Move into the future with reliable measurements

KYOWA

SENSOR INTERFACE
PCD-400A/430A

Simple Configuration
Turn a PC into a Measuring Instrument

TEDS CE

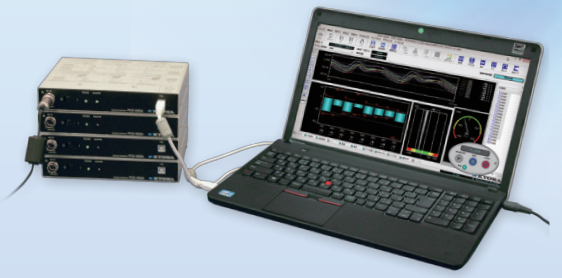
Strain Measurement

PCD-400A

TEDS CE

Strain & Voltage Measurement

PCD-430A



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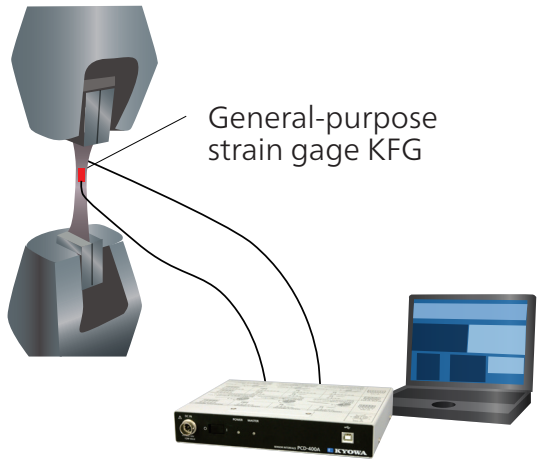
Compact and Reasonable Price
Carrier Wave Type Measuring Instrument

- The stacked structure enables less cables
- Suitable for strain measurement
- Simple configuration and user-friendly
- Reasonable price and strong against noise

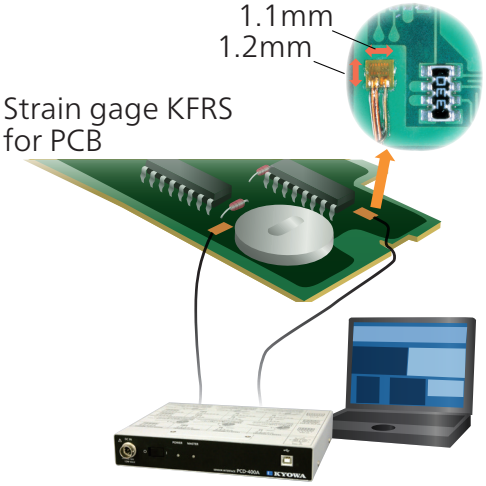
Most suitable to beginners as well as educational field

Connect strain gages and a PC , then start measurement

Tensile test of materials



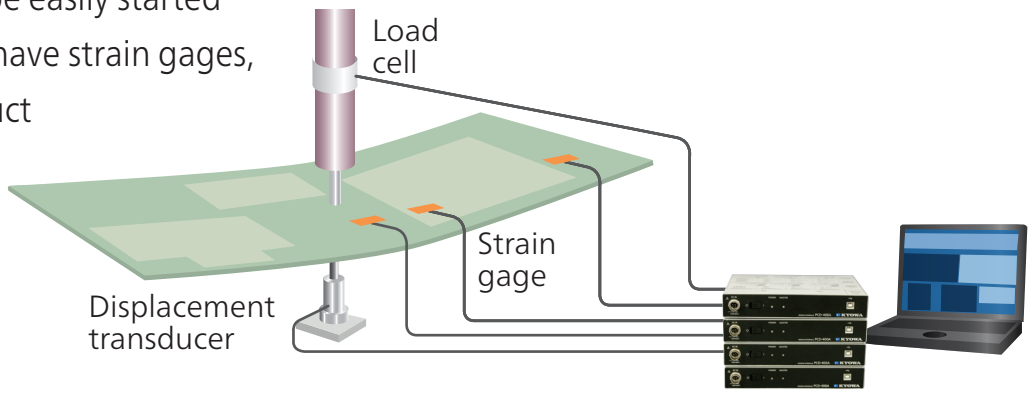
Stress measurement while mounting PCB



Designed for users who want to start tests with ease

Since the configuration is simple, measurement can be easily started in anywhere if you have strain gages, a PC, and this product

