
**User's
Manual**



Models 437101/437102/437103/437104/
437106/437112/437118/437124/

**μR20000 Recorder
Portable Type**

vigilantplant™



Foreword

Thank you for purchasing the μ R20000 (hereafter referred to as recorder). This user's manual contains information about the recorder with the /H5x option specification (the portable type). Please also refer to the user's manual for the standard version of the recorder (IM04P02B01-01E) when operating this model.

Notes

- The contents of this manual are subject to change without prior notice as a result of continuing improvements to the instrument's performance and functions.
- Every effort has been made in the preparation of this manual to ensure the accuracy of its contents. However, should you have any questions or find any errors, please contact your nearest YOKOGAWA dealer.
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Revisions

1st Edition February 2006

Safety Precautions

The following describes warnings that are specific to the portable type. Please also refer to pages ii and iii of IM04P02B01-01E for warnings that apply to all models of the recorder.

WARNING

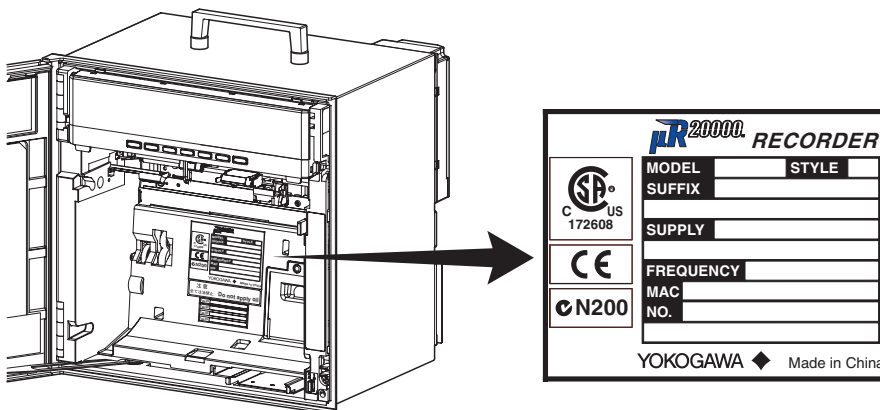
- **Power Supply**
Before connecting the power cord, ensure that the power supply voltage matches the voltage rating for the instrument, and that it is within the maximum rated voltage for the power cord itself.
 - **Use the Correct Power Cord and Plug**
The main power plug can only be plugged into an outlet with a protective grounding terminal. Do not disable the protection feature of the instrument by using an extension cord without protective grounding.
 - **Connect the Protective Grounding Terminal**
Make sure to connect the protective grounding to prevent electric shock before turning ON the power. The power cord included with the portable type is a 3-prong cord with a grounding wire. Connect the power cord to a 3-prong AC outlet with a protective grounding terminal.
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Checking the Contents of the Package

Unpack the box and check the contents before operating the software. If some items are missing or otherwise inconsistent with the contents description, please contact your dealer or nearest YOKOGAWA dealer.

Checking the Model Name

Check the name plate on the recorder to ensure that the model name and suffix code match the ones you ordered.



Model and Suffix Codes

Model	Suffix Code	Optional Code	Description
437101			μR20000 1 pen recorder
437102			μR20000 2 pen recorder
437103			μR20000 3 pen recorder
437104			μR20000 4 pen recorder
437106			μR20000 6 dot recorder
437112			μR20000 12 dot recorder
437118			μR20000 18 dot recorder
437124			μR20000 24 dot recorder
	-1		Japanese
	-2		English/German/French & deg F / DST
	-3		Chinese & deg F / DST
		/A1	Alarm output relay 2 points ¹
		/A2	Alarm output relay 4 points ¹
		/A3	Alarm output relay 6 points ¹
		/A4	Alarm output relay 12 points ^{1,2}
		/A5	Alarm output relay 24 points ^{1,2}
		/C3	RS-422A/485 interface ³
		/C7	Ethernet (10BASE-T) interface ³
		/F1	Fail/Chart end detection and output ²
		/H2	Clamped input terminal ⁴
		/H3	Non-glare door glass
		/H5D	Portable type Power cord UL, CSA st'd ⁷
		/H5F	Portable type Power cord VDE st'd ⁷
		/H5R	Portable type Power cord AS st'd ⁷
		/H5J	Portable type Power cord BS st'd ⁷
		/H5H	Portable type Power cord GB st'd ⁷
		/M1	Mathematical function
		/N1	Cu10, Cu25 RTD input
		/N2	3 legs isolated RTD ^{4,5}
		/N3	Expansion inputs ⁶
		/P1	24 VDC/AC power supply ⁷
		/R1	Remote control 5 points
		/CC1	Calibration correction

