

Order Code – 22236013.13 Sensor Trainer Kit



## Specification:-

- Built in power supply : DC supply +/- 12V,500mA, Variable 7V to 14V @ 3Amp.
- Built in function generator : O/P waveform- sine, triangular & square, TTL O/P freq. 1Hz to 200KHz in ranges with amplitude & freq. Control pots, o/p voltage 10Vpp.
- On board measurement : DC voltmeter 2V/20V (1 No) & LED BAR graph with 10 LED indicator to display 0-2.5V or 0-4V input.
- Computer interface (Optional) : Interfaces through 25 pin parallel port [LPT port] optoisolated adaptor to prevent damage to PC parallel port (25 pin LPT) due to wrong connections. Interfaces through 25 pin M to F cable 1mtr Length. P4/XP not in scope of supply. Lab View based (optionally) executable support virtual instrumentation with drivers supplied.
- 4 ADC channels : 0 to 2.5V full scale
- 1 DAC channel : o/p 2.5 V/12 V switch selectable full scale
- V to I Function block : Input : 0-2.5Vdc,
- Output : 0-20 or 4-20mA, upto max. 2Vdc GND compliance
- V to PWM function block : I/P -0-2.5V, O/P-1KHz PWM O/P +9V.
- USB IO module (HID class) to interface 25 pin D connector on CIA panel to USB PC port enclosed in 25 pin D shell using Type A to mini B cable.

## **Strain Gauge Transducers**



- Piezo resistive transducer for strain measurement.
- Micrometer 0-20mm (Accuracy 0.01mm) for strain generation.
- Strain gauges mounted on cantilever in half & full Wheatstone bridge and instrumentation amplifier with Zero & span adjustment for calibration.
- Experiments on Gauge factor determination, Strain indicator, Displacement

Note: Specifications are subject to change, Photos shown above are Indicative, Actual Product can Vary.





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measurement using Strain gauges



• Force / Weight : measurement using piezo transducer (0- 20 kg) weighing scale sensor

#### **Displacement Sensing Transducers:-**



- Micrometer 0-20mm (Accuracy 0.01mm)
- Precision phase sensitive rectifier
- Measurement frequency of 1KHz sine
- Control Engineering, Sensor/Transducer, Process Control, Instrumentation, Bio-Medical.
- Signal conditioning circuit with zero and span adjustment for calibration of variac sensor output voltage 0-2.5V or suitable for DPM.
- Zero & span adjustment for calibration of following transducers

Resistive linear transducer : 0 -20mm

Capacitive linear transducer : 0 -20mm

Capacitive angular transducer : 0 - 90 degree

Inductive linear transducer : 0 -20mm

LVDT transducer : 0 -20mm or (-10to+10mm)

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- 12V DC motor with speed varying from 0-4000rpm & rotating slotted wheel having 8 slots
- Individual signal conditioning circuit with programmable threshold comparator.
- F to V Converter with span & zero amplifier
- 6 Nos. of Speed transducers & their experimen

Magnetic pickup,

Photo reflective,

Photo interruptive

Inductive pickup with

Stroboscope envelop detector.

Hall sensor.

## **Temperature Sensing Transducers:-**



- Instrumentation Amplifier to amplify thermocouple signals
- Built in heat bar / mini oven driven by Power Amplifier of sufficient wattage
- Temp. selection upto 95 degree C in 5 ranges with ON/ OFF closed loop control.

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## Temp. sensors:

- Thermocouple J with room temp. calibration pot.
- Thermocouple K with room temp. calibration pot.
- Thermister (100K),
- PT100,
- IC sensor (AD 590)
- Bimetallic switch

# **Smoke Detector Panel:-**



- Photoelectric smoke sensor
- Operating voltage 12VDC
- Standby current 20uA
- Alarm current -35mA@12VDC
- Alarm output Remote LED
- Temperature range 0% ~ 95%RH

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