Evaluation test of materials



10 kHz Sampling Frequency(Max)
24-bit ADC

Measurement can be started by simply connecting a PC

- Connect a PC via a USB cable, then ready to start measurement
  (Data acquisition software DCS-100A installed)

Compact and lightweight, up to16 channels are available

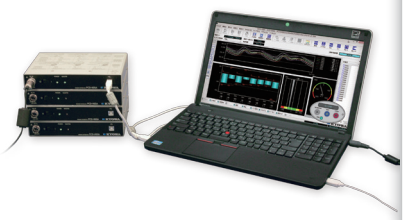
- Can be easily extended up to 4 units for 16 channels
- Smart wiring based on a stacked structure
  (using one USB cable and one power cable)

Strain gages can be directly connected

- Bridge boxes are not required even for quarter bridge system
  (An input adaptor is required)
- Quarter bridge system, 2-/3-wire are switched using the software DCS-100A

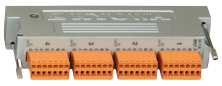
Noise-resistant, carrier wave type amplifiers

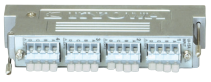
- Isolated between channels and between input and output
- With built-in low-pass filters



Various input adapters


UI-10A


UI-11A

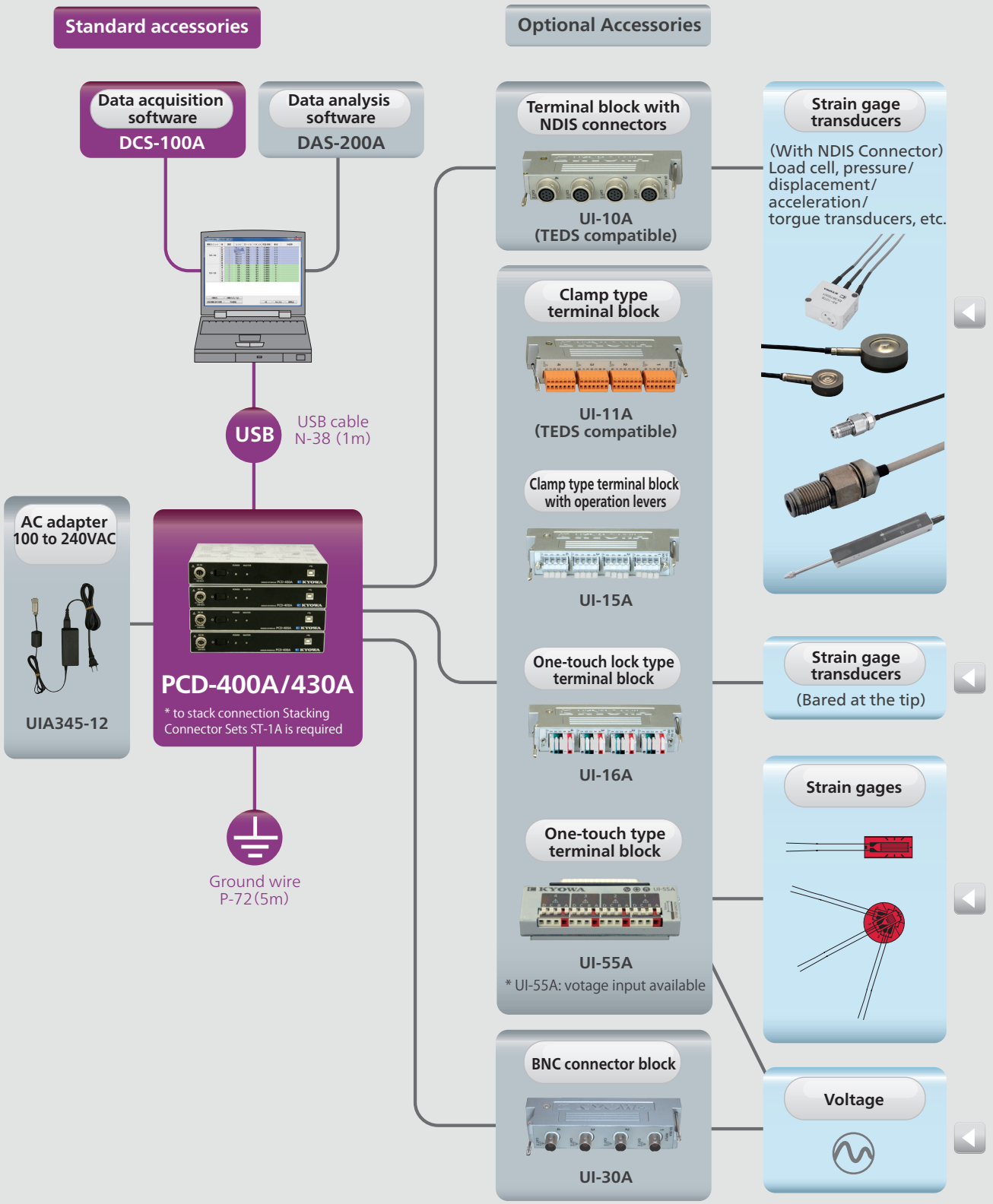

UI-15A


UI-16A


UI-55A


UI-30A

PCD-400/430A Simple Configuration Image



Optional accessories

Description	Model
AC adapter (Input 100 to 240VAC)	UIA345-12
USB cable(2m)	N-39
DC power cable(11 to16VDC, 2m)	P-76
Connection cable(10cm)	N-97
Stacking connector set	ST-1A
Stack fixture	CN-20

Description	Model
Input adapters	
Input adapter for strain gage transducer	UI-10A
Input adapter for strain gage	UI-11A
Input adapter for strain gage with operating levers	UI-15A
One-touch lock type input adapter for strain gage	UI-16A
One-touch type input adapter	UI-55A
Voltage input adapter	UI-30A

PCD-400A/430A common specifications

Applicable sensor	Strain gage and strain gage transducer
No. of input channels	4
Synchronous operation	A maximum of 4 units for 16 channels
Applicable gage resistance	Quarter bridge 2-wire system, 3-wire system: 120 Ω
	Half bridge system, Full bridge system: 120 to 1000 Ω
