Current Sensors Board (SCS-SB-0004)

SCS Power
www.scspower.in

Description:

SCS-SB-0004 is our standard maximum 4 channel LEM based current sensors board that is suitable for all your accurate current sensing needs in different power converters. With on board isolated supply, it ensures safety and provides excellent linearity. This board can also be provided with less than four numbers of current sensors as per requirements and modified sensors board can also be developed.

Product Details:

AC/DC universal voltage sensors board
Both Uni-polar as well bi-polar sensors output available
On board isolated power supplies
Requires 1ph – 230Vac supply for operation, max
Current consumption < 100 mA
Ambient operating temperature: 0 to 70 °C
Suitable connectors for easy input and output connection
Green led indication for power on
Excellent accuracy and linearity
Thermal and noise optimised PCB design

Voltage Sensors:

Max. 4 onboard current sensors
Maximum current sensing up to 50 Amps
Bi-polar output between -5 to 5 volts
Uni-polar output between 0 to 3 volts
Closed loop (compensated) current transducer using the Hall Effect
Linearity error < 0.2%
Offset current @ IP = 0, TA = 25 °C – ±0.2 mA Max.
RMS voltage for AC insulation test, 50 Hz, 1 min – 2.5 kV
Impulse withstand voltage 1.2/50 µs – 5.7 kV
Bandwidth – 200 kHz
**all values for current sensor module only*

Application:

Our standard current sensors board is generalized and can be used for any application whether AC or DC current sensing and have frequency bandwidth of 200kHZ, some of the targeted applications are,

Power Converters
Electrical Drives
Laboratory R&D purposes
SMPS
Testing purposes

Connection Details:

Power supply to board on transformer input side: 1 phase, 230V
Input current on sensors module
Please follow sensing current sign on the module, current flow direction and sign on sensor module should match
Zero offset output on pins Ia, Ib, Ic, Id and GND
Output with 1.5 Volts offset on pins Iao, Ibo, Ico, Ido and GND

Gain Calculations:

Input RMS value: Ki
Output RMS value: Ko
Gain = Ki/Ko
Take three different readings and then average for better accuracy. Please use sensors near to its rated voltages values to have proper linearity.
Please use appropriate range of volt-meter/multi-meter to have accurate readings, use DC range for DC measurements and AC range for AC measurements

To obtain original wave shape in microcontroller/DSP/FPGA/DSPACE:

Without offset on pins Ia, Ib, Ic, Id and GND – Simply, multiply ADC o/p with the Gain value.

With offset 1.5 Volts on pins Iao, Ibo, Ico, Ido and GND – First subtract 1.5 from the ADC o/p and then multiply with Gain value.