User's Manual

DR130/DR231/DR241 Hybrid Recorder (Stand-alone model)

Notice of Alterations

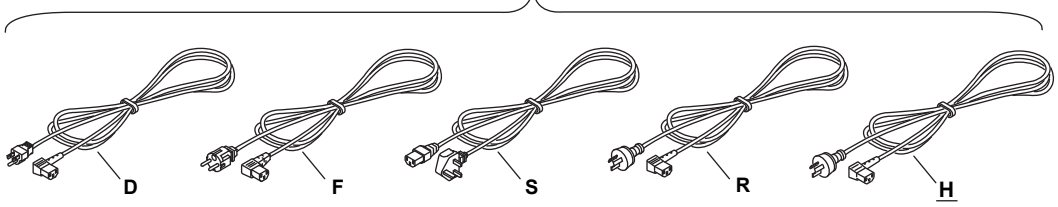
Please note the following(underlined) alterations to the IMDR231-01E.

■ Page 3 "Main Unit DR130/DR231/DR241"

Model	Suffix Code	Description
.....	.....	
Power Cord	D·····	3-pin inlet w/UL, CSA cable* (Part No. A1074WD)
	F·····	3-pin inlet w/VDE cable* (Part No. A1009WD)
	R·····	3-pin inlet w/AS cable* (Part No. A1024WD)
	S·····	3-pin inlet w/BS cable* (Part No. A1023WD)
	H·····	3-pin inlet w/GB cable* (complies with the CCC) (Part No. A1064WD)
	W·····	3-pin inlet with screw conversion terminal**
	Y·····	3-pin inlet with screw conversion terminal**
	.....	

■ Page 5 "Standard Accessories"

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



■ Page 7 "Safety Precautions"

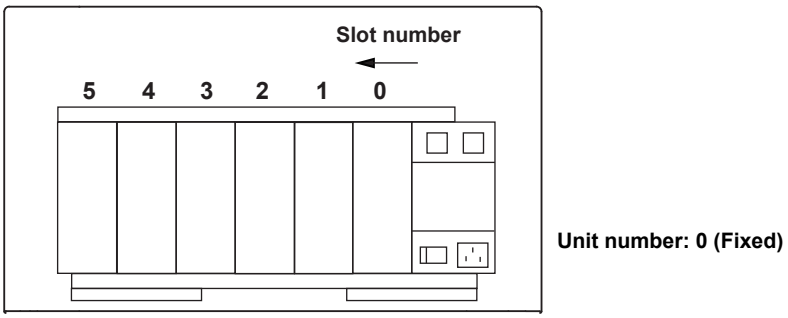
The following caution has been added.

CAUTION

This instrument is a Class A product. Operation of this instrument in a residential area may cause radio interference, in which case the user is required to take appropriate measures to correct the interference.

■ Chapter 3

Note the following additions to "Slot Numbers and Channel Numbers"



*** /N7: 051 to 052, /N8: 051 to 056**

■ Page 2-15 “HOLD/NON-HOLD Setting”

You can select whether to hold the operating status of operated internal switches or alarm output relays. This setting applies to both the internal switches and the alarm output relays.
However, non-hold always applies to relays for which the reflash alarm is set, regardless of the hold/non-hold setting.

■ Page 3-16 “WARNING”

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- When 30 VAC or 60 VDC and more is applied to the output terminal of the alarm output module or the output terminal of the DI/DO module, use double-insulated wires (withstand voltage performance: more than 2300 VAC) for those wires which apply 30 VAC or 60 VDC and more. All other wires can be basic-insulated (withstand voltage performance: more than 1390 VAC). Furthermore, use “crimp-on” lugs (for 4-mm screws) with insulation sleeves for connecting to the screw terminal. Make sure that the crimp-on tool must be one specified by the crimp-on lugs manufacture, and that the crimp-on lugs and tool must be matched to the wire size. To prevent from electric shock, do not touch the terminal after wiring and make sure to re-apply the cover.
- To prevent fire, use signal wires having a temperature rating of 75°C or more.

■ Page 3-16 “CAUTION”

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- The overvoltage category of each input module is CAT ll (CSA1010-1).
- The measurement category of each input module is CAT ll (IEC61010-1).
- When connecting to a clamp terminal, use a signal conductor with the following cross-sectional width:

.....

