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PORTABLE RECORDER  
U — 2 1 2 ( 0 0 )

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SPECIFICATION

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Specifications are subject to change without notice.

PANTOS CO ., LTD	Drawing Number	Amendment
	2 1 2D - 0 0 - 0 0 0 1	E

Product number U - 212	Drawing name PORTABLE RECORDER U - 212 SPECIFICATIONS
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Item	Specifications
Model	120mm Portable Recorder U-212(00)
Number of channels *1	1 ~ 2
Measuring method	Automatic zero balancing DC-servo
Writing width	120mm
Pen speed *2	0.5sec or less
Zero point	Right zero of recording paper
Zero set range	+100% of reference Point
Zero point check switch	Provided
Measuring range	10/ 50/ 100/ 500mV, 1/ 5/ 10/ 50V (8 ranges)
Input method	Floating
Input impedance	1MΩ (Constant)
Tolerable signal source resistance	Less than 10kΩ
Linearity	±0.4%
Dead band	±0.2%
Accuracy *3	±0.6% (23°C)
Error between ranges	±0.4% (23°C)
Chart speed	1/ 1.5/ 2/ 3/ 4/ 6 X1cm or X10cm / min or hour 24 steps and 23 speeds (1cm/min and 60cm/h are overlapping)
Recording paper	No.12002Z40 (Length 16m, Right zero)
Recording pens	Cartridge type fiber tip pen
Ink colors	Channel A : Red, Channel B : Green
Pen lift	Manually operated (Individually)
Calibration voltage	Voltage : 50mV Accuracy : ±0.4% (23°C) Temperature coefficient : ±0.007%/°C max.
Torque reducing circuit *4	Provided
Event Marker	Superimposing Amplitude : +3.5±1 graduation Time : 0.2 ~ 0.4sec
Environment	Temperature : 0 ~ 45°C Humidity : 30 ~ 85%

Drawing Number	Page	Amendment
2 1 2 D - 0 0 - 0 0 0 1	1 / 3	E

Product number U - 212	Drawing name PORTABLE RECORDER U - 212 SPECIFICATIONS
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Item	Specifications
Power supply	Any one of 100, 110, 120, 220, 240VAC $\pm 10\%$ 50Hz / 60Hz
Insulation resistance	Power $\leftrightarrow$ Chassis (GND) : Over 50M $\Omega$ (DC500V megger) Input terminal $\leftrightarrow$ Chassis (GND) : Over 100M $\Omega$ (DC500V megger)
Noise rejection *5	CMRR DC : Over 120 dB AC (50/60Hz) : Over 120 dB NMRR AC (50/60Hz) : Over 40 dB
Dielectric strength	Power $\leftrightarrow$ Chassis (GND) : AC1000V for 1minute Input terminal $\leftrightarrow$ Chassis (GND) : AC1000V for 1minute
External dimensions *6	280(W) $\times$ 150(H) $\times$ 200(D) mm
Weight	Approx. 4.6kg(1ch spec) / 5 kg(2ch spec)
Accessories	Recording paper No.12002Z40 1 Recording pans Channel A (Red) NDC-18G 1 Channel B (Green) NDA-5R 1 Power cable 1 Power cable adaptor 1 Fuse 1A ( $\Phi 5.2 \times 20$ ) 1 Instruction manual 1 External feed plug (Option) 1

- \*1 Let short recording pen be channel A(1) and long recording pen be channel B(2).  
 \*2 Time required for traveling 99% of the input signal.  
 \*3 Accuracy including linearity when measured with the highest sensitivity range.  
 \*4 Protect DC servo motor frequently when voltage exceeding the measurement range is applied frequently or for a long time.  
 \*5 Indicates the measurement value in the maximum sensitivity range.  
 \*6 Dimensions of protrusions are not included.

