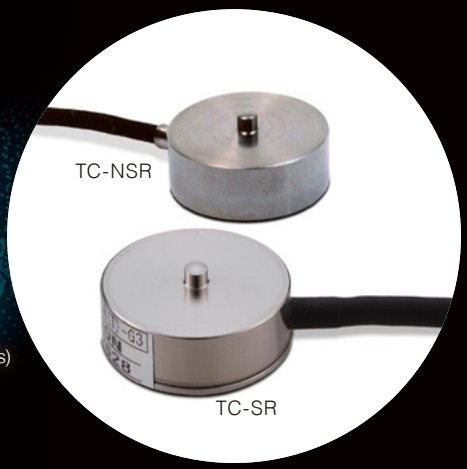
TEAC

Compression Load Cell

# TC-SR series
# TC-NSR(T)-G3




Features

Body Material

## Small & Light-weight
## Stainless Steel (Beryllium Steel on some models)

Compression Load Cell

### Benefit
Easy to install on the existing facilities/systems.

### Mounting Method
Glue mount with Mount Base (sold separately) or Screw mount (TC-NSR)

### Durable Robot Cable standardized
Enhanced durability against bending that occurs in moving parts with frequent repetitive motion, such as industrial robots and machine tools. High stability and reliability are realized.

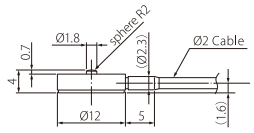
### Plug & Play with built-in TEDS
(except TC-SR□□KN-G3 series)

With the TD series indicators, equivalent input calibration, likely to forget in manual setting, can be performed automatically and help prevetion.
(See the reverse page for detail on TEDS)

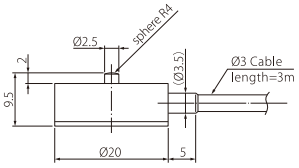
## Specifications

| Type | Copression Load Cell | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Model | TC-SR(T)□□N-G<br>TEDS (Embeded in the body) RoHS (10 substances) | | | | TC-SR(T)□□N/KN-G3<br>TEDS (Embeded in the body) RoHS (10 substances) | | | | | TC-SR□□KN-G3<br>RoHS (10 substances) | | TC-NSR(T)□□KN-G3<br>TEDS (Embeded in the body) RoHS (10 substances) | |
| Rated Capacity (R.C.) | 5N | 10N | 20N | 50N | 100N | 200N | 500N | 1kN | 2kN | 5kN | 10kN | 1kN | 2kN |
| Natural Frequency | 11kHz | 17kHz | 21kHz | 35kHz | 21kHz | 25kHz | 41kHz | 59kHz | 84kHz | 101kHz | 151kHz | 52.8kHz | 55.5kHz |
| Weight (Approx.) | 1.7g | 1.7g | 1.8g | 1.9g | 9.8g | 9.9g | 11g | 11g | 12g | 32g | 34g | 16.3g | 16.7g |
| Safe overload rating | 150 % R.C. | | | | | | | | | 150 % R.C. | | 150 % R.C. | |
| Rated Output (R.O.) | approx. 1mV/V | | | | | | | | | approx. 1mV/V | | approx. 0.75mV/V | |
| Linearity | 1% R.O.(5N) | 0.5% R.O. | | | | | | | | 1% R.O. | | 1% R.O. | |
| Hysterisis | 1% R.O.(5N) | 0.5% R.O. | | | | | | | | 1% R.O. | | 1% R.O. | |
| Repeatability | 0.5% R.O. | | | | | | | | | 1% R.O. | | 1% R.O. | |
| Safe Excitation Voltage | 6V | | | | | | | | | 6V | | 7V | |
| Input Terminal Resistance | 350Ω ±20Ω | | | | | | | | | 350Ω ±12Ω | | 350Ω ±20Ω | |
| Output Terminal Resistance | 350Ω ±20Ω | | | | | | | | | 350Ω ±12Ω | | 350Ω ±20Ω | |
| Insulation Resistance | 1000MΩ or more (DC50V) | | | | | | | | | 1000MΩ or more (DC50V) | | 1000MΩ or more (DC50V) | |
| Compensated Temperature Range | 0°C to 60°C | | | | | | | | | 0°C to 60°C | | (TBC) | |
| Permissible Temperature Range | –10 to 60°C | | | | | | | | | –10 to 60°C | | –20 to 70°C | |
| Temperature Effect on Zero Balance | 2% R.O. / 10°C | | | | | | | | | 2% R.O. / 10°C | | 2% R.O. / 10°C | |
| Temperature Effect on Output | 1% R.C. / 10°C | | | | | | | | | 1% R.C. / 10°C | | 1% R.C. / 10°C | |
| Cable | Φ2, 6-core shielded, 3m direct connection robot cable with bare lead wires | | | | Φ3, 6-core shielded, 3m direct connection robot cable with bare lead wires | | | | | Φ3, 4-core shielded, 3m direct connection robot cable with bare lead wires | | Φ3, 6-core shielded, 3m direct connection robot cable with bare lead wires | |
| Mounting Method | Glue, Housing | | | | | | | | | Glue, Housing | | Screw hole | |
| Body Material | Beryllium Steel | | | | Stainless Steel | | | | | Stainless Steel | | Stainless Steel | |

