

Simultaneous measurement of strain and voltage



Features

Built-in bridge circuits

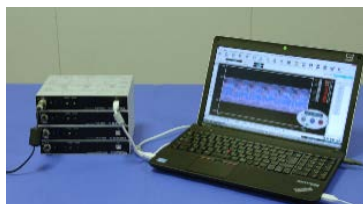
- Direct connection of strain gages (An Input adapter is required)
- Simply switching quarter bridge of 2-wire and 3-wire by software



Connecting UI-55A

Easy measurement just connecting the PC

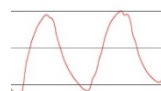
- Just connect a USB cable and then start measurement
- USB2.0/Windows8.1 (USB3.0 can also be used)



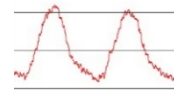
Strong against noise

- With carrier type amplifiers
- Insulated between channels, and between Input and output
- With LPF

Waveform comparison



PCD-400A
(Carrier bridge excitation)



Other type amplifiers
(DC bridge excitation)

Most suitable for measuring strain & voltage in sync

Compact Lightweight Smart extension

- Max. 16 ch, switchable strain and voltage ch by ch (Can be in sync with PCD-400A)
- Smart extension simply stacks units of PCD-400A



Various input adapters



UI-10A



UI-11A



UI-15A



UI-16A



UI-55A



UI-30A

Control software is a standard accessory

- Simply setting, easily measuring
- Variety graph/numeric windows can be arranged freely



Specifications

Common

Number of measuring ch	4
Synchronous measurement	Up to 4 units by 16 channels
Input connector	D-sub 37-bit
Sampling frequency	Max. 10kHz (Simultaneous sampling of 4 units, 16 channels)
A-D converter	24-bit
Storage of setting conditions	Range, balance adjustment, etc. are stored in internal nonvolatile memory.
TEDS function	Load the sensor's TEDS information (Input adapter UI-10A, and UI-11A are required) Channel name writing (If the manufacture's ID is KYOWA)
Interface	USB2.0 (Compliant to High Speed, USB3.0 port supported)
Operating temperature & Humidity range	0 to 40°C 20 to 85%RH(Noncondensing)
Vibration resistance	$\pm 29.42\text{m/s}^2$ (3G), 5 to 200Hz (12 cycles for each axis, 10 minutes/cycle)
Power supply	11 to 16VDC Connector: RM12BRD-4PH(Hirose)
Current consumption	0.9A or less (12VDC)
Dimensions	210(W)×35(H)×157.5(D)mm (excluding protrusions)
Weight	Approx. 750g
EMC directive	EN61326-1(Class A)
RoHS directive	EN50581

Strain measurement

Measuring target	Strain gages and strain gage transducers
Input Mode	Balanced differential input
Applicable gage resistance	120Ω (Quarter bridge 2-wire or 3-wire system) 120Ω to 1000Ω(Half and full bridge systems)
Bridge excitation	2VACrms
Balance adjustment range	Resistance: Within $\pm 2\%$ ($\pm 10000\mu\text{m/m}$) Capacity: Within 5000pF
Gage factor	2.00 fixed
Balance adjustment Method	Resistance: Pure electronic auto balance Capacity: CST method (Automatic tracking)
Nonlinearity	Within $\pm 0.1\%$ FS
Measuring range	200, 500, 1000, 2000, 5000, 10000, and 20000 $\mu\text{m/m}$, 7 steps. Accuracy: within $\pm 0.5\%$ FS
Frequency response range	DC to 200Hz. Deviation: within $\pm 10\%$
Low pass filter	2 nd order Butterworth Cutoff frequency: 10, 30, 100Hz, and FLAT. 4 steps Amplitude ratio at cutoff point: $-3 \pm 1\text{dB}$ Attenuation: $-12 \pm 1\text{dB/oct.}$
Stability	Temperature: Zero point: within $\pm 0.2\mu\text{m/m}/^\circ\text{C}$ Sensitivity: within $\pm 0.05\%/^\circ\text{C}$ Time: Zero point: within $\pm 1\mu\text{m/m}/8\text{h}$ Sensitivity: within $\pm 0.3\%/8\text{h}$
Withstand Voltage	Input-case, 250VAC, 1 min

Voltage measurement

Measuring target	Voltage
Input mode	Unbalanced input
Range	1, 2, 5, 10, 20, and 50V. 6 steps Accuracy: Within $\pm 0.2\%$ FS
Frequency response range	DC to 1kHz. Deviation: Within -3 to $+1\text{dB}$
Hi-pass filter	0.2Hz, and OFF. 2 steps
Low pass filter	2 nd order Butterworth Cutoff frequency: 10, 30, 100, 300Hz, and FLAT. 5 steps Amplitude ratio at cutoff point: $-3 \pm 1\text{dB}$ Attenuation: $-12 \pm 1\text{dB/oct.}$
Stability	Temperature: Zero point: within $\pm 0.008\%$ FS/ $^\circ\text{C}$ Sensitivity: within $\pm 0.02\%/^\circ\text{C}$ Time: Zero point: within $\pm 0.03\%$ FS/8h Sensitivity: within $\pm 0.1\%/8\text{h}$

Accessories

Standard accessories	USB cable N-38 (1m) Ground wire P-72 (5m) DVD (Dynamic data acquisition software DCS-100A)
Optional Accessories	AC adapter UIA345-12 USB cable N-39 (2m) DC power cable P-76 (11 to 16 VDC, 2m) Connection cable N-97 (10cm) Stacking connector set (ST-1A) Stacking board (CN-20) Input adapter for strain gage transducer UI-10A (TEDS compatible) Input adapter for strain gage UI-11A (TEDS compatible) Input adapter for strain gage with operating lever UI-15A One-touch lock type input adapter for strain gage UI-16A One-touch type input adapter UI-55A Voltage input adapter with BNC connector UI-30A

Move into the future with reliable measurements



JQA-0821
JQA-EM4824

Specifications are subject to change without notice for improvement.



Safety precautions

Be sure to observe the safety precautions given in the instruction manual, in order to ensure correct and safe operation.

Manufacturer's Representative

KYOWA ELECTRONIC INSTRUMENTS CO.,LTD.

Overseas Department:

3-5-1, Chofugaoka, Chofu-shi, Tokyo 182-8520, Japan

Phone:+81-42-489-7220 Facsimile:+81-42-488-1122

URL:<http://www.kyowa-ei.com> Email:overseas@kyowa-ei.co.jp