

Product Announcement

Introducing XTR101 as Bare Die Product from Texas Instruments

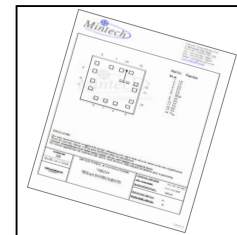
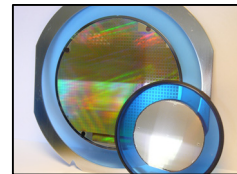
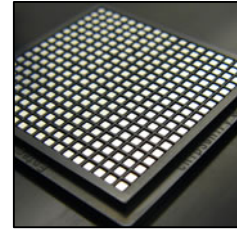
Precision, Low Drift 4-20mA Two-Wire Transmitter

The XTR101 is a microcircuit, 4-20mA, two-wire transmitter containing a high accuracy instrumentation amplifier (IA), a voltage-controlled output current source, and dual-matched precision current reference.

This combination is ideally suited for remote signal conditioning of a wide variety of transducers such as thermocouples, RTDs, thermistors, and strain gauge bridges. State-of-the-art design and laser-trimming, wide temperature range operation, and small size make it very suitable for industrial process control applications. In addition, the optional external transistor allows even higher precision.

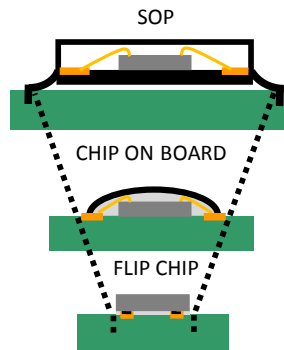
The two-wire transmitter allows signal and power to be supplied on a single wire pair by modulating the power-supply current with the input signal source.

The transmitter is immune to voltage drops from long runs and noise from motors, relays, actuators, switches, transformers, and industrial equipment. It can be used by OEMs producing transmitter modules or by data acquisition system manufacturers. Designing applications using bare die form offers >50% X-Y-Z size reduction when compared with the smallest available package. ∴ Bare die form factor greatly assists size sensitive applications.



Quick Reference Data

Sensor Excitation	Two 1mA sources
Loop Voltage(V)	11.6 to 40
Non-Linearity (Max)(%)	0.01
Output Zero Error (+/-)(Max)(uA)	30
Vs(Min)(V)	11.6
Vs(Max)(V)	40
Span Error (Max)(%)	5
Offset Voltage (+/-)(Max)(uV)	30
Offset Voltage Drift (+/-)(Max)(uV/Degrees Celsius)	0.75
CMRR, 60Hz(Min)(dB)	90



Features

- INSTRUMENTATION AMPLIFIER INPUT:
 - LOW OFFSET VOLTAGE, 30μV MAX
 - LOW VOLTAGE DRIFT, 0.75μV/ °C
 - LOW NONLINEARITY, 0.1% MAX
- TRUE TWO-WIRE OPTION:
 - POWER AND SIGNAL ONE WIRE PAIR
 - CURRENT MODE SIGNAL TRANSMISSION
 - HIGH NOISE IMMUNITY
- DUAL MATCHED CURRENT SOURCES
- WIDE SUPPLY RANGE: 11.6V TO 40V
- SPECIFICATION RANGE: -40 °C TO +85 °C

Applications

- INDUSTRIAL PROCESS CONTROL:
 - PRESSURE TRANSMITTERS
 - TEMPERATURE TRANSMITTERS
 - MILLIVOLT TRANSMITTERS
- RESISTANCE BRIDGE INPUTS
- THERMOCOUPLE INPUTS
- RTD INPUTS
- POWER/PLANT ENERGY SYSTEM MONITORING.

Please [contact us](#) for the XTR101 die geometry.

A full electrical datasheet is available from <http://focus.ti.com/lit/ds/symlink/xtr101.pdf>

For further die technical information and choice of available supply formats please [contact us](#)