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U N I C O R D E R  
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SPECIFICATION

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Specifications are subject to change without notice.

PANTOS CO ., LTD	Drawing Number	Amendment
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Product number U - 212	Drawing name UNICORDER U - 212 SPECIFICATIONS
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Item	Specifications
Model	120mm Portable Recorder U-212
Number of Channels *1	1 ~ 2
Recording System	Automatic zero balancing, Solid-line recording
Effective Recording Width	120mm
Pen Speed	250mm/sec
Zero Point	Right end chart paper
Zero Point Adjusting Range	+100% of reference Point
Zero Point Check Switch	Provided
Measuring Range	10, 50, 100, 500 mV, 1, 5, 10 and 50 V (8 ranges)
Range Vernier *2	Provided
Input System	Floating
Input Resistance	1 M $\Omega$ (constant)
Allowable Signal Source Resistance	Less than 10 k $\Omega$
Linearity	$\pm 0.5\%$
Dead Band	$\pm 0.2\%$
Accuracy *3	$\pm 0.8\%$ (at 23°C)
Error between Ranges	$\pm 0.5\%$ (at 23°C)
Chart Paper	No.12001Z40, 16m long, right zero
Recording Pen	Cartridge type fiber tip pen
Ink Colors	Channel 1 - Green Channel 2 - Red
Pen Lift	Manual operation (independence)

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Product number U - 212	Drawing name UNICORDER U - 212 SPECIFICATIONS
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Item	Specifications
Chart Speed	(1) 10, 15, 20, 30, 40, 60 mm/h, cm/h, mm/min, cm/min 24 steps and 23 speeds (10 mm/min and 60 cm/h are over-lapped.) (2) Chart drive by external signal <sup>*4</sup> : · Chart speed : 1 mm/min at 1 Hz 600 Hz max. · Input impedance : Over 4.7 kΩ · Voltage : High level : +2V ~ +20V Low level : +0.8V ~ -20V (operable at TTL level) · Signal waveform : Pulse, Sine wave, Square wave, Triangular wave, etc. (Pulse width : Over 50 μsec.)
Calibration Voltage	Provided. Voltage : 10 mV, Accuracy : ±0.4% (at 23°C) Temperature coefficient : ±0.007%/°C MAX
Torque Reducing Unit *5	Provided.
Fast Forward Switch for Chart Paper	Provided.
Event Marker	Superimposing. Amplitude : ±3.5 ±1 graduation. Time : 0.2 ~ 0.4 sec.
Ambient Temperature and Humidity	Temperature : 0 ~ 45°C Humidity : 45 ~ 85%
Power Supply	AC 115V ±10% Common for 50 Hz and 60 Hz
Insulation Resistance	Power ↔ chassis (GND) : Over 50MΩ (DC 500V megger) Input terminal ↔ chassis (GND) : Over 100 MΩ (DC 500V megger)
Noise Rejection *6	CMRR DC : Over 16 dB AC (50/60 Hz) : Over 160 dB NMRR AC (50/60 Hz) : Over 40 dB

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Product number U - 212	Drawing name UNICORDER U-212 SPECIFICATIONS
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Item	Specifications																		
Withstand Voltage	Power ↔ chassis (GND) : AC 1000V for 1 minute Input terminal ↔ chassis (GND) : AC 1000V for 1 minute																		
External Dimensions	280 (W) × 150 (H) × 200 (D) mm (Excluding the protrusions)																		
External Appearance	Refer to separate sheet.																		
Weight	Approx. 5 kg																		
Accessories	<table> <tr> <td>Chart paper No.12001Z40</td> <td>1</td> </tr> <tr> <td>Recording pens for</td> <td></td> </tr> <tr> <td>  Channel 1 (green) NDC-18G</td> <td>1</td> </tr> <tr> <td>  Channel 2 (red) NDA-5R</td> <td>1</td> </tr> <tr> <td>Drive wire (1m roll)</td> <td>2</td> </tr> <tr> <td>Fuse (0.5A)</td> <td>1</td> </tr> <tr> <td>Pulley positioning rod</td> <td>1</td> </tr> <tr> <td>Dust cover</td> <td>1</td> </tr> <tr> <td>Instruction Manual</td> <td>1</td> </tr> </table>	Chart paper No.12001Z40	1	Recording pens for		Channel 1 (green) NDC-18G	1	Channel 2 (red) NDA-5R	1	Drive wire (1m roll)	2	Fuse (0.5A)	1	Pulley positioning rod	1	Dust cover	1	Instruction Manual	1
Chart paper No.12001Z40	1																		
Recording pens for																			
Channel 1 (green) NDC-18G	1																		
Channel 2 (red) NDA-5R	1																		
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Dust cover	1																		
Instruction Manual	1																		

