WDS-190AS1/191AS1

Compact Digital Indicator

●Direct read out of physical values

WDS-190AS1 WDS-191AS1

*English version: Contact us.
Unless otherwise specified, Japanese version will be delivered.

Type

Models	Option
WDS-190AS1	—
WDS-191AS1	With record functions

Specifications

Channels	1
Applicable Transducers	Strain-gage transducers
Applicable Bridge Resistance	60 to 1000 Ω
Bridge Excitation	2 V DC
Measuring Range	±5 mV/V (±10000 ×10^{-6} strain), including zero
	adjustment range
Digital Zero	Executes digital zero within measuring range
Sampling Speed	Approx. 50 times/s
Calibration Modes	Actual load calibration
	Sensitivity registering calibration
	TEDS calibration by TEDS data or calibration files
Indication	LCD 128 x 64 with ON/OFF backlight
	Range: -99999 to 99999, freely set decimal point
	Units: Any one
Indication Accuracy	Within ± (0.05% of reading +5) ×10^{-6} strain
Indication Modes	Strain mode: Switchable between ×10^{-6} strain
	and mV/V
	Range: -9999.9 to 9999.9
	Measure mode: Proper engineering units
Smoothing Functions	Moving average: 1, 2, 4, 8, 16, 32, 64, and 128 times
	Minimum scale: 1, 2, 5, 10, 20, 50, and 100 steps
	Zero-near-zero: 0 to 9
Peak Hold	Digitally holds a max. value during measurement.
Recording by 191AS1	USB 2.0 (Micro USB), CSV file, memory: 2 GB
	Data is recorded on every pressed key REC,
	and saved as CSV files including time, part names,
	count values, units, limit values, ON/OFF.
	Part names and counts are set freely.
Comparators of 191AS1	Upper limit x1
Power Saving	Auto off by preset time 0 to 99 min and none
	Backlight off by preset time 0 to 60 s and none
Low Battery	Battery mark lights in 1/1, 1/2, 1/4, and flickers
	in low battery. Calibration or recording is
	prohibited when the light flickers.
Compliance	Directive 2014/30/EU (EMC)
	Directive 2011/65/EU (RoHS)
Operating Temperature	- 10 to 40°C
Operating Humidity	20 to 85% (Non-condensing)
Storage Temperature	-10 to 60°C
Power Supply	2 AA-alkaline batteries
Operating Time	72h continuously operates (With alkaline batteries)
	(When backlight off and 350-ohm transducers at 25 °C)
Dimensions	66.5 W x 92.0 H x 28.0 D mm (Excluding protrusions)
Weight	Approx. 110 g (Excluding batteries)

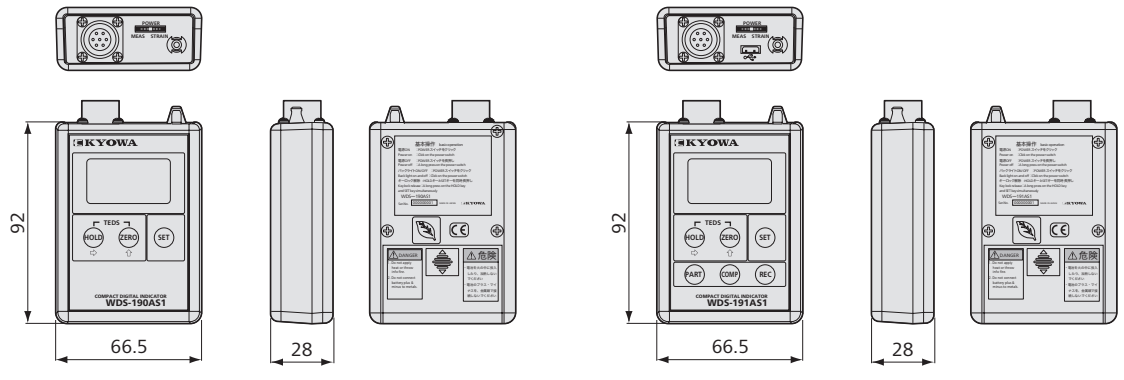
Standard Accessories	2 AA manganese batteries
Optional Accessories	Input cable U-16 Soft case WDS-500-CASE (With shoulder strap) Bridge box DB-120C-2/3

Suitable for simple measurement and checking of load, pressure or displacement transducer.

- ●Backlight enables usage even in dark places.
- ●Displays data in 5 digits, units, status, and low power.
- ●Measures 2.5 Hz phenomena at 50 Hz sampling speed.
- ●WDS-191AS1 records data in CSV format.
- ●Powered by 2 AA batteries
- ●Lightweight

The Compact Digital Indicators display and record the output data of strain-gage transducers, such as load cells, pressure transducers, displacement transducers, and torque transducers etc.

■Dimensions



WDS-500BE

Sensor Checker

●Pocket-size checker

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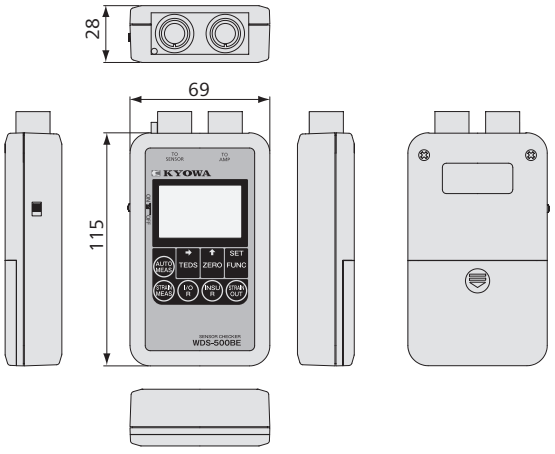
Unless otherwise specified,
English version will be delivered.

