

REMOTE CHARGE CONVERTOR WITH TEDS SELF-IDENTIFICATION

**ENDEVCO
MODEL
2801**

Model 2801

- **Contains a Smart Sensor Interface Chip for TEDS IEEE P1451.4 Compliant Self-Identification**
- **An Economical In-line Upgrade to Existing SEPE Sensor Inventory for Smart Sensor Use**
- **Low Noise**
- **10-32 Input/Output Connectors**
- **Wide Frequency Response**



DESCRIPTION

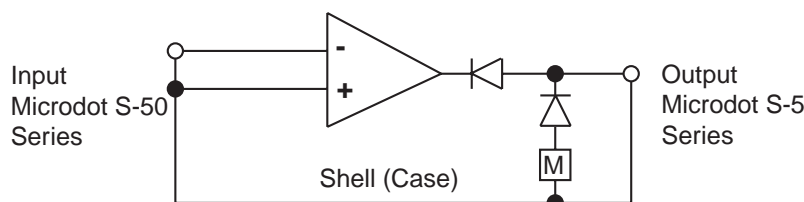
The 2801 In-line Smart Remote Charge Convertor (RCC) Module is used to add the intelligence of Smart Sensors to a customer's existing Single-Ended PiezoElectric (SEPE) inventory quickly and economically. This in-line module contains the value-added significance of TEDS (Transducer Electronic Data Sheet) and is easily attached to non-Smart Sensors, providing the full time-saving, intelligent features of a Smart Sensor. The module has female 10-32 connectors on each end and is small enough to put in-line without interference to an existing set up. This unit simply attaches in series with any SEPE- type sensor to provide immediate TEDS capability. This module provides digital self-identification and TEDS data reporting to the Endevco OASIS system when used with the Model 482 8-Channel amplifier card and Model SW2000 OASIS application software.

The TEDS chip provides the capability to store and recall programmed sensor data pertinent to the sensor attached, giving the user the ability to use SEPE sensors in an extreme environment yet make effective use of all TEDS features.

The Model 2801 is available with gain options of 1.0mV/pC and 10.0mV/pC and operates within a constant current range of 4 to 20 mA, provided by the OASIS Model 482.

The Endevco Model 36018 TEDS 1451.4 Editor Kit can be used to quickly and easily program the TEDS data fields supported by Smart Sensors IEEE1451.4 format.

(An RCC is a low noise, two-wire, single-ended device designed for use with SEPE accelerometers. This device transforms a transducer's high impedance charge output to a low impedance voltage proportional to the transducer's input charge signal. The output of the RCC connects to the ISOTRON input of a signal conditioner.)



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SPECIFICATIONS

INPUTS

TYPE	SINGLE-ENDED PIEZOELECTRIC CHARGE MODE SENSORS.
INPUT IMPEDANCE	100 K OHMS MINIMUM
SOURCE CAPACITANCE	5,000 PF MAXIMUM
OVERLOAD PROTECTION	± 250,000 pC
TEDS DATA STRUCTURE	PROPOSED IEEE-1451.4
COMMUNICATION PROTOCOL	1-WIRE™ MICROLAN™
DEVICE TYPE	DALLAS SEMICONDUCTOR™ TYPE DS2430AX™
LOGIC LEVEL	TTL

OUTPUTS

Type	Single-ended, one side connected to circuit ground.
Output Impedance	100 Ohms maximum
Output Bias	11.5 Vdc to 12.5 Vdc at 75°F (24°C) and 4.0 mA. (Over the operating temperature range, the bias voltage range can vary from 6 Vdc to 15 Vdc.)
Linear Output Voltage	10 V p-p
Minimum Linear Output Current	0.5mA
Short circuit protected	Yes

TRANSFER CHARACTERISTICS

Gain	-1: 1.0 mV/pC ± 5% -10: 10 mV/pC ± 10%
Gain Vs. Source Capacitance	± 0.1% change per 1,000 pF
Gain VS Supply Current	Less than ± 0.5% per mA
Gain Vs Temperature	Less than ± 0.1% per degree C
Frequency Response	± 5% from 1 Hz to 50 KHz
Amplitude Linearity	Within ± 1%
Residual Noise	-1 10 microVrms, 2.0 Hz to 50 KHz -10 20 microVrms, 2.0 Hz to 50 KHz (-3 dB)
Warm-up Time	20 sec to be within ± 10% of the final bias level

ENVIRONMENTAL

Temperature	
Storage	-67°F to +302°F (-55°C to 150°C)
Operating	+32°F to + 185°F (-0°C to + 85°C)
Humidity	Hermetically sealed through glass to metal seal.
Impact, shock	1,000 gpk. 0.5 mSec
Vibration	± 5,000 g's all axes

POWER

CURRENT REQUIREMENTS	4 TO 20 MA
COMPLIANCE VOLTAGE	> 20 VDC BUT < 24 VDC INCLUDING TRANSIENTS

PHYSICAL

DIMENSIONS	1.525" (38.8 MM) LONG X 0.250" (6.35 MM) DIAMETER
WEIGHT	0.12 OZ. TYPICAL (3.4 G)
CASE MATERIAL	STAINLESS STEEL
CONNECTION	OUTPUT – 10-32 UNF-2B FEMALE, INPUT - 10-32 UNF-2B FEMALE.

ACCESSORIES

NONE

OPTIONS

MODEL 482	8-CHANNEL SMART ISOTRON SIGNAL CONDITIONING CARD
MODEL 36004	HAND HELD PROGRAMMER
MODEL 36018	TEDS 1451.4 EDITOR KIT

Notes

Maintain high levels of precision and accuracy using Endevco's factory calibration services. Call Endevco's inside sales force at 800-982-6732 for recommended intervals, pricing and turn-around time for these services as well as for quotations on our standard products.

Continued product improvement necessitates that Endevco reserve the right to modify these specifications without notice. Endevco maintains a program of constant surveillance over all products to ensure a high level of reliability. This program includes attention to reliability factors during product design, the support of stringent Quality Control requirements, and compulsory corrective action procedures. These measures, together with conservative specifications have made the name Endevco synonymous with reliability.