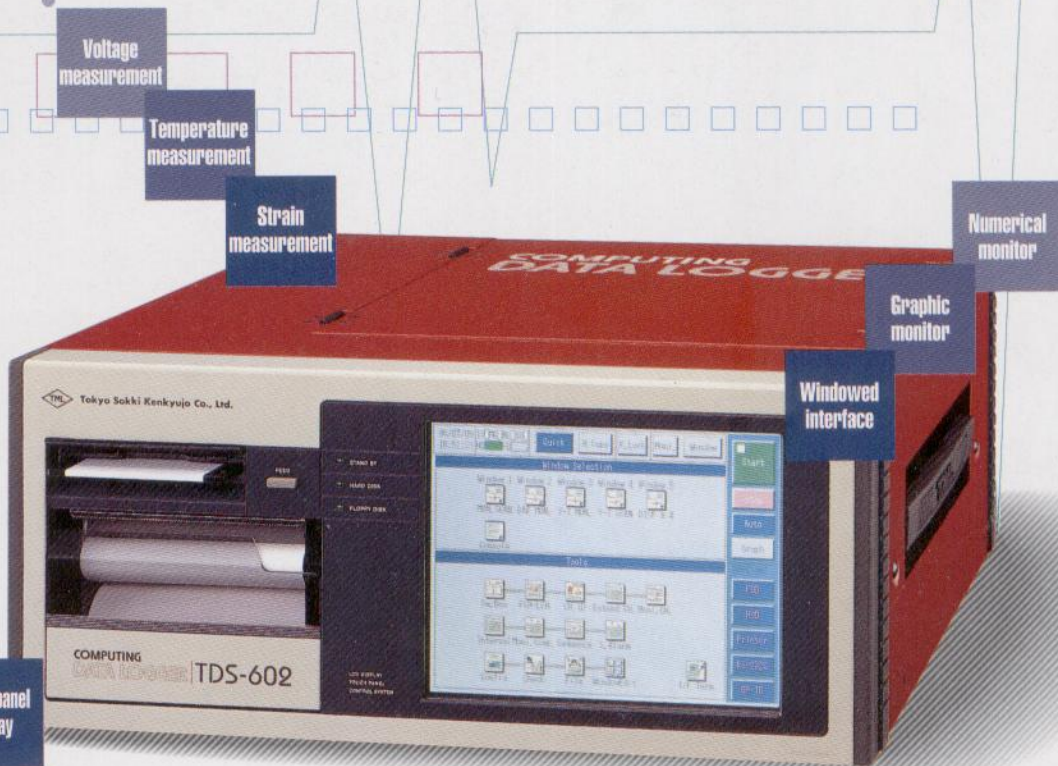# TML

with Color Touch Panel

Data Logger

TDS-602

NEW

Voltage measurement

Temperature measurement

Strain measurement

Numerical monitor

Graphic monitor

Windowed interface

Touch-panel display

1.2 GB hard disk

Two types of A/D converter

COMPUTING **DATA LOGGER** TDS-602

Tokyo Sokki Kenkyujo Co., Ltd.

High Performance in a Compact Unit

From measurement to analysis, a full range of easy-to-use functions and features!

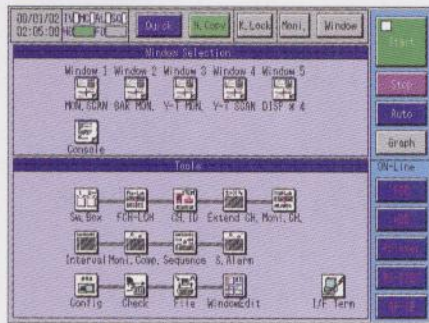TML **Tokyo Sokki Kenkyujo Co., Ltd.**

It's Now This Simple-From Setup to Measurement

Two different types of A/D converter (integrating and high-speed), automatic scanning measurement of up to 1000 points, monitoring of various data values . . .
The TDS-602 offers the sophisticated measurement functions that customers demand.
But that's not all: since the TDS-602 also features a touch-panel color LCD display, strain measurement becomes a simple task for anyone, anywhere.
Now everything is easy to do, from setup to measurement.
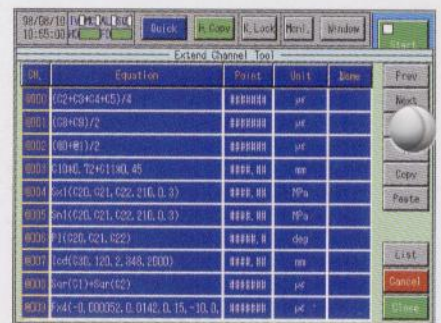
1 Tool Selection

Select settings from the monitor window. Before beginning measurements, select individually any settings to be changed. To change settings during measurements, return to this screen.

2 Channel Number Settings

Select here such settings as the ranges of measurement channels and expanded channels, recording to disk, and output to a printer or interface. Among other items that can be set are manual startup and alarm measurement (one system each), interval timer and data comparator (10 systems each).

