

## “UNICORDER” DESK-TOP RECORDER

Cat. No. R008-4

U-228-1P-500:1ch. Voltage multirange  
1P-501:1ch. Voltage single range  
U-228-2P-500:2ch. Voltage multirange  
2P-501:2ch. Voltage single range

1·2 channel desktop recorder



U-228

### Features

1. 17 measuring ranges are selectable from 1mV to 200V.
2. A pulse motor is adopted for driving the chart paper of U-228 recorders.  
A tuning fork oscillator is employed for the motor drive signal to insure stable and accurate paper drive speed. This provides chart speed selections with 24-step/23-speed over a long period of time, irrespective of power frequency fluctuation.  
“REMOTE CONTROL CHART DRIVE” function which is capable of synchronizing the chart paper speed with manufacturing process, velocity, displacement or other signals is supplied as standard.
3. While pushing the “FAST” switch, the chart paper advances at the rate of 60cm/min regardless of where the “SPEED” switch on the control panel of Chart Unit is set. This makes spacing between data before starting new data providing a margin in between.
4. Thanks to broad recording table, recording condition is easily seen and annotation can be written while recording.
5. When the chart paper in the recorder runs out, the operator is signaled with a blinking pilot lamp and audible alarm signal. At the same time, the chart paper drive and pen drive halt automatically to prevent fouling of the chart roller and unnecessary wear of the pen.
6. The fiber tip pen eliminates all the conventional problems of chart recording such as blurry line or dripping of ink caused by change of ambient temperature, etc. so that important data would not be lost.
7. By setting the switch at the “CAL.” position on the input module panel, correction for the minor changes in chart paper width due to changes in temperature and humidity or verification of CALIBRATION can be easily performed without using a precision external voltage source.
8. In order to identify the TIME-OF-EVENT and a time difference between channels, the pulse signal equivalent to approx. 3.5 chart graduations is superimposed on each recorded trace during recording each time the “MARKER” switch on the control panel of CHART UNIT is pushed. This signal may also be activated by the external input on the rear panel.
9. Universal power supply voltage applicable for 100 / 115 / 200 / 220 / 240V.

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# SPECIFICATIONS

Model	U-228-1P	U-228-2P	U-228-1P	U-228-2P
Item	-500	-500	-501	-501
Number of channels	1	2	1	2
Recording Method	Automatic Zero balancing type			
Effective recording width	250mm			
Measurement Range	1, 2, 5, 10, 20, 50mV 0.1, 0.2, 0.5, 1, 2, 5, 10, 20, 50, 100, 200V 17 range With an amplitude adjustment machine		1mV~200V Either 1 range With an amplitude adjustment machine	
The maximum permission input voltage	1mV~50mV range : 30V, 100mV~200V range : 200V			
Input resistance	1MΩ constant		1~50mV : Almost infinite, 0.1~200V : 1MΩ	
Input method	Floating			
Signal source resistance	Less than 10kΩ			
Accuracy	±0.3% (23℃), Zero drift ±0.025%/℃ Max (A straight line is included in the highest sensitivity range)			
	Error between ranges : ●2mV~50mV range ±0.15% (23℃) Zero drift ±0.005%/℃ Max ●0.1V~200V range ±0.2% (23℃) Zero drift ±0.0075%/℃ Max			
Dead Band	±0.1%			
Apolar change	With apolar changeover switch			
Running time of a pen	Less than 1/3s			
Zero point adjusting range	+100% from right zero center.			
Chart speed	10, 15, 20, 30, 40, 60mm/min, cm/min, mm/h, cm/h 23 rates throgh 24 steps Chart Fast Forward Switch and Chart Rewind Device are provided Recording form sending by the external signal : ●Chart speed ; 1Hz of 1mm/min, max 600Hz ●Input impedance ; More than 4.7kΩ ●Voltage ; High level +2~+20V, Low level +0.8~-20V (Operation on TTL level is possible) ●Signal waveform ; Pulse, Sine, Square, Triangle (Pulse width over 50μsec)			
Recording paper end alarm	When recording paper runs out, paper drive and pen drive halt automatically and alarmed by lamp and buzzer.			
Recording paper	No.2516P50 Roll paper of 20m in length, Right Zero.			
Recording pen	Cartridge-type fiber tip pen, Channels 1 red, Channels 2 green (NDF-R, -G)			
Pen Lift	The individual pens be lifted manually (clearance between pens : 4mm)			
Event Maker	Superposition formula, Amplitude+3.5±1scale, Time0.2~0.4s (with a marker switch)			
Calibration voltage	Built in (1V Max)			
Noise rejection (In the highest sensitivity range)	CMRR : DC more than 160dB, AC (50/60Hz) more than 160dB NMRR : AC (50/60Hz) More than 64dB			
Operating condition	Temperature 0~45℃ · Humidity 45~85%			
Power supply	AC100/115/200/220/240V±10%, 50Hz, 60Hz convertible			
Power consumption (TYP.)	-1P : balancing 19VA, max 32VA, -2P : balancing 21VA, max 47VA			
Insulation resistance · Voltage-proof	Power—Chassis (GND) 50MΩ over (DC500V megger) · AC1000V/min			
Dimensions and weight	W430×H123×D354mm (Protrusion not included.) · -1P : Approx.7kg, -2P : Approx.8kg			
Accessories	Recording paper No.2516P50··1, Pen··Quantity of a channel×1, Pulley position setting stick··1, Drive·Wire··Same to the Quantity of a channel, Fuse (one each) 0.5A, 1A··1, Dust cover··1, Power cord·adapter··1, Instruction manual··1			
Option	1. Chart take-up unit, 2. Limit switch, 3. Synchronizer, 4. Erectric pen · Lift, 5. Another pen formula event maker, 6. Expansion unit 7. Recorder rack			

■ Specifications are subject to change without notice.

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