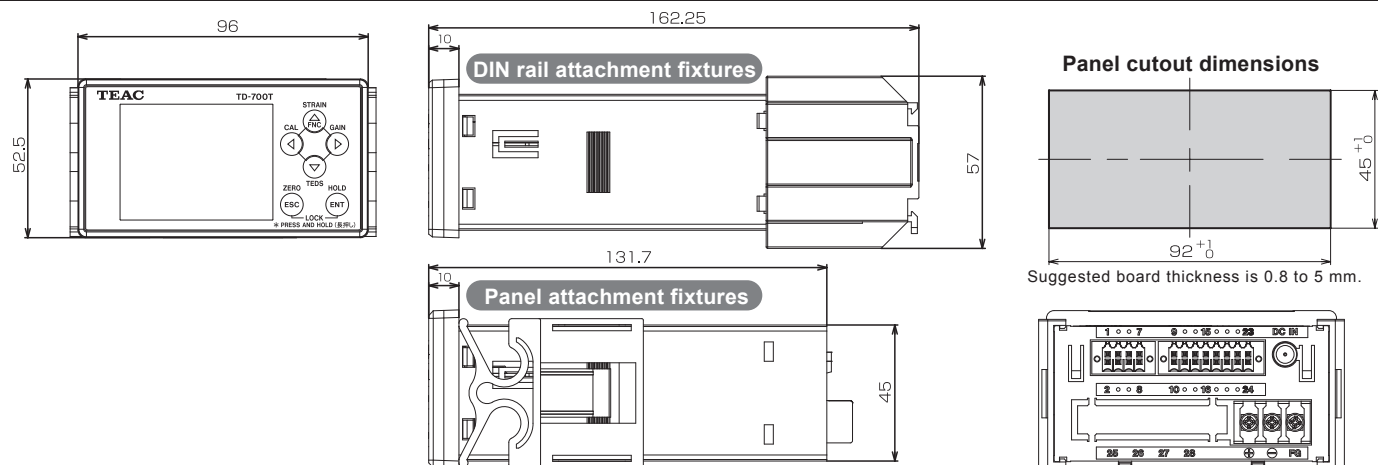## Specifications

Bridge Voltage		10V DC, 2.5 V ±10% (30mA current maximum, remote sense can be used)
Signal input range		±3.2 mV/V
Equivalent input/TEDS	Calibration range	0.3 mV/V–3.2 mV/V
	Calibration precision	Within 0.1% F.S. (when using a 1m standard TEAC Φ8, 4-core shielded cable with 350Ω impedance, 10V BV and 0.5mV/V or greater setting)
Precision	Nonlinearity	Within 0.01% F.S. + 1 digit (when input is 1 mV/V or greater)
	Zero drift	Within 0.5 µV/°C (input conversion value)
	Gain drift	Within ±0.005% F.S./°C
A/D conversion		24-bit, 4000 times per second, 20000 times per second (fast sampling mode)
Digital filter		Select 3 Hz (−6db/oct), 10, 30, 100, 300, 1000 Hz (−12 db/oct) or none
D/A output		4000 times per second, isolated output, ±1–±10V voltage output (set in 1V steps) and about 1/59000 resolution (when set to ±10V), or 4–20mA current output and about 1/43000 resolution
TEDS function		IEEE1451.4 class 2 mix mode interface
Display		320 x 240 color liquid crystal
Indicator value	Display range	−99999 ~ 99999
	Decimal point	Display position selectable
	Times displayed	Select 4, 6, 10 or 20 times/second
Displayed items	Calibration settings	Zero calibration/span calibration (TEDS calibration, actual load calibration, equivalent input calibration)
	Function settings	High limit, low limit, high high limit, low low limit, comparison mode, hysteresis, nearly zero, moving average, low pass filter, motion detect, zero tracking, static strain, digital zero, digital zero offset, zone definition, hold mode, key lock, minimum grid, display times, bridge voltage, digital zero limit, clear digital zero, comp. output pattern, comparison output control, select data output, D/A converter, remote sense
Hold functions		Sample hold, peak hold, bottom hold, peak to peak hold, peak and bottom hold, average hold, zone definition hold (peak, bottom, peak to peak, peak and bottom, average)
External input and output signals	Input	Hold, judge, clear, digital zero, setting memory selection 1, setting memory selection 2 (isolated from main unit circuits using a photocoupler)
	Output	HH, HI, OK, LO, LL open collector output (isolated from main unit circuits using a photocoupler)
	CC-Link*	DA, DB (isolated from main unit circuits using a photocoupler), DG, SLD
	RS-485**	A+, B− (isolated from main unit circuits using a photocoupler), TRM, FG
Power supply	DC power supply specifications	Ratings: DC 12–24 V, 9 W
Operating temperature range		0°C – 40°C
Storage temperature range		−20°C – 60°C
Operating humidity range		85% RH or less (without condensation)
Applicable standards		CE marking EN61326 (class A), UL61010-1
External dimensions (W × H × D)		Approximately 96 mm × 53 mm × 132 mm (without protrusions)
Weight		About 300 g