3 Channel ID Settings

For each measurement channel, you can set coefficients, decimal-point positions, the gauge bridge and thermocouple sensor mode, and other parameters. And it's easy to display these settings on-screen. Simple commands let you set the parameters for multiple channels simultaneously, as well as selectively adjust the settings.
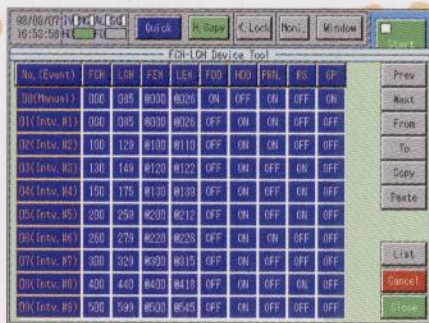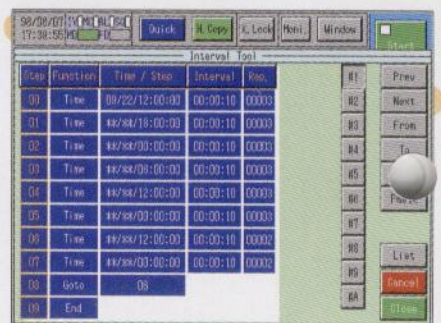
4 Expanded Channel Settings

Set as desired to configure an operation for multi-point measurements. Starting with numerical calculation, you can go on to configure trigonometric functions, rosette analyses, and other operations. In addition, you can import your results from operations in other expanded channels. And as with measurement channels, it's easy to monitor these results on-screen and print them.

5 Interval Timer Settings

It's possible to set up to 100 steps each, for example 30 seconds the first time, one minute the next and so on, in as many as 100 different settings. And you can set the time for the start of each step. Measurement channels can be set independently for each system.

6 Monitor Comparator Settings
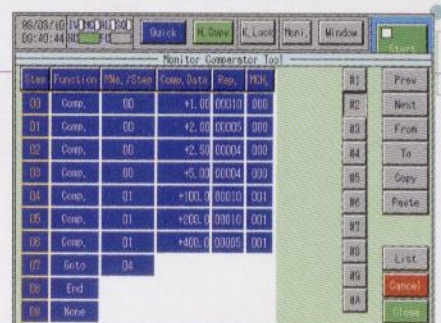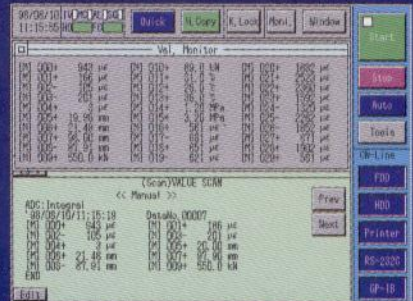
Measurement values for preset channels (ten systems, 100 steps each) can be employed as parameters in automated measurements. Settings are displayed in table form, and it's convenient and easy to change setting values on the table screen.
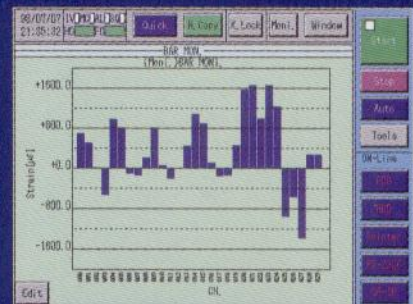
Numerical data displays

Here, monitor channel data is displayed numerically. Values for up to 30 channels can be displayed simultaneously, and they can also be enlarged when displaying one, two or four channels.

Bar graph displays

Monitor channel data can be displayed in bar-graph form. The horizontal axis is the monitor channel number; up to 30 channels can be shown on-screen at one time. The vertical axis showing measurement values can be set to any arbitrary scale.

Y-T plot displays
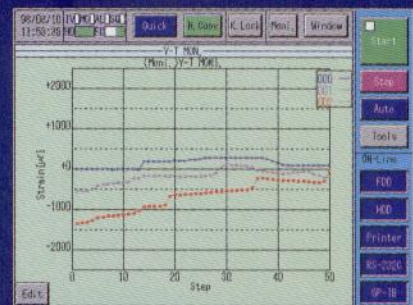
This display shows changes over time in measurement values. Time is plotted along the horizontal axis with measured values on the vertical. Two types of graph can be generated: monitor graphs displaying monitor data, and event graphs showing scan data.

X-Y plot displays
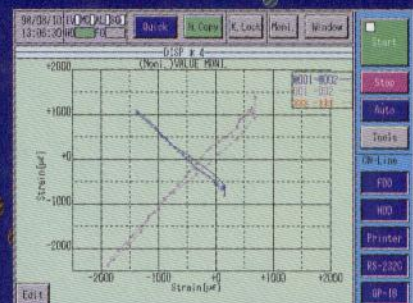
This graph illustrates the correlation between measured values for two different channels. As with the Y-T graphs, monitor data or event data can be plotted.

7

Sequence Settings

Various functions such as the interval timer, monitor comparator and sleep measurement can be combined in a single execution. The screen example shows sleep being cancelled at 00:00, and the start of interval timer #5 and monitor comparator #2. The monitor comparator and interval timer end simultaneously to return the unit to the sleep state. The unit is set to repeat this sequence each day.

8

Configuration

Here you can set or adjust the A/D conversion speed, single-gauge bridge nonlinearity compensation, interface, time, graphs and other display details, and various other functions.
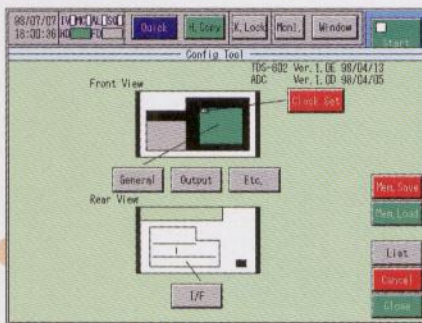
*The sequence settings shown above are one example.

