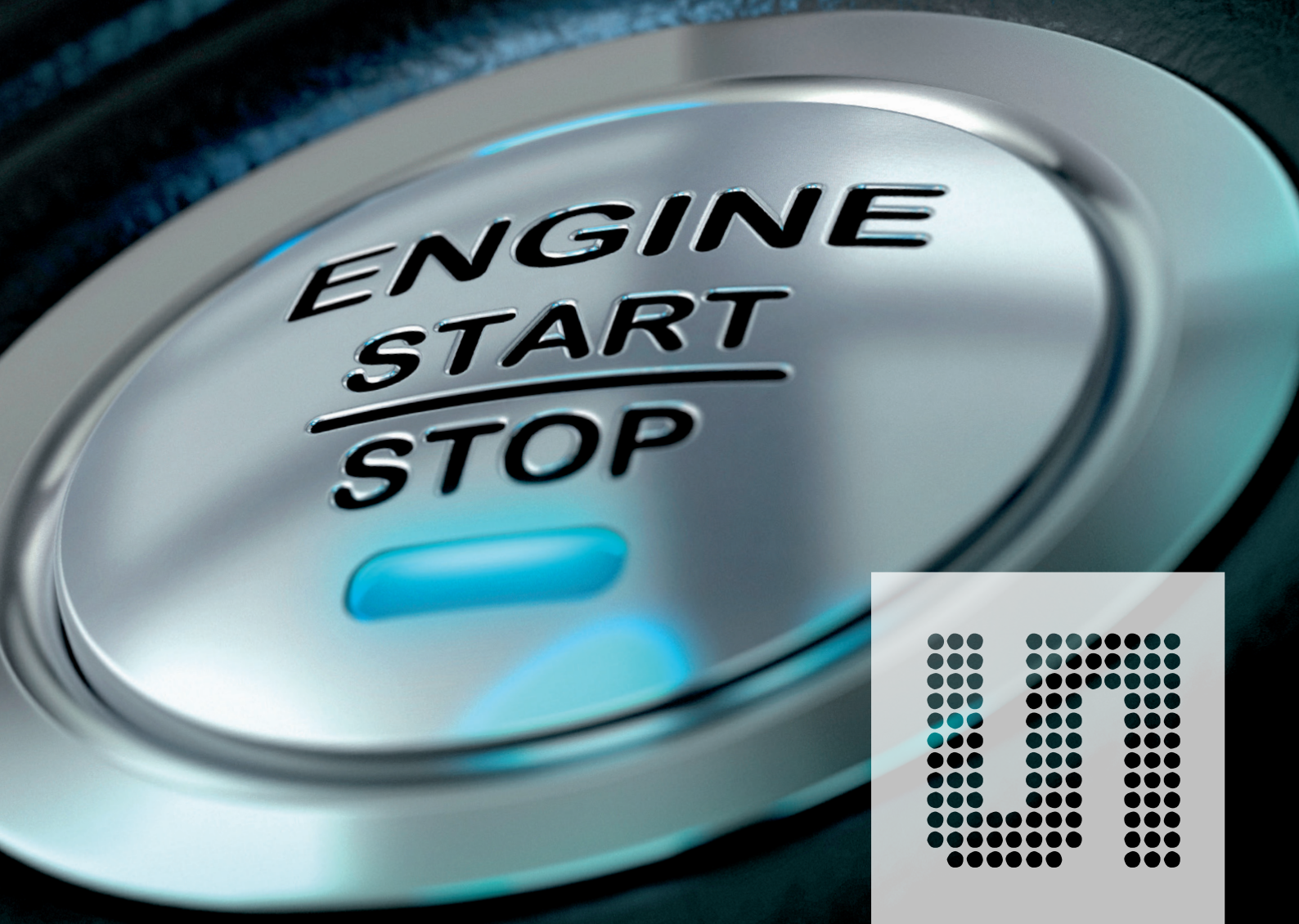


# Product Document



# Battery Sensing

[www.ams.com/AS8510](http://www.ams.com/AS8510)



## AS8510 – 2-Channel data acquisition device

- 2 independent and matched acquisition channels
- Programmable gain amplifiers, 16 bit ADCs
- Trimmed precision reference
- Offset free system, active compensation
- Small SSOP-20 package

We provide innovative analog solutions to the most challenging applications in sensor and sensor interfaces, power management, and wireless.

## General Description

The AS8510 is designed for synchronous measurement of two independent signals through separate ADC channels. Both channels are matched and can either measure small signals up to  $\pm 160$  mV versus ground through programmable gain amplifier or larger signals in the 0 to 1V range without amplifier.

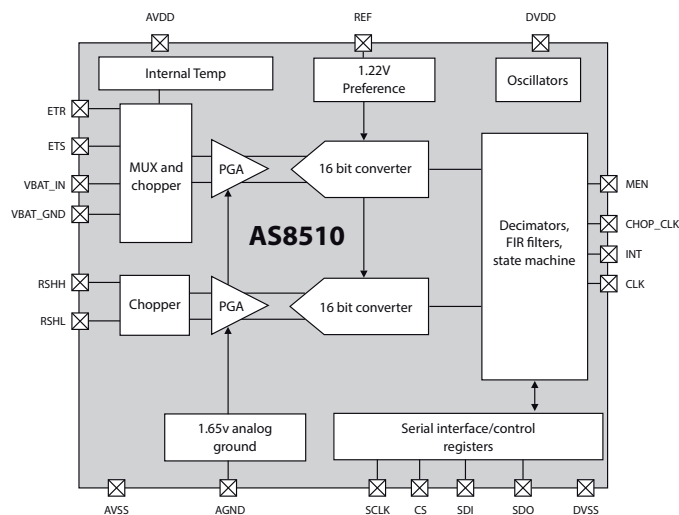
After analog to digital conversion and digital filtering, the resulting digital values are accessible through 4 wire serial interface.

Specifications	
Operating Supply Range [V]	3.0 to 3.6
Non-operating Supply Range[V]	-0.3 to 5
Operating Temperature [°C]	-40 to 125 Ambient
Typical standby quiescent current in standby mode [ $\mu$ A]	40
Programmable ADC Sampling rate [Hz]	<1-8000
Reference voltage [V]	1.22
PGA max. settling time [ $\mu$ s]	45
PGA gains	5, 25, 40, 100
PGA common mode input range vs. AVSS [mV]	-160 / +200
RC Oscillator frequency [MHz]	4,096

## Features

- 3.3V supply voltage
- Two independent, fully differential, high resolution 16 bit ADCs with programmable oversampling ratio
- Precision low noise, low drift programmable gain amplifiers
- Offset auto zero architecture on both channels
- RC oscillators for normal and standby mode
- Internal temperature sensor
- Precision on chip reference
- Optional digital 300 Hz low pass filters for both channels
- Normal and standby operating modes
- 4 wire micro controller interface
- Low power monitoring mode with wake up
- Programmable current source for input terminals
- Unique chip ID for traceability
- SSOP-20 package

## AS8510 Block Diagram



www.ams.com  
 automotive@ams.com  
 © 06/2012 by ams  
 Subject to change without notice

**Headquarters**  
 ams AG  
 Tobelbader Strasse 30, 8141 Unterpremstaetten, Austria  
 Phone +43 3136 500-0 • Fax +43 3136 525-01

**Sales Offices Worldwide**  
 sales-europe@ams.com  
 sales-asia@ams.com  
 sales-americas@ams.com