


**Resolver to Digital 16bit Parallel/Serial (4-Wire, SPI)  $\pm 5$ arcmin  
Automotive 48-Pin LQFP T/R**



Images are for reference only

[Inquiry](#)

<b>Manufacturer:</b>	<a href="#">Analog Devices, Inc</a>
<b>Package/Case:</b>	LQFP48
<b>Product Type:</b>	Data Conversion ICs
<b>RoHS:</b>	RoHS Compliant/Lead free 
<b>Lifecycle:</b>	Active

## General Description

The converter accepts 3.15 V p-p  $\pm 27\%$  input signals, in the range of 2 kHz to 20 kHz on the sine and cosine inputs. A Type II servo loop is employed to track the inputs and convert the input sine and cosine information into a digital representation of the input angle and velocity. The maximum tracking rate is 3125 rps.

The AD2S1210-EP supports defense and aerospace applications (AQEC)

### Product Highlights

**Ratiometric tracking conversion.** The Type II tracking loop provides continuous output position data without conversion delay. It also provides noise immunity and tolerance of harmonic distortion on the reference and input signals.

**System fault detection.** A fault detection circuit can sense loss of resolver signals, out-of-range input signals, input signal mismatch, or loss of position tracking. The fault detection threshold levels can be individually programmed by the user for optimization within a particular application.

**Input signal range.** The sine and cosine inputs can accept differential input voltages of 3.15 V p-p  $\pm 27\%$ .

**Programmable excitation frequency.** Excitation frequency is easily programmable to a number of standard frequencies between 2 kHz and 20 kHz.

**Triple format position data.** Absolute 10-bit to 16-bit angular position data is accessed via either a 16-bit parallel port or a 4-wire serial interface. Incremental encoder emulation is in standard A-quadrant-B format with direction output available.

**Digital velocity output.** 10-bit to 16-bit signed digital velocity accessed via either a 16-bit parallel port or a 4-wire serial interface.

## Key Features

Complete monolithic resolver-to-digital converter

3125 rps maximum tracking rate (10-bit resolution)

10-/12-/14-/16-bit resolution, set by user

Parallel and serial 10-bit to 16-bit data ports

Absolute position and velocity outputs

System fault detection

Programmable fault detection thresholds

Differential inputs Incremental encoder emulation

Programmable sinusoidal oscillator on board Compatible with DSP and SPI interface standards

5 V supply with 2.3 V to 5 V logic interface

AD2S1210-EP supports defense and aerospace applications (AQEC standard)

Download(pdf)

Military temperature range: (-55°C to +125°C)

Controlled manufacturing baseline

One assembly/test site

One fabrication site

Enhanced product change notification

Qualification data available upon request

V62/11604 DSCC Drawing Number

## Application

DC and ac servo motor control

Encoder emulation

Electric power steering

Electric vehicles

Integrated starter generators/alternators

Automotive motion sensing and control

## Recommended For You

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### AD7305BRZ

Analog Devices, Inc  
SOP20

### AD9910BSVZ

Analog Devices, Inc  
TQFP100

### AD9831ASTZ

Analog Devices, Inc  
QFP

### AD5447YRUZ

Analog Devices, Inc  
TSSOP

### AD5302BRMZ

Analog Devices, Inc  
MSOP10

### AD5531BRUZ

Analog Devices, Inc  
TSSOP16

### AD537JH

Analog Devices, Inc  
CAN10

### AD652AQ

Analog Devices, Inc  
DIP

### AD654JN

Analog Devices, Inc  
DIP8

**AD7740YRMZ**

Analog Devices, Inc

MSOP8

**AD9914BCPZ**

Analog Devices, Inc

LFCSP

**AD73311ARSZ**

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SSOP20

**AD7291BCPZ**

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