3

Offering Dramatically Improved Functionality and Ease of Operation for Highly Accurate Measurements

Enhanced Functionality

FAST

Only 0.02 seconds per point for high-speed measurements!

Our unique synchronous hum suppression technique ensures rapid measurement using a high-speed A/D converter, which takes only 0.02 seconds per point (for strain measurements in the 50 Hz range). By connecting the TDS-602 to an ISW-50C switching box (optional) for multi-point measurement, the integrating A/D converter enables measurement of up to 1,000 points in 4.9 seconds.

Number of measurement points

A — Measurements using high-speed A/D converter

B — Measurements using integrating A/D converter together with ISW-50C

* When the number of measurement points exceeds approximately 200, the combination of the ISW-50C and integrating A/D converter results in shorter measurement times.

Horizontal axis times shown below.

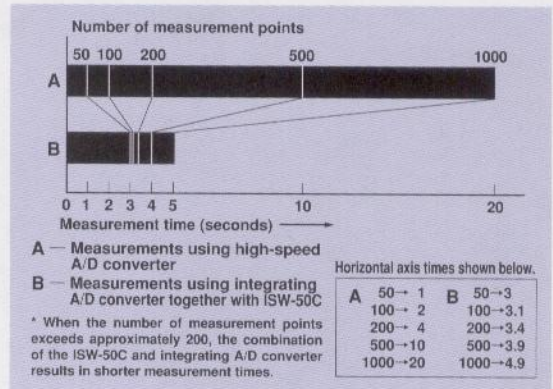| A		B	
50 →	1	50 →	3
100 →	2	100 →	3.1
200 →	4	200 →	3.4
500 →	10	500 →	3.9
1000 →	20	1000 →	4.9

STABLE

Strain resolution extending to 0.1×10^{-6}!

In addition to a high-speed A/D converter, the TDS-602 also features an integrating A/D converter based on a new triple integration technique (patented in Japan) as standard equipment. This ensures precise, stable measurements to a resolution of 0.1×10^{-6} in high-resolution mode (supporting full bridge measurement). And sustained high-speed measurement is possible at 0.08 sec/point (integrating resolution mode, 50 Hz range).

High-precision load cell

3819

⟱

3819.4

ACCURATE

Measurement accuracy enhanced through new correction technique!

The TDS-602 makes fine adjustments for changes in strain-gauge resistance and bridge circuit output voltage, and uses this data in a new data-correction technique (patent pending). As a result, corrections are more accurate when the initial imbalance is large or when strain gauges are remounted, enhancing measurement accuracy. Plus the internal switching box automatically corrects for lead-wire resistance in three-wire quarter bridge measurements.

Indication / Strain / Correction
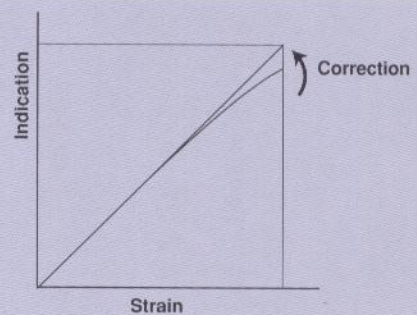
Enhanced Operation

USER INTERFACE

A touch-panel display for even simpler operation!

Execute basic operations and graph displays by selecting the associated icons. Perform other operations and settings by following the on-screen directions. There is no need for complex procedures; perform all measurements quickly and easily.

4

Trigonometry functions, rosette analysis and much more!

The TDS-602 will easily handle arithmetic calculations, trigonometric functions, rosette analysis and other mathematical and analysis processes. Its expanded channel feature lets you carrying out operations, configured any way you like, on the measurement results of two or more points. You can also use the calculation results of other channels, and display them in a graph. Up to 1,000 expanded channel points can be used.

ANALYSIS

1.2 GB of hard disk storage!

The TDS-602 is equipped with a large 1.2 GB hard disk for high-speed storage of large quantities of measurement data and settings. It also features a three-mode floppy-disk drive for easy transfer of recorded data to a personal computer.

LARGE CAPACITY
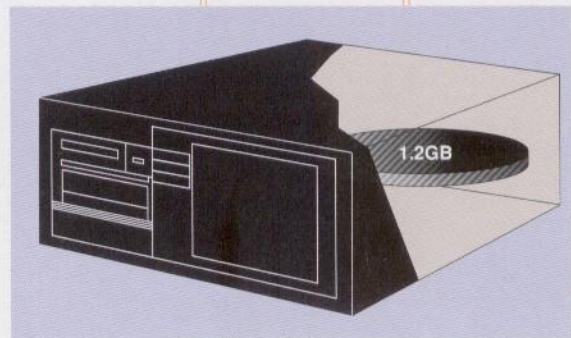
Automatic starts with timers and monitor comparators!

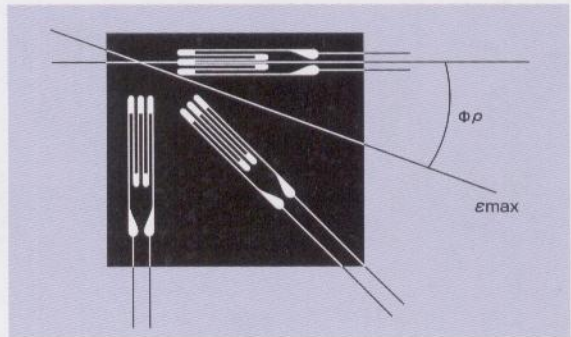As a standard feature, ten timer table systems, each with start times specified in up to 100 steps and with settable interval times, provide superb flexibility. The monitor comparator can be used for automatic starts and alarm output triggered by the amount of change in the monitor channel (one point). The comparator table can employ programs with up to 100 steps in 10 systems. Sequential programs can be prepared employing interval timers, monitor comparators, and which can start and stop monitor alarms.