*Only with CC-Link option.
**Only with RS-485 option.
• Weight and dimensions are approximate.

External Drawing

96
52.5
TEAC TD-700T
STRAIN
CAL FNC GAIN
ZERO TEDS HOLD
ESC ENT
✱ PRESS AND HOLD (長押し)

162.25
10
DIN rail attachment fixtures
57

131.7
10
Panel attachment fixtures
45

Panel cutout dimensions
45 +1 0
92 +1 0
Suggested board thickness is 0.8 to 5 mm.

1 o o 7   8 o o 16   17 o o 24   DC IN
2 o o 8   10 o o 16 o o 24
26 26 27 28   ⏚ + FG

http://loadcell.jp/en/

TEAC AMERICA, INC.

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Email datarecorder@teac.com

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Features and specifications are subject to change without notice.
Precaution : To ensure safe handling and operation, read the Instruction Manual before use.

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Included accessories

● Panel attachment fixtures (already attached to unit) 2 pcs.
● DIN rail attachment adapter 1 pc.
● Input and output connector plugs
　　B2L 3.50/08/180F SN BK BX 1 pc.
　　B2L 3.50/16/180F SN BK BX 1 pc.
● Micro screw driver (flat-blade) 1 pc.
● Operation manual(A5) 1 pc.

Panel attachment fixtures   DIN rail attachment fixtures

Options*

Several options are available
■ **CC-Link Interface TD-700T (CCL)**
■ **RS-485 Interface TD-700T(485)**
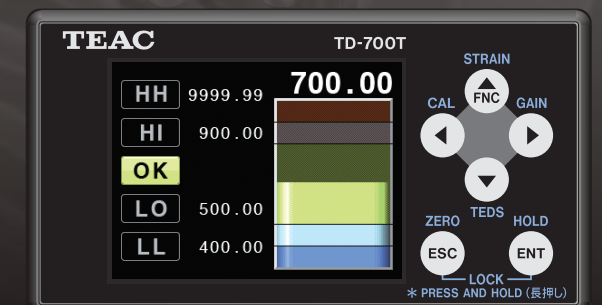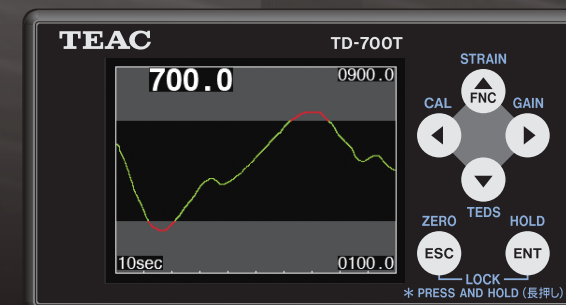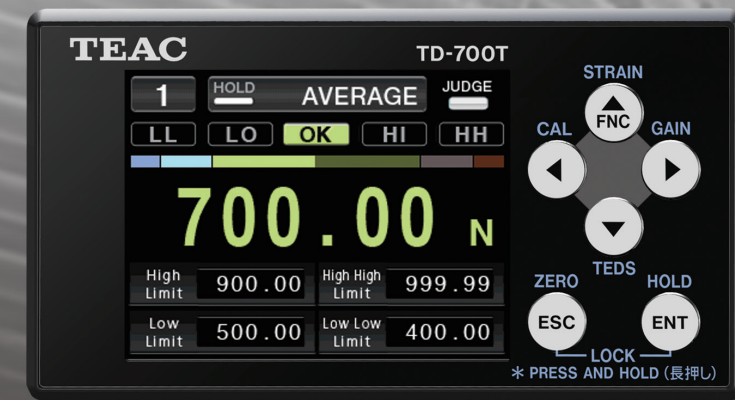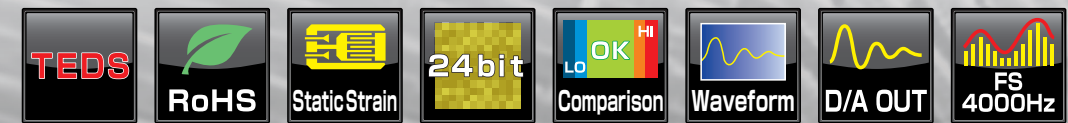* For details, please contact TEAC sales or distributors

