



Instrumentation Amplifier

WP-120A

NEW

Monitor using waveforms,
confirm using values,
load and displacement as inputs

- Comprehensive comparison judgment function
- Touch panel
- High-speed sampling: 25000 times/s
- Support for connecting to PCs via USB
- Save to internal memory or SD card



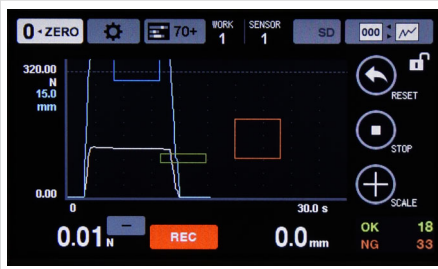
EtherNet/IP™

Lineup

Models	Channels	Measuring Targets	Communication Interface	Options
WP-120A-10	2	Load (Strain)	RS-232C USB	Standard without option
WP-120A-14		Displacement (Pulse, voltage)		CC-Link
WP-120A-15		One each		EtherNet/IP™

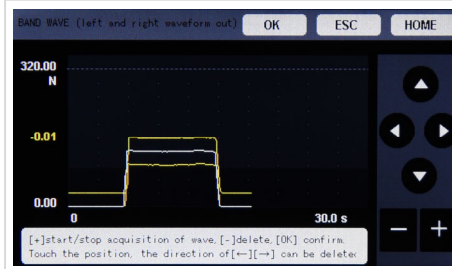
Comparison Judgment Function

Multi-zone Judgment



Determines if the load (Y-axis) and time or Displacement (X-axis) fit within a specified rectangular range.

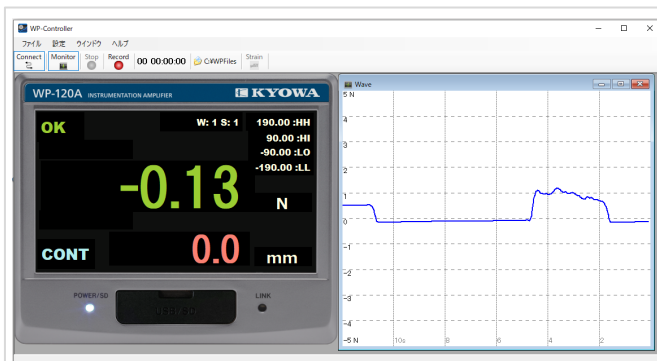
Waveform Comparison



Determines if the measured waveform falls within the upper and lower limits of the set waveform.

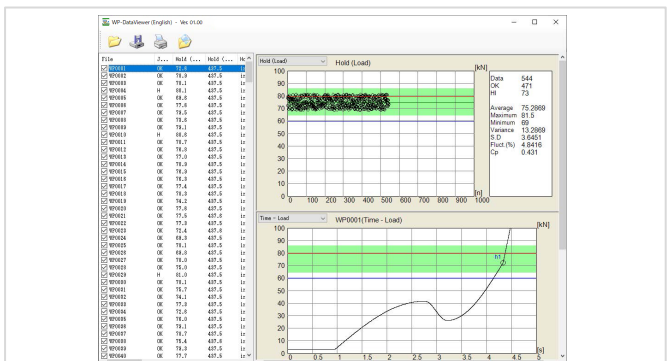
Software *Can be downloaded from our website.

WP-120A Setup Program WP-Controller* Language (Japanese only)



Use by connecting to a PC via USB.
Various settings, monitoring, and data storage are available.

WP-120A DATA VIEWER WP-Data Viewer * Language (English, Japanese)



Data recorded on the SD card can be displayed as waveforms, undergo statistical analysis, and be printed.

■ Sensor Input

Load Sensor Input	Bridge Voltage		DC 2.5 V/5 V/10 V ±10% (30 mA current maximum, can be used with remote sensing)
	Signal Input Range		Strain gauge sensor -3.2 mV/V to 3.2 mV/V
	Calibration	Calibration Range	0.1 mV/V to 3.0 mV/V
		Calibration Method	Equivalent Input / Actual Load / TEDS
		Linearize Function	Five-point tracking
	Precision	Linearity	Within 0.01%F.S. +1 digit (when input is 3.0 mV/V)
		Zero Drift	Within 0.5 μV/°C (input conversion value)
		Gain Drift	Within ±0.005%F.S./°C
	Filter	Low Pass	OFF/3/10/30/100/300/1000 Hz (-6 dB/oct)
		Moving Average	0 / 2 to 2048 times
		Auto Digital	Only digital value display (constant judgement)
	A/D Conversion	Sampling Rate	5000 times per second, 25000 times per second
Resolution		24-bit (binary)	
TEDS Function		IEEE1451.4, Supports 4Kbit products, class 2 mix mode interface	

