



Title: EM2/EM1 Comparison Chart

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Version: 5.0

## EM2 (1", 2" and Linear)

Resolution	Min.	Max.
CPR	2000	10000
LPI (linear)	1000	2000

Parameter	Min.	Max.	Units	Notes
Temperature	-25	100	C	
A/B Output Frequency	0	360	kHz	2000, 2048, 2500 CPR (1") 3600, 4000, 4096, 5000 CPR (2") 1000 LPI (Linear)
	0	720	kHz	4000, 4096, 5000 CPR (1") 7200, 8000, 8192, 10000 CPR (2") 2000 LPI (Linear)
Disk RPM	0	(21.6 x 10 <sup>6</sup> ) / CPR	RPM	2000, 2048, 2500 CPR (1") 3600, 4000, 4096, 5000 CPR (2")
	0	(43.2 x 10 <sup>6</sup> ) / CPR	RPM	4000, 4096, 5000 CPR (1") 7200, 8000, 8192, 10000 CPR (2")
Linear Strip Speed	0	360	in./sec.	1000, 2000 LPI (linear)

## EM1

Resolution	Min.	Max.
CPR	32	2500
LPI (linear)	120	500

Parameter	Min.	Max.	Units	Notes
Temperature	-40	125	C	
A/B Output Frequency	0	300	kHz	
Disk RPM	0	(18 x 10 <sup>6</sup> ) / CPR	RPM	
Linear Strip Speed	0	(3 x 10 <sup>5</sup> ) / LPI	in./sec.	

## EM2 (1", 2" and Linear)

Parameter	Min.	Typ.	Max.	Units	Conditions
Supply Voltage	4.5	5.0	5.5	V	
Supply Current, EM2-1- (1" disk)		72	85	mA	no load
Supply Current, EM2-2- (2" disk)		72	85	mA	no load
Supply Current, EM2-0- (linear strip)		72	85	mA	no load
High-level Output	2			V	$I_{OH} = -5$ mA
		3.5		V	no load
Low-level Output			0.5	V	$I_{OL} = 5$ mA
			0.25	V	no load
Output Current Per Channel	-5		5	mA	
Output Rise Time		50		nS	$\pm 5$ mA load
Output Fall Time		50		nS	$\pm 5$ mA load

Parameter	Symbol	Min.	Typ.	Max.	Units
Symmetry	X, Y	150	190	245	electrical degrees
Quadrature	Z	60	90	125	electrical degrees
Index Pulse Width	Po	60	95	125	electrical degrees
Ch. I Rise After Ch. B or Ch. A Fall	t1		-40		ns
Ch. I Fall After Ch. B or Ch. A Rise	t2		25		ns

## EM1

Parameter	Min.	Typ.	Max.	Units	Conditions
Supply Voltage	4.5	5.0	5.5	V	
Supply Current, EM1-1- (1" disk)		27	33	mA	CPR < 500, no load
		50	62	mA	CPR $\geq$ 500, no load
Supply Current, EM1-2- (2" disk)		27	33	mA	CPR < 1000, no load
		50	62	mA	CPR $\geq$ 1000, no load
Supply Current, EM1-0- (linear strip)		27	33	mA	LPI < 300, no load
		54	62	mA	LPI $\geq$ 300, no load
High-level Output	2			V	$I_{OH} = -8$ mA max.
		4.8		V	no load
Low-level Output			0.5	V	$I_{OL} = 8$ mA max.
			0.05	V	no load
Output Current Per Channel	-8		8	mA	
Output Rise Time		110		nS	
Output Fall Time		100		nS	

Parameter	Symbol	Min.	Typ.	Max.	Units	
Symmetry	X, Y	150	180	210	electrical degrees	
Quadrature	Z	60	90	120	electrical degrees	
Index Pulse Width	Po	60	90	120	electrical degrees	
Ch. I Rise After Ch. B or Ch. A Fall	t1		10	100	250	ns
Ch. I Fall After Ch. B or Ch. A Rise	t2		70	150	300	ns

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