Pin Assignment

PIN	ASSIGN	PIN	ASSIGN	PIN	ASSIGN
1	TEDS	9	V-OUT	17	SEL2
2	GND	10	I-OUT	18	COM
3	+EXC	11	COM	19	LL
4	-SIG	12	CLEAR	20	LO
5	-EXC	13	JUDGE	21	HH
6	+SIG	14	HOLD	22	HI
7	SHIELD	15	D/Z	23	OK
8	NC	16	SEL1	24	COM

TEAC

Digital Indicator
for Force / Pressure / Torque Inputs

TD-700T

Optionally supports interfaces for easy connection with production lines and other systems; **CC-Link** **RS-485**
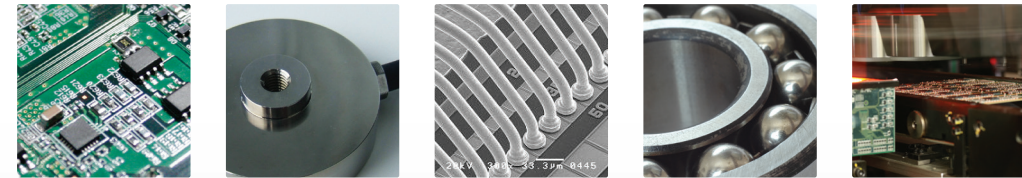
High-performance in compact design
Excellent cost performance
High speed processing at 4000 times / sec
(20,000 times / sec at hold)

TEDS | RoHS | Static Strain | 24 bit | Comparison | Waveform | D/A OUT | FS 4000Hz

TEAC **TD-700T**
1 HOLD AVERAGE JUDGE
LL LO OK HI HH
STRAIN
CAL FNC GAIN
700.00 N
High Limit 900.00 High High Limit 999.99
Low Limit 500.00 Low Low Limit 400.00
ZERO TEDS HOLD
ESC ENT
LOCK
✱ PRESS AND HOLD (長押し)
Actual size

CE ®

TEAC **TD-700T**
700.0   0900.0
STRAIN
CAL FNC GAIN
10sec   0100.0
ZERO TEDS HOLD
ESC ENT
LOCK
✱ PRESS AND HOLD (長押し)

TEAC **TD-700T**
HH 9999.99 **700.00**
HI 900.00
OK
LO 500.00
LL 400.00
STRAIN
CAL FNC GAIN
ZERO TEDS HOLD
ESC ENT
LOCK
✱ PRESS AND HOLD (長押し)

WEB **http:// loadcell.jp/en/**
English manual and Chinese manual are available for download from TEAC Load-cell Products Web site

Clear Accurate Small Easy

TEAC's TD-700T was developed to measure and display load, pressure, and torque measurements accurately and graphically. The TD-700T brings features to a 1/8 DIN size indicator that are normally found in larger HMI displays.
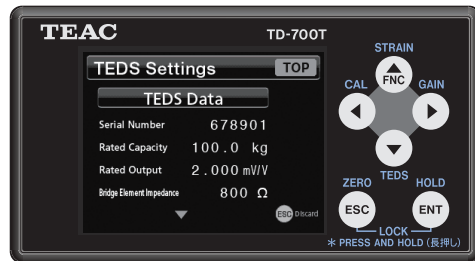
52.5mm
96mm

TEAC TD-700T
Calibration — TOP
Equivalent Input Calibration — Locked
Rated Output
0.700 mV/V
Rated Capacity
700 N·m

Feature

High-performance color graphic LCD screen

Vivid display gives immediate process status. Each alarm intuitively and independently advises process condition.

