Outline 1-channel 2-channel Telemeter Multi-channel Other

DPM-911B/912B/913C

Strain Amplifier



High stability High accuracy **Easy operation**

- Easy operation greatly reduce the working hours. Digital switch makes setting easy and the value set is easily seen even when power is off.
- High voltage output of ±10 V and high SN ratio are ensured.
- •Vertical bar meter is easy to check.
- •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 are 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 (913C)

Models

Models	Carrier Wave Frequencies	Frequency Response	SN Ratio
DPM-911B	5 kHz	DC to 2.5 kHz	54dB _{P-P} or more ^{*1}
			60dB _{p-p} or more*2
DPM-912B	12 kHz	DC to 5 kHz	53dB _{P-P} or more ^{*1}
			58dB _{P-P} or more ^{*2}
DPM-913C	28 kHz	DC to 10 kHz	48dB _{p-p} or more*3
			53dB _{P-P} or more*2

*1 RTI: Within 2 ×10⁶ strain_{PP}, when 500 ×10⁶ strain is input, outputs 10.00 V.
*2 when 1000 ×10⁶ strain is input, outputs 10.00 V.
*3 RTI: Within 3.9 ×10⁶ strain_{PP}, when 500 ×10⁶ strain is input, outputs 10.00 V.

[Common Condition] Bridge Excitation : 2 Vms, Bridge Resistance: 120 Ω , I PF = FLAT

Power Supply

11.2		
Models etc.	Power Supply	
DPM-xxxx	90 to 110 VAC (Approx. 12 VA: 100 VAC)	
DPM-xxxx A115	108 to 132 VAC (Approx. 12 VA: 115 VAC)	
DPM-xxxx A200	180 to 220 VAC (Approx. 12 VA: 200 VAC)	
DPM-xxxx A230	207 to 253 VAC (Approx. 12 VA: 230 VAC)	
An optional DC power cable	10.5 to 15 VDC (Approx. 0.6 A: 12 VDC)	
P-69 is required.		
xxxx: Part of model, example: 911B		

