Mu-Wave Transmitter

User's Manual
No. 99MAL103B
Series No.264F

PRECAUTIONS

Please read this manual carefully before use in order to ensure the best possible performance and longest service life from the Mitutoyo Mu-Wave Transmitter (hereinafter referred to as "the transmitter").

WARNING

This instrument uses a lithium battery, which contains an irritating substance. Should the liquid contained in the battery accidentally come into contact with the skin or eyes, flush with cold water and seek medical attention.
Should the liquid enter the mouth, immediately rinse, drink plenty of water, vomit, and then seek medical attention.

IMPORTANT

- The transmitter is a precision electronic device. Handle it carefully so that no part of the device is subjected to stress.
- Do not attempt to disassemble the transmitter.
- If the transmitter is not going to be used for more than three months, remove the battery from the device and store them along with the transmitter in a safe place.

Do not use the transmitter in an environment subject to the following:

- Dust or high humidity is present.
- The transmitter is exposed to direct sunlight or rain.
- The transmitter is subjected to an acidic or alkaline solution, or to organic solvent.
- The transmitter is exposed to water and oil mist.
- A powerful magnetic field is present, or devices that generate sparks such as arc welders or an electric discharge machines are located nearby.
- Facilities that emit powerful electric waves, such as high-voltage cables or broadcasting stations, are located nearby.
- Sources of electro-magnetic radiation such as a radios or TVs are nearby. (Electrical interference may impede the transmitter's performance.)
- The location is airtight, without adequate ventilation.
- Sources of radioactivity are nearby.

- Use the transmitter in a place where the temperature is maintained as close as possible to 20 degrees centigrade.
- Wipe stains with a soft, dry cloth or one dampened with neutral detergent or alcohol. Never use thinner or any other type of organic solvent.

WARRANTY

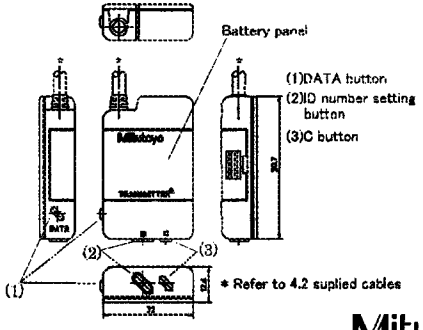
In the event that the transmitter proves defective in terms of workmanship or materials, within one year from the original purchase date, it will be repaired or replaced, at our option, free of charge upon its prepaid return to us.

1. INTRODUCTION

1.1 Overview

The transmitter is a wireless unit specifically designed for the use with a Mitutoyo Digimatic gage featuring Digimatic data output. The device is to be used in conjunction with a Mitutoyo Mu-Wave Receiver. The data transmitter between the transmitter and receiver is unidirectional. Therefore, the transmitter cannot request data output from the receiver side.

1.2 Name of Parts



2. SETUP

2.1 Installing the Battery

Battery must be installed in the transmitter's battery compartment.
Use only CR2032 coin-type lithium battery.

CAUTION

The supplied battery is used only for the purpose of checking the functions and performance of the instrument, therefore it may not satisfy the specified battery life.

Install the battery (supplied) using the following procedure:

Step 1: Remove the battery panel from the transmitter.
Step 2: Insert the battery, being careful to observe the correct polarity.
Step 3: Replace the battery panel.

2.2 Connecting to the Gage

The transmitter does not function by itself, but must be connected to a Digimatic gage using the cable provided. Using the double-sided tape attached to the rear of the transmitter, adhere the transmitter firmly to the rear of the Digimatic gage after completing the cable connection.

2.3 Setting the ID Number

To ensure proper data transmission, the transmitter's ID number should match the reception ID number set on the Mu-Wave Receiver (A). One of 100 different ID numbers (0 to 99) can be specified on the gage. The number can be set on the LCD display of the connected gage, as indicated by the two digits to the left of the decimal point.

Use the following procedure to set the ID number:

Step 1: Confirm that a number is shown on the LCD of the connected gage.
Step 2: Adjust the gage so that the desired ID number is displayed in the two positions to the left of the decimal point. Digits to the right of the decimal point have no meaning and are simply ignored.
Step 3: Set the number by pressing the ID Number Setting button.
Step 4: The ID number will be held in memory even after the power is turned off.

* A limited number of IDs can be assigned and will depend on the measurement range of the connected measuring gage (such as an IDS, IDU, etc.).