Plug-and-Play (TEDS)

The TD-700T Supports IEEE 1451.4 TEDS. By utilizing TEAC load cells, auto-calibration is performed which eliminates complicated calibration and prevent human error.

TEAC TD-700T
TEDS Settings — TOP
TEDS Data
Serial Number   678901
Rated Capacity   100.0 kg
Rated Output   2.000 mV/V
Bridge Element Impedance   800 Ω

TEDS information can be confirmed.

TEAC has various TEDS load cells for Plug-and-Play operation

▼ For more information
http://loadcell.jp/en/

Remote Sense Function

Compensates for possible voltage changes due to temperature fluctuations and/or extended cable lengths without the lose of accuracy.
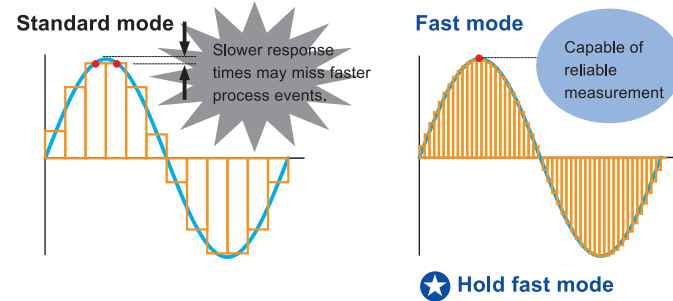
Any changes due to temperature or wire resistance fluctuations

Compensated by the TD-700T.

4000 times / second (★ 20000 times / sec at hold) high-speed processing

Sampling and response times of 4000 per second. You can realize higher measurement accuracy and reliability with faster sampling of 20,000 cycles/s in Fast mode.

Standard mode
Slower response times may miss faster process events.

Fast mode
Capable of reliable measurement

★ Hold fast mode

Zero Position Bar Graph Settings

Zero position for the bar graph can be set automatically depending upon the application.

Positive & negative value sample hold

TD-700T can sample, hold and average both positive and negative values. It can be used in measurements using dual pole devices such as torque sensors.

Comparison function

It is possible to set up to 4 values (HHI, HI,LO and LLO) to compare with the input signal. The definition of those values is programmable (i.e. 3 upper limits and 1 lower limit). This provides users with a wide variety of alarm applications, and helps avoid confusion and/or problems monitoring your process.
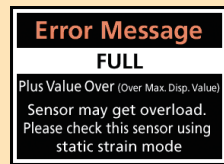
Static strain display

Allows the measure static strain. This function makes it easier to check load-cells for deterioration and plastic deformation.

User friendly warnings

TD-700T detects overloading, wrong connection, invalid parameters and improper adjustments and show warnings on the front LCD.

Example of Warning
Error Message
FULL
Plus Value Over (Over Max. Disp. Value)
Sensor may get overload.
Please check this sensor using static strain mode

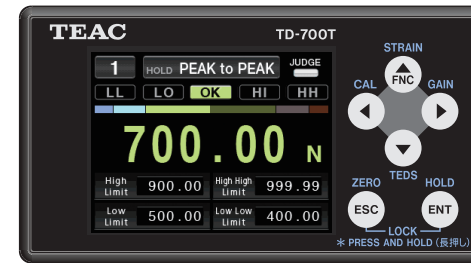### Analog voltage /current output (isolated)

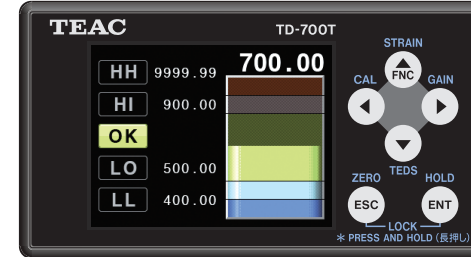TD-700T can also be used as a signal conditioner.

