PCD-400A/430A

Sensor Interface

PCD-400A   PCD-430A

TEDS

CE

Carrier wave type
Compact and moderate prices

● Easy sensor connection using various types of input adapters
● Connects to PC using USB interface
● Measurement using 1 unit with 4 channels, up to 4 units with 16 channels possible
● 4 unit synchronous sampling using the connection connector set ST-1A (Optional accessory)
● Dynamic Data Acquisition Software DCS-100A (Standard accessory)
● Input adapters
  Input adapter for strain-gage transducers UI-10A (TEDS compatible)
  Input adapter for strain gages   UI-11A (TEDS compatible)
  Input adapter for strain gage with operating lever   UI-15A
  One-touch type input adapter for strain gages   UI-16B
  One-touch type input adapter   UI-55A (CE compatible)
  Voltage input adapter   UI-30A (For PCD-430A)
● Compact, lightweight
● Analysis of data using the Data Analysis Software DAS-200A (Optional accessory)

*For details of the Data Analysis Software DAS-200A, see page 4-9.

Connect the sensor interface to a PC via USB port. The PC will be a measuring instrument.
Up to 4 units are stacked for measurement in 16 channels.

PCD-400A, PCD-430A common specifications

Measuring Targets	Strain gages and strain-gage transducers
Channels	4
Input Format	Balanced differential input
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	2 Vrms
Gage Factor	2.00 fixed
Balance Adjustment	Resistance: Within ±2% (±10 k ×10⁻⁶ strain)
	Capacitance: Within 5000 pF
Balance Adjustment Methods	Resistance: Auto balance
	Capacitance: CST method (Capacitance self-tracking)
Nonlinearity	Within ±0.1% FS
Range	200, 500, 1 k, 2 k, 5 k, 10 k, and 20 k ×10⁻⁶
	strain – 7 steps
	Accuracy: Within ±0.5% FS
Frequency Response	DC to 200 Hz, deviation: Within ±10%
Sampling Frequencies	Max. 10 kHz (Synchronous 4-unit sampling
	for 16 channels at 10 kHz)
LPF Transfer characteristic: 2nd order Butterworth	
Cutoff frequencies: 10, 30, 100 Hz, and FLAT (4 steps)	
Amplitude ratio at cutoff point: -3 ±1 dB	
Attenuation: (-12 ±1) dB/oct.	
A/D Converter	24 bits
Setting Value Storage	The range and balance adjustment value etc.
	are written to nonvolatile memory.
TEDS	Reads information from TEDS-installed sensors.
	(Input adapters: UI-10A and UI-11A only)
	Channel name writing
	(If the manufacturer's ID is Kyowa)
Interfaces	USB2.0 (Conforms to High-speed USB standards.
	USB3.0 supports.)
Stability Temperature	
Zero point: Within ±0.2 ×10⁻⁶ strain per °C	
Sensitivity: Within ±0.05%/°C	
Time	
Zero point: Within ±1 ×10⁻⁶ strain per 8h (PCD-400A)	
Within ±0.5 ×10⁻⁶ strain per 8h (PCD-430A)	
Sensitivity: Within ±0.3%/8h (PCD-400A)	
Within ±0.15%/8h (PCD-430A)	
Withstand Voltage	250 VAC for 1 minute between input and case
Operating Temperature	0 to 40°C
Operating Humidity	20 to 85% RH (Non-condensing)
Vibration Resistance	±29.42 m/s² (3 G)
	5 to 200 Hz (12 cycles for each axis, 10 minutes/cycle)
Power Supply	11 to 16 VDC
	Connector type: RM12BRD-4PH (Hirose)
Current Consumption	400A: 0.7 A or less (12 VDC), 430A: 0.9 A or less (12 VDC)
Dimensions	210 W x 35 H x 157.5 D mm (Excluding protrusions)
Weight	Approx. 700 g (PCD-400A), Approx. 750 g (PCD-430A)
EMC Directive	EN61326-1 (Class A)
RoHS Directive	EN50581

PCD-430A about voltage measurement mode

Measuring Targets	Voltage
Input Modes	Unbalanced
Range	1, 2, 5, 10, 20, and 50 V - 6steps
	Accuracy: Within ±0.2% FS
Frequency Response	DC to 1 kHz, deviation: -3 to 1 dB
HPF	2 steps of 0.2 Hz, OFF
LPF	Transfer characteristic: 2nd order Butterworth
	Cutoff frequencies: 10, 30, 100, 300 Hz and
	FLAT (5 steps)
	Amplitude ratio at cutoff point: -3 ±1 dB
	Attenuation: (-12 ±1) dB/oct.
Stability	Temperature
	Zero point: ±0.008%FS/ºC
	Sensitivity: ±0.02%/ºC
	Time
	Zero point: ±0.03%FS/8h
	Sensitivity: ±0.1%/8h