Should you wish to set an ID number greater than the measurement range (i.e., if the measuring gage is provided with an origin or preset-value setting function), an ID number greater than the measurement range can be set using the following procedure:

- Display a desired number on the data display by setting an origin value or preset value to the gage. Then, press the ID Number Setting button. For details on the placement of digits, refer to the user's manual provided with the gage you're using.

LCD	ID number
0.XX mm	0
1.XX mm	1
12.XX mm	12

X: Any number between 0 and 9

CAUTION

The ID number will be lost if the battery is replaced, and will thus have to be set again.

FCC ID: J3E06MW-TALL

FCC STATEMENT

The transmitter complies with Part 15 of the FCC Rules.
Operation of the transmitter is subject to the following two conditions:
(1) The transmitter may not cause harmful interference.
(2) The transmitter must accept any interference that may cause undesired operation.

3. OPERATION

3.1 Data Transmission

When the transmitter's DATA button is pressed, the measurement data indicated on the LCD will be transmitted. Data transmission is not enabled when the LCD is off or displays an error message.
If the battery voltage decreases when DATA button is pressed, an alarm signal will indicate that the voltage is dropping below the usable level. Please change the battery immediately. Refer to the Mu-Wave Receiver A (No.4705) or Receiver U (No.4711) User's Manual.

3.2 C Button

Signals transmitted from the transmitter have different effects on the receiver, depending on the type of receiver employed. To transmit the signals, press the [DATA] button while holding down the [C] button.

Case 1: Mu-Wave Receiver A/ 958836
Battery-check
When the battery voltage is OK, the buzzer emits two high tones. When the battery voltage is low, two low tones sound on the buzzer and the red LED lights.
If this occurs, change the battery as soon as possible.
Refer to the Mu-Wave Receiver A User's Manual (No.4705)

Case 2: Mu-Wave Receiver U/ 958837
Cancel signal
The software to be run on the personal computer that will be connected to the Receiver U, should be programmed so that it can identify the ID numbers of the measuring gages and the cancel signal in the received data. If the cancel signal is included in the data, the computer will cancel the last measurement received from the respective gage.
Refer to the Mu-Wave Receiver U User's Manual (No.4711).

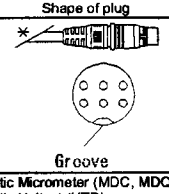
4. SPECIFICATIONS

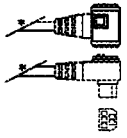
4.1 Common Specifications

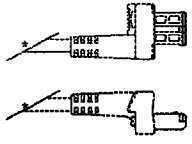
Transmission distance:
15m/50feet (line of sight)
Transmission frequency: VHF band
Transmission speed: 2400 bps
Operation temperature: 0 to 40°C
Storage temperature: -10 to 60°C
Weight: 50g
Power source:
Lithium battery (CR2032: 1 pc.)

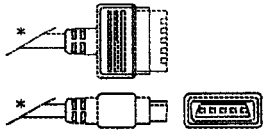
Battery life:
Approx. 6 months
under normal use
(for retaining ID number)
Antenna: Built-in type
ID numbers 100 (0 to 99)
Standard accessories:
Manual
Lithium battery (CR2032: 1 pc.)

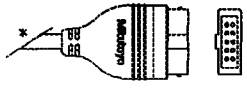
4.2 Supplied Cables

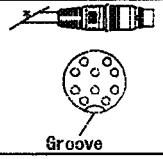
Type	Shape of plug
Type A (Normal)	
Part No.	
02AZB590A	
Digimatic Gage	1. Digimatic Micrometer (MDC, MDQ) 2. Digimatic Holtest (HTD) 3. Borematic (SBM)

Type	Shape of plug
Type B (Special)	
Part No.	
02AZB590B	
Digimatic Gage	1. Digimatic Caliper (old type CD-15M) 2. Digimatic Height Gage (HDM)

Type	Shape of plug
Type C (Normal)	
Part No.	
02AZB590C	
Digimatic Gage	1. Digimatic Caliper (old type CD, CD-C) 2. Digimatic Indicator (ID-C/S/U)

Type	Shape of plug
Type D (Special)	
Part No.	
02AZB590D	
Digimatic Gage	1. Digimatic Micrometer Head (old type MD-25M)

Type	Shape of plug
Type E (Special)	
Part No.	
02AZB590E	
Digimatic Gage	1. Digimatic Indicator (old type IDF, ID-F)

Type	Shape of plug
Type F (Special)	
Part No	
02AZB590F	
Digimatic Gage	1. Digimatic Indicator (old type IDB) 2. Surftest (211)

Mitutoyo

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