



Cores

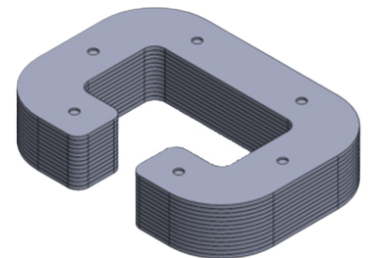
Soft Ferromagnetic Cores

A core, also known as the concentrator, is a crucial component of a current sensor that channels the magnetic flux generated by the electric current. CTS cores are made from soft ferromagnetic materials supports being easily magnetized and demagnetized, making them a great choice for influencing the flux produced by the electric current.



Engineered to Shield Sensors from External Magnetic Fields

CTS core designs are optimized for high-speed, contactless current sensing when paired with a Hall sensor and a current conductor. These core designs help shield the sensor from interference caused by parasitic magnetic fields from nearby conductors or other magnetic sources, ensuring accurate and reliable measurements.



Amorphous or Laminated materials

Our lamination designs use stacks of tightly bonded materials like iron, effectively preventing external flux from disrupting current operations. Our amorphous core designs use iron that has been manipulated to have a non-crystalline structure that supports higher magnetization and energy manipulation.

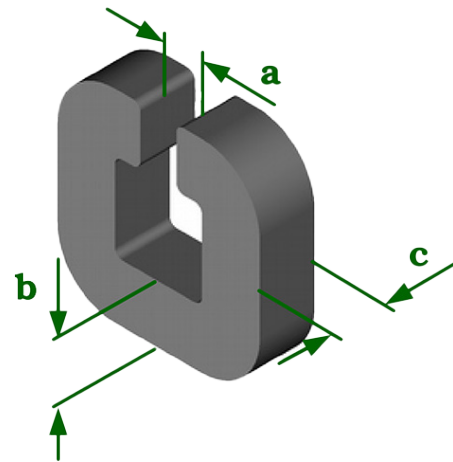


Superior Design and Characteristics

CTS standard core designs leverage a combination of nickel, silicon, and iron to deliver superior material characteristics, resulting in higher bandwidth, enhanced linearity, reduced core losses, and exceptionally low hysteresis. These features can be tailored through customization, with a strong emphasis on maintaining cost efficiency.

Technical Diagrams:

Parameter	Typical Sizes
Thickness (B)	1.5mm 2.5mm
Length (C)	1 - 20mm
Airgap (A,L)	1.7mm 3.5mm 5mm
Laminations	0.35mm



Sizes can be completely customized on request

Core Design Examples:



Technical Specifications Table:

Parameter	Material	Data
Relative Permeability	Ni-Fe	100.000 a.u.
	Si-Fe	40.000 a.u.
Initial Relative Permeability	Ni-Fe	7000 a.u.
	Si-Fe	2500 a.u.
Saturation Flux Density	Ni-Fe	1 T
	Si-Fe	1.5 T
Hysteresis	Ni-Fe	2.8A/m
	Si-Fe	n/a
Curie Temperature	Ni-Fe	450 °C
	Si-Fe	450 °C
Lamination Content	Ni-Fe	48% (Ni)
	Si-Fe	<3.5% (Si)

Years of Temperature Sensing Experience

CTS Corporation has been building sensors since the mid 1970s to support automotive and industrial products but has since grown into various areas of sensing technology.

As electric vehicles and industrial equipment have come into demand, we have implemented our years of sensor expertise to improve current sensing technology. We have supported customers from power plant current sensing, to transportation and industrial equipment.

Contact Information

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