■ Page 3-18 “CAUTION”

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- The power monitor module is a product belonging to Installation (Over-voltage) Category CAT II (CSA1010-1).
- The power monitor module is a product belonging to Measurement Category CAT II (IEC61010-1).

■ Page 3-22 “WARNING”

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- To prevent electric shock, do not touch the terminals after wiring.
- Furnish a switch (double-pole type) to separate the instrument from the main power supply in the power supply line. In addition, make sure to indicate that the switch is a power control for the instrument on the switch and the ON/OFF positions of the switch.

  Switch Specifications

  Steady-state current rating: 3 A or more, inrush current rating: 90 A or more (AC power supply)
  Steady-state current rating: 8 A or more, inrush current rating: 90 A or more (DC power supply)
  Use a switch complied with IEC60947-1, -3.
- Do not add a switch or fuse to the ground line.

■ Page 4-13 “Clock Display”

The date and time can be displayed on sub-display 2.
According to the set time in 3.7 “Setting the Date and Time” (see to page 3-25), the current date and time can be displayed.

■ Page 10-6 “Selection of Recording Interval in Digital Printing/Logging Mode (LOG INTERVAL)”

- SINGLE:
  - Digital print: The interval is determined by the chart speed and the number of columns to be printed. See the table in chapter 14 (page 14-8).

■ Page 13-4 “13.3 Troubleshooting”

If an error code appears on the display, see Section 13.4, “Error Codes.”
If servicing is necessary, or if the instrument is not operating correctrly though the following corrective actions have been taken, please contact your nearest YOKOGAWA representative, dealer, or sales office.

■ Page 13-5 Added to the “13.4 Error Codes”

The following error codes have been added to the list.

Error Codes	Error	Corrective Action
013	Attempted “REP RECALL START” without hourly, daily, or monthly report data.	
032	Set to contiguous channels on the power monitor module.	Enter a correct channel.
047	Entered a wiring method for which there is no setting for the power monitor module.	Enter the correct wiring method.
107	Attempted to change ranges or time while report was starting.	Do not make changes.
131	Media write error	Exchange the medium.
137	Attempted to start computation or execute a procedure during saving of settings to a medium or while reading from a medium.	Start the procedure or computation after completion of the media operation.
138	Media drive error	Exchange the medium. If the error occurs again after exchanging the medium, servicing is required.
170	The IP address does not belong to any of the classes, A, B, or C.	Set the correct IP address.
171	There is a hole in the mask or the host address section is not released.	Set the correct subnet mask.
172	The net address section including the subnet does not match the subnet section of the IP address.	Set the correct net address.
173	The host address section of the IP address is either all zeroes or all ones.	Set the correct IP address.

■ Page 14-9 “Standard Computation Functions”

Scaling

Measurement accuracy for scaling: measurement accuracy for scaling (digits) = measurement accuracy (digits) × scaling span (digits) / measurement span (digits) + 2 digits. Numbers below the decimal point are rounded up.

±(((0.05/100) × 5000) + 2) × (2000/4000) + 2 = ±4.25
Measurement accuracy = ±5 digits = ±0.005 V

■ Page 14-14 “Normal Operation Conditions”

Installation category based on IEC61010-1, DSA22.2 No 61010-1.
II*1
Pollution degree based on IEC61010-1, DSA22.2 No 61010-1.
2*2
Warm-up time
At least 30 minutes after power switch-on.

*1 Describes a number which defines a transient overvoltage condition. It implies the regulation for impulse withstand voltage. “II” applies to electrical equipment which is supplied from fixed installations like distribution boards.
*2 Describes the degree to which a solid, liquid, or gas which deteriorates dielectric strength or surface resistivity is adhering. “2” applies to normal indoor atmosphere. Normally, only non-conductive pollution occurs.

■ Page 14-15 “EMC Conformity Standards”

Please refer to these specifications instead of the one printed in the user’s manual.

Safety and EMC Standards

CSA	CSA22.2 No.61010-1, installation category II, pollution degree 2
UL	UL61010-1 (CSA NRTL/C)
C-Tick	EN55011 compliance, Class A, Group 1
KC marking	Electromagnetic wave interference prevention standard, electromagnetic wave protection standard compliance