

Maximum speed tables for radial rings



MR031G Radial magnetic ring max speed 50 poles without protection cover

Valid for:

LM10	LM13	LM13_20 High speed	LM15	RLB	RLM	RLC
------	------	-----------------------	------	-----	-----	-----

Ordering code	Interpolation	Resolution		Maximum rpm								
		cpr	ppr	NOTE: Values in brackets are valid for LM13 standard version only.								
13B	8192	409600	102400	1094	547	137	68	36	18	14	7	4
12B	4096	204800	51200	2189	1094	273	137	71	36	29	15	7
11B	2048	102400	25600	4378	2189	547	273	143	73	58	29	15
2D0 (001)	2000	100000	25000	4483	2237	560	280	146	75	59	30	15
1D6	1600	80000	20000	5597	2803	700	350	183	93	74	37	19
10B	1024	51200	12800	8746	4378	1094	547	285	146	115	58	29
1D0 (002)	1000	50000	12500	8957	4483	1123	560	292	149	118	59	30
D80	800	40000	10000	11203	5597	1402	700	365	187	147	74	37
09B	512	25600	6400	13554 (13440)	8746	2189	1094	571	292	230	116	58
D50	500	25000	6250	13554 (13440)	8957	2237	1123	584	299	236	119	60
D40 (005)	400	20000	5000	13554 (13440)	11203	2803	1402	730	373	295	149	75
D32	320	16000	4000	13554 (13440)	13554 (13440)	3504	1747	913	467	368	186	93
08B	256	12800	3200	13554 (13440)	13554 (13440)	4378	2189	1142	583	460	232	117
D20 (010)	200	10000	2500	13554 (13440)	13554 (13440)	5597	2803	1459	747	589	297	149
D16	160	8000	2000	13554 (13440)	13554 (13440)	3504	1747	913	467	368	186	93
07B	128	6400	1600	13554 (13440)	13554 (13440)	8746	4378	2285	1167	921	464	233
D10 (020)	100	5000	1250	13554 (13440)	13554 (13440)	5597	2803	1459	747	589	297	149
D08	80	4000	1000	13554 (13440)	13554 (13440)	3504	1747	913	467	368	186	93
06B	64	3200	800	13554 (13440)	13554 (13440)	13554 (13440)	8746	4570	2333	1842	929	467
D04 (050)	40	2000	500	13554 (13440)	13554 (13440)	3504	1747	913	467	368	186	93
05B	32	1600	400	13554 (13440)	13554 (13440)	13554 (13440)	13554 (13440)	9130	4667	3684	1858	934
04B	16	800	200	n/a	13554 (13440)	13554 (13440)	13554 (13440)	13554 (13440)	9334	7368	3716	1868
03B	8	400	100	n/a	n/a	13554 (13440)	13554 (13440)	13554 (13440)	13554 (13440)	13554 (13440)	7432	3736
Minimum edge separation (µs)				0.07	0.13	0.50	1	2	4	5	10	20
Maximum count frequency (MHz)				15	8	2	1	0.5	0.25	0.2	0.1	0.05
Part numbering				K	A	B	C	D	E	F	G	H

MR031G Radial magnetic ring max speed 50 poles with protection cover

Valid for:

LM10	LM13	LM13_20 High speed	LM15	RLB	RLM	RLC
------	------	-----------------------	------	-----	-----	-----

