

The Ametes CM-50A-3CSA is a three channel current sensing module which demonstrates the use of the Sentron CSA-1VG Hall Effect magnetic sensor IC to monitor DC or AC currents in three adjacent conductors. The CM-50A-3CSA operates from a 4.5 to 5.5V<sub>DC</sub> power source and provides an analog voltage proportional to the current for three adjacent conductors.

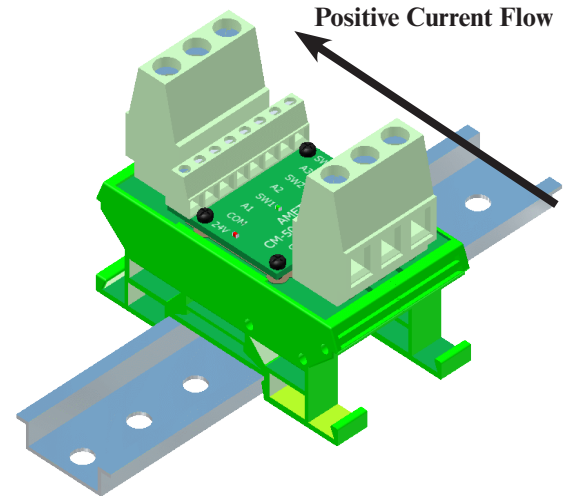
The CM-50A-3CSA current monitor consists of two stacked PCBs mounted in a standard DIN Rail package. The lower PCB has the three current conducting traces on the top side with a magnetic shield on the bottom side. The top PCB includes three CSA-1VG sensors positioned over the center of the three traces located on the lower PCB. There is 5kV<sub>rms</sub> isolation between the primary current conductors and the sensor electronic circuitry. detection and provides three sourcing switched outputs. There is 5kV<sub>rms</sub> isolation between the primary current conductors and the sensor electronic circuitry.

### Features

- Three 0 to 50A Primary Current Channels
- Three Analog Output of Primary AC and DC Current
- High Dielectric Isolation > 5kV<sub>rms</sub>
- DIN Rail Package

### Specifications - Electrical CH1, CH2 & CH3

Symbol	Parameter	Current Monitor Analog Outputs	Units
I <sub>PN</sub>	Primary Current, nominal continuous	50	A <sub>rms</sub>
I <sub>PM</sub>	Primary Current, max peak	55	A
V <sub>PRI</sub>	Maximum Primary Voltage (peak)	1000	V
S <sub>A</sub>	Analog Output Sensitivity of Primary Current	30 ±5	mV/A
V <sub>O</sub>	Analog Output Voltage Range	2.5 ±2.0	V
V <sub>OS</sub>	Quiescent Voltage, I <sub>pri</sub> = 0A	2.5 ±0.05	V
X	Accuracy, DC to 60Hz	<10	%
X <sub>L</sub>	Non Linearity, I<25A <sub>rms</sub> , 60Hz	<1	%
TC <sub>V<sub>o</sub></sub>	Temperature Coefficient, Offset Voltage	<0.2	mV/°C
TC <sub>V<sub>s</sub></sub>	Temperature Coefficient, Sensitivity	<200	ppm/°C
r	Resolution, Primary Current	35	mA
V <sub>SUP</sub>	Supply Voltage	4.5 to 5.5	V <sub>DC</sub>
I <sub>SUP</sub>	Supply Current Draw Max (Excluding output loads)	40	mA
V <sub>D</sub>	Voltage for AC Isolation Test	5	kV <sub>rms</sub>
BW <sub>VO</sub>	Bandwidth Analog Output	DC to 50k	Hz
T <sub>A</sub>	Ambient Operating Temperature	-40 to 85	°C
T <sub>S</sub>	Ambient Storage Temperature	-40 to 85	°C