MULTI-MODE MEASUREMENT

Comparator level

timer start

Monitor comparator to start
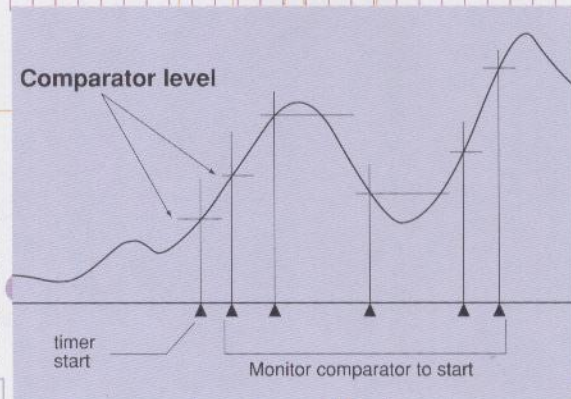
Color LCD Screen Offers True Brilliance!

A 640x480-dot color TFT LCD display provides bright, sharp image displays. Graphic functions have been fortified: up to 20 types of graph to be drawn on-screen, and four different graph types can be displayed simultaneously. Plus you can confirm the measurement order in real-time. The system supports connection to an external display as well.
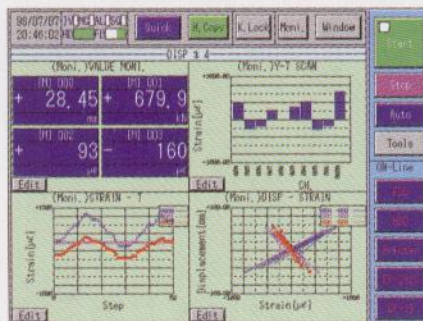
Data Logger／TDS-602

Measuring points	1000
Strain measurement	Integration ADC normal resolution mode
Bridge excitation	2VDC 20ms
Initial value storage range	±160000×10⁻⁶ strain
Thermal effect on accuracy	±0.002%rdg／℃
Aging effect on accuracy	±0.02%rdg／year

Measuring range	Resolution	Accuracy
± 20000×10⁻⁶ strain	1×10⁻⁶ strain	
± 40000×10⁻⁶ strain	1×10⁻⁶ strain	
± 80000×10⁻⁶ strain	2×10⁻⁶ strain	± (0.05%rdg＋1digit)
±160000×10⁻⁶ strain	4×10⁻⁶ strain	
±320000×10⁻⁶ strain	8×10⁻⁶ strain	
±640000×10⁻⁶ strain	16×10⁻⁶ strain	

●Accuracy at 25℃±5℃

Strain measurement	Integration ADC high resolution mode (Full bridge only available)
Bridge excitation	5VDC 40ms
Initial value storage range	±16000.0×10⁻⁶ strain
Thermal effect on accuracy	±0.002%rdg／℃
Aging effect on accuracy	±0.02%rdg／year

Measuring range	Resolution	Accuracy
± 4000.0×10⁻⁶ strain	0.1×10⁻⁶ strain	
± 8000.0×10⁻⁶ strain	0.2×10⁻⁶ strain	
±16000.0×10⁻⁶ strain	0.4×10⁻⁶ strain	± (0.05%rdg＋3digit)
±32000.0×10⁻⁶ strain	0.8×10⁻⁶ strain	
±64000.0×10⁻⁶ strain	1.6×10⁻⁶ strain	

●Accuracy at 25℃±5℃

Strain measurement	High speed ADC mode
Bridge excitation	5VDC 5ms
Initial value storage range	±64000×10⁻⁶ strain
Thermal effect on accuracy	±0.002%rdg／℃
Aging effect on accuracy	±0.02%rdg／year

Measuring range	Resolution	Accuracy
± 16000×10⁻⁶ strain	1×10⁻⁶ strain	
± 32000×10⁻⁶ strain	2×10⁻⁶ strain	
± 64000×10⁻⁶ strain	4×10⁻⁶ strain	± (0.08%rdg＋3digit)
±128000×10⁻⁶ strain	8×10⁻⁶ strain	
±256000×10⁻⁶ strain	16×10⁻⁶ strain	

●Accuracy at 25℃±5℃

DC Voltage measurement	Integration ADC normal resolution mode
Initial value storage range	V1［640mV］ ±160.000mV V2［64V］　 ±16.0000V
Thermal effect on accuracy	±0.0024%rdg／℃
Aging effect on accuracy	±0.024%rdg／year

Sensor mode	Measuring range	Resolution	Accuracy
V1［640mV］	± 40.000mV	0.001mV	
	± 80.000mV	0.002mV	
	±160.000mV	0.004mV	± (0.05%rdg＋3digit)
	±320.000mV	0.008mV	
	±640.000mV	0.016mV	
V2［64V］	± 4.0000V	0.0001V	
	± 8.0000V	0.0002V	
	±16.0000V	0.0004V	± (0.05%rdg＋2digit)
	±32.0000V	0.0008V	
	±64.0000V	0.0016V	

●Accuracy at 25℃±5℃

DC Voltage measurement	High speed ADC mode
Initial value storage range	V1［640mV］ ±160.000mV V2［64V］　 ±16.0000V
Thermal effect on accuracy	±0.0024%rdg／℃
Aging effect on accuracy	±0.024%rdg／year