Displacement Sensor Input	Pulse	Pulse Type	A/B phase or A phase, differential square wave (RS-422 conformance)	
		Maximum Input Freq.	2 MHz	
		Maximum Count Value	15,000,000	
		Calibration Method	Equivalent Input / Actual Load	
		Moving Average Filter	0 / 2 to 2048 times	
		Power Supply for Sensor Driving	5 V(±10%), 150 mA Max.	
	Voltage	Calibration	Input Voltage Range	±5.2 V
			Calibration Range	0.1 to 5.2 V
		Precision	Calibration Method	Equivalent Input / Actual Load
			Zero Drift	Within 0.005%F.S./°C
		Filter	Gain Drift	Within 0.02%F.S./°C
			Low Pass	10/30/100/300 Hz (-6 dB/oct)
		A/D Conversion	Moving Average	0 / 2 to 2048 times
			Resolution	24-bit (binary)
		Power Supply for Sensor Driving	12 V DC(±10%), 250 mA Max.	

■ Option: CC-Link (Model: WP-120A-14)

Version	Ver. 1.10
Transmission Speed	10 Mbps, 5 Mbps, 2.5 Mbps, 625 kbps, and 156 kbps

■ Option: EtherNet/IP™ (Model: WP-120A-15)

Transmission Type	10BASE-T/100BASE-TX
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*Operation cannot be guaranteed when controlled by both USB/RS-232C and CC-Link (or USB/RS-232C and EtherNet/IP™) at the same time.

■ Device Settings

Power Supply		24 V DC(±10%) 13 W, 100 – 240 V AC (AC adapter is optional)	
Environment	Temperature	0°C to 40°C (Operating) / -20°C to 60°C (Storage)	
	Humidity	85% RH or less (without condensation)	
Dimensions		Approx. 114 x 96 x 140 mm (protrusions not included)	
Weight		WP-120A-10: About 960 g WP-120A-14/15: About 1040 g	
Applicable Standards	EMC	FCC (class A)	
	Safety	CE marking, UL61010-1, UKCA marking	
Display		4.3 inch LCD color resistive touch panel	
Display Range		-32000 to +32000	
Screen		Digital load value, Waveform, Archive data, Setting	
Wave-form	X-axis	Time	80 ms* / 170 ms* / 400 ms / 800 ms / 2.0 s / 4.0 s / 10.0 s / 30.0 s / 60.0 s / 90.0 s *cannot be selected when the sampling frequency is set to 5 kHz.
		Displacement	2000/4000/6000/8000/10000/15000/20000/30000
	Y-axis	Load (STD) / Load and displacement (biaxially)	
Comparison waveform	Band Judgement	Offset reference band / Designated value band	
	Comparison Judgement	Load : HH / HI / LO / LL	
		Displacement : HI / LO	
	Hold Setting	Constant comparison, sampling, peak, bottom, peak to peak, maximum / minimum, inflection point and average value	
Beep Function	Sounding when judgements are not OK (ON / OFF Switchable)		
Measurement Work Settings	Number of Works	16 (Work can be copied)	
	Switching	External input signal / manual	
Data Recording		Built-in memory (up to 70) or SD cards	
D/A Converter	Output Range	Isolated, Current (4 to 20 mA), Voltage (-10 V to +10 V)	
	Conversion Rate	Same as A/D converting rate	
	Resolution	Current output: about 1/43000, Voltage output: about 1/59000 (when set to ±10 V)	
	Impedance	350 Ω or less (Current output)/ 2 kΩ or more (Voltage output)	
Communication Interface		RS-232C (D-sub 9-pin), USB	
Control Input / Output Signal (Photocoupler Insulation)	Input Signal	Differential pulse displacement sensor (A phase, B phase), Back light On/Off, Touch panel lock, Reset, Work select, Hold zone select, Clear, Judgement On/Off, Measurement Start/End, Preset displacement, Digital zero *Signals are input when shorted/opened between any input terminal and the COM terminal.	
	Output Signal	Load judgement (HH/HI/OK/LO/LL), Displacement judgement (HI/OK/LO), Load cell error, Unit error, Measurement Completed, Trigger (1, 2), Band judgement (HI/OK/LO) *NPN open collector (Sync type) *Maximum Current: 20 mA / Voltage: 30 V	
Check Functions		Load cell check (static strain / interruption detection), Contact terminal check	

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 Safety Precautions

- Be sure to observe the safety precautions given in the instruction manual, in order to ensure correct and safe operation.
- Do not use in locations subject to significant water, dampness, steam, dust, or flammable gases.
Doing so may lead to fire, electrical shock, or malfunction.

- Specifications and designs are subject to change without notice.
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