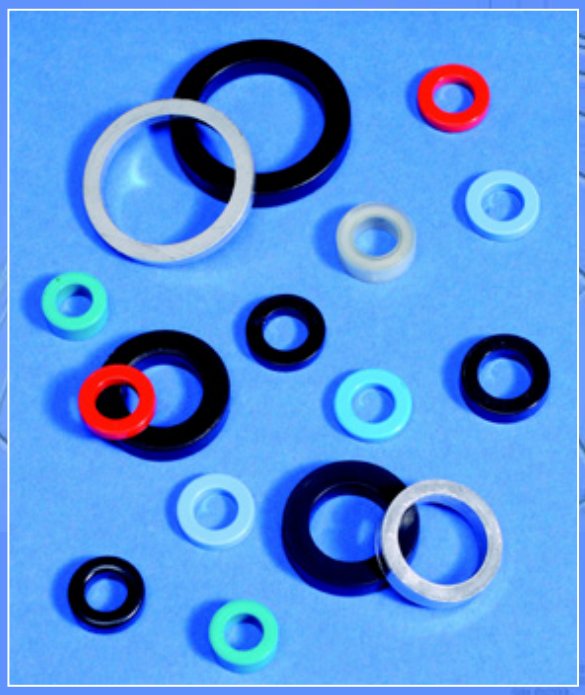
Ring Cores



Ring cores made of thermally stable supermalloy and wound with 1000 turns are excellent transformers. Originally developed for ground fault detection current, they are now used in many current-sensing applications. In a GFCI circuit breaker or electrical outlet, these cores constantly monitor electrical current and protect against injury or death caused by contact with damaged or defective electrical equipment. In the ALCI plug, the cores are used to protect people from electrical shock by hairdryers or other appliances. (They can have many uses in other applications).

Magnetic Metals manufactures standard size sensor cores of supermalloy for sensing fault current as well as cores made of ferrite for ground to neutral detection. Sensing and neutral detection cores are available in a wide variety of sizes and type to fill any GFCI, Arc Fault or current sensing requirement.

Our unique heat treating furnace and annealing process produce the highest quality magnetic components. Fully automated casing and 100% testing provides our customers with the most price competitive products and the best production yields in the industry.

As the largest supplier of sensor cores in the industry, our Engineering Staff stands ready to assist you with any design consideration and performance issues.

Ring Cores For GFCI and ALCI

CORES FOR GFCI - 5000 SERIES (8014 Material - 0.014" thick)
CCORES FOR ALCI - 5100 SERIES (8014 Material - 0.014" thick)

Sorted by Ring ID:

Ring Core	Color	Dimensions (Ring Stack)			Dimensions (Cased Unit)			l (Cm)	A (Cm_)	Approx. # Rings / Core
		I.D.	O.D.	Ht.	I.D.	O.D.	Ht.			
5025	Green	0.305	0.405	0.119	0.265	0.455	0.195	2.83	0.0383	9
5029	Blue	0.348	0.480	0.066	0.305	0.530	0.108	3.30	0.0238	5
5137	Yellow	0.348	0.480	0.066	0.305	0.530	0.108	3.30	0.0298	5
5042	Black	0.375	0.500	0.066	0.320	0.560	0.113	3.49	0.0266	5
5022	Clear	0.375	0.500	0.119	0.320	0.560	0.195	3.49	0.0479	9

5040	Black	0.436	0.562	0.079	0.375	0.625	0.150	3.98	0.0322	6
5026	Blue	0.436	0.562	0.132	0.375	0.625	0.210	3.98	0.0536	10
5126	Gray	0.436	0.562	0.132	0.375	0.625	0.210	3.98	0.0536	10
5050	Black	0.523	0.705	0.066	0.465	0.775	0.140	4.90	0.0387	5
5150	Black	0.523	0.705	0.066	0.465	0.775	0.140	4.90	0.0387	5
5052	Black	0.600	0.756	0.079	0.540	0.820	0.145	5.41	0.0398	6
5002	Black	0.633	0.844	0.119	0.560	0.925	0.195	5.89	0.0808	9
5045	Black	1.000	1.260	0.119	0.920	1.335	0.195	9.02	0.0996	9