Ordering code	Interpolation	Resolution		Maximum rpm								
		cpr	ppr	NOTE: Values in brackets are valid for LM13 standard version only.								
13B	8192	409600	102400	1094	547	137	68	36	18	14	7	4
12B	4096	204800	51200	2189	1094	273	137	71	36	29	15	7
11B	2048	102400	25600	4378	2189	547	273	143	73	58	29	15
2D0 (001)	2000	100000	25000	4483	2237	560	280	146	75	59	30	15
1D6	1600	80000	20000	5597	2803	700	350	183	93	74	37	19
10B	1024	51200	12800	8746	4378	1094	547	285	146	115	58	29
1D0 (002)	1000	50000	12500	8957	4483	1123	560	292	149	118	59	30
D80	800	40000	10000	11203	5597	1402	700	365	187	147	74	37
09B	512	25600	6400	17501 (13440)	8746	2189	1094	571	292	230	116	58
D50	500	25000	6250	17923 (13440)	8957	2237	1123	584	299	236	119	60
D40 (005)	400	20000	5000	22397 (13440)	11203	2803	1402	730	373	295	149	75
D32	320	16000	4000	28003 (13440)	13997 (13440)	3504	1747	913	467	368	186	93
08B	256	12800	3200	35002 (13440)	17501 (13440)	4378	2189	1142	583	460	232	117
D20 (010)	200	10000	2500	44803 (13440)	22397 (13440)	5597	2803	1459	747	589	297	149
D16	160	8000	2000	28003 (13440)	13997 (13440)	3504	1747	913	467	368	186	93
07B	128	6400	1600	45000* (13440)	35002 (13440)	8746	4378	2285	1167	921	464	233
D10 (020)	100	5000	1250	44803 (13440)	22397 (13440)	5597	2803	1459	747	589	297	149
D08	80	4000	1000	28003 (13440)	13997 (13440)	3504	1747	913	467	368	186	93
06B	64	3200	800	45000* (13440)	45000* (13440)	17501 (13440)	8746	4570	2333	1842	929	467
D04 (050)	40	2000	500	28003 (13440)	13997 (13440)	3504	1747	913	467	368	186	93
05B	32	1600	400	45000* (13440)	45000* (13440)	35002 (13440)	17501 (13440)	9130	4667	3684	1858	934
04B	16	800	200	n/a	45000* (13440)	45000* (13440)	35002 (13440)	18259 (13440)	9334	7368	3716	1868
03B	8	400	100	n/a	n/a	45000* (13440)	45000* (13440)	36518 (13440)	18668 (13440)	14736 (13440)	7432	3736
Minimum edge separation (µs)				0.07	0.13	0.50	1	2	4	5	10	20
Maximum count frequency (MHz)				15	8	2	1	0.5	0.25	0.2	0.1	0.05
Part numbering				K	A	B	C	D	E	F	G	H

* The maximum available rotational speed is limited by the mechanical properties of the ring. For higher speeds please [contact RLS](#).

MR031G Radial magnetic ring max speed 20 poles without protection cover

Valid for:

LM10	LM13	LM13_20 High speed	LM15	RLB	RLM	RLC
------	------	-----------------------	-------------	-----	-----	-----

Ordering code	Interpolation	Resolution		Maximum rpm								
		cpr	ppr									
13B	8192	163840	40960	2736	1367	342	171	89	46	36	18	9
12B	4096	81920	20480	5472	2736	684	342	178	91	72	36	18
11B	2048	40960	10240	10944	5472	1367	684	357	182	144	73	36
2D0 (001)	2000	40000	10000	11208	5592	1400	700	365	187	147	74	37
1D6	1600	32000	8000	13554	7008	1750	875	457	233	184	93	47
10B	1024	20480	5120	13554	10944	2736	1367	713	365	288	145	73
1D0 (002)	1000	20000	5000	13554	11208	2808	1400	730	373	295	149	75
D80	800	16000	4000	13554	13554	3504	1750	913	467	368	186	93
09B	512	10240	2560	13554	13554	5472	2736	1427	729	576	290	146
D50	500	10000	2500	13554	13554	5592	2808	1461	747	589	297	149
D40 (005)	400	8000	2000	13554	13554	7008	3504	1826	933	737	372	187
D32	320	6400	1600	13554	13554	8760	4368	2283	1167	921	465	233
08B	256	5120	1280	13554	13554	10944	5472	2856	1458	1151	581	292
D20 (010)	200	4000	1000	13554	13554	13554	7008	3648	1867	1474	743	373
D16	160	3200	800	13554	13554	8760	4368	2283	1167	921	465	233
07B	128	2560	640	13554	13554	13554	10944	5712	2917	2302	1161	584
D10 (020)	100	2000	500	13554	13554	13554	7008	3648	1867	1474	743	373
D08	80	1600	400	13554	13554	8760	4368	2283	1167	921	465	233
06B	64	1280	320	13554	13554	13554	13554	11424	5834	4605	2322	1167
D04 (050)	40	800	200	13554	13554	8760	4368	2283	1167	921	465	233
05B	32	640	160	13554	13554	13554	13554	13554	11667	9210	4645	2335
04B	16	320	80	n/a	13554	13554	13554	13554	13554	13554	9290	4669
03B	8	160	40	n/a	n/a	13554	13554	13554	13554	13554	13554	9339
Minimum edge separation (µs)				0.07	0.13	0.50	1	2	4	5	10	20
Maximum count frequency (MHz)				15	8	2	1	0.5	0.25	0.2	0.1	0.05
Part numbering				K	A	B	C	D	E	F	G	H