Sensor mode	Measuring range	Resolution	Accuracy
V1［640mV］	± 40.000mV	0.002mV	
	± 80.000mV	0.004mV	
	±160.000mV	0.008mV	± (0.08%rdg＋6digit)
	±320.000mV	0.016mV	
	±640.000mV	0.032mV	
V2［64V］	± 4.0000V	0.0002V	
	± 8.0000V	0.0004V	
	±16.0000V	0.0008V	± (0.08%rdg＋6digit)
	±32.0000V	0.0016V	
	±64.0000V	0.0032V	

●Accuracy at 25℃±5℃

Thermocouple measurement   Integration ADC normal resolution mode

| | Thermocouple | T, K, J, B, S, R, E, N | | | |
| | Linearization | Digital processing | | | |

Sensor mode	Measuring range (℃)	Resolution (℃)	Accuracy ± (%rdg+℃)	
			External reference	Internal reference
T	−250～−200	0.1	0.19 ＋0.5	0.19 ＋3.8
	−200～−100	0.1	0.088＋0.2	0.088＋1.6
	−100～＋400	0.1	0.060＋0.2	0.060＋0.9
K	−210～−160	0.1	0.11 ＋0.3	0.11 ＋1.8
	−160～0	0.1	0.073＋0.2	0.073＋1.1
	0～＋960	0.1	0.052＋0.1	0.052＋0.7
	＋960～＋1370	0.1	0.059＋0.6	0.059＋1.2
J	−200～−160	0.1	0.09 ＋0.2	0.09 ＋1.4
	−160～0	0.1	0.069＋0.1	0.069＋1.0
	0～＋700	0.1	0.05 ＋0.1	0.05 ＋0.6
	＋700～＋1200	0.1	0.051＋0.4	0.051＋0.8
B	＋200～＋500	0.2	0.025＋1.5	0.025＋1.5
	＋500～＋800	0.1	0.027＋0.6	0.027＋0.6
	＋800～＋1760	0.1	0.032＋0.4	0.033＋0.4
S	−10～＋200	0.1	0.054＋0.6	0.054＋1.3
	＋200～＋1760	0.1	0.05 ＋0.4	0.05 ＋0.8
R	−10～＋150	0.1	0.053＋0.6	0.053＋1.3
	＋150～＋1760	0.1	0.046＋0.4	0.046＋0.8
E	−210～＋550	0.1	0.096＋0.2	0.096＋1.6
	＋550～＋1000	0.1	0.051＋0.3	0.051＋0.7
N	−200～0	0.1	0.101＋0.4	0.101＋1.8
	0～＋1090	0.1	0.050＋0.2	0.050＋0.7
	＋1090～＋1300	0.1	0.051＋0.6	0.051＋0.9

●Accuracy of sensor not included

●Reference junction compensation not required with sensor B

●Accuracy at 25℃±5℃

Thermocouple measurement   High speed ADC mode

| | Thermocouple | T, K, J, B, S, R, E, N | | | |
| | Linearization | Digital processing | | | |

Sensor mode	Measuring range (℃)	Resolution (℃)	Accuracy ± (%rdg+℃)	
			External reference	Internal reference
T	−250～−200	0.5	0.304＋1.9	0.304＋5.2
	−200～−100	0.2	0.14 ＋0.8	0.14 ＋2.1
	−100～0	0.2	0.11 ＋0.5	0.11 ＋1.2
	0～＋400	0.1	0.08 ＋0.4	0.08 ＋0.9
K	−210～−160	0.3	0.17 ＋0.9	0.17 ＋2.5
	−160～0	0.2	0.117＋0.6	0.117＋1.5
	0～＋960	0.1	0.084＋0.4	0.084＋0.9
	＋960～＋1370	0.9	0.094＋0.9	0.094＋1.5
J	−200～−160	0.2	0.143＋0.6	0.143＋1.8
	−160～0	0.1	0.11 ＋0.4	0.11 ＋1.3
	0～＋700	0.1	0.081＋0.3	0.081＋0.8
	＋700～＋1200	0.6	0.081＋0.6	0.081＋1.0
B	＋200～＋500	1.5	0.025＋6.0	0.025＋6.0
	＋500～＋800	0.6	0.027＋2.4	0.027＋2.4
	＋800～＋1760	0.4	0.033＋2.6	0.033＋2.6
S	−10～＋200	0.6	0.053＋2.4	0.053＋3.1
	＋200～＋1760	0.4	0.05 ＋1.5	0.05 ＋2.0
R	−10～＋150	0.6	0.051＋2.4	0.051＋3.1
	＋150～＋1760	0.4	0.04 ＋1.5	0.04 ＋1.8
E	−210～＋550	0.2	0.153＋0.6	0.153＋2.0
	＋550～＋1000	0.4	0.082＋0.4	0.082＋0.9
N	−200～0	0.4	0.11 ＋1.3	0.11 ＋2.7
	0～＋1090	0.2	0.09 ＋0.5	0.09 ＋1.0
	＋1090～＋1300	0.9	0.06 ＋0.9	0.06 ＋1.3

