

# DPM-911B/912B/913B

## Strain Amplifier



### High stability High accuracy Easy operation

- Easy operation greatly reduce the working hours.
- Digital switch makes setting easily and the setting value is easy to be seen even during power is off.
- High voltage output of  $\pm 10$  V and high SN ratio are ensured.
- Vertical bar meter is easy to see.
- The HPF cancels the effect of slow changes, such as temperature drift of gages or sensors.
- Sensitivity of TEDS compatible transducers is automatically registered.
- Input and output is isolated.
- Sensitivity is automatically set with the actual load calibration function.
- Built-in check function on bridge circuit
- Broad frequency response DC to 10 k Hz (913B)

### Models

Models	Carrier Wave Frequencies	Frequency Response	SN Ratio
DPM-911B	5 kHz	DC to 2.5 kHz	60dBp-p or more
DPM-912B	12 kHz	DC to 5 kHz	57dBp-p or more
DPM-913B	28 kHz	DC to 10 kHz	53dBp-p or more

(At bridge excitation=2 V<sub>rms</sub>, bridge resistance 120  $\Omega$ , LPF=FLAT, 1000  $\times 10^{-6}$  strain input, 10.00 V output set)

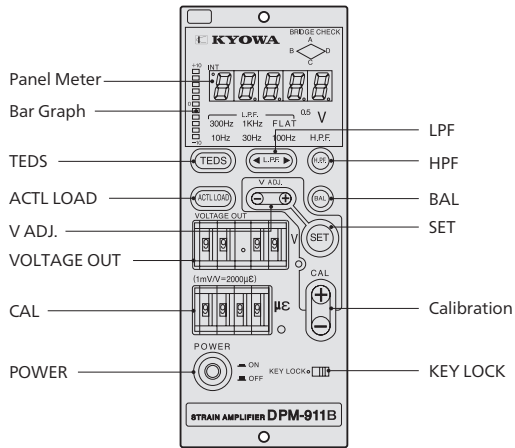
### Specifications

<b>Measuring Targets</b>	Strain gages, strain-gage transducers
<b>Channels</b>	1
<b>Applicable Bridge Resistance</b>	60 to 1000 $\Omega$
<b>Gage Factor</b>	2.00 fixed
<b>Bridge Excitation</b>	2 V <sub>rms</sub> , 0.5 V <sub>rms</sub> , switchable
<b>Balance Adjustment</b>	Resistance: Within $\pm 2\%$ ( $\pm 10 \times 10^{-6}$ strain) Capacity: Within 2000 pF
<b>Balance Adjustment Method</b>	Resistance: Auto balance Accuracy: Within $\pm 0.5 \times 10^{-6}$ strain Storage: Saved in nonvolatile memory. Capacitance: CST method (Capacitance self-tracking)
<b>Nonlinearity</b>	Within $\pm 0.1\%$ FS, within $\pm 0.2\%$ FS (913B)
<b>Output Impedance</b>	Approx. 2 $\Omega$
<b>Calibration Strain (CAL)</b>	$\pm (1 \text{ to } 9999 \times 10^{-6} \text{ strain})$ Setting: CAL switch (4-digital switch) Accuracy: Within $\pm (0.5\% + 0.5 \times 10^{-6} \text{ strain})$ Within $\pm (0.5\% + 1 \times 10^{-6} \text{ strain})$ (913B)
<b>Sensitivity Adjustment</b>	Sensitivity is set in combination with CAL and VOLTAGE OUT switches (4-digit digital switches) CAL switch range: 100 to 9999 $\times 10^{-6}$ strain by $1 \times 10^{-6}$ strain step VOLTAGE OUT switch range: 1.00 to 10.00 by 0.01 V step Accuracy: Within $\pm 0.5\%$ Range: $\times 200$ to $\times 20000$
<b>Fine Sensitivity Adjustment</b>	Range: 1 to 1/2.5
<b>LPF</b>	Transfer characteristic: 2nd order Butterworth Cutoff frequencies: 10, 30, 100, 300 Hz, 1 kHz, and FLAT - 6 steps Amplitude ratio at cutoff point: $-3 \pm 1$ dB Attenuation: $(-12 \pm 1)$ dB/oct. (Except when DPM-911B is set to 1 kHz)
<b>HPF</b>	Cutoff frequencies: 0.2 Hz, OFF- 2 steps
<b>Output</b>	OUTPUT A: $\pm 10$ V (Load resistance 5 k $\Omega$ or more) OUTPUT B: $\pm 10$ V (Load resistance 5 k $\Omega$ or more)
<b>Stability</b>	Temperature Zero point: $\pm 0.1 \times 10^{-6}$ strain per $^{\circ}\text{C}$ Zero point: $\pm 0.2 \times 10^{-6}$ strain per $^{\circ}\text{C}$ (913B) Sensitivity: $\pm 0.05\%/^{\circ}\text{C}$ Time Zero point: $\pm 0.5 \times 10^{-6}$ strain per 24h Zero point: $\pm 1.0 \times 10^{-6}$ strain per 24h (913B) Sensitivity: $\pm 0.2\%/24\text{h}$ Sensitivity: $\pm 0.3\%/24\text{h}$ (913B) Power supply Zero point: $\pm 0.05\%$ FS/power fluctuation $\pm 10\%$ Sensitivity: $\pm 0.05\%$ /power fluctuation $\pm 10\%$
<b>Withstand Voltage</b>	1 k VAC for 1 minute between measuring bridge and case 1 k VAC for 1 minute between AC power supply and case
<b>Output Voltage Indication</b>	4 $\frac{1}{2}$ digit digital display (7-segment LED) 11-segment LED bar meter
<b>Over Input Indication</b>	Output voltage display flashing (4 $\frac{1}{2}$ digit digital display only)
<b>Check Functions</b>	Bridge check
<b>Key Lock Functions</b>	Locks all keys other than POWER switch. (Allows settings on digital CAL and VOLTAGE OUT switches to be changed)
<b>Remote Functions</b>	Balance adjustment execute (BAL), calibration strain output execute (CAL), key lock
<b>TEDS</b>	Reads the sensor TEDS information, and sets the rated output to the VOLTAGE OUT output voltage.
<b>Actual Load Calibration</b>	Sets actual load input to the VOLTAGE OUT output voltage.
<b>Operating Temperature</b>	-10 to 50 $^{\circ}\text{C}$
<b>Operating Humidity</b>	20 to 85%RH (Non-condensing)
<b>Power Supply</b>	100 VAC, approx. 12 VA 115, 200, 230 VAC, or 10.5 to 15 VDC (approx. 0.6 A at 12 VDC) also available.
<b>Weight</b>	Approx. 1.2 kg