MR031G Radial magnetic ring max speed 20 poles with protection cover

Valid for:

LM10	LM13	LM13_20 High speed	LM15	RLB	RLM	RLC
------	------	-----------------------	-------------	-----	-----	-----

Ordering code	Interpolation	Resolution		Maximum rpm								
		cpr	ppr									
13B	8192	163840	40960	2736	1367	342	171	89	46	36	18	9
12B	4096	81920	20480	5472	2736	684	342	178	91	72	36	18
11B	2048	40960	10240	10944	5472	1367	684	357	182	144	73	36
2D0 (001)	2000	40000	10000	11208	5592	1400	700	365	187	147	74	37
1D6	1600	32000	8000	13992	7008	1750	875	457	233	184	93	47
10B	1024	20480	5120	21864	10944	2736	1367	713	365	288	145	73
1D0 (002)	1000	20000	5000	22392	11208	2808	1400	730	373	295	149	75
D80	800	16000	4000	28008	13992	3504	1750	913	467	368	186	93
09B	512	10240	2560	43752	21864	5472	2736	1427	729	576	290	146
D50	500	10000	2500	44808	22392	5592	2808	1461	747	589	297	149
D40 (005)	400	8000	2000	45000*	28008	7008	3504	1826	933	737	372	187
D32	320	6400	1600	45000*	34992	8760	4368	2283	1167	921	465	233
08B	256	5120	1280	45000*	43752	10944	5472	2856	1458	1151	581	292
D20 (010)	200	4000	1000	45000*	45000*	13992	7008	3648	1867	1474	743	373
D16	160	3200	800	45000*	34992	8760	4368	2283	1167	921	465	233
07B	128	2560	640	45000*	45000*	21864	10944	5712	2917	2302	1161	584
D10 (020)	100	2000	500	45000*	45000*	13992	7008	3648	1867	1474	743	373
D08	80	1600	400	45000*	34992	8760	4368	2283	1167	921	465	233
06B	64	1280	320	45000*	45000*	43752	21864	11424	5834	4605	2322	1167
D04 (050)	40	800	200	45000*	34992	8760	4368	2283	1167	921	465	233
05B	32	640	160	45000*	45000*	45000*	43752	22824	11667	9210	4645	2335
04B	16	320	80	n/a	45000*	45000*	45000*	45000*	23335	18420	9290	4669
03B	8	160	40	n/a	n/a	45000*	45000*	45000*	45000*	36839	18579	9339
Minimum edge separation (µs)				0.07	0.13	0.50	1	2	4	5	10	20
Maximum count frequency (MHz)				15	8	2	1	0.5	0.25	0.2	0.1	0.05
Part numbering				K	A	B	C	D	E	F	G	H

* The maximum available rotational speed is limited by the mechanical properties of the ring. For higher speeds please [contact RLS](#).

MR040G Radial magnetic ring max speed 64 poles without protection cover

Valid for:

LM10	LM13	LM13_20 High speed	LM15	RLB	RLM	RLC
------	------	-----------------------	------	-----	-----	-----

Ordering code	Interpolation	Resolution		Maximum rpm								
		cpr	ppr									
13B	8192	524288	131072	855	427	107	53	28	14	11	6	3
12B	4096	262144	65536	1710	855	214	107	56	28	22	11	6
11B	2048	131072	32768	3420	1710	427	214	111	57	45	23	11
2D0 (001)	2000	128000	32000	3503	1748	437	219	114	58	46	23	12
1D6	1600	102400	25600	4373	2190	547	273	143	73	58	29	15
10B	1024	65536	16384	6833	3420	855	427	223	114	90	45	23
1D0 (002)	1000	64000	16000	6998	3503	878	437	228	117	92	46	23
D80	800	51200	12800	8753	4373	1095	547	285	146	115	58	29
09B	512	32768	8192	10500	6833	1710	855	446	228	180	91	46
D50	500	32000	8000	10500	6998	1748	878	457	233	184	93	47
D40 (005)	400	25600	6400	10500	8753	2190	1095	571	292	230	116	58
D32	320	20480	5120	10500	10500	2738	1365	713	365	288	145	73
08B	256	16384	4096	10500	10500	3420	1710	893	456	360	181	91
D20 (010)	200	12800	3200	10500	10500	4373	2190	1140	583	461	232	117
D16	160	10240	2560	10500	10500	2738	1365	713	365	288	145	73
07B	128	8192	2048	10500	10500	6833	3420	1785	912	720	363	182
D10 (020)	100	6400	1600	10500	10500	4373	2190	1140	583	461	232	117
D08	80	5120	1280	10500	10500	2738	1365	713	365	288	145	73
06B	64	4096	1024	10500	10500	10500	6833	3570	1823	1439	726	365
D04 (050)	40	2560	640	10500	10500	2738	1365	713	365	288	145	73
05B	32	2048	512	10500	10500	10500	10500	7133	3646	2878	1452	730
04B	16	1024	256	n/a	10500	10500	10500	10500	7292	5756	2903	1459
03B	8	512	128	n/a	n/a	10500	10500	10500	10500	10500	5806	2918
Minimum edge separation (µs)				0.07	0.13	0.50	1	2	4	5	10	20
Maximum count frequency (MHz)				15	8	2	1	0.5	0.25	0.2	0.1	0.05
Part numbering				K	A	B	C	D	E	F	G	H

