

WGA-120A

- Compact, moderate price
- Output changeable: Voltage and current

Carrier Type Instrumentation Amplifier



Robust against inverter noise due to the bridge excitation with carrier wave.

The WGA-120A is a compact, lightweight and affordably priced carrier instrumentation amplifier that is suitable for measurement of load, pressure, torque or displacement in combination with a strain-gage transducer. While available in a manual or auto balance version, it enables easy switchover of bridge excitation, sensitivity adjustment range, calibration value or frequency response by changing jumper connections.

Input range for output of ± 10 V

Sensitivity Switch	Bridge Excitation (V_{rms})	Input Range (mV/V)
		Sensitivity Adjustment $\times 1$ to $\times 0.4$
$\times 2000$	1	± 5 to ± 12.5
	2	± 2.5 to ± 6.25
	5	± 1 to ± 2.5
$\times 4000$	1	± 2.5 to ± 6.25
	2	± 1.25 to ± 3.125
	5	± 0.5 to ± 1.25
$\times 10000$	1	± 1 to ± 2.5
	2	± 0.5 to ± 1.25
	5	± 0.2 to ± 0.5

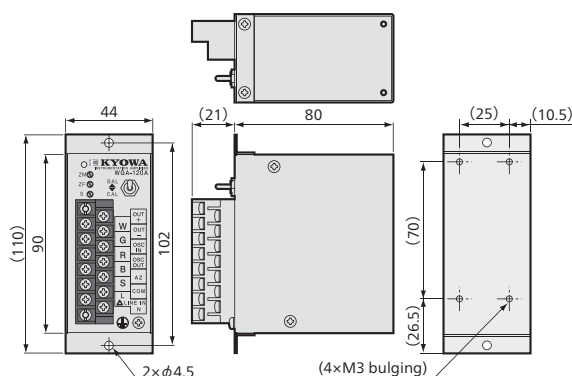
Models

Models	Power Requirements	Power Supply	Power Consumption	Balance Adjustment
WGA-120A-00	DC	10.5 to 15 VDC	3.5 W or less	Manual
WGA-120A-01	100 VAC	90 to 110 VAC	6.5 VA or less	
WGA-120A-02	200 VAC	180 to 220 VAC	6.5 VA or less	
WGA-120A-03	240 VAC	216 to 264 VAC	6.5 VA or less	Automatic
WGA-120A-10	DC	10.5 to 15 VDC	3.5 W or less	
WGA-120A-11	100 VAC	90 to 110 VAC	6.5 VA or less	
WGA-120A-12	200 VAC	180 to 220 VAC	6.5 VA or less	
WGA-120A-13	240 VAC	216 to 264 VAC	6.5 VA or less	

Specifications

Channels	1
Applicable Transducers	Strain-gage transducers
Compatible Bridge Resistance	87.5 to 1000 Ω (Up to four 350 Ω transducers connected in parallel. Bridge excitation is limited to 2 or 1 V_{rms} for transducers with bridge resistance less than 175 Ω .)
Bridge Excitation	5, 2, 1 V_{rms} , square wave (Switchable by changing internal jumper connection)
Input Range	See table on left.
Rated Output	Voltage: ± 10 V (Load resistance: 2 k Ω or more) Current: 4 to 20 mA (Load resistance: 500 Ω or less, voltage output: 0 to 10 V) (Switchable by changing internal jumper connection)
Zero Adjustment Range	Within ± 1.5 mV/V, manual balance or auto balance by selecting model.
Sensitivity Adjustment Range	$\times 2000$, $\times 4000$, $\times 10000$ (Switchable by changing internal jumper connection) Adjustable between $\times 0.4$ and $\times 1.0$ by the trimmer.
Calibration	Calibration by the parallel resistance method 0.25 mV/V or 0.05 mV/V at 350 Ω bridge resistance (Switchable by changing internal jumper connection)
Frequency Response	10, 30, 100, or 500 Hz (Switchable by changing internal jumper connection)
Nonlinearity	Within $\pm 0.1\%$ FS
SN Ratio	53dB _{p-p} or more [Conditions] Sensitive: $\times 10000$, $\times 0.5$ (Adjustment by the trimmer) Frequency response: 500 Hz Bridge resistance: 120 Ω Bridge excitation: 2 V_{rms}
Stability	Temperature Zero point: Within $\pm 0.2 \mu V_{rms}/^{\circ}C$ Sensitivity: Within $\pm 0.05\%/^{\circ}C$ Time Zero point: Within $\pm 0.5 \mu V_{rms}/8$ h Sensitivity: Within $\pm 0.2\%/8$ h [Conditions] Sensitive: $\times 10000$, $\times 1.0$ (Adjustment by the trimmer) Bridge resistance: 120 Ω Bridge excitation: 2 V_{rms}
Operating Temperature	-10 to 50 $^{\circ}C$
Operating Humidity	20 to 85% (Non-condensing)
Power Supply	See table above.
Dimensions	44 W $\times$ 90 H $\times$ 80 D mm (Excluding protrusions)
Weight	DC power supply model: Approx. 350 g AC power supply model: Approx. 450 g
Panel-cut Dimensions	45.0 $\times$ 93.4 mm
Standard Accessories	Instruction manual
Optional Accessories	AC power cable P-23 (For 100 VAC) P-28 (For 200/240 VAC) DIN rail mounting fixture EDP-70

■ Dimensions



Terminal screw: M3



DIN rail mounting fixture EDP-70



Instrumentation Amplifiers

Outline

Amplifier

Checker

Other