

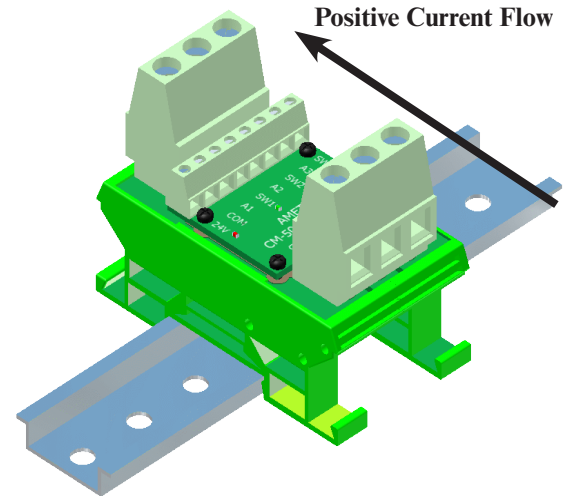
Ametes Three Channel Current Monitor, CM-50A-3CSA-PSW

The CM-50A-3CSA-PSW provides isolated voltage signal outputs for DC or AC currents in three primary current channels. This option also provides three switched sourcing outputs indicating the presence of currents greater than 1.5A_{rms} (typical) or positive 2.1A_{DC}. Switched outputs will not detect negative currents.

The CM-50A-3CSA-PSW 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 mezzanine PCB includes three CSA-1VG sensors positioned over the center of the three traces located on the lower PCB to detect the magnetic field from current flowing in the three conductors. It also includes the specific output circuitry for current level detection and provides three sourcing switched outputs. There is 5kV_{rms} 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
- Three Discrete Switched Sourcing Outputs for I_{PRI} > 1.5A_{rms}
- High Dielectric Isolation > 5kV_{rms}



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

- Power ON LED (Red)
- Current Present LED (3 each Green LEDs)
- 20 to 30V_{DC} Supply Voltage
- DIN Rail Package

Specifications - Electrical CH1, CH2 & CH3

Symbol	Parameter	Current Monitor Analog Outputs	Switched Outputs SW1, SW2, SW3	Units
I _{PN}	Primary Current, nominal continuous	50	50	A _{rms}
I _{PM}	Primary Current, max peak	55	55	A
V _{PRI}	Maximum Primary Voltage (peak)	1000	1000	V
S _A	Analog Output Sensitivity of Primary Current	30 ±5		mV/A
V _O	Analog Output Voltage Range	2.5 ±2.0		V
V _{OS}	Quiescent Voltage, I _{pri} = 0A	2.5 ±0.05		V
X	Accuracy, DC to 60Hz	<10		%
X _L	Non Linearity, I<25A _{rms} , 60Hz	<1		%
TC _{V_o}	Temperature Coefficient, Offset Voltage	<0.2		mV/°C
TC _{V_s}	Temperature Coefficient, Sensitivity	<200		ppm/°C
r	Resolution, Primary Current	35		mA
V _{SUP}	Supply Voltage	20 to 30		V _{DC}
I _{SUP}	Supply Current Draw Max (Excluding output loads)	40		mA
V _D	Voltage for AC Isolation Test	5		kV _{rms}
BW _{VO}	Bandwidth Analog Output	DC to 50k		Hz
I _{SW}	50-60Hz AC Current Switch Level (Output Turns On) - AC currents or Positive DC currents	N/A	1.0 to 2.0 (+2.1 DC typ)	A _{rms}
I _{OUT}	Max Load Current (Sourcing from Supply Voltage)	N/A	50	mA
I _{OUT-OFF}	Max Leakage current in OFF state	N/A	<20	µA
TD _{ON}	Turn ON Response Time (after AC current is detected)	N/A	15 to 100	ms
TD _{OFF}	Turn OFF Response Time	N/A	50 to 500	ms

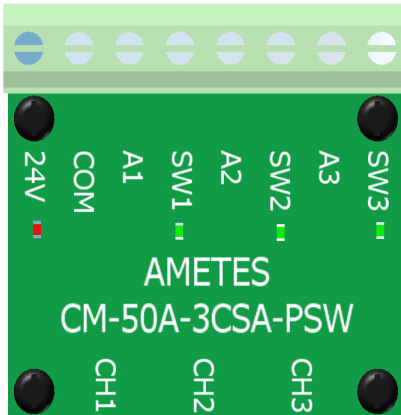
Revision Date: 17 FEB 2010

North American Distributor:

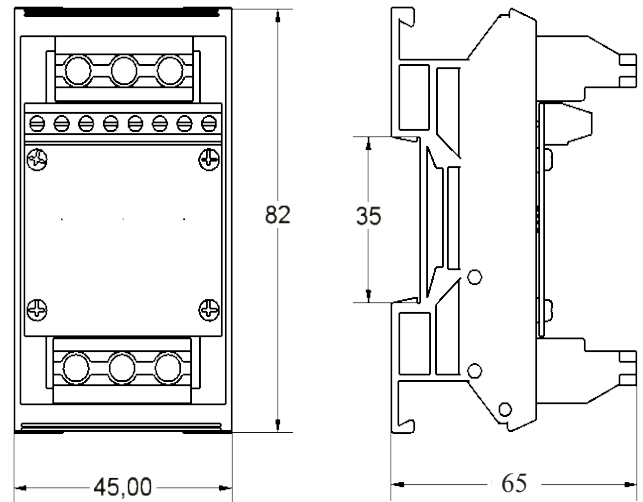
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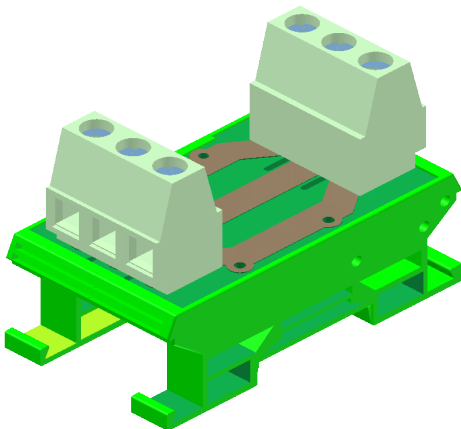
Symbol	Parameter	Current Monitor Analog Outputs	Switched Outputs SW1, SW2, SW3	Units
T_A	Ambient Operating Temperature	-40 to 85	-40 to 85	°C
T_s	Ambient Storage Temperature	-40 to 85	-40 to 85	°C



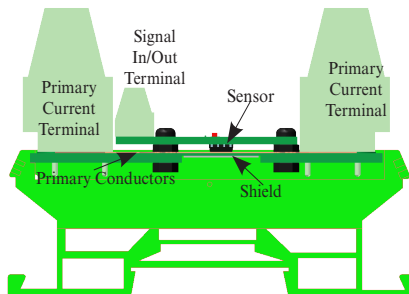
Mezzanine PCB front Panel Layout



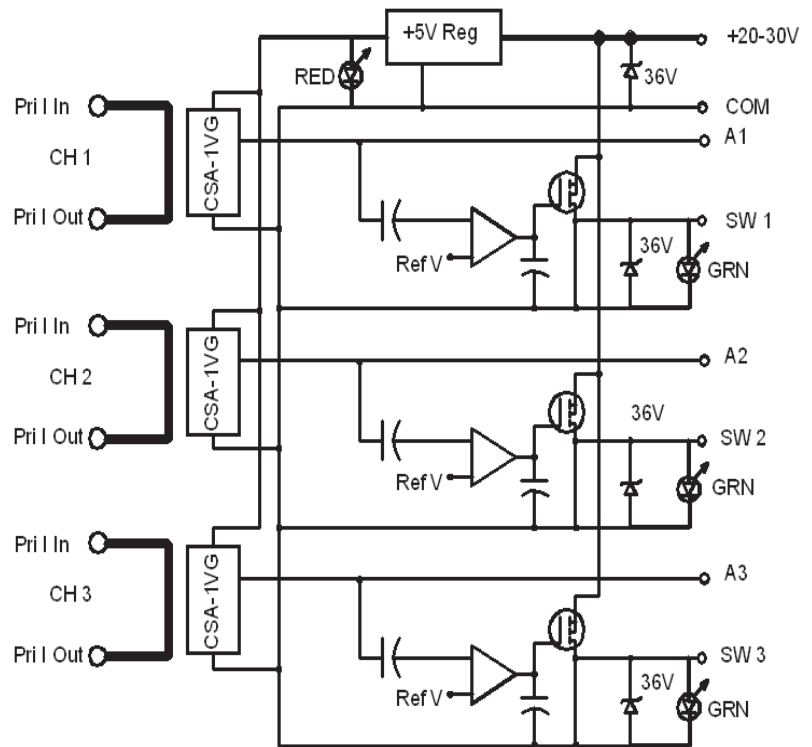
CM-50A-3CSA-PSW Outline Drawing, dimensions in mm



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



Cutaway side view of CM-50A-3CSA-PSW



CM-50A-3CSA_PSW Block Diagram

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