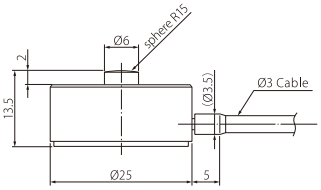
Dimensional drawings (Units: mm)



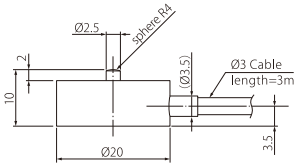

TC-SR(T)□□N-G

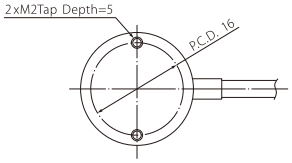



TC-SR(T)□□N/KN-G3




TC-SR□□KN-G3




TC-NSR(T)□□KN-G3

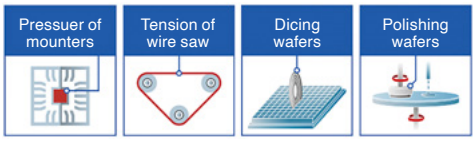
## Advantages of the TEAC Load Cells

### TEAC Load Cells

Since the 1980s, when TEAC started manufacturing and selling load cells, we have cultivated technologies to achieve higher precision and smaller size with our unique structures. With these technologies, a number of load cells that achieve high response, high accuracy, and high stability, as well as products that take environmental conservation into consideration have been developed to match customers' applications.

We also offer customization for specific conditions (usage environment, space) that are difficult to meet with standard ones. From one-off prototypes to mass production, we support engineers involved in research and development on manufacturing technology.

Examples of appplication

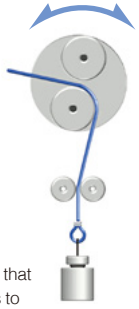



### Robot Cable standardized

Robot cables provide enhanced durability and stable performance against bending that occurs in moving parts with frequent repetitive motion, such as industrial robots and machine tools.

Every TEAC's ultra-compact load cells employ robot cables, together with the TEDS function, contribute to factory automation and labor savings.

* Customized proposals that match your application and environment are available. Please contact our sales representatives for detail.

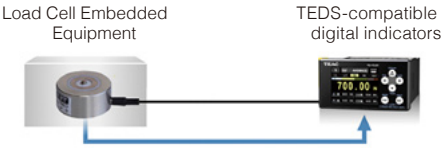


As shown above, fix the core wire so that it does not move, bend it 90 degrees to the left or right, and confirm that no wire breakage occurs.

### TEDS-compatible (except TC-SR□□KN-G3)

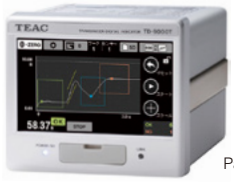
The TEDS (Transducer Electronic Data Sheet) system is a generic term for a description format standardized by IEEE that electronically reads and writes sensor's specific characteristic, which is recorded in an EEPROM built into the sensor and can be read and written electronically.

Model name, serial number, sensitivity (output value against physical quantity) and other calibration factors are digitized and recorded in the memory built into the load cell body. Sensor's specific values can be set electronically, automating the reading of recorded information and equivalent input calibration, eliminating human error in setting and reducing the burden of load cell replacement.




**Sending individual specific values of each load cell indicated in the unit's Data Sheet**

## Related Products (Indicators and Signal Conditioners)



New EtherNet/IP™ model CC-Link model

92 x 92mm Panel opening size

Color Graphics Digital Indicator

**TD-9000T**

RS-485 model
EtherNet/IP™ model
CC-Link model

**High performance model with large LCD**

Supporting two inputs, force sensor and displacement sensor, various comparison judgments function, and direct saving of waveform data onto large capacity internal memory.

92 x 45mm Panel opening size

Digital Indicator

**TD-700T**

Standard model
CC-Link model
RS-485 model

**Excellent model with compact and high functionality**

Supporting five key functions in one unit, numeric display, graph display, TEDS function, static strain display, and signal conditioner. This small and cost-effective TD-700T achieves equal or even higher performance to upper-class models, with high-visibility color LCD and various hold functions.

New

Attaches to common DIN rails

Signal Conditioner

**TD-SC1**

D/A model
RS-485 model

**Slim and light-weight signal conditioner**

Supporting high-speed sampling of 20,000 times/second, PC-based configuration via USB connection, selectable network, and TEDS calibration function.

* Under planning

Weighs only 320g (incl. batteries)

Portable Digital Indicator

**TD-01 Portable**

**On-site checking tool with versatility**

Supporting various functions that equal to embeded systems, in hand-held size, allowing you to take measurements anytime anywhere, according to your purpose.



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