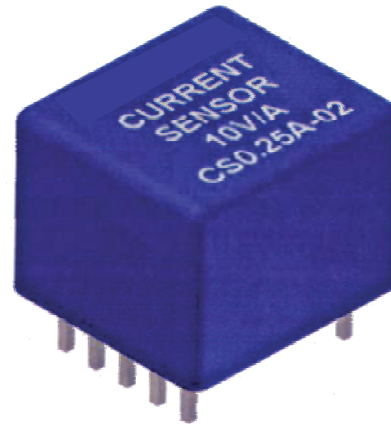


Low current sensing with high voltage isolation

Features:

- Low current- three ranges (0.25A to 10A)
- High voltage isolation >4KV
- Linear analog voltage output
- Single 5 V Power Supply
- Low current consumption
- Through Hole Mounting
- Small Size



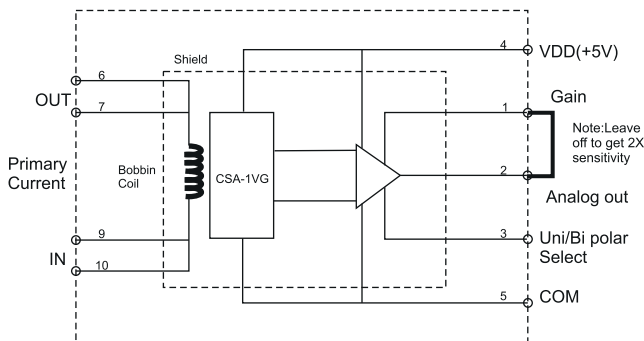
Available Configurations:

- CS0.25A-02 Fullscale 0.25A 10V/A Sensitivity
- CS2.5A-02 Fullscale 2.5A 1V/A Sensitivity
- CS10A-02 Fullscale 10A 0.25V/A Sensitivity

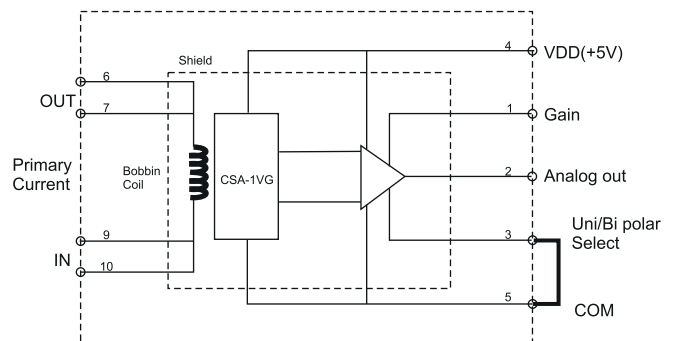
Description:

The Senis CS series current sensors offer low current sensing with high voltage isolation capability. The sensors can be connected for either bi-polar operation (2.5V±2.5V) or uni-polar operation (0 to 5V). The uni-polar configuration has 2X sensitivity of the bi-polar configuration which provides a full scale output swing for the rated current. One mounting configuration available straight pin for through hole mounting. The Senis sensor incorporates the Sentron CSA-1V high sensitivity Hall IC and a multi-turn coil to further increase sensitivity

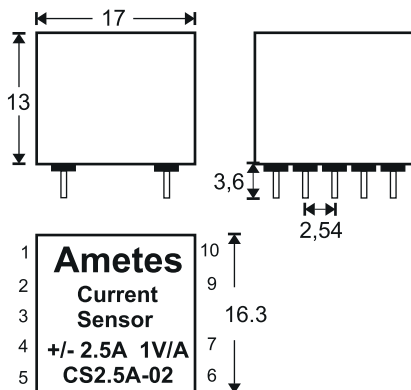
Bi-Polar operation



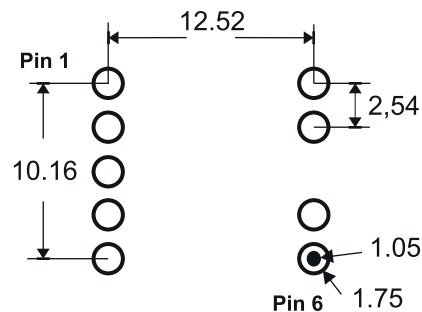
Uni-Polar operation



Outline Drawing



Recommended PCB hole pattern



SPECIFICATIONS

Absolute Maximum Ratings

Symbol	Parameter	Min.	Typ.	Max.	Unit	Remarks
T _{STG}	Storage Temperature	-55		100	°C	
T _A	Ambient Temperature	-40		85	°C	With power applied
V _{DD}	Supply Voltage	-0.5		+6.0	V	
ESD	Electro Static Discharge	2000			V	Human Body Model ESD
B	Magnetic Field			1		Tesla

Recommended Operating Conditions

Symbol	Parameter	Min.	Typ.	Max.	Unit	Remarks
V _{DD}	Supply Voltage Δ	4.5	5.0	5.25	V	
I _{SUP}	Supply Current		9	15	mA	

Electrical Characteristics

Operating Conditions: V_{DD} = 5.00 V and T_A = 25° C

Note (1): Outputs are ratiometric to the supply voltage V_{DD}

Sensor Model Numbers		CS0.25-02			CS2.5-02			CS10.0-02				
Sym	Parameter	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	Unit	Remarks
V _{out}	Analog output voltage range	.050		4.95	.050		4.95	.050		4.95	V	
V _q	Quiescent Voltage:	2.47	2.50	2.53	2.47	2.50	2.53	2.47	2.50	2.53	V	I _{pri} =0A
V _q	Quiescent voltage: Uni-	0		60	0		60	0		60	mV	I _{pri} =0A
S	Sensitivity: Bi-Polar	9.5	10.0	10.5	0.95	1.00	1.05	0.24	0.25	0.26	V/A	V _{out} range: 2.5±2.5V
S	Sensitivity: Uni-Polar	19	20	21	1.9	2.0	2.1	.475	.500	.525	V/A	V _{out} range: 0.050 - 4.95V
I _{pri}	Primary I: Bi-Polar	-0.25		0.25	-2.5		2.5	-10 ⁽¹⁾		10 ⁽¹⁾	A	Note 1 -40C to 30C continuous, 30C to 85C 5A continuous
I _{pri}	Primary I: Uni-Polar	0		0.25	0		2.5	0		10 ⁽¹⁾	A	Note 1 -40C to 30C continuous, 30C to 85C 5A continuous
ΔS/ΔT	Sensitivity Temperature Drift		±200			±200			±200		PPM / °C	
T	Operating Temperature	-40		85	-40		85	-40		85	°C	
NL	Non Linearity		0.5	1		0.5	1		0.5	1	%	V _{out} range: 0.050 - 4.95V
	Resolution		±0.1			±1			±4		mA	
	Noise		< 5			< 5			< 5		mV	
V _{iso}	Dielectric Isolation	4			4			4			kV	DC
BW	Bandwidth	0		5000	0		5000	0		5000	Hz	
R _{pri}	Primary Resistance		6			0.060			0.006		?	DC Resistance
L _{pri}	Primary Inductance		0.36			0.006			0.005		mh	