Specifications

Coanneis	strain gages, strain-gage transducers
c	Simultaneous operation is available by using
	multiple units.
Compatible Bridge Resistance	e 60 to 1000 Ω
Gage Factor	2.00 fixed
Bridge Excitation	2 Vrms, 0.5 Vrms, switchable
Balance Adjustment	Resistance: Within ±2% (±10000 ×10 ⁻⁶ strain)
	Capacity: Within 2000 pF
Balance Adjustment Method	Resistance: Auto balance
	Accuracy: $\sqrt{10^{\circ}}$ strain is input outputs 10 V
	excitation voltage: 2 V(m)
	Capacitance: CST method
	(Capacitance self-tracking)
Nonlinearity	Within ±0.1% FS
-	Within ±0.2% FS (913C)
Output Impedance	Approx. 2 Ω
Calibration Strain (CAL)	±(1 to 9999 ×10 ⁻⁶ strain)
	Setting: CAL switch (4-digital switch)
	Accuracy: Within $\pm (0.5\% + 0.5 \times 10^{-6} \text{ strain})$
	Within ±(0.5% + 1 ×10 ⁻⁶ strain)(913C)
	Applicable scope of CAL accuracy:
	±(10 to 9999) ×10 ⁻⁶ strain
Sensitivity Adjustment	Sensitivity is set in combination with CAL and
	VOLIAGE OUT switches (4-digit digital switches)
	CAL switch range: 100 to 9999 × 10 ⁻⁵ strain by
	(Set with CAL switches)
	VOLTAGE OUT switch range 1.00 to 10.00 by
	0.01 V step
	Accuracy: Within +0.5%
	Within (±0.5% + 5 mV) (913C)
	(When Bridge Excitation is 2 Vms)
	Range: ×200 to ×20000
Fine Sensitivity Adjustmen	t Range: 1 to 1/2.5
Frequency Response	See table below.
	Deviation: ±10%
LPF Iranster characterist	ic: 2nd order Butterworth
LPF Iranster characterist Cutoff frequencies: 7	ic: 2nd order Butterworth 10, 30, 100, 300 Hz, 1 k Hz and FLAT - 6 steps
LPF Iranster characterist Cutoff frequencies: Amplitude ratio at c	ic: 2nd order Butterworth 10, 30, 100, 300 Hz, 1 k Hz and FLAT - 6 steps utoff point: -3 ±1 dB
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LPF Transfer characterist Cutoff frequencies: ' Amplitude ratio at c Attenuation: -12 ±1 c HPF Cutoff freque SN Ratio See table belc Output OUTPUT A: ±11 OUTPUT B: ±10 Stability Temperature 2 Time Power supply 2 Power supply 2 Withstand Voltage 1000 V/2 1000 V/2 Output Voltage Indication Over Input Indication Check Functions Input Open Detection Function Key Lock Functions	ic: 2nd order Butterworth 10, 30, 100, 300 Hz, 1 k Hz and FLAT - 6 steps utoff point: -3 \pm 1 dB dB/oct. ncies: 0.2 Hz, OFF - 2 steps W. DV (Load resistance 5 k Ω or more) DV (Load resistance 5 k Ω or more) DV (Load resistance 5 k Ω or more) 2 (Joad resistivity: Within ±0.05% 'Srain/24 h 2 (Joad resistivity: Within ±0.05% FS/power fluctuation ±10% 3 (Joad resistivity: Within ±0.05% /Spower fluctuation ±10% 3 (Joad resistity: Within ±0.05% /Spower fl
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LPF Transfer characterist Cutoff frequencies: ' Amplitude ratio at c Attenuation: -12 ±1 c HPF Cutoff freque SN Ratio See table belc Output OUTPUT A: ±11 OUTPUT B: ±10 Stability Temperature 2 Time Power supply 2 Power supply 2 Withstand Voltage 1000 VA 1000 VA Output Voltage Indication Over Input Indication Check Functions Input Open Detection Function Key Lock Functions Remote Functions	ic: 2nd order Butterworth 10, 30, 100, 300 Hz, 1 k Hz and FLAT - 6 steps utoff point: -3 ±1 dB dB/oct. ncies: 0.2 Hz, OFF - 2 steps W. DV (Load resistance 5 kΩ or more) DV (Load resistance 5 kΩ or more) DV (Load resistance 5 kΩ or more) 2 (Joad resistivity: Within ±0.5%/°C 2 (Joad resistivity: Within ±0.5% FS/power fluctuation ±10% 3 (Joad resistivity: Within ±0.05% FS/power fluctuation ±10% 3 (Load resistivity: Within ±0.05%/ SS/power fluctuation ±10% 3 (Joad resistivity: Within ±0.05%/ SS/power fluctuation ±10% 3 (Load resistivity: Within ±0.05%/ SS/power supply and case 4 (Loa
LPF Transfer characterist Cutoff frequencies: ' Amplitude ratio at c Attenuation: -12 ±1 d HPF Cutoff freque SN Ratio See table belc Output OUTPUT A: ±11 OUTPUT B: ±10 Stability Temperature 2 Time 2 Power supply 2 Power supply 2 Withstand Voltage 1000 V/2 1000 V/2 Output Voltage Indication Over Input Indication Check Functions Input Open Detection Function Key Lock Functions Remote Functions	ic: 2nd order Butterworth 10, 30, 100, 300 Hz, 1 k Hz and FLAT - 6 steps utoff point: -3 \pm 1 dB dB/oct. ncies: 0.2 Hz, OFF - 2 steps ww. DV (Load resistance 5 kΩ or more) DV (Load resistance 5 kΩ or more) 2V (Load resistance 5 kΩ or more) 2V (Load resistance 5 kΩ or more) 2Zero point: Within \pm 0.1 ×10 ⁶ strain per °C Zero point: Within \pm 0.2 ×10 ⁶ strain per °C (913C) Sensitivity: Within \pm 0.05%/°C Zero point: Within \pm 0.05%/°C Zero point: Within \pm 0.05% FS/power fluctuation \pm 10% Sensitivity: Within \pm 0.05% FS/power fluctuation \pm 10% Stability condition: When 500 ×10 ⁶ strain is input, outputs 10.00 V. CC for 1 minute between measuring bridge and case AC for 1 minute between AC power supply and case a 4½ digit digital display (7-segment LED) 11-segment LED bar meter Output voltage display flashing (4½ digit digital display only) Bridge check When the input is open, output saturates to the negative side. (913C only) Locks all keys other than POWER switch. (Allows settings on CAL and VOLTAGE OUT switches to be changed.) Capable of controlling the following functions. Balance adjustment execute (BAL), calibration
LPF Transfer characterist Cutoff frequencies: ' Amplitude ratio at c Attenuation: -12 ±1 (HPF Cutoff freque SN Ratio See table belc Output OUTPUT A: ±11 OUTPUT B: ±10 Stability Temperature 2 Time 2 Power supply 2 Power supply 2 Withstand Voltage 1000 V/2 Output Voltage Indication Over Input Indication Check Functions Input Open Detection Functions Remote Functions	ic: 2nd order Butterworth 10, 30, 100, 300 Hz, 1 k Hz and FLAT - 6 steps utoff point: -3 \pm 1 dB dB/oct. ncies: 0.2 Hz, OFF - 2 steps ww. DV (Load resistance 5 kΩ or more) DV (Load resistance 5 kΩ or more) 2V (Load resistance 5 kΩ or more) 2V (Load resistance 5 kΩ or more) 2V (Load resistance 5 kΩ or more) 2Zero point: Within \pm 0.1 ×10 ⁶ strain per °C Zero point: Within \pm 0.2 ×10 ⁶ strain per °C (913C) Sensitivity: Within \pm 0.5 ×10 ⁶ strain/24 h Zero point: Within \pm 0.5 ×10 ⁶ strain/24 h (913C) Sensitivity: Within \pm 0.5% FS/power fluctuation \pm 10% Sensitivity: Within \pm 0.05% / power fluctuation \pm 10% Stability condition: When 500 ×10 ⁶ strain is input, outputs 10.00 V. AC for 1 minute between measuring bridge and case AV for 1 minute between AC power supply and case a 41/2 digit digital display (7-segment LED) 11-segment LED bar meter Output voltage display flashing (41/2 digit digital display only) Bridge check When the input is open, output saturates to the negative side. (913C only) Locks all keys other than POWER switch. (Allows settings on CAL and VOLTAGE OUT switches to be changed.) Capable of controlling the following functions. Balance adjustment execute (BAL), calibration strain output execute (CAL), key lock
LPF Transfer characterist Cutoff frequencies: ' Amplitude ratio at c Attenuation: -12 ±1 c HPF Cutoff freque SN Ratio See table belo Output OUTPUT A: ±10 OUTPUT B: ±10 Stability Temperature : Time : Power supply : Power supply : Withstand Voltage 1000 V/ 1000 V/ Output Voltage Indication Check Functions Input Open Detection Functions Remote Functions Synchronization Method	ic: 2nd order Butterworth 10, 30, 100, 300 Hz, 1 k Hz and FLAT - 6 steps utoff point: -3 \pm 1 dB dB/oct. ncies: 0.2 Hz, OFF - 2 steps ww. DV (Load resistance 5 k Ω or more) DV (Load resistance 5 k Ω or more) 2V (Load resistance 5 k Ω or more) 2V (Load resistance 5 k Ω or more) 2Zero point: Within \pm 0.1 ×10 ⁶ strain per °C Zero point: Within \pm 0.2 ×10 ⁶ strain per °C (913C) Sensitivity: Within \pm 0.05%/°C Zero point: Within \pm 0.05%/°C Zero point: Within \pm 0.05% FS/power fluctuation \pm 10% Sensitivity: Within \pm 0.05% / FS/power fluctuation \pm 10% Sensitivity: Within \pm 0.05% / power fluctuation \pm 10% Stability condition: When 500 ×10 ⁶ strain is input, outputs 10.00 V. AC for 1 minute between measuring bridge and case AV ₂ digit digital display (7-segment LED) 11-segment LED bar meter Output voltage display flashing (4½ digit digital display only) Bridge check When the input is open, output saturates to the negative side. (913C only) Locks all keys other than POWER switch. (Allows settings on CAL and VOLTAGE OUT switches to be changed.) Capable of controlling the following functions. Balance adjustment execute (BAL), calibration strain output execute (CAL), key lock Automatically determines internal (INT) or