MR040G Radial magnetic ring max speed 64 poles with protection cover

Valid for:

LM10	LM13	LM13_20 High speed	LM15	RLB	RLM	RLC
------	------	-----------------------	------	-----	-----	-----

Ordering code	Interpolation	Resolution		Maximum rpm								
		cpr	ppr	NOTE: Values in brackets are valid for LM13 standard version only.								
13B	8192	524288	131072	855	427	107	53	28	14	11	6	3
12B	4096	262144	65536	1710	855	214	107	56	28	22	11	6
11B	2048	131072	32768	3420	1710	427	214	111	57	45	23	11
2D0 (001)	2000	128000	32000	3503	1748	437	219	114	58	46	23	12
1D6	1600	102400	25600	4373	2190	547	273	143	73	58	29	15
10B	1024	65536	16384	6833	3420	855	427	223	114	90	45	23
1D0 (002)	1000	64000	16000	6998	3503	878	437	228	117	92	46	23
D80	800	51200	12800	8753	4373	1095	547	285	146	115	58	29
09B	512	32768	8192	13673 (10500)	6833	1710	855	446	228	180	91	46
D50	500	32000	8000	14003 (10500)	6998	1748	878	457	233	184	93	47
D40 (005)	400	25600	6400	17498 (10500)	8753	2190	1095	571	292	230	116	58
D32	320	20480	5120	21878 (10500)	10935 (10500)	2738	1365	713	365	288	145	73
08B	256	16384	4096	27345 (10500)	13673 (10500)	3420	1710	893	456	360	181	91
D20 (010)	200	12800	3200	35003 (10500)	17498 (10500)	4373	2190	1140	583	461	232	117
D16	160	10240	2560	21878 (10500)	10935 (10500)	2738	1365	713	365	288	145	73
07B	128	8192	2048	42000* (10500)	27345 (10500)	6833	3420	1785	912	720	363	182
D10 (020)	100	6400	1600	35003 (10500)	17498 (10500)	4373	2190	1140	583	461	232	117
D08	80	5120	1280	21878 (10500)	10935 (10500)	2738	1365	713	365	288	145	73
06B	64	4096	1024	42000* (10500)	42000* (10500)	13673 (10500)	6833	3570	1823	1439	726	365
D04 (050)	40	2560	640	21878 (10500)	10935 (10500)	2738	1365	713	365	288	145	73
05B	32	2048	512	42000* (10500)	42000* (10500)	27345 (10500)	13673 (10500)	7133	3646	2878	1452	730
04B	16	1024	256	n/a	42000* (10500)	42000* (10500)	27345 (10500)	14265 (10500)	7292	5756	2903	1459
03B	8	512	128	n/a	n/a	42000* (10500)	42000* (10500)	28530 (10500)	14584 (10500)	11512 (10500)	5806	2918
Minimum edge separation (µs)				0.07	0.13	0.50	1	2	4	5	10	20
Maximum count frequency (MHz)				15	8	2	1	0.5	0.25	0.2	0.1	0.05
Part numbering				K	A	B	C	D	E	F	G	H

* The maximum available rotational speed is limited by the mechanical properties of the ring. For higher speeds please [contact RLS](#).

MR040G Radial magnetic ring max speed 26 poles without protection cover

Valid for:

LM10	LM13	LM13_20 High speed	LM15	RLB	RLM	RLC
------	------	-----------------------	-------------	-----	-----	-----

Ordering code	Interpolation	Resolution		Maximum rpm								
		cpr	ppr