Input Connector	D-sub 37-pin connector
Bridge excitation	AC 2Vrms
Gage factor	Fixed at 2.00
Balance adjustment range	Resistance: Within ±2% (±10000 μm/m)
	Capacitance: Within 5000 pF
Balance adjustment method	Resistance: Pure electronic auto balance system
	Capacitance: CST method (automatic tracking)
Nonlinearity	Within ±0.1% FS
Range	200, 500, 1000, 2000, 5000, 10000,
	and 20000 μm/m – 7 steps
	Accuracy: Within ±0.5% FS
Frequency response range	DC to 200 Hz Deviation: within ±10%
Sampling frequency	Maximum 10 kHz (Simultaneous 4-unit sampling
	for 16 channels at 10 kHz)
Low pass filter	Transfer characteristic: 2nd order Butterworth
	Cutoff frequency: 10, 30, 100 Hz, flat – 4 steps
	Amplitude ratio at cutoff point : -3dB±1dB
	Attenuation: -12±1dB/oct.
ADC resolution	24 bits
Storage of setting value	The range and balance adjustment value, etc. are written to nonvolatile memory.
TEDS function	Reads the sensor TEDS information (Input adaptor: UI-10A and UI-11A only)
	Channel name writing (If the manufacturer's ID is Kyowa)
Interface	USB2.0 (Conforms to High-Speed USB standards)
	Can also be operated in a USB3.0 port.)
Stability	Temperature
	Zero point: Within ±0.2 μm/m/°C
	Sensitivity: Within ±0.05%/°C
	Time
	Zero point PCD-400A: Within ±1 μm/m/8h
	PCD-430A: Within ±0.5 μm/m/8h
	Sensitivity PCD-400A: Within ±0.3%/8h
	PCD-430A: Within ±0.15%/8h
Withstand voltage	250 VAC for 1 minute between input and chassis
Operating temperature	0 to 40°C
Humidity range	20 to 85% RH (Noncondensing)
Vibration resistance	±29.42m/s² (3G)
	5 to 200 Hz (12 cycles for each axis, 10 minutes/cycle)
Power supply	11 to 16 VDC
	Connector: RM12BRD-4PH (Hirose)
Consumption current	PCD-400A: 0.7A or less (12 VDC)
	PCD-430A: 0.9A or less (12 VDC)
Dimensions	210 (W) x 35 (H) x 157.5 (D) mm (excluding protrusions)
Weight	PCD-400A: Approx. 700 g
	PCD-430A: Approx. 750 g
EMC directive	EN61326-1 (Class A)
RoHS directive	EN50581