●Accuracy of sensor not included

●Reference junction compensation not required with sensor B

●Accuracy at 25℃±5℃

SPECIFICATIONS

Pt RTD measurement — Integration ADC normal resolution mode

Resistance-temperature detector	Pt100
Wiring	3-wire (Pt3W), 4-wire (Pt4W) (Pt4W is not available with built-in switching box)
Linearization	Digital processing
Thermal effect on accuracy	Pt100 3W ±0.0020%rdg/℃ Pt100 4W ±0.0012%rdg/℃
Aging effect on accuracy	Pt100 3W ±0.05%rdg/year Pt100 4W ±0.03%rdg/year

Sensor mode	Measuring range	Resolution	Accuracy
Pt100 3W	−200～+850℃	0.1℃	±(0.05%rdg+0.3℃)
Pt100 4W			±(0.05%rdg+0.2℃)

● Accuracy at 25℃±5℃

● Pt4W is only available with ASW-50C/-30C having optional circuit

Pt RTD measurement — High speed ADC mode

Resistance-temperature detector	Pt100
Wiring	3-wire (Pt3W), 4-wire (Pt4W) (Pt4W is not available with built-in switching box)
Linearization	Digital processing
Thermal effect on accuracy	Pt100 3W ±0.0020%rdg/℃ Pt100 4W ±0.0012%rdg/℃
Aging effect on accuracy	Pt100 3W ±0.05%rdg/year Pt100 4W ±0.03%rdg/year

Sensor mode	Measuring range	Resolution	Accuracy
Pt100 3W	−200～+850℃	0.1℃	±(0.1%rdg+0.3℃)
Pt100 4W			±(0.1%rdg+0.2℃)

● Accuracy at 25℃±5℃

● Pt4W is only available with ASW-50C/-30C having optional circuit

Measuring mode	INITIAL, DIRECT, MEASURE selectable for individual channel (Temperature measurement by DIRECT mode only)

Switching speed

		50Hz		60Hz	
Switching box		Built-in SW	ASW/SSW/ISW	Built-in SW	ASW/SSW/ISW
Normal res.		60ms	80ms	50ms	67ms
High res.		120ms	140ms	100ms	117ms
High speed ADC	Strain	20ms	20ms	17ms	17ms
	Voltage, Temperature	60ms	60ms	50ms	50ms

Switching process

Scanning	Automatically switches from first to last channel (jump available)
Monitoring	Cyclic measurement (30-ch max) Graphical screen with time
Start	Key operation or external remote manually, Interval timer, Monitor comparator, Monitor alarm, GP-IB, RS-232C

Program Available for individual channel

Coefficient	±(1.00000×10⁻³⁴～1.00000×10⁺³⁴)
Engineering unit	35 kinds including με、mV、℃、kN、mm
Decimal point	Available at any point
Initial value	Stored at any point
Sensor mode	Strain, Strain with high resolution, Temperature, DC voltage, Jump

Auto-ranging simple measure

Coefficient	1.00000
Engineering unit	link with sensor mode
Decimal point	link with sensor mode

Calculation

Function	Arithmetic calculations among arbitrary channel, Rectangular rosette analysis, Delta rosette analysis, Horizontal displacement calculation using multi-layer inclinometers
Setting	Define equation on expanded channnel ID table
Number of expanded channel	1000 max

Self diagnostics	Hardware, Power source, Battery, GP-IB, Scattering, Insulation, Sensitivity, Burn out, Measuring mode, Memory, Disk, External switching box type

Interval timer

Function	Automatic start according to the time or interval
Time	year/month/day/hour/minute/second
Time accuracy	±1sec/day (25℃±5℃)
Timer table	10 systems (programs below are available for each system)
Interval	hour, minute, second programmable up to 99hrs. 59min. 59sec. for each step
Start cycle	up to 32767 times or infinite per step
Step number	100 max programmable
Real time start	day, hour, minute, second programmable per step
GOTO step	Loop programmable to previous step
Sleep function	Automatic power off with a time interval exceeding 15 minutes
Measuring point	From first to last channel, programmable independently of manual start channel

Monitor comparator

Function	Automatic start according to the amount of change in monitoring channel (1 point)
Comparator table	10 systems (programs below are available for each system)
Variables	Programmable per step, 999999 max
Start cycle	up to 32767 times or infinite per step
Step number	100 max programmable
Monitoring channel	Programmable per step
Measuring point	From first to last channel, programmable independently of manual start channel

Monitor alarm		
	Function	Automatic start and alarm output when any monitoring channel value (30 points max) exceeds the limit Starting the interval timer with alarm output
	Limit	Upper and lower limit setting available for each monitoring channel
	Measuring point	From first to last channel, programmable independently of manual start channel
Scan alarm		
	Function	Automatic start when any scanning channel value exceeds the limit
	Limit	Upper and lower limit setting available
	Measuring point	From first channel to last channel
Sequence setting		
	Function	Automatic start and stop of interval timer, monitor comparator and scan alarm
	Sequence table	1 system (program below is available)
	Interval timer	10 systems
	Monitor comparator	10 systems
	Monitor alarm	1 system
	Scan alarm	1 system
	Step number	100 max programmable
Floppy disk drive		
	Number of drive	1
	Function	Storing and reading of measured data and setteings in hard disk
	Disk	3.5-in 2HD/2DD (automatic judgement)
	Format	2HD (1.4MB), 2HD (1.2MB), 2DD (720KB)
Hard disk drive		
	Number of drive	1
	Function	Storing and reading of measured data and setteings
	Capacity	1.2GB
External I/O port		
	Function	Alarm output of monitor alarm function
	Alarm output signal	TTL level
Interface		GP-IB、RS-232C
	Function	Receiving control command, Sending measured data
Screen display		
	Screen	8.4-in TFT color LCD
	Resolution	640×480 dot
	Display contents	Monitoring and scannig data, Graphic monitoring, Setup list, etc.
Printer		
	Print items	Measured data, Setup value, Hard copy of screen, etc.
	Print method	Thermal line dot 40 digits/line (charactor) 640 dots/line (graphic)
	Printing speed	0.065sec/line
	Printing paper	P-114 (114mm width, 25m-long/roll, 6250 lines/roll)