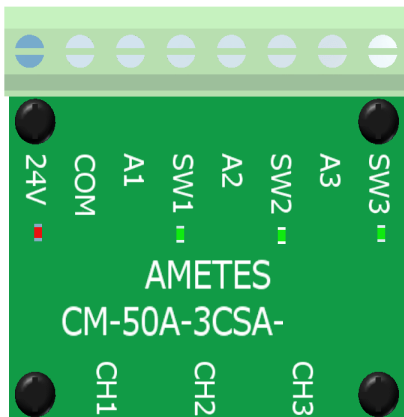


CM-50A-3CSA shown on a 35mm DIN Rail

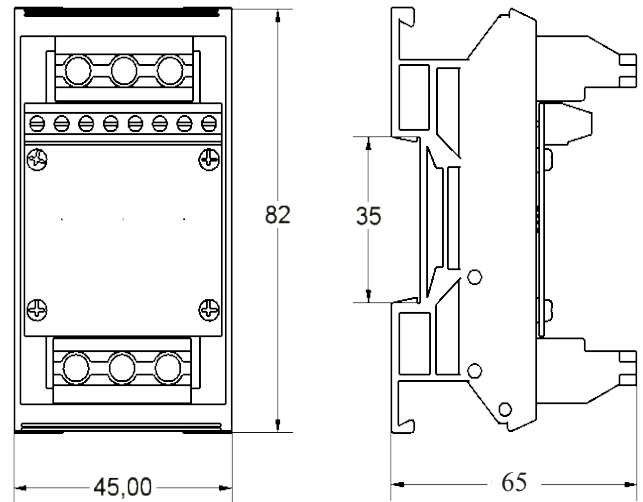
Revision Date: 19 FEB 2010

### North American Distributor:

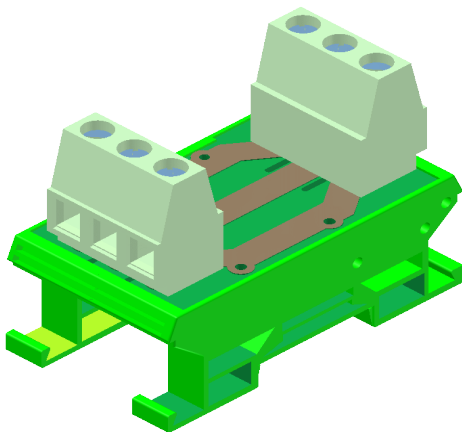
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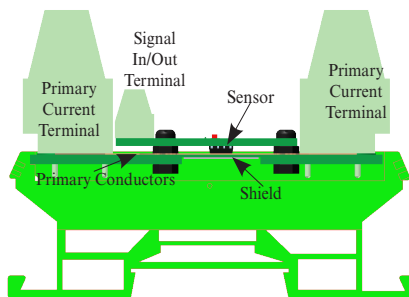
Mezzanine PCB front Panel Layout



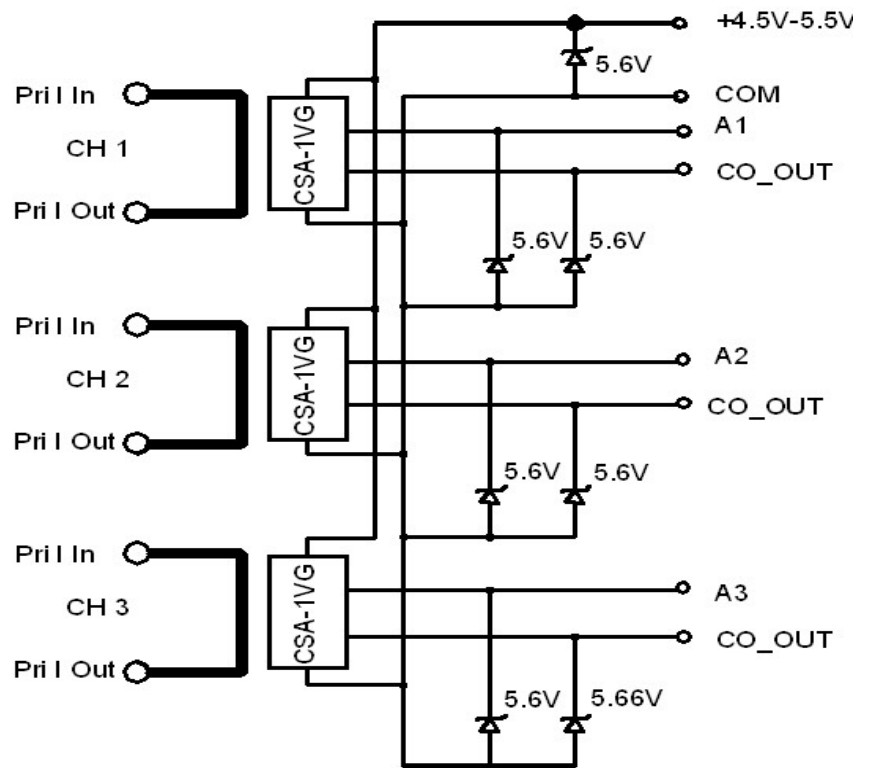
CM-50A-3CSA Outline Drawing, dimensions in mm



CM-50A-3CSA with top PCB removed to show primary current conductors



Cutaway side view of CM-50A-3CSA



CM-50A-3CSA Block Diagram