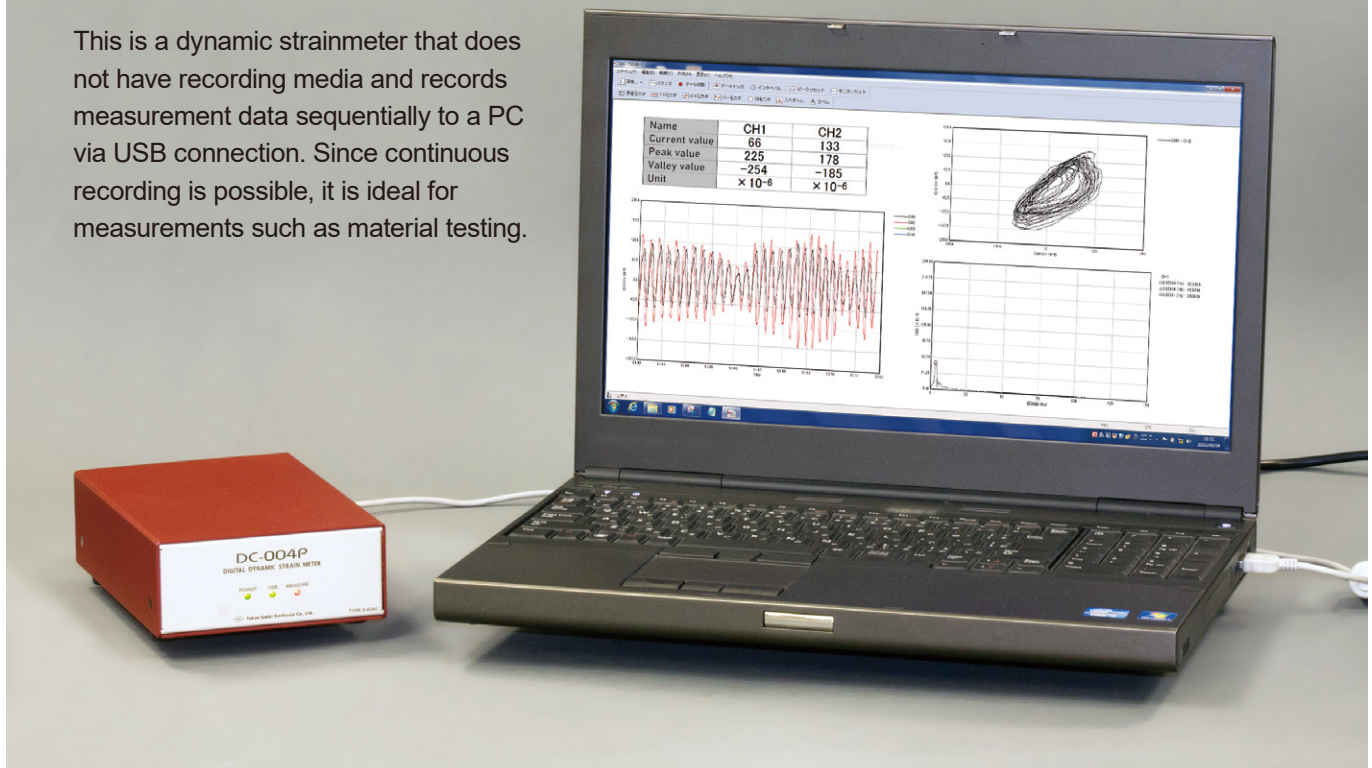


Direct writing of data to a PC's storage

This is a dynamic strainmeter that does not have recording media and records measurement data sequentially to a PC via USB connection. Since continuous recording is possible, it is ideal for measurements such as material testing.



Features

- Manual, data trigger, and interval measurements can be performed simultaneously.
- 50 kHz sampling (at the fastest in the one channel mode).
- Four-channel simultaneous sampling (12.5 kHz).
- Capable of measuring large strain equivalent to $\pm 80000 \times 10^{-6}$ (when using 0.5 V bridge excitation).
- Long time recording by direct writing to the PC side.
- Powered by USB bus power.
- Available in four-channel type and two-channel type.
- Measurement data is compatible with the DADiSP format.
- TEDS compatible.
- Control software is included as standard (DC-7004P).