Standard Accessories

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

Optional Accessories

DC power cable P-76 (11 to 16 VDC, 1.8 m)
USB cable N-39 (2 m)
Connection cable N-97 (10 cm)
Stacking connector set ST-1A
Stack fixture CN-20
AC adapter UIA345-12 (For 1 to 4 units of PCD) (For U.S.A.: UNI345-1238)
Conversion adapter FV-1A
Input adapters (At least one is required)
Input adapter for strain-gage transducers UI-10A (TEDS compatible)
Input adapter for strain gages UI-11A (TEDS compatible)
Input adapter for strain gage with operating lever UI-15A
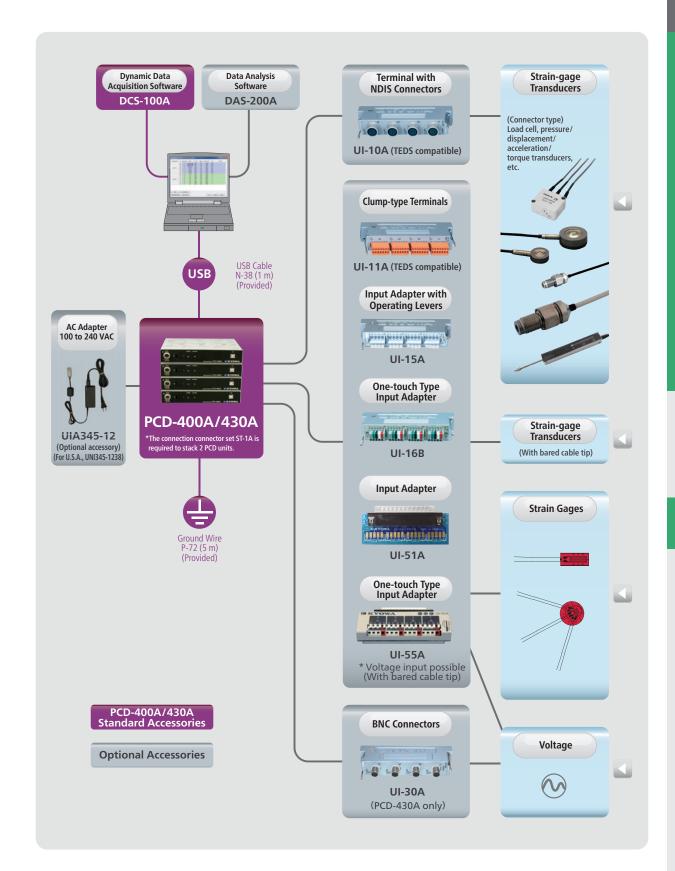One-touch type input adapter for strain gages UI-16B
One-touch type input adapter UI-55A
Voltage input adapter UI-30A
Data analysis software DAS-200A

Simplified Configuration of the PCD-400A and PCD-430A

DCS-100A software for PCD-400A/430A section
For details of DCS-100A, see page 4-3.

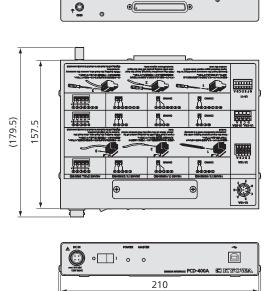|	
Controllable Units	Max. of 4 (Max. 16 channels)
Interfaces	USB
Data Storage	Measured data is saved on the PC hard disk (in KS2 format).
Channel Conditions	Measurement ON/OFF, strain mode, range, LPF, balance ON/OFF, calibration coefficient, offset, gage factor, unit, channel name, measuring range, number of decimals, rated capacity, rated output, upper limit check, lower limit check, offset zero ON/OFF (Any display item is selectable)
Sampling Frequencies	1 Hz to 10 kHz (1-2-5 series)
Measuring Modes	Manual, manual (Data points preset), interval, and analog trigger
Manual Measurement	Measurement is made from a press of the REC button to a press of the STOP button or to completion of recording to the preset number of measurements.
Interval Measurement	Automatically starts measurement at the preset time intervals.
Analog Trigger Measurement	Automatically starts measurement when the preset trigger conditions are satisfied.
Trigger Conditions	
End Trigger	Settable
Delay	For start/end, max. 640000 data / channel.
Trigger Channels	Any 1 channel
Trigger Level	Sets in physical quantity.
Trigger Slope	Up, down

Static Measurement	Every time the DCS-100A starts recording data, the DCS-100A additionally saves the moving-averaged measured data in a single CSV format file in manual and interval modes.
Repetition Acquisition	In long-term data acquisition, a specified amount of data is saved in KS2 file at specified intervals. *Workable in manual mode (Data points preset).
Hardware Configuration	Unit name settings possible on the PCD-400A/430A. Number of connected units readable from the PCD-400A/430A
Automatic Data File Conversion	Automatic file conversion upon the termination of measurement (CSV, XLS, XLSX, and RPC III formats)
Arbitrary Unit Settings	Up to 3 user's units are settable

Please prepare a PC separately.

■**Dimensions**

PCD-400A/430A (Figure is PCD-400A)

(179.5)
157.5
35
(35.8)
210
(213.8)

PCD-400A/430A
Recommended
products for
combination

Data Analysis Software
DAS-200A