

http://www.analog.com/static/imported-files/circuit_notes/CN0267.pdf



Circuit Note CN-0267

**Circuits
from the Lab™**
Reference Circuits

Circuits from the Lab™ reference circuits are engineered and tested for quick and easy system integration to help solve today's analog, mixed-signal, and RF design challenges. For more information and/or support, visit www.analog.com/CN0267.

Devices Connected/Referenced

ADuCM360	Low Power, Precision Analog Microcontroller
AD5421	16-Bit, Loop Powered, 4 mA to 20 mA DAC
AD5700	Low Power HART Modem

Complete 4 mA to 20 mA Loop Powered Field Instrument with HART Interface

EVALUATION AND DESIGN SUPPORT

Circuit Evaluation Board

[CN0267 Circuit Evaluation Board \(DEMO-AD5700D2Z\)](#)

Design and Integration Files

[Schematics](#), [Layout Files](#), [Bill of Materials](#), [Code Example](#)

CIRCUIT FUNCTION AND BENEFITS

features such as remote calibration, fault interrogation, and transmission of process variables, which are necessary in applications such as temperature and pressure control.

This circuit has been compliance tested, verified, and registered by the HART Communication Foundation (HCF). This successful registration provides circuit designers with a high level of confidence using one or all of the components in the circuit.

<http://www.analog.com/en/CN0267/circuits-from-the-lab/resources.html>

SUPPLEMENTAL RESOURCES - CN0267: COMPLETE 4 MA TO 20 MA LOOP POWERED FIELD INSTRUMENT WITH HART INTERFACE

Application Notes (3)

[AN-1160: Cortex-M3 Based ADuCxxx Serial Download Protocol](#) (pdf, 144 kB)

[AN-1159: I²C-Compatible Interface on Cortex-M3 Based Precision Analog Microcontroller \(ADuCxxx Family\)](#) (pdf, 227 kB)
• [AN-1159 Companion Code](#) (zip, 11 kB)

[AN-1111: Options for Minimizing Power Consumption When Using the ADuCM360/ADuCM361](#) (pdf, 244 kB)

Circuit Note (5)

[CN-0221: USB-Based Temperature Monitor Using the ADuCM360 Precision Analog Microcontroller and an External Thermocouple](#) (pdf, 366 kB)

[CN-0270: Complete 4 mA to 20 mA HART Solution](#) (pdf, 274 kB)

[CN-0300: Complete Closed-Loop Precision Analog Microcontroller Thermocouple Measurement System with 4 mA to 20 mA Output](#) (pdf, 411 kB)

[CN0278: Complete 4 mA to 20 mA HART Solution with Additional Voltage Output Capability](#) (pdf, 442 kB)

[Complete 4 mA to 20 mA Loop Powered Field Instrument with HART Interface](#) (pdf, 259 kB)

Code Examples (1)

[ADuCM360/361 code examples and function libraries](#) (zip, 1143 kB)

Data Sheets (3)