

5. Enter the temperature value in the text box "For a temperature of...", in the "1 Point Calibration" section.
6. Adjust, with the (+) and (-) buttons, until the output of the MIST corresponds to the reading shown in the text box "Output should be at..."

9.2 Two points calibration

To perform a two points calibration you will need two known reference points in the operation range of the MIST. The first point must always be smaller than the second one.

1. Connect the MIST (See section 3).
2. Launch the MIST software.
3. Click on the "PROGRAM" button to access the programming window.
4. Enter in the text box "First Point", located in the "2 Point Calibration" section, the value of the first calibration point.
5. Set the MIST to this temperature value and click on the "READ" button located just beside the "First Point" text box.
6. Enter, in the text box "Second Point", the value of the second calibration point.
7. Set the MIST to this temperature value and click on the "READ" button located just beside the "Second Point" text box.
8. Click on the "Process" button to update the MIST with the new calibration parameters.

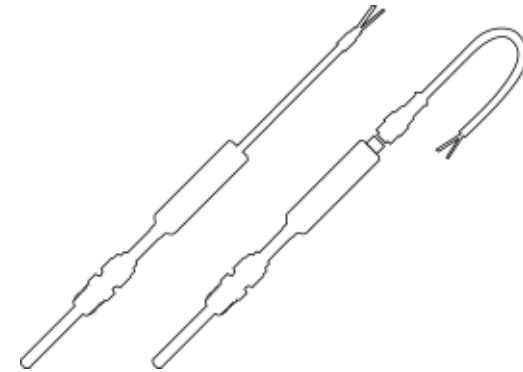
10. Specifications

Sensing Element :	RTD, Type Pt100 Class B
Temperature Ranges :	See MIST table for standard ranges.
Customer re-scalable :	200°C to 600°C or -50°C to 200°C (depending on model)
Output :	4-20 mA loop, linear to temperature
Power Supply :	9-36 VDC, polarity protected
Supply Effect :	0.02 %/V
Accuracy :	± .25 °C + 0.40 % of reading (largest error, normally less)
Loop Resistance :	$R_{max} = (V_{supply} - 9V) / 20 \text{ mA}$
Open Circuit :	Upscale 23 mA or Downscale 2.5 mA programmable
Warmup :	30 seconds
RFI Effect :	1 % or less typical
Isolation :	500 VDC Input/Output
Temp. Effects :	≤ 0.01 % FS/°C
Operating Temp.:	-40 °C to 80 °C
Storage Temp.:	-40 °C to 80 °C
Probe Material :	316 Stainless Steel
Max. Pressure:	Threaded version 1500 Psig, Tri-clamp version 500 Psig
Tri-Probe Finish :	Ra 32 compliant with 3A
Housing Material :	316 Stainless Steel, welded to probe
Cable Materials :	PVC, Teflon or Stainless Steel, Armored over Teflon
Enclosure :	Many types available, see catalog
Electrical Protection :	NEMA 6P, hermetically sealed



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INTEMPCO's MIST series Programmable 4-20 mA Output Transmitter



INSTRUCTION MANUAL

1. Description

The MIST is a RTD sensor with an integrated current loop transmitter. It is all mounted in a hermetically sealed stainless steel adapter, only two inches long. The MIST offers a stable and accurate 4 to 20 mA output current. The MIST comes factory calibrated which eliminates the need for costly field calibrations. If the customer ordered the MIST with the wrong temperature range, or if the application changes, it can be re-calibrated and re-scaled to any temperature range within the sensor's limit using a unique computer interface module.

2. Note

Prior to unpacking and installation, please read the operating instructions and follow them carefully. These units are to be used, serviced, and repaired only by individuals who are familiar with the operating instructions and the applicable regulations for operational safety and accident prevention.

3. Control of Units

The units are calibrated and checked before shipment and shipped in good conditions. If you detect a visible defect on the unit, we recommend that you carefully check the packing material. In the event of a defect, please immediately notify the mail service/freight forwarder, as they are responsible for shipping damage.

4. MIST-PKIT

What is included in the kit :

- Calibration interface module
- Wall adapter (24 VDC - 200mA)
- Windows calibration software (CD-ROM)
- Instruction sheet

5. How to install the calibration software

To install and run the calibration software you need those minimum requirements :

- Pentium I – 300 MHz or better
- Hard Disk space 1 MB
- 16 MB RAM
- Windows 95, 98, NT 4.0, 2000
- 1 Serial Port

IMPORTANT

If you already have an old version of the MIST software installed on your computer you must first uninstall it. To do this, use the Windows Add/Remove Program, in the Control Panel.