4 patterns of memory function

Settings for up to 4 holding modes can be saved. You can switch among those saved.

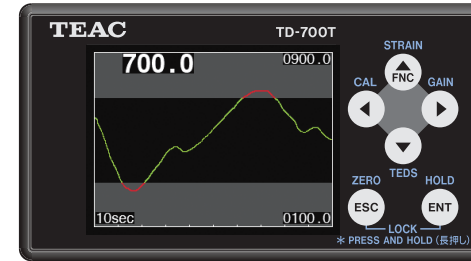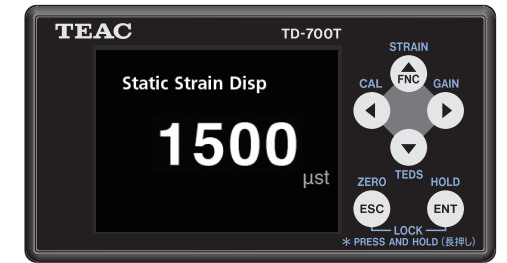## Examples of information on the display

Visual Alarm Modes

TEAC TD-700T
1 HOLD PEAK to PEAK JUDGE
LL LO OK HI HH
700.00 N
High Limit 900.00 High High Limit 999.99
Low Limit 500.00 Low Low Limit 400.00

Static strain

TEAC TD-700T
Static Strain Disp
1500 µst

Bar Graph

TEAC TD-700T
HH 9999.99   700.00
HI 900.00
OK
LO 500.00
LL 400.00

Numbers only

TEAC TD-700T
LL LO OK HI HH
700.00 N
High Limit 900.00 High High Limit 999.99
Low Limit 500.00 Low Low Limit 400.00

Actual Process Waveform

TEAC TD-700T
700.0   0900.0
10sec   0100.0

■ The fast 4Ks/S sampling rate shows the process levels vividly and in real time. The TD-700T shows what happens before, during and after any event. A variety of display modes is available to meet your purpose.
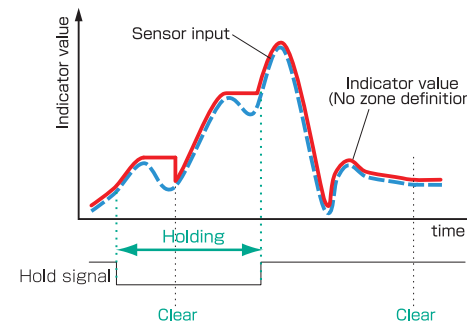
Example of hold functions

Variety of hold function with block setting

A variety of holding functions can be activated utilizing the front panel controls or external control signals.
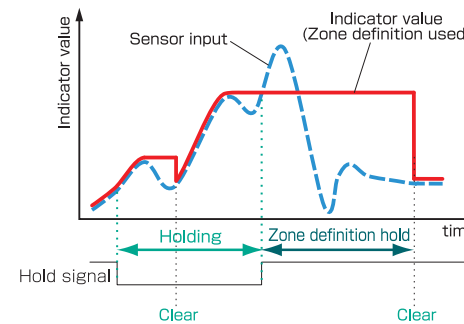
★ Fast sampling mode (20000 times/sec) supported

Hold functions	Zone definition
Sample hold	
Peak hold	○
Bottom hold	○
Peak-to-peak hold	○
Peak-and-bottom hold	○
Average hold	○

Sample hold
Sensor input
Indicator value
Holding
Hold signal

Peak hold No zone definition ★
Sensor input
Indicator value (No zone definition)
Holding
Hold signal
Clear Clear

Peak hold Zone definition used ★
Sensor input
Indicator value (Zone definition used)
Holding Zone definition hold
Hold signal
Clear Clear

Bottom hold ★
Sensor input
Indicator value
Holding
Hold signal
Clear

Peak to peak hold ★
P: Peak value
B: Bottom value
Indicator value
Sensor input
P
P
B
B
Holding
Hold signal
Clear

Peak and bottom hold ★
Indicator value
Sensor input
Holding
Hold signal
Clear

Average hold
Indicator value
Sensor input
Holding
Hold signal
Clear