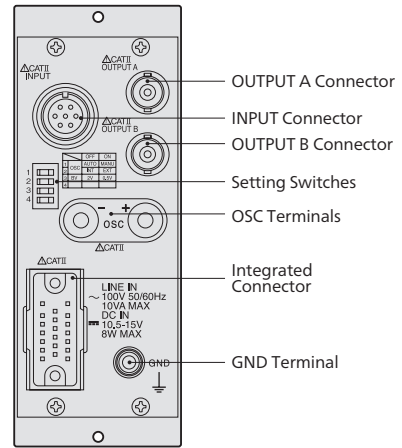
**Standard Accessories** Output cable U-08, U-59, 1 each  
AC power cable P-25 (With 2-pin conversion plug CM-39)  
Fuse (Midget type 0.5 A, 1 A)  
Instruction manual  
Simple manual sticker

**Optional Accessories** Extension cables N-81 to N-85  
Bridge boxes DB, DBB, and DBS  
Housing case YC-A  
Noise filter F-7B, F-BNC, amplifier stand FA,  
shielded conversion cable N-117

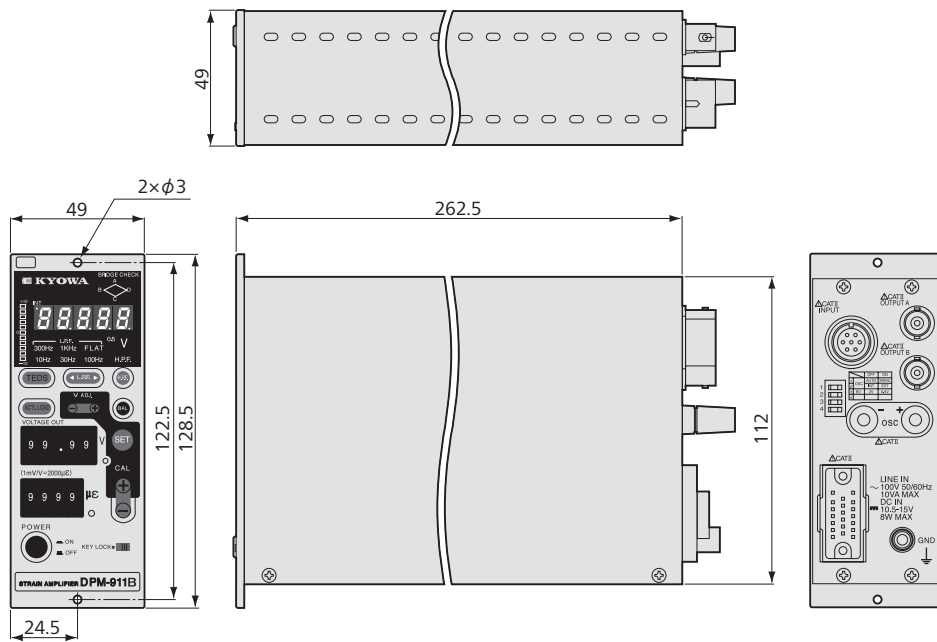
■ Front Panel



■ Rear Panel



■ Dimensions



DPM-911B/912B/913B  
Recommended products for combination

Compact Recording System  
EDX-10 series  
→ 3-51

Universal Recorder  
EDX-200A  
→ 3-57

Universal Recorder  
EDX-100A  
→ 3-65

Memory Recorder/Analyzer  
EDX-5000A  
→ 3-70

A/D Converter+PC