

Description

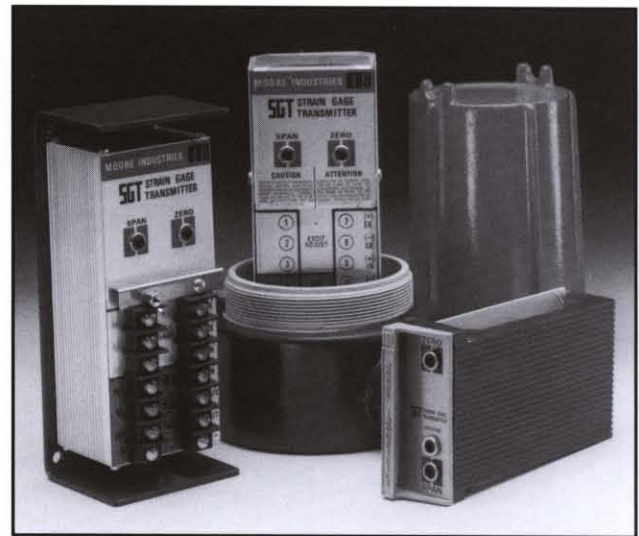
The Model SGT, Strain Gage Transmitter, converts strain gage input to 4-20 mA or any other standard process current or voltage output.

Typical applications include pressure transducers, load cells, and stress-strain measurements. Output noise or ripple is less than 10 millivolts peak-to-peak, making the SGT ideal for computer interface applications.

Complete isolation—input, output, and power input— makes it possible to apply the SGT to virtually any input source, grounded or ungrounded, without interface problems.

The adjustable excitation source, high input impedance, complete isolation, and stability of the SGT simplify the process of interfacing a strain gage or process control. An optional push-button calibration feature makes it possible to increment the strain gage a fixed amount equal to a known output for a quick system check. Errors caused by signal noise are minimized by the 120 dB (1,000,000:1) of common mode rejection.

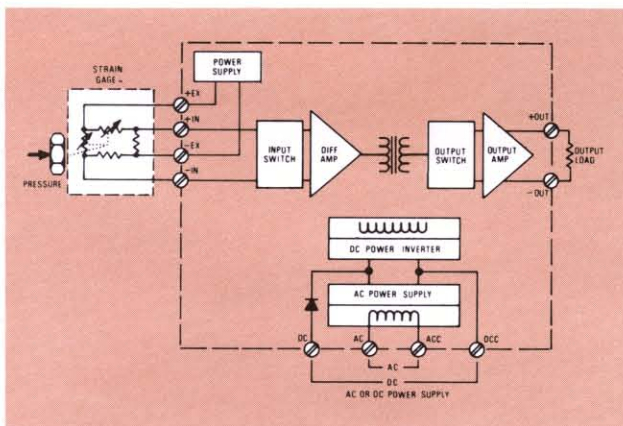
For multichannel application, the SGT is available as a compact plug-in card module in our standard 11-position relay rack or a 5-15 position card rack for surface mounting. An explosion-proof housing (EX) is also available.



The SGT is shown in a standard housing, plug-in housing and explosion-proof enclosure.

Features

- **Provides gage excitation.** Adjustable and regulated gage excitation is provided on the SGT.
- **Complete isolation.** The SGT has complete input, output, and power input isolation.
- **High input impedance.** High input impedance of 10 megohms is standard to simplify interfacing.
- **Standard outputs.** The unit has standard output ranges of 1-5 mA, 4-20 mA, 10-50 mA or voltage.
- **Temperature stable.** The SGT has temperature stability $\pm 0.005\%/^{\circ}\text{F}$ over a range of -20°F to $+180^{\circ}\text{F}$.



SGT

Strain Gage Transmitter

Specifications

Characteristics

Front Panel Adjustments Adjustable with multiturn potentiometer
Zero: Adjusts output to zero with inputs of ± 1.5 mV about zero
Span: Adjusts output to full scale with inputs of from 5-15 mV
Excitation: Adjusts 5 Vdc excitation output to $\pm 10\%$.

Performance **Calibration Capability:** $\pm 0.1\%$ of span (Linearity and Repeatability)
Ambient Temperature Range: -29°C to 82°C (-20°F to $+180^{\circ}\text{F}$)
Ambient Temperature Effect: $\pm 0.005\%/^{\circ}\text{F}$ over above range
Frequency Response: 5 Hz (3 dB point)
Input Impedance: 10 megohm minimum
Ripple: 10 mV P/P at maximum span and maximum load resistance
Isolation: Input, output, and power input are transformer isolated with no dc connections between them. Both ac and dc-powered units have this as standard. Common mode rejection exceeds 120 dB at 60 Hz with a limit of 500 volts rms.

Operational amplifier feedback current source output limited to 150% of maximum output range value

Gage Excitation

5 volts dc. Adjustable $\pm 10\%$ minimum
Strain gage - standard 350 ohm bridge or transducer with a gage factor of from 1 to 3 millivolts per volt.

Load Effect:

$\pm 0.01\%$ of span from 0 to maximum load resistance (current output)

Line Voltage Effect:

Ac or dc: $\pm 0.005\%/1\%$ line change

Certification CSA

Weight Approximately 2 lb (908 grams)

1-5V 1-5 V into 20K ohms minimum

0-10V 0-10 V into 40K ohms minimum
Other output ranges are available; consult the factory.

Power* **24DC** 24 Vdc, $\pm 10\%$
45DC 45 Vdc, $\pm 10\%$
117AC 117 Vac, $\pm 10\%$
220AC 220 Vac, $\pm 10\%$
240AC 240 Vac, $\pm 10\%$
50/60 Hz, $\pm 10\%$, 5 watts nominal

Options **-10X** 10-volt excitation
-RC Push-button for shunt calibration of SGT (front mounted)
-RF RFI protection
For other options, see Housings, Options, and Accessories Brochure.

Housings **STD** Standard enclosure
AB Angle Bracket mounting
CP Conduit Plate mounting
DCM DIN clip mounting for standard unit
EX Explosion-proof enclosure, Single Unit-Div. 1
GP General Purpose enclosure, Single Unit-NEMA 1
OT Oiltight enclosure, Single Unit-NEMA 12
PC Plug-in Card
PM Panel-mount enclosure
WT Water-tight enclosure, Single Unit-NEMA 4

Ordering Specifications

Unit SGT

Input **5-15MVFS** 5-15 millivolts span

Output **1-5MA** 1-5 mA into 0-4800 ohm load
4-20MA 4-20 mA into 0-1200 ohm load
10-50MA 10-50 mA into 0-480 ohm load
SC Selectable Current Output

0-5V 0-5 V into 20K ohms minimum

When ordering, specify:

Unit Type/Input/Output/Power/Options[Housing]

Model number example:

SGT/5-15MVFS/4-20MA/117AC/-RC[CP]

*AC power not available with PC housing.



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