



# Artisan Scientific

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# IP-OPTOADC12

## Eight Channel 12 Bit Opto-Isolated ADC IndustryPack

### Application Information

The IP-OPTOADC12 provides eight channels of 12-bit analog to digital conversion on a single-wide IndustryPack. Four variants are available covering two gain sets and unipolar or bipolar operation. Gain setting is software-programmable. The board includes galvanic isolation between the ADC and the system and includes a DC/DC converter. Conversions can be pipelined.

Each of the channels is factory calibrated and the offset and gain correction factors stored in the ID PROM. Software may use this calibration information to provide output voltages accurate to within one LSB.

### Key Features

- Sixteen single-ended or eight 12-bit opto-isolated ADC channels on a single-wide IndustryPack
- Input ranges selectable by software (gains vary by options ordered)
- 12.5 us conversion time
- Factory calibrated; data in ID PROM
- Opto-isolated

## Specifications

Form Factor	Single-wide IndustryPack
IndustryPack Bus Speed	8 MHz
Wait States	One on ID read None on all other accesses
Number of Channels	16 single-ended or 8 differential (no individual channel selection)
Precision	12 bits
Input Voltage Ranges	-BPV-1: $\pm 1V, \pm 2V, \pm 5V, \pm 10V$ -BPV-2: $\pm 1.25, V\pm 2.5V, \pm 5V, \pm 10V$ -UPV-1: 1V, 2V, 5V, 10V -UPV-2: 1.25V, 2.5V, 5V, 10V Software selectable
Overvoltage Protection	70 Vpp
Accuracy	$\pm 1$ LSB after calibration
Calibration	Offset and gain factory calibrated. Parameters in ID PROM
Conversion Time	12.5 us with mux or gain change 10.0 us without
Isolation	All channels galvanically isolated from system
Dimensions	3.9" x 1.8"
Weight	tbd lb (tbd kg)
Power Requirements	+5 VDC, 310 mA typical
Environmental	Operating temperature: -40 to 85°C Humidity: 5 to 95% non-condensing Storage: -40 to +85°C

## Order Information

IP-OPTOAD12-BPV-1	IndustryPack with sixteen optically-isolated 12-bit ADC channels, bipolar inputs
IP-OPTOAD12-BPV-2	IndustryPack with sixteen optically-isolated 12-bit ADC channels, bipolar inputs
IP-OPTOAD12-UPV-1	IndustryPack with sixteen optically-isolated 12-bit ADC channels, unipolar inputs
IP-OPTOAD12-UPV-2	IndustryPack with sixteen optically-isolated 12-bit ADC channels, unipolar inputs
EKIP50-OPTOAD12	Engineering kit for IP-OPTOAD12 if mounted on a carrier with 50-pin ribbon cable header front panel I/O connectors. Contains: Three foot 50 conductor ribbon cable (C-IP50F-IP50F-3) Fifty screw terminal block with ribbon header (IP-TERM) <i>(More items as below)</i>
EKHD50-OPTAD12	Engineering kit for IP-OPTOAD12 if mounted on a carrier with HD50 front panel I/O connectors. Contains: Six foot cable HD50 male to HD50 male (C-HD50M-HD50M) Fifty screw terminal block with HD50 female (IP-TERM-HD50) <i>(More items as below)</i>
EKCM50-OPTOAD12	Engineering kit for IP-OPTOAD12 if mounted on a carrier with Champ50 front panel I/O connectors. Contains: Three foot Champ50 male to ribbon cable (C-CM50M-IP50M) Six foot Champ50 male to HD50 male cable (C-HD50M-CM50M) Fifty screw terminal block with HD50 female (IP-TERM-HD50) <i>(More items as below)</i>
All IP-OPTOAD12 engineering kits include:	Printed hardware user manual Bill of materials Board schematics Assembly diagram Burr Brown: PGA206/207 data sheet Burr Brown: ADS7808 data sheet Burr Brown: MPC508/509 data sheet

## Associated Products

C-IP50F-IP50F-3	Three foot fifty conductor ribbon cable
C-IP50F-IP50F-6	Six foot fifty conductor ribbon cable
IP-TERM	Fifty screw terminal block with ribbon connector



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