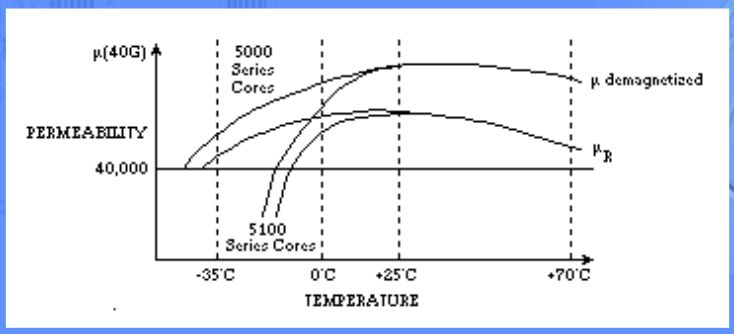
Sorted by Core Part Number:

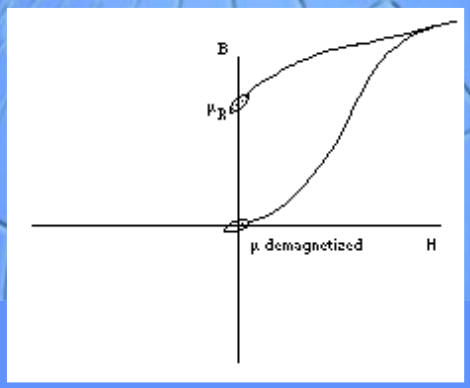
Ring Core	Color	Dimensions (Ring Stack)			Dimensions (Cased Unit)			l (Cm)	A (Cm_)	Approx. # Rings/ Core
		I.D.	O.D.	Ht.	I.D.	O.D.	Ht.			
5002	Black	0.633	0.844	0.119	0.560	0.925	0.195	5.89	0.0808	9
5022	Clear	0.375	0.500	0.119	0.320	0.560	0.195	3.49	0.0479	9
5025	Green	0.305	0.405	0.119	0.265	0.455	0.195	2.83	0.0383	9
5026	Blue	0.436	0.562	0.132	0.375	0.625	0.210	3.98	0.0536	10
5029	Blue	0.348	0.480	0.066	0.305	0.530	0.108	3.30	0.0238	5
5040	Black	0.436	0.562	0.079	0.375	0.625	0.150	3.98	0.0322	6
5042	Black	0.375	0.500	0.066	0.320	0.560	0.113	3.49	0.0266	5
5045	Black	1.000	1.260	0.119	0.920	1.335	0.195	9.02	0.0996	9
5050	Black	0.523	0.705	0.066	0.465	0.775	0.140	4.90	0.0387	5
5052	Black	0.600	0.756	0.079	0.540	0.820	0.145	5.41	0.0398	6
5126	Gray	0.436	0.562	0.132	0.375	0.625	0.210	3.98	0.0536	10
5137	Yellow	0.348	0.480	0.066	0.305	0.530	0.108	3.30	0.0298	5
5150	Black	0.523	0.705	0.066	0.465	0.775	0.140	4.90	0.0387	5

NOTE: ALL CORES THAT USE THE 3081 RING (5029, 5149, 5137, 5151) HAVE BEEN CALCULATED

To download these tables, click here.

USING A MATERIAL THICKNESS OF 0.014" AS OPPOSED TO THE ACTUAL 0.0132". ADDITIONALLY, THE 5029 CORE CALCULATIONS ARE BASED ON A 4 RINGS CORE, INSTEAD OF 5 RINGS IN ORDER TO REMAIN CONSISTENT WITH THE ORIGINAL 5029 CORE, MADE WITH 4 RINGS OF 0.014" THICKNESS.


μ(40G)
5000
Series
Cores
μ demagnetized
PERMEABILITY
40,000
μ_R
5100
Series Cores
-35°C
0°C
+25°C
+70°C
TEMPERATURE


B
μ_R
μ demagnetized
H