PCD-430A voltage mode specifications

Input mode	Unbalance
Range	1, 2, 5, 10, 20, 50V – 6 steps
	Accuracy：Winthin ±0.2%FS
Frequency response range	DC to 1kHz,
	Deviation: within –3 to1dB
Hi-pass filter	0.2Hz, OFF – 2 steps
Low pass filter	Transfer characteristic: 2nd order Butterworth
	Cutoff frequency：10, 30, 100, 300Hz, FLAT – 5 steps
	Amplitude ratio at cutoff point：–3±1dB
	Attenuation： –12±1dB/oct.
Stability	Temperature
	Zero： Within ±0.008%FS/℃
	Sensitivity： Within ±0.02%/℃
	Time
	Zero： Within ±0.03%FS/8h
	Sensitivity： Within ±0.1%/8h

Standard accessories

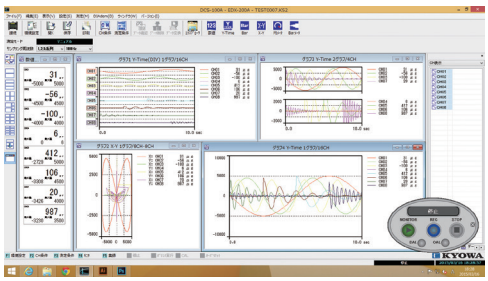
USB cable N-38 (1 m)
Ground wire P-72 (5 m)
DVD (Dynamic data acquisition software DCS-100A)

Optional accessories

AC adapter UIA345-12(For 1 to 4 units)
USB cable N-39 (2m)
DC power cable P-76 (11 to 16VDC, 2m)
Connection cable N-97 (10cm)
Stacking connector set ST-1A
Stack fixture CN-20 for up to 4 units
Input adapters (At least one is required)
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
Input adapter for voltage UI-30A (For PCD-430A)

DCS-100A Dynamic Data Acquisition Software

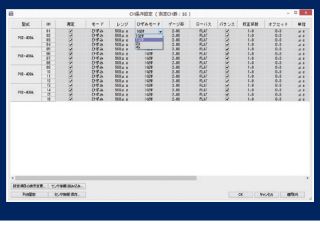
The DCS-100A software, which has a reputation for being easy to use, is a standard accessory. This enables you to simply arrange various graphs and numeric windows as you wish.



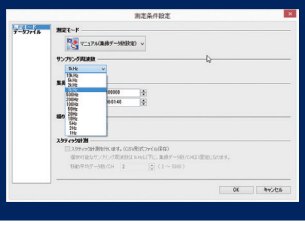
Simple operation:

3 steps only

Step1 Set channel conditions



Step2 Set the measuring conditions



Step3 Record data

OS Windows Vista, Windows 7, Windows 8/8.1, Japanese/English, 32/64-bit
64-bit OS is just for WOW64 (Windows 32-bit On Windows 64-bit)