- \*1 As for recording pens, longer one is for channel 1 and shorter one is for channel 2.
- \*2 Each of the measuring ranges can be expanded up to 2.5 times.
- \*3 The accuracy including the linearity which is recorded when measurement is made at the highest sensitivity range.
- \*4 Set the unit selection switch for chart speed on the panel at "EXT." Position and give external signals to "CHART OSC".
- \*5 When the voltage which exceeds the measuring ranges for many times or long period of time is applied, the DC servo motor is protected.
- \*6 It indicates the value at measurement at maximum sensitivity range.

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UNICORDER U - 212 SPECIFICATIONS

## OPERATING PROCEDURES

### External View

The external view of this recorder is show in Fig. 4.1-1.

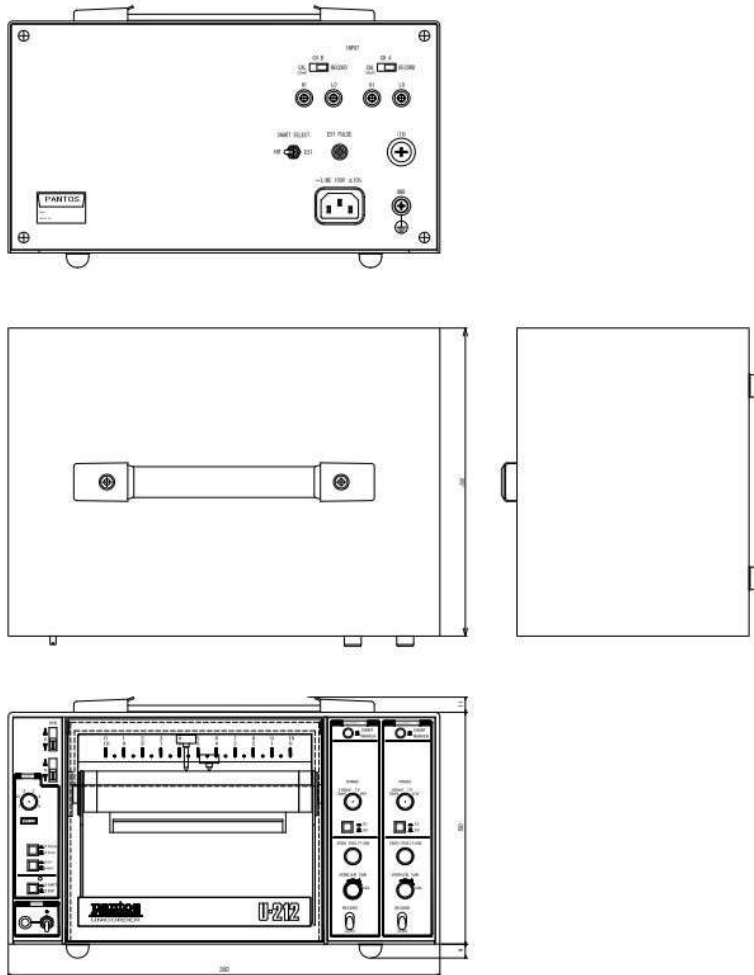


Fig. 4.1-1

①	Handle
②	CH1 Pen Lift
③	CH2 Pen Lift
④	CH1 Recording Pen
⑤	CH2 Recording Pen
⑥	Control Section for Power Supply and Chart Drive
⑦	Front Cover
⑧	Amplifier Control Section

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