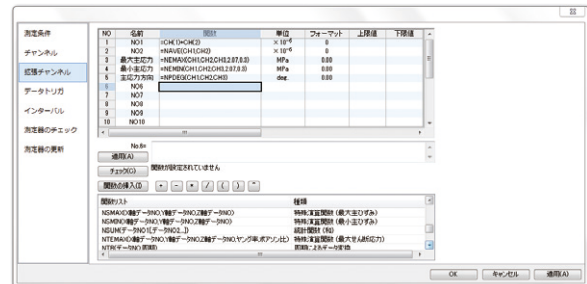
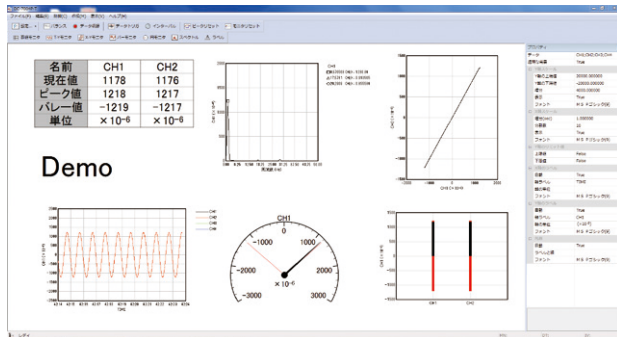
Easy-to-use control software

It supports high-speed sampling and consists of two software programs to perform simple measurement operations.



DC-7004P-T measurement software

DC-7004P-T is software dedicated for measurements that controls the DC-004P PC control type dynamic strainmeter to monitor and record the measurement values.

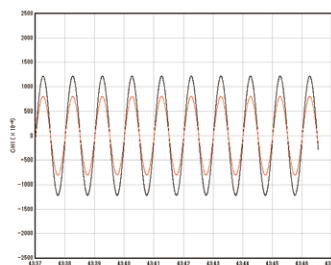


- Manual, data trigger, and interval measurements can be performed simultaneously.
- Calculations using the four arithmetic operations, trigonometric functions and special calculation functions are possible.
- Numerical monitor, T-Y monitor, X-Y monitor, bar monitor, spectrum, circle monitor, label, OLE object

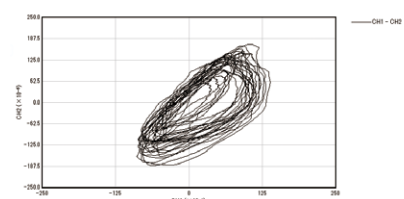
Numeric Monitor

Name	CH1	CH2
Current value	66	133
Peak value	225	178
Valley value	-254	-185
Unit	x 10 ⁻⁶	x 10 ⁻⁶

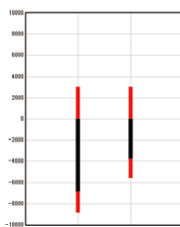
T-Y monitor



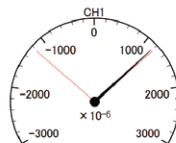
X-Y monitor



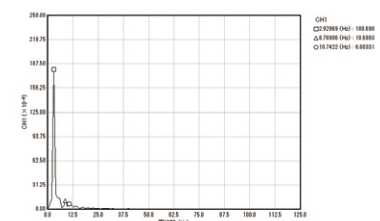
Bar monitor



Circle monitor



Spectrum

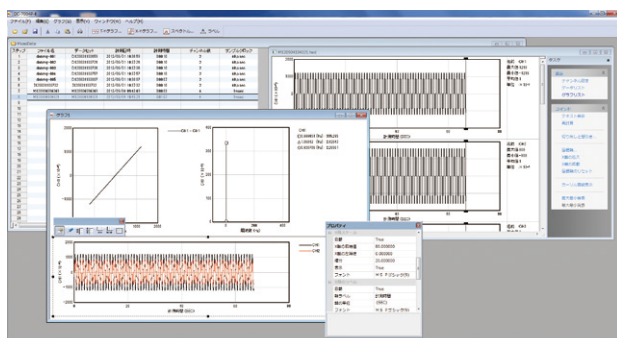


Labels, shapes, and OLE objects can also be placed, allowing you to build a flexible layout.