TEDS	Reads the sensor TEDS information, and	
	sets the rated output to the VOLTAGE OUT	
	output voltage.	
	(Condition: Within the setting range of the	
	sensitivity adjuster)	
Actual Load Calibratic	n Sets actual load input to the VOLTAGE OUT	
	output voltage.	
	(Condition: Within the setting range of the	
	sensitivity adjuster)	
Vibration Resistant	5 to 200 Hz, with 29.4 m/s ² (3 G) in X, Y and Z	
	directions for 12 cycles, 10 min/cycle	
Impact Resistant	15 G, 11 ms or less, in X, Y and Z directions,	
	every 3 cycles	
Operating Temperatu	re -10 to 50°C	
Operating Humidity	20 to 85% (Non-condensing)	
Storage Temperature	-30 to 70°C	
Power Supply	See table on the page 3-5	
Dimensions 49 W ×1	√ ×128.5 H ×262.5 D mm (Excluding protrusions)	
Panel-cu	t dimensions: 50 W ×113 H mm	
Weight 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-52) Fuse (Midget type 0.5 A, 1 A) Instruction manual

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-1B, shielded conversion cable N-117

Front Panel





Dimensions



DPM-911B/912B/913C (Figure is DPM-911B.)

Dynamic Strain

Outline

1-channel

2-channel

Telemeter

Multi-channel