STEP 1 : Win95-Win98 and Win2000 : Copy all files from respective directory on CD-ROM to a temporary directory on your hard disk.

STEP 2 : Run the SETUP.EXE (Win95 & Win98) program or the MIST.MSI (Win2000) program from your hard disk. The Intempco-MIST Setup program will automatically start.

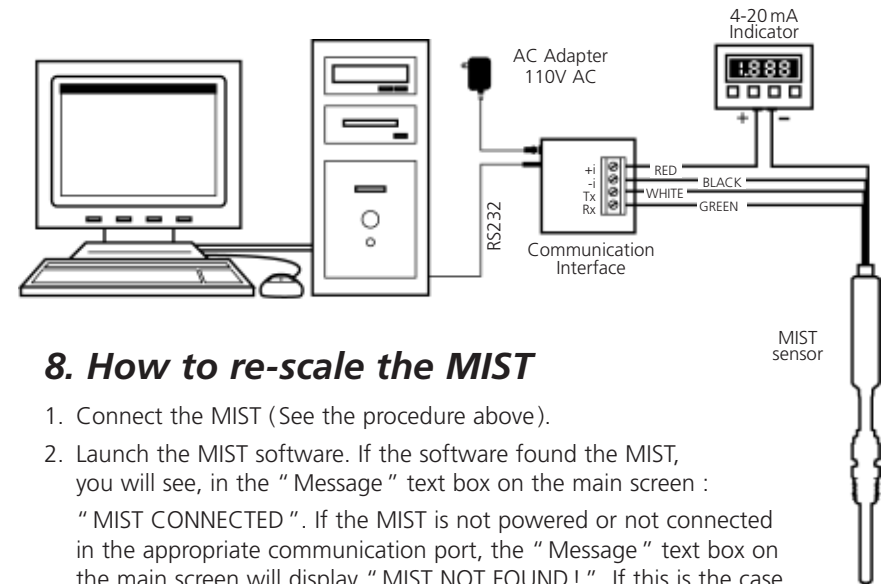
STEP 3 : By default, the MIST software will be installed in the "Program Files\MIST" directory. You can change the installation directory by clicking on the "Change Directory" button during the setup procedure. When the installation directory is set, click on the graphical button (showing a computer) to complete the installation.

6. How to connect the MIST.

It is important to follow these steps in order :

1. Connect the MIST to the Calibration interface module via the 4 positions screw terminal.
2. Connect the Calibration interface module to the serial port of the computer via the DB-9 cable.
3. Connect transformer to wall outlet.
4. Connect output cable of transformer to interface module. If you want to use an indicator or calibrator, plug it in series on the BLACK wire (-) or RED wire (+).

7. Electrical Connections



8. How to re-scale the MIST

1. Connect the MIST (See the procedure above).
2. Launch the MIST software. If the software found the MIST, you will see, in the "Message" text box on the main screen : "MIST CONNECTED". If the MIST is not powered or not connected in the appropriate communication port, the "Message" text box on the main screen will display "MIST NOT FOUND!". If this is the case, check to be sure that the MIST is well connected and powered.

By default, the communication port is set to COM1. If the MIST is not connected to COM1, select the appropriate COM port in the "Configuration" section of the main window. Once you have checked the connections and the COM port, click on the "READ" button to initiate the communication.

3. Click on the "PROGRAM" button to access the programming window.
4. To re-scale the MIST, you can either select a "Preset Range" in the scrolling menu located in the "Operation Range" section of the window, or enter manually the range in the "From" and "To" text boxes. Once the range is selected, click on the "SET" button to apply. The MIST will automatically be re-scaled to the new range.

9. How to re-calibrate the MIST.

The MIST is already calibrated by INTEMPCO for a range of -200°C to 600°C or to the customer range, if specified. If you want to re-calibrate the MIST, two types of calibration are available, one point calibration and a two point calibration.

9.1 One point calibration

To perform a one point calibration you will need one known reference point, ideally located around the middle of the operating range.

1. Connect the MIST (See section 7).
2. Launch the MIST software.
3. Click on the "PROGRAM" button to access the programming window.
4. Set the MIST to a known temperature, ideally around the mid-range.