

A&D Company, Limited

1WMPD4000521A

©2012 A&D Company, Limited. All rights reserved.

- No part of this publication may be reproduced, transmitted, transcribed, or translated into any language in any form by any means without the written permission of A&D Company, Limited.
- The contents of this manual and the specifications of the instrument covered by this manual are subject to change for improvement without notice.

## 1. Safety Information

We recommend that you read the safety and operation instructions before using the thermometer.

### Repair:

Do not disassemble the digital thermometer or sensor to avoid damage and fire.

### Troubleshooting:

Contact your local A&D dealer to repair the instrument.

### ⚠ Caution

A potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

## 2. Introduction

The temperature calibrator (MX-43) consists of a digital thermometer and a sensor with a K-type thermocouple in the center of the pan.

The temperature calibrator displays the temperature data used in the calibration of the drying temperature for the left moisture analyzer made by A&D Co.,Ltd. .

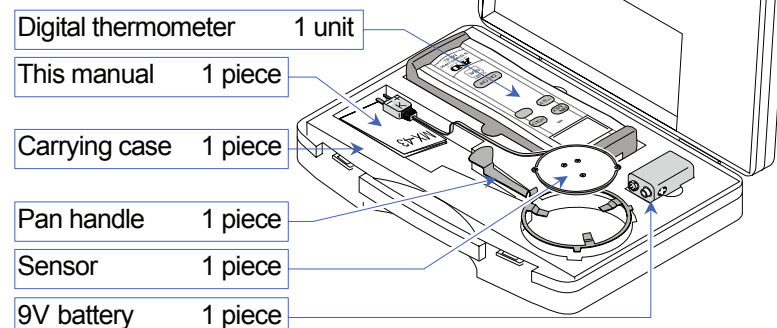
Before use, install the battery while referring to "7. Battery Replacement".

Refer to the "12.3 Calibration of Drying Temperature" for the temperature calibration method in the moisture analyzer instruction manual.

### ⚠ Caution

- Do not input a voltage that exceeds 24VAC or 60VDC to avoid electrical shock.

## 3. Unpacking



## 4. Specifications

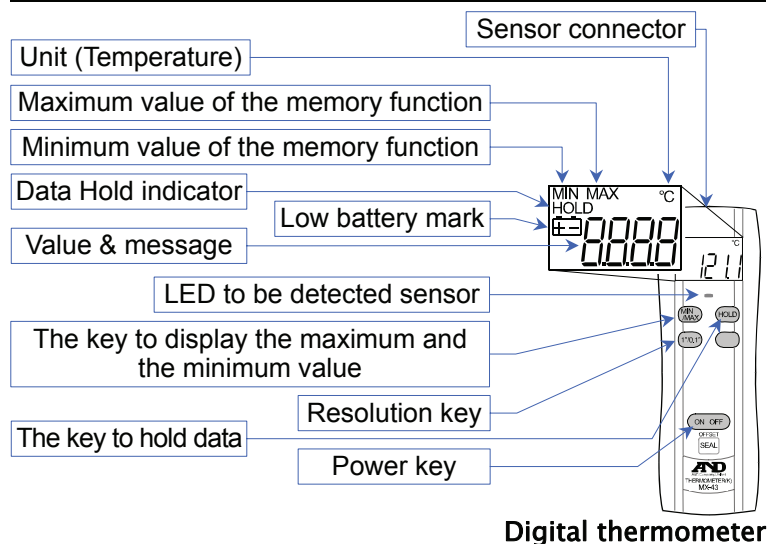
### 4.1 Digital thermometer

Display : ..... 3 1/2 digit LCD with maximum reading of 1999  
 Battery : ..... 9V battery (IEC 6F22), 1 piece  
 Battery Life : ..... About 200 hours with alkaline battery  
 Resolution : ..... 0.1 °C or 1 °C  
 Operation temperature: ..... 0 °C to 50 °C  
 Operation relative humidity : ..... 0 % to 80 %RH, 0 °C to 35 °C  
 0% to 70 %RH, 35 °C to 50 °C  
 Storage temperature : ..... -20 °C to 60 °C  
 Storage relative humidity : ..... 0 % to 80 %RH  
 Digital thermometer dimensions : ..... 62 (W) × 184 (H) × 35 (D) mm  
 (Excluding the rubber case)  
 Digital thermometer mass : ..... Approximately 165 g  
 (Excluding the battery and rubber case)

### 4.2 Sensor

Sensor type : ..... K type thermocouple temperature sensor  
 Measurement temperature range: ..... 0 °C to 200 °C  
 Dimensions : ..... Dia. 87 (Max. width 94) × 8 (D) mm  
 Mass : ..... Approximately 40 g  
 Cable length : ..... Approximately 1 m

## 5. Names



## 6. Operation and Functions

### Note

- When the measurement value is out of range or the sensor is not connected, **OL** is displayed.
- The OFFSET trimmer is sealed because it is calibrated at the factory.

### 6.1 Specifying the Resolution

- Preset the resolution of the digital thermometer to "1°C" so that the temperature on the weighing pan can be calibrated. The resolution can be selected with the **0.1°C/1°C** key.

### 6.2 The Hold Function

- Cancel the hold function of the digital thermometer for calibration.
- The hold function displays a fixed value and "HOLD" indicator and stops the current measurement.
- Each time the **HOLD** key is pressed, the thermometer switches between the fixed value of the hold function and the current measurement value.

### 6.3 Max. /Min. Value Of The Memory Function

- Cancel the memory function for calibration.
- Each time the **MIX/MAN** key is pressed, the thermometer switches between the maximum and minimum values.
- While using the memory function, the updated (memorized) maximum or minimum value is displayed.
- When pressing and holding the **MIX/MAN** key, the thermometer clears (deletes) the stored maximum and minimum values and displays the current measurement value.

### 6.4 The Detection Function For The Thermocouple Temperature Sensor

- When the wire of the thermocouple temperature sensor is broken and the sensor is connected to the digital thermometer incorrectly, the LED will be lit.

## 6.5 Temperature Calibration

- Refer to "12.3 Calibration of Drying Temperature" in the instruction manual of the moisture analyzer concerning of the temperature calibration on the pan of the moisture analyzer.

## 7. Battery Replacement

### ⚠ Caution

- Remove the sensor from the thermometer before removing the cover to avoid electrical shock.

### Note

- Do not charge it. Do not short terminals. Do not disassemble it. Do not burn or through it into fire.
- Dispose of used batteries according to local regulations.
- When **⚡** (Low battery mark) appears, replace the battery with a new one.
- When the batteries are drained completely, **⚡** (Low battery mark) does not appear.
- The battery life is dependant upon the environmental temperature, battery type and usage.
- Remove the battery if the device is not to be used for a long time. The battery may leak and cause a malfunction.
- The included battery is for test operation purposes and may have a usage short life.
- Connect the positive (+) and negative (-) terminals of the battery to the battery snap properly.
- Do not pull the battery snap.

### 7.1 Battery Replacement Procedure

1. Remove the connector of the sensor. Remove the rubber cover.
2. Remove the two screws from the thermometer. Remove the battery cover.
3. Remove the old battery from the battery snap.
4. Connect the new battery to the battery snap. Insert the battery into the thermometer.
5. Fix the battery cover with the two screws.