1 /A1, /A2, /A3, /A4, and /A5 cannot be specified simultaneously. /A5 is valid on the dot models.

2 /A5 and /F1 cannot be specified simultaneously on the dot models.
/A4 and /F1 cannot be specified simultaneously on the pen models.

3 /C3 and /C7 cannot be specified simultaneously.

4 /H2 and /N2 cannot be specified simultaneously.

5 Valid only on the dot models.

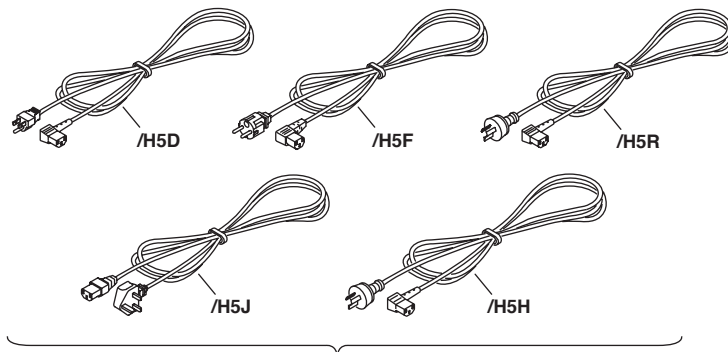
6 14 types of input including Pt50 RTD, PR40-20, and PlatineI TC

7 /H5x and /P1 cannot be specified simultaneously.

Checking the Contents of the Package

Standard Accessories

Power cord



One of these power cord types is supplied according to the instrument's suffix code

Part Number	Q'ty	Note
A1006WD	1	Provided when /H5D is specified for the optional code. Maximum rated power voltage: 125V
A1009WD	1	Provided when /H5F is specified for the optional code. Maximum rated power voltage: 250V
A1024WD	1	Provided when /H5R is specified for the optional code. Maximum rated power voltage: 250V
A1023WD	1	Provided when /H5J is specified for the optional code. Maximum rated power voltage: 250V
A1064WD	1	Provided when /H5H is specified for the optional code. Maximum rated power voltage: 250V

For information on standard accessories besides the power cord and optional accessories (sold separately), see page v of the user's manual, IM04L02B01-01E.

Installation and Connecting the Power Supply

Installation

The following describes warnings that are specific to the portable type. For all other details regarding installation, see section 2.2 of IM04L02B01-01E, "Installation."

Precautions Regarding the Installation Location

- The portable type is not equipped to be installed in an instrumentation panel.
- For the portable type, we recommend that you maintain a 50 mm or greater margin of space around the front, back, sides, and top of the instrument.
- This instrument is for indoor use only. Do not use the instrument outdoors.

Connecting the Power Supply

Points to Note When Connecting the Power Supply

Please heed the following warnings when connecting the power supply to the instrument. Failure to heed the following warnings may result in electric shock or damage to instruments.

WARNING

- Ensure that the source voltage matches the rated power supply voltage of the instrument before connecting the power cord.
- Check that the power switch to the instrument is turned OFF before connecting the power cord.
- Make sure to connect protective earth grounding to prevent electric shock. Connect the power cord of the portable type to a three-prong power outlet equipped with a protective earth terminal.
- Do not use an extension cord that does not have a protective grounding wire. The protective features of the instrument will be rendered ineffective.

