory installs in the Keyence measurement system. As a result you should not have to change them on the Keyence controller.

      Baud rate: 9600
      Parity: None
      Data Length: 8 bit
      Stop Length: 1 bit
      D-MODE: NORMAL (use CR as the delimiter)
      D-SEND: OFF (measured value output and setting changes are possible via RS-232)

5. Do not unplug this cable when the Software is executing. Doing so may cause the controller to function improperly or stop functioning.

6. In order to execute the Keyence TM-H1 Navigation program you must connect a USB cable from the Host computer to the Keyence TM-3000 controller. This USB cable is not provided by Roth Technologies, LLC. The USB driver for this connection is available from Keyence. It is typically installed automatically when the Keyence TM-H1 software is installed.

Note: Do NOT execute the Keyence TM-H1 Navigation Software when running the Measure2D™ Software. Doing so may result in unexpected results.

IV.   Reporting Errors or to Request Feature Updates

Please contact us via email at sales@cathcad.com to report errors or software issues. We also encourage and accept feature requests from our Users. Please email these requests to sales@cathcad.com as well.