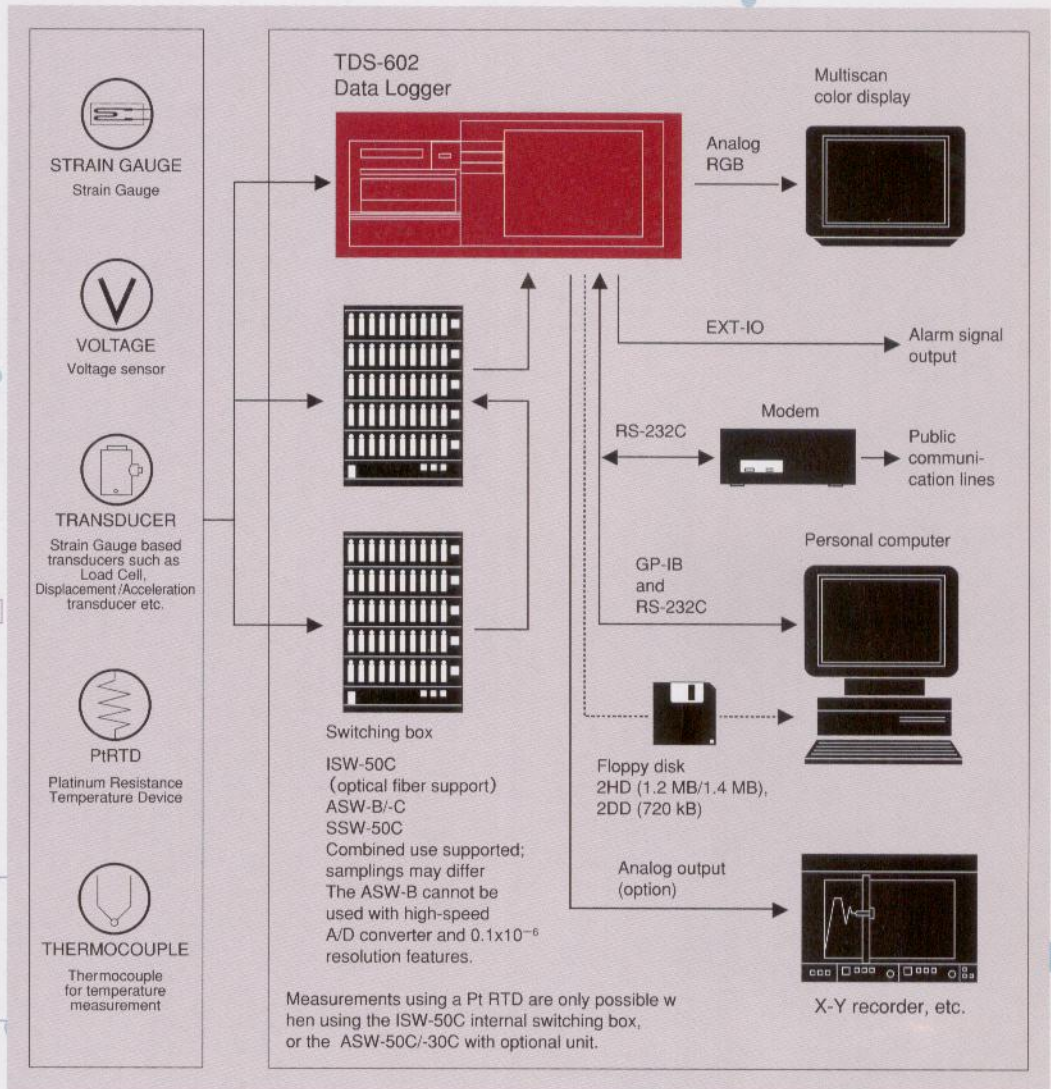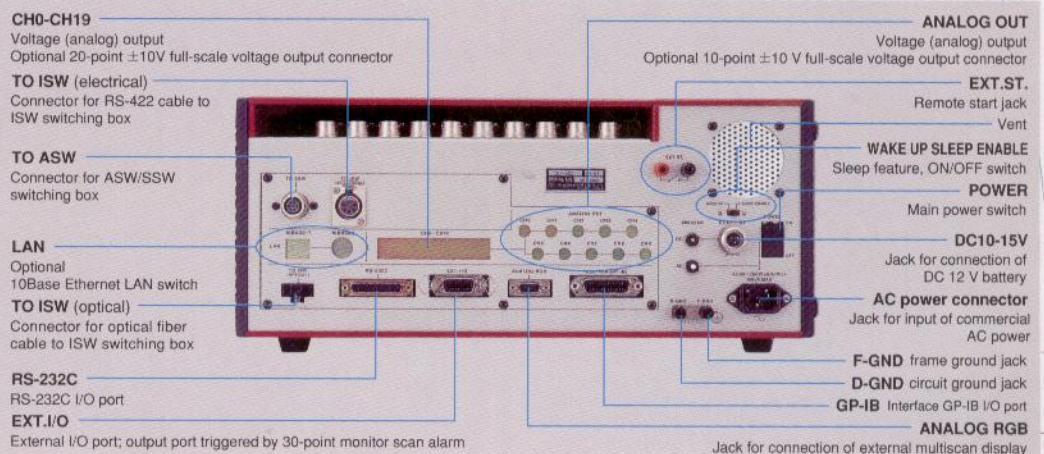|		
Built-in switching box		
	Measuring points	30 max (10-ch normally equipped)
	Strain measurement	Quarter bridge with 3-wire 120、240、350Ω Half bridge 60~1000Ω (120~1000Ω for high speed ADC mode) Half bridge with common dummy 60~1000Ω (120~1000Ω for high speed ADC mode) Full bridge 60~1000Ω (120~1000Ω for high speed ADC mode) Full bridge with constant current 350Ω Full bridge with high resolution 120~1000Ω (Integration ADC only) Full bridge with constant current and high resolution 350Ω (Integration ADC only)
	DC voltage measurement	V1 DC640mV V2 DC64V Input impedance 1MΩ or more
	Thermocouple temperature measurement	T, K, J, B, S, R, E, N
	Pt RTD temperature measurement	Pt100 3W
	Switcher	Semiconductor relay
Environment		0~+50℃ 85%RH or less (no condensation) +5~+50℃ 85%RH or less (no condensation) for hard disk and floppy disk drive
Power requirement		85-250V AC 50/60Hz 108VA max 10~15V DC 12A max (11.6~15V for internal printer)
Dimensions		430 (W)×180 (H)×380 (D)mm
Weight		13kg approx.
Standard accessory		
	Operation manual ···1	
	AC power cable (CR-01) ····································1	
	Earth wire (CR-20) ·· 1	
	Printing paper (P-114) ·······························2 rolls	
	Screwdriver ··1	
	Soft vinyl cover ···1	
Shipment options		Internal switching box Expandable in 10-point units up to 30points Analog output (20 points) 10Base Ethernet
Option		External starter CR-915