Use a power supply that meets the conditions indicated below.

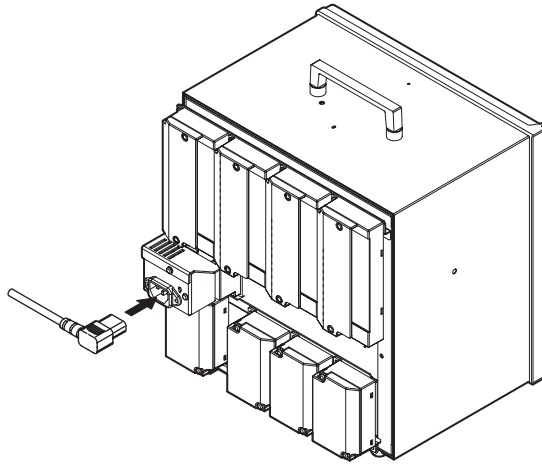
Item	Condition
Rated supply voltage	100 to 240 VAC
Supply voltage range used	90 to 132, 180 to 264 VAC
Rated supply voltage frequency	50/60 Hz
Permitted supply voltage frequency range	50/60 Hz $\pm 2\%$
Maximum power consumption	Pen model: 55 VA, dot model: 55 VA

Note

Do not use a supply voltage in the range 132 to 180 VAC, as this may have adverse effects on the measurement accuracy.

Connections

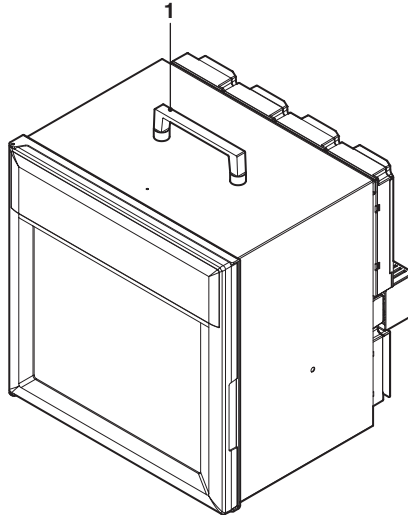
1. Check that the power switch to the instrument is turned OFF.
2. Connect the plug on the accessory power cord to the power supply connector on the rear panel.



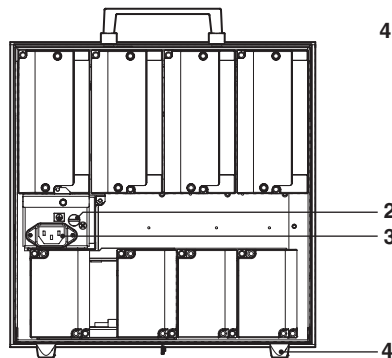
3. Ensure that the power outlet to be used meets the conditions on the previous page and that the voltage of the power supply is within the maximum voltage rating of the power cord, then connect the other end of the power cord to the power supply outlet.
The AC outlet must be of a three-prong type with a protective earth ground terminal.

Names of Parts

The following describes only the names of parts that are specific to the portable type. For all other part names, see section 3.1 of IM04P02B01-01E, "Names of Parts and Functions."



Rear Panel



1. Carrying handle
2. Protective ground terminal (spare)
3. Power terminal with protective ground terminal (attach the specified power cord)
4. Feet (four)

Specifications and Dimensional Drawings

Specifications

The following describes specifications that are specific to the portable type. For other specifications, see chapter 12 of IM04P02B01-01E, "Specifications."

Portable Type (/H5x)

Carrying handle

The "x" in /H5x designates the power cord specification.

D: Power cord (UL and CSA compliant)

F: Power cord (VDE compliant)

R: Power cord (SAA compliant)

J: Power cord (BS compliant)

H: Power cord (GB compliant)

Dimensional Drawings