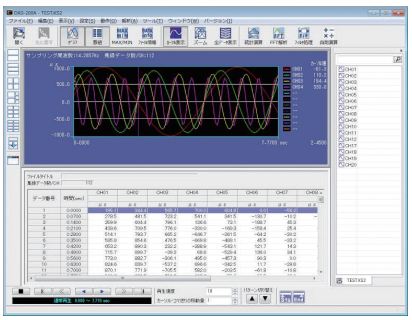
Applicable measuring instruments

- EDS-400A
- EDX-100A
- EDX-200A
- EDX-10A series
- EDX-3000A/B
- UCAM-550A
- NTB-500A
- PCD-400A/430A
- PCD-300 series

DAS-200A Data Analysis Software

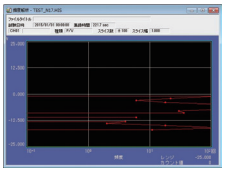
Reproducing and analyzing the acquired data

The data analysis software DAS-200A enables data reproduction and analysis for further effective and efficient use of measured data saved in KYOWA standard data file formats KS1 and KS2.
1, 2 or 4 Y-Time graphs can be presented on a window. The zooming function enables detailed observation of a necessary part by zooming in and the cursor enables reading the values on the time axis. The enlarged result on display can be saved as a different file or converted to CSV file.

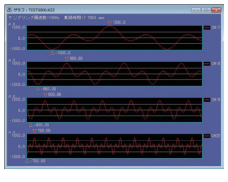


Full screen

- ●One data file can be processed for waveform display, FFT analysis, statistic operation, header information display, tabulation of numeric data and setting display conditions.
- ●Data file can be extracted and converted to CSV file.
- ●Statistic processing
- ●Arithmetic operation
- ●FFT analysis
- ●Histogram analysis
- ●Filtering
- ●Differentiation/integration
- ●Saving/reading graph display and analysis condition file
- ●Playback function of the acquisition video.
- ●Printer output



Frequency analysis



FFT analysis

Input Adapters

Connect and disconnect easily. A variety of input adapters are suitable for sensor types or cable specifications.

UI-10A (TEDS compatible)

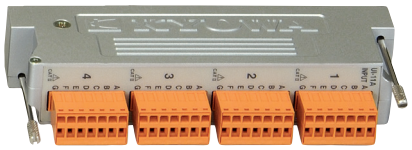
Input adapter for strain gage transducer

- Many of Kyowa's load cells, pressure transducers, acceleration transducers, and displacement transducers have the cable tip of a connector plug (NDIS). These sensors can therefore be connected with ease.
- Voltage input is possible with a conversion connector FV-1A

Conversion connector FV-1A

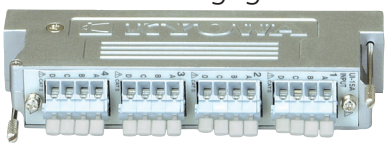
UI-11A (TEDS compatible)

Input adapter for strain gage



UI-15A

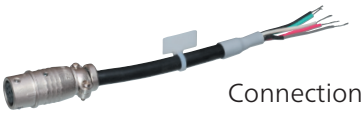
Input adapter with operation levers for strain gage



UI-16A

One-touch lock type input adapter for strain gage

- Strain gages or transducers with the bared tip of a lead wire can be easily installed
- Built-in bridge circuits enable direct connection of strain gages. No other bridge boxes are required
- Optional connection cable N-97 is used when connecting the transducer with the connector plug

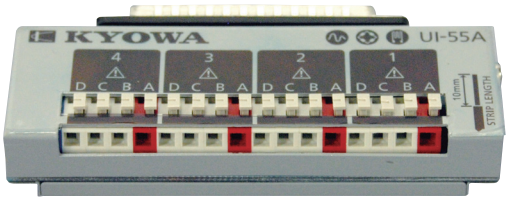


Connection cable N-97

UI-55A

One-touch type input adapter

- Strain gages or transducers with the bared tip of a lead wire can be easily installed
- For quarter bridge system (2-wire and 3-wire), half bridge system, full bridge system
- For votage input, using bared tip cables