Drawing Number	Page	Amendment
212D - 00 - 0001	2 / 3	E

Product number <b>U - 212</b>	Drawing name <b>PORTABLE RECORDER U - 212 SPECIFICATIONS</b>
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## OPERATING PROCEDURES

### External View

The external view of this recorder is show in Fig. 4.1.1

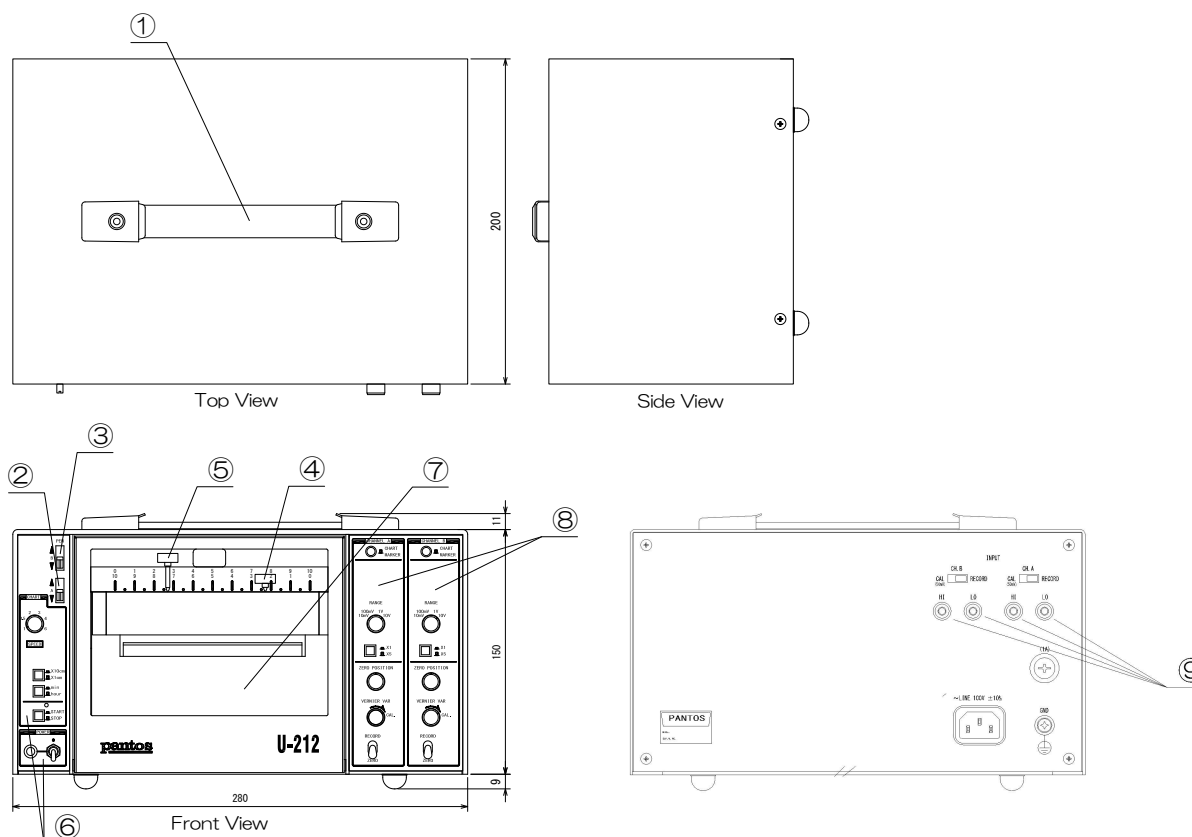


Fig. 4.1.1

①	Handle
②	CHA Pen Lift
③	CHB Pen Lift
④	CHA Recording Pen
⑤	CHB Recording Pen
⑥	Control Section for Power Supply and Chart Drive
⑦	Front Cover
⑧	Amplifier Control Section
⑨	Input terminal CH.A, CH.B

Drawing Number	Page	Amendment
2 1 2 D - 0 0 - 0 0 0 1	3 / 3	E