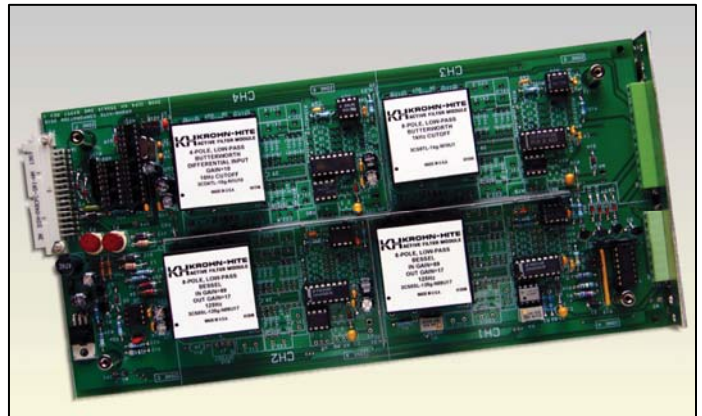


# MODEL FLX-ICP4

## 4-Channel Plug-In ICP<sup>®</sup> Filter/Amplifier Carrier Card for Piezoelectric Signal Conditioning

- **4-Channels per Card**
- **Excitation Current:** Selectable, 4mA/ 8mA
- **Excitation Voltage:** 24Vdc
- **Differential Input** for Improved Noise Rejection
- **Common Mode Rejection:** >80dB.
- **Fixed Cutoff Frequency:** Customer defined from 1Hz to 200kHz
- **Gain:** Customer defined 1 to 10,000
- **Plugs Into FLX-3006 Chassis**



### DESCRIPTION

The Krohn-Hite Model FLX-ICP4 is a four-channel filter/amplifier Carrier Card is a flexible signal conditioning card used in ICP<sup>®</sup> sensor and other sensor/transducer applications requiring a constant excitation current. A user selectable 4mA or 8mA constant current is provided for excitation power to the input of the ICP<sup>®</sup> sensor, while the return AC signal is conditioned through a differential fixed filter/amplifier.

The FLX-IPC4 can be populated with up to 4 independent channels, including a fixed low-pass Butterworth or Bessel filtering from 1Hz to 200kHz and a fixed low noise gain up to 10,000. Filter and amplifier characteristics are made to customer defined requirements which may be changed at a later time by replacing the filter/amplifier plug-in module for each channel.

The FLX-ICP4 provides differential input configuration for improved noise rejection with a typical common-mode-rejection of >80dB and a signal-to-noise ratio of >100dB. Single-ended operation can be configured for simple input applications. Typical noise is <10 $\mu$ V referred to the input.

The FLX-ICP4 is one of many plug-in cards available for the FLX-3007, 7-slot Chassis System.

### SPECIFICATIONS

Specifications apply at 25°C,  $\pm$ 5°C.

**Number of Channels:** Customer defined, 1 to 4.

#### Excitation Output

**Voltage:** 24V.

**Current:** 4mA or 8mA, -0% +20%, jumper selectable.

#### Filter Characteristics

**Input Type (customer defined):** Butterworth or Bessel.

**Function:** Low-pass.

**Number of Poles (customer defined):** 1 to 8.

**Maximum Input:**  $\pm$ 10V peak.

**Coupling:** AC, 0.8Hz.

**Input Impedance:** 150k ohm or greater.

**Cutoff Frequency (customer defined):** Any specified fixed between 1Hz to 200kHz. Maximum frequency range is determined by gain selected, consult factory.

**Passband Flatness:** 10Hz to 200kHz, 0.2dB.

## Amplifier Characteristics

**Maximum Output Voltage:**  $\pm 10V_{\text{peak}}$ .

**Impedance:** 50 ohms.

**CMRR:** typically  $>80\text{dB}$  to 1kHz.

**Gain (customer defined):** Any specified value 1-10,000, 3%.

**Maximum Common Mode Voltage:** (diff signal x gain) + ( $V_{\text{cm}}$ )  $< \pm 10V$ .

**Output DC Offset Voltage:**  $< 1\text{mV}$ .

**Noise (input shorted):**  $10\mu\text{V}_{\text{rms}}$  typical,  $20\mu\text{V}_{\text{rms}}$  max referred to input.

**Noise Spectral Density (100Hz to 300kHz):**  $40\text{nV}/\sqrt{\text{Hz}}$  typical,  $100\text{nV}/\sqrt{\text{Hz}}$  max.

**Signal-to-Noise (7Vrms):**  $> 100\text{dB}$ .

## General

**Power Consumption:** -15V, 166mA; +15V, 225mA (4mA excitation), 250mA (8mA excitation). A maximum 5 ICP4 cards can be plug into the FLX-3006 Chassis.

**Operating Temperature:**  $0^{\circ}\text{C}$  to  $+45^{\circ}\text{C}$ .

**Storage Temperature:**  $-25^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$ .

**Dimensions:** 0.93" wide, 5" high, 10.5" deep.

**Weight:** 2 lbs.

## Accessories

**Part No. CON-055:** 8 pin, output mating screw-terminal block plug.

**Part No. CON-056:** 12 pin, input mating screw-terminal block plug.

## Other FLX-3007 Chassis Family of Cards

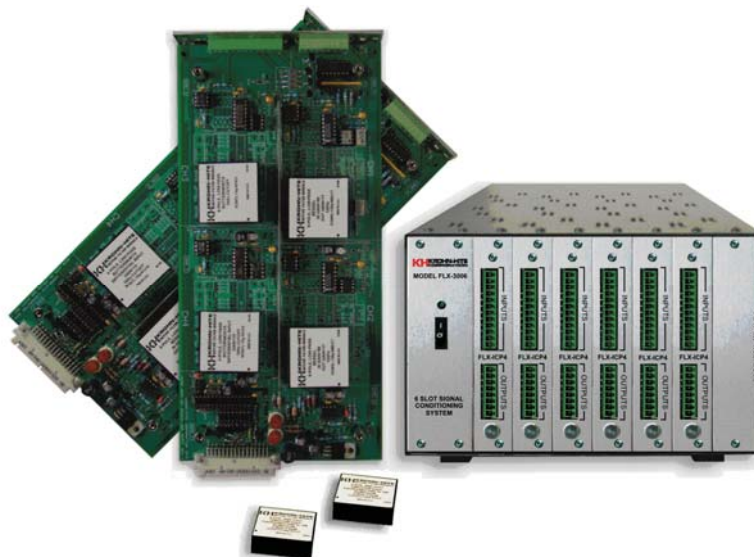
Has a maximum 7-slots. Other family of FLX cards available are:

**FLX-302:** 2 Channel Differential Filter/Amplifier Carrier Card.

**FLX-303:** 3 Channel Single-Ended Filter Amplifier Carrier Card.

**FLX-306:** 6 Channel Differential/Single-Ended Filter/Amplifier Carrier Card.

**FLX-700:** High Gain Preamplifier Carrier Card.



Specifications subject to change without notice.