MODEL 410C01

DIN RAIL MOUNT
ICP® SIGNAL
CONDITIONER

- Delivers excitation power for ICP® sensors
- Provides peak track hold and waveform analog output signals, 0 to 10 volts
- Offers AC or DC signal coupling and choice of 7 gain settings

TYPICAL APPLICATIONS

- Real Time Process Monitoring with ICP® Sensors
- Analog waveform output can be mapped against a signature or standard “pulse” with set tolerances
- Captures the dynamic +peak pulse of every machine cycle for trend analysis

The Model 410C01 signal conditioner from PCB Piezotronics is designed for operation with Integrated Circuit Piezoelectric (ICP®) sensors and is ideally suited for monitoring manufacturing processes associated with assembly and product testing. With a choice of AC or DC coupling and a high frequency response, both quasi-static and dynamic measurements up to 10 kHz are possible. The unit synchronizes with machine cycles through a reset feature while analog and peak hold outputs allow for real-time monitoring with machine control devices. Requires a regulated low noise 24-volt power source for proper operation.
**410C01 SOFTWARE & USE**

The 410C01 includes our downloadable Signal Capture software allowing the end user to view a sample waveform, ensuring proper sensor operation with respect to the intended response. Collected sample waveforms may be saved for future reference.

The software also serves as a portal for instrument configuration. Selectable features include coupling mode, signal polarity, zero, and gain. Indicators for sensor connect and peak reset are provided for reference purposes.

**SOFTWARE FEATURES**

- Integrated User’s Guide
- Captures up to 30 Seconds of Time Waveform Data
- Pulse-width and Amplitude Measurable with Scope Tool

**IN THE BOX**

- 410C01 Module
- USB Cable, Type A to Type B
- Operating Manual
- Quickstart Guide

[Download Software](www.pcb.com/410C01)
TYPICAL SYSTEM WIRING DIAGRAM

Customer Supplied
Regulated 24 VDC
Power Supply

Customer Supplied
Programmable Logic Controller

ICP® Sensor
- Force
- Strain
- Accelerometer
- Modal Hammer
- Microphone

Customer Supplied
PC for Configuration

410C01 ICP®
Signal Conditioner

PWR Ground
+24 VDC

Supplied USB Cable

Common
Peak Hold Analog Output +10 V
Waveform Analog Output ±10 V
+Peak Reset
-Peak Reset
SPECIFICATIONS

Model Number | 410C01
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Performance | English (SI)
Channels | 1
Output Voltage (Instantaneous) | ±10 V
Output Voltage (Peak) | 0 to 10 V
High Frequency Response | 10 kHz
Low Frequency Response, AC coupled (-5%) | 0.5 Hz
Low Frequency Response, DC coupled | Governed by Sensor DTC
Voltage Gain (Incremental Steps) | x1, x2, x4, x8, x10, x16, x20

Environmental
Temperature Range (Operating) | +60 to +110 °F (+15 to +45 °C)

Electrical
Power Required (±10%) | 24 VDC
Current Draw | 200 mA
Broadband Electrical Noise (1 Hz to 10 kHz) | 200 µV rms
Peak Hold Reset | Solid State Ready
Discharge Time Constant (AC coupled) | 1 sec

Physical
Size (Length x Height x Width) | 4.46 x 3.9 x 1.78 in (113 x 99 x 45 mm)
Mounting | 35 mm DIN Rail
Electrical Connector (Sensor Input) | BNC Jack
Electrical Connector (Analog Output, Peak Output, Power, Ground) | Removable Screw Terminals

PIN DESCRIPTIONS

DC Power - Pins 9 to 12
Pin 10 | +24 VDC
Pin 11 | Power Ground

Waveform Output - Pins 2 & 3
Pin 2 | Waveform Out
Pin 3 | Analog Ground

Peak Hold Output - Pins 1 & 3
Pin 1 | Peak Hold Out
Pin 3 | Analog Ground

Reset Input - Pins 7 & 8
Pin 7 | Reset -
Pin 8 | Reset +