Numerous Options Enable Construction of an Integrated System, from Measurement to Data Processing

Measurement System

System Block Diagram

STRAIN GAUGE
Strain Gauge

VOLTAGE
Voltage sensor

TRANSDUCER
Strain Gauge based transducers such as Load Cell, Displacement /Acceleration transducer etc.

PtRTD
Platinum Resistance Temperature Device

THERMOCOUPLE
Thermocouple for temperature measurement

TDS-602 Data Logger

Multiscan color display

Analog RGB

EXT-IO → Alarm signal output

RS-232C → Modem → Public communi-cation lines

GP-IB and RS-232C → Personal computer

Floppy disk 2HD (1.2 MB/1.4 MB), 2DD (720 kB)

Analog output (option) → X-Y recorder, etc.

Switching box

ISW-50C
（optical fiber support)
ASW-B/-C
SSW-50C
Combined use supported; samplings may differ
The ASW-B cannot be used with high-speed A/D converter and 0.1×10^{-6} resolution features.

Measurements using a Pt RTD are only possible when using the ISW-50C internal switching box, or the ASW-50C/-30C with optional unit.

Rear Panel

CH0-CH19
Voltage (analog) output
Optional 20-point ±10V full-scale voltage output connector

TO ISW (electrical)
Connector for RS-422 cable to ISW switching box

TO ASW
Connector for ASW/SSW switching box

LAN
Optional
10Base Ethernet LAN switch

TO ISW (optical)
Connector for optical fiber cable to ISW switching box

RS-232C
RS-232C I/O port

EXT.I/O
External I/O port; output port triggered by 30-point monitor scan alarm

ANALOG OUT
Voltage (analog) output
Optional 10-point ±10 V full-scale voltage output connector

EXT.ST.
Remote start jack

Vent

WAKE UP SLEEP ENABLE
Sleep feature, ON/OFF switch

POWER
Main power switch

DC10-15V
Jack for connection of DC 12 V battery

AC power connector
Jack for input of commercial AC power

F-GND frame ground jack
D-GND circuit ground jack
GP-IB Interface GP-IB I/O port

ANALOG RGB
Jack for connection of external multiscan display

ISW-50C Switching box

The ISW-50C Switching box with internal A/D converter was developed to accommodate expanded measurement points in combination with the Data Logger. The Switching box is connected with the Data Logger via an ultra-high-speed fiber-optic link or via an insulated RS-422 cable, making it highly impervious to noise.

Model ISW-50C-05

- Electrically insulated from the Data Logger
- Capable of measuring strain, DC voltage, thermocouple output, platinum resistance temperature sensor output
- High resolution (strains to 0.1×10^{-6})
- Sampling speed 0.06 sec/point
  Internal A/D converter enables measurement of up to 1,000 points maximum in 4.9 seconds
  (in A/D converter parallel sampling)
- Use is similar to that of previous ASW/SSW series products
  However, when using the ISW-50C in ASW mode, it is not possible to make temperature measurements employing thermocouples and platinum resistance temperature sensors. Further, when using the high- speed A/D converter, the unit can only be used in ASW mode.
- Model ISW-50C-05 with optional connectors also available

Shipment Options   *Orders accepted prior to delivery of the TDS-602 only.

Analog Output

D/A (digital-to-analog) converts monitor channel measurements for output. Supports output of up to 20 points.

Internal Switching box

Can be expanded up to a maximum 30 points in 10-point units. 10 points supported as standard.

10Base Ethernet

LAN connection option