With this pocket-size checker, it is easy to check a strain-gage transducer and a strain amplifier

●Enables checking of both strain-gage transducers and strain amplifiers.
●Strain, I/O resistance or insulation resistance are measured individually by pressing respective keys.
●All these variables can be measured simultaneously in the automatic mode.
●Able to check an amplifier by measuring the strain output from the amplifier.
●Able to indicate the TEDS information of the TEDS compatible transducers.
●Compact & lightweight, just pocket size
●Powered by 2 AA size batteries.

■Dimensions



Models

Models	Connectors
WDS-500BE-0	Round connector (PRC03 female)
WDS-500BE-1	Square connector (3RT01 female)

Specifications

Applicable Instruments	Strain-gage transducers, strain amplifiers
Sampling Speed	Approx. 2 times/s
Auto Power OFF	Selectable from 1 to 99 minutes or none
Operating Temperature	-5 to 40°C
Operating Humidity	20 to 85% (Non-condensing)
Power Supply	2 AA size batteries
Continuous Operation	Approx. 8 h (Manganese batteries, for 350 Ω transducer under normal temperature)
Weight	Approx. 220 g (Including built-in batteries)
Dimensions	69 W × 115 H × 28 D mm (Excluding protrusions)
●Strain Measurement	
Applicable Bridge Resistance	60 to 1000 Ω
Measuring Range	±5 mV/V (±10000 ×10^{-6} strain)
Bridge Excitation	Approx. 2 VDC (Selection between intermittent and continuous impression)
Indication Accuracy	[mV/V] display: Within ±(0.2% of reading+3) mV/V [×10^{-6} strain] display: Within ±(0.2% of reading+5) ×10^{-6} strain
Measuring Modes	Strain mode: Where input strain quantity is indicated in mV/V or ×10^{-6} strain; zero compensation possible
●I/O Resistance Measurement	
Measuring Range	0 to 2000 Ω
Indication Accuracy	±(0.2% of reading+5) Ω
●Insulation Resistance Measurement	
Measuring Range	0 to 300 MΩ
Applied Voltage	Approx. 20 VDC
Indication Accuracy	±(15% of reading + 10) MΩ
●Strain Output	
Output Range	[mV/V] display: 0.000 to ±5.000 mV/V (0.005 mV/Vsteps) [×10^{-6} strain] display: 0 to ±10000 ×10^{-6} strain (10 ×10^{-6} strain steps)
●Output Accuracy	
DC Amplifier	[mV/V] display: Within ±(0.5% of set value +0.020) [×10^{-6} strain] display: Within ±(0.5% of set value +40)
Carrier Wave Amplifier	[mV/V] display: Within ±(5% of set value +0.020) [×10^{-6} strain] display: Within ±(5% of set value +40)
I/O Resistance	Approx. 350 Ω
●Automatic Measurement Functions	
Enables simultaneous measurement of input strain, I/O resistance, and insulation resistance.	
●TEDS Information Indication Functions	
Indicated Contents	Model of transducer, Kyowa original serial number, rated capacity, engineering unit, rated output, input resistance and serial number of TEDS format

*Not suitable for calibration purpose

Standard Accessories 2 AA manganese batteries, instruction manual

Optional Accessories Input cable U-16 (4-conductor, terminated with alligator clips)
Silicon covers:
WDS-500-COVER-B (Blue)
WDS-500-COVER-R (Red)
WDS-500-COVER-Y (Yellow)
WDS-500-COVER-G (Green)
WDS-500-COVER-D (Dark gray)
WDS-500-COVER-L (Light gray)
Soft case WDS-500-CASE (With shoulder strap)

CAB-E
Strain Generator

●For checking strain measuring instruments

CAB-120E

Compact & lightweight Suitable for checking strain amplifiers

The CAB-E is a compact & lightweight device, which generates equivalent strains to check strain measuring instruments. Strain level is set with STRAIN and RANGE dials in combination. The CAB-E is compatible with remote sensing.
No power supply is required.

Models

Models	I/O Resistance, Accuracy	Excitation Voltage
CAB-120E	120 Ω, -10% to 1%	4 VDC or less
CAB-350E	350 Ω, -10% to 1%	12 VDC or less

Specifications

Equivalent Strain	RANGE dials: 4 steps of x-500, x-100, x100 and x500 STRAIN dials: 11 steps of 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10 ×10^{-6} strain Generated strain level is determined by setting of both dials.
Accuracy	Within ±(1.5% of setting + 5 ×10^{-6} strain)
Gage Factor	2.0 fixed
I/O Resistance & Accuracy	See table above.
Excitation Voltage	See table above.
Operating Temperature	0 to 45°C
Operating Humidity	20 to 80% (Non-condensing)
Output Connectors	NDIS4102 (7 pins) connector
Dimensions	122 W x 70 H x 52 D mm
Weight	Approx. 350 g

Standard Accessories

Connection cable (With NDIS4102 (7 pins) connectors at both ends, 1 m)

Notes:
1. Since the CAB-E is designed to be compatible with remote sensing, it mustn't be used for systems such as MCF, CDV cards, DIS, etc. with which F and G terminals of input NDIS4102 (7 pins) connector are used for other purposes.
2. It is not recommended to use for carrier-type strain amplifiers such as DPM series.
3. Since the CAB-E has a special circuit structure, the stated accuracy may not be satisfied depending on measuring instruments under test.
4. The CAB-E is designed for checking and is not for calibration.

■Dimensions