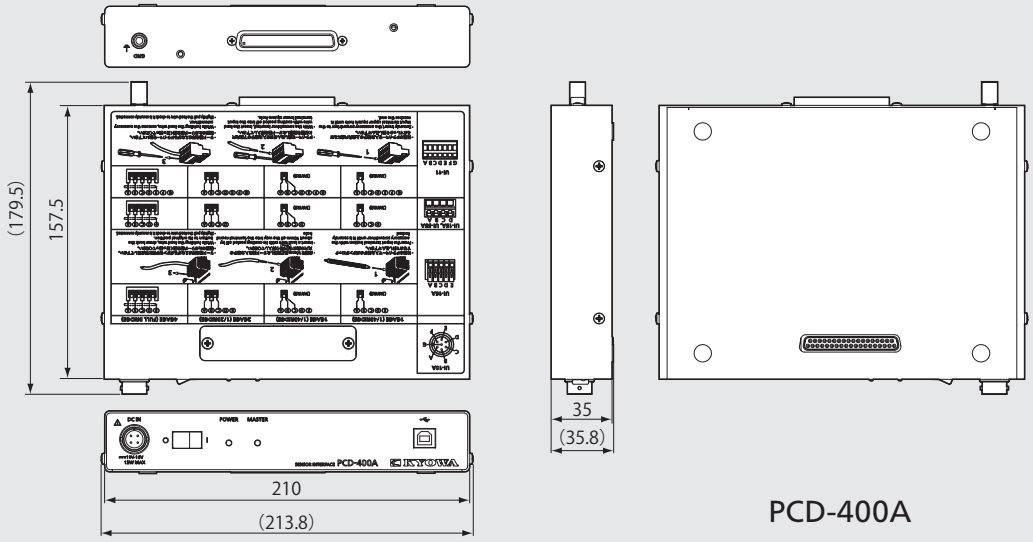


UI-30A

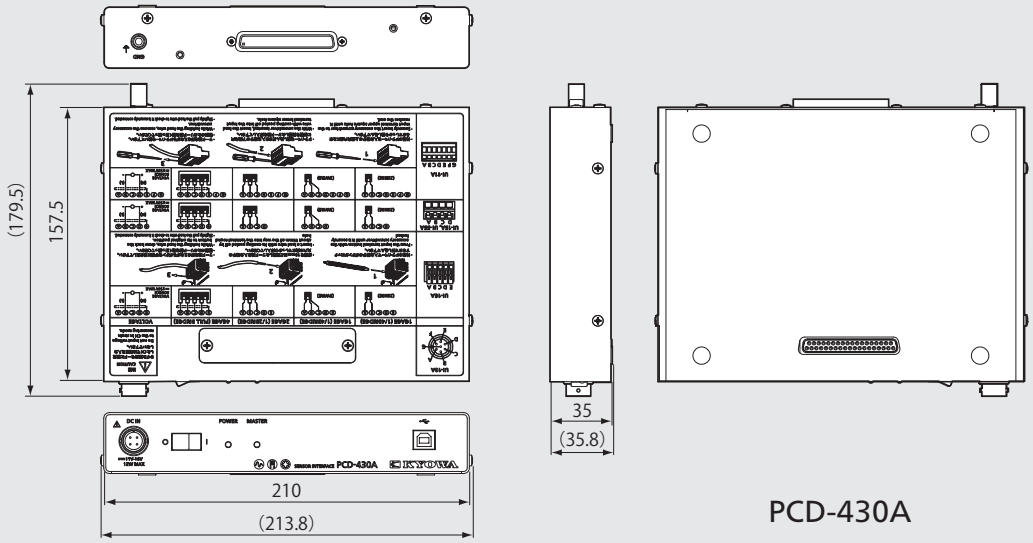
Votage input adapter

- Connect voltage-output transducers, etc. for voltage measurement
- Adapter with BNC connectors for PCD-430A

■Dimensions



PCD-400A



PCD-430A

Specifications are subject to change without notice for improvement, for latest information visit Kyowo web, please.

www.kyowa-ei.com

Safety precautions

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

ISO 9001
ISO 14001
JQA-0821
JQA-EM4824

Manufacturer's Representative

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KYOWA

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