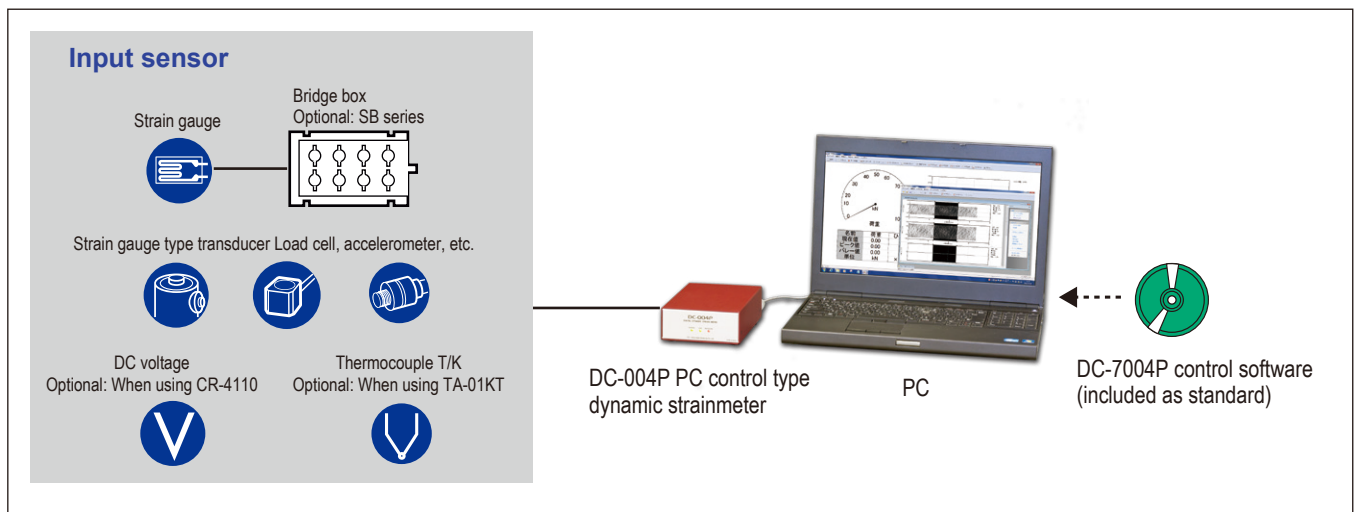
Editing Data Software DC-7004P-E

DC-7004P-E carries out check of the measurement data recorded by DC-7004P-T and the data processing such as text conversion.



- Data file management
Display of file, Change of file name, Movement of file, Merge file, Text conversion
- Data file editing
Data list, Graph list, Maximum / minimum search, Cutout, Text conversion, Print
- Graph display function
Multiple windows can be displayed. T-Y graph, X-Y graph, Spectrum, Label, Saving, Text saving, Copy of graph, Saving of image, Print

System Block Diagram



Function



Status LED

Each operating state is displayed by the LEDs.

POWER Lights up in green when the power is turned ON.

USB When the USB cable is connected: Lights up in green
During USB communication: Blinking in green

MEASURE During measurement: Lights up in red

Four-channel type DC-004P



Two-channel type DC-004P (-2)



USB interface

GND terminal

Power connector

USB interface

GND terminal

Power connector

Input channel

Connection of various sensors (four-channel type and two-channel type)

USB interface

Connection to a PC using the included USB cable

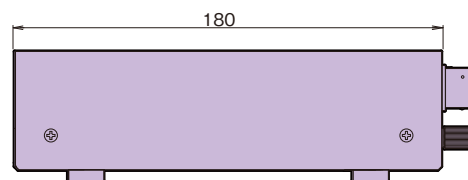
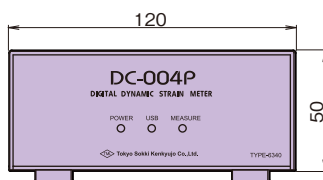
GND terminal

Frame grounding terminal

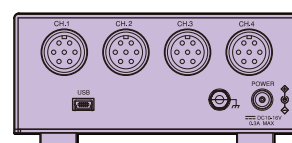
Power connector

Connection of the AC adapter (optional)

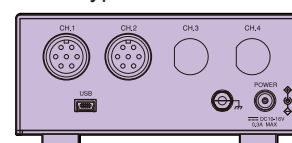
External Dimensions



4CH type DC-004P



2CH type DC-004P (-2)



Unit : mm

Specifications / DC-004P PC control type dynamic strainmeter

Number of measuring points	Four points (4 channel type), 2 points (two channel type)
Inputs	Strain Voltage * An optional CR-4110(1/1000 attenuator cable) is required.
Strain measurement	
Applicable gauge resistance	120Ω, 350Ω (full bridge)
Bridge excitation	DC2V, DC0.5V
Measuring range	±20000×10 ⁻⁶ strain in 1 range (in case of 2V bridge excitation)
Maximum range	When using 2V bridge excitation ±20000×10 ⁻⁶ strain (1×10 ⁻⁶ strain resolution) When using 0.5V bridge excitation ±80000×10 ⁻⁶ strain (4×10 ⁻⁶ strain resolution)
Non-linearity	±0.3%FS
Voltage measurement	* An optional CR-4110(1/1000 attenuator cable) is used.
Measuring range	±20V in 1 range
Maximum range	±20V (1mV resolution)
Non-linearity	±0.3%FS
Frequency response	DC-2kHz
Stability	On zero ±0.5×10 ⁻⁶ strain/°C Sensitivity ±0.05%FS/°C
Balancing method	Digital computation
Balancing range	±10000×10 ⁻⁶ strain (when using 2V bridge excitation)
Low-pass filter	Analog filter : 2kHz -3dB±1dB Digital filter : 1Hz~1kHz(configurable per 1Hz) -3dB±1dB
High-pass filter	Cut-off frequency 0.6Hz

A/D converter	24 bits
Sampling method	Simultaneous sampling
Functional display	LED power status, communication status
Interface	USB2.0
Functions	TEDS compatible
Setup functions (Setup by USB communication)	Setup by USB communication (dedicated bundled software) Channel mode: 1, 2, 4 channel LPF setting: 0-1kHz(0 is PASS) HPF setting: ON/OFF Bridge excitation setting: 0.5/2.0V Balancing setting: ON/OFF
Recording speed (sampling intervals)	20μs ^{*1} , 40μs ^{*2} , 50μs ^{*2} , 80μs, 100μs, 200μs, 500μs, 1ms, 2ms, 5ms, 10ms, 20ms, 50ms, 100ms, 200ms, 500ms, 1s *1 When using 1 channel only. *2 When using 1 and 2 channels only. For others, up to 4 channels can be used.
Power supply	Can be supplied from USB bus power When supplying from DC jack Rated voltage DC10-16V Maximum power consumption 0.3A MAX
Operating temperature and humidity range	0~+50°C 85%RH or less (excluding condensation)
Dimensions	120(W)×50(H)×180(D) (excluding protruding parts)
Weight	4 channel type – Approx. 600g 2 channel type – Approx. 500g

Specifications / Measurement Software DC-7004P-T/ Editing Data Software DC-7004P-E

System configuration	
Applicable measuring instrument	PC control type dynamic-strain measuring instrument DC-004P x1 unit
OS	Microsoft Windows 7(SP1)/8.1/10
PC	Model on which two or more CPUs are operating (Comply with system requirement of OS)
Disk capacity	5G bytes or more free capacity *If the free capacity becomes less than 5G bytes, a warning is displayed
Resolution of monitor	1024x768 pixels or more
Interface	USB 2.0

Measurement Software DC-7004P-T	
Measurement conditions	
Number of measurement points	1 to 4 points (for 3-point measurement, 4 points are measured and the results of 3 points are recorded)
Sampling	20μs ^{*1} , 40μs ^{*2} , 50μs ^{*2} , 80μs, 100μs, 200μs, 500μs, 1ms, 2ms, 5ms, 10ms, 20ms, 50ms, 100ms, 200ms, 500ms, 1s *1 Only at 1-point measurement *2 Only at 1, 2-point measurement
Measuring time	Select whether the measuring time is specified or not If the measuring time is specified, the number of data per channel is specified within the range 1 to 1G (1,073,741,824) If the measuring time is not specified, it depends on the capacity of recordable media (hard disk)
Channel conditions	Name, Bridge power supply, Lowpass filter, High-pass filter, Balance, Coefficient, Rated output, Capacity, Offset, Unit, Format, Upper limit, lower limit
Reading of sensor information	Reading of TEDS information and setting of coefficient and unit are carried out from sensor.
Expanded channel	Number of points Up to 10 points, Name, Function, Unit, Format, Upper limit, lower limit
Upgrading of measuring instrument	The firmware of the measuring instrument is upgraded.
Measurement method	There are three measurement methods; manual measurement, data trigger measurement, and interval measurement. Three types of measurement methods can be executed at the same time.

Data file	DADiSP compatible format
Monitor	While the measuring instrument is connected, the measurement value is always displayed. If the sampling speed set under the measurement conditions is 1ms or less (faster than 2ms), the value measured at the sampling speed you set is displayed as the data to be monitored. If the sampling speed set under the measurement conditions is 2ms or more (slower than 1ms), the value measured at 1ms sampling speed is displayed.
Displayed item	Numeric Monitor, T-Y monitor, X-Y monitor, Bar monitor, Spectrum, Circle monitor, Label, OLE object

Editing Data Software DC-7004P-E	
Data file management	All data files in a folder in which data files are recorded are listed.
Management Item	Display of file, Change of file name, Movement of file, Merge file Text conversion(Saving format, Division, Thin out)
Data file processing	Data list, Graph list, Maximum / minimum search, Cutout(Thin out), Text conversion(Saving format, Division, Thin out, Range specification, Display cursor), Print
Graph display	A graph of a channel that is arbitrarily selected from a data file is displayed on the window. Multiple graphs can be added in one window. Multiple windows can be displayed.
Graph display item	T-Y graph, X-Y graph, Spectrum, Label Editing item Saving, Text saving, Copy of graph, Saving of image (File format: Bitmap, expanded metafile, PNG), Print

Standard Accessories

DC-7004P Control software CD-ROM	1
CR-6187 USB cable (miniB-A)	1
Warranty certificate	1

Options

AC Adapter (CR-1869)
AC Adapter [For China] (CR-1869-C)
DC Power Cable (CR-062)

The contents of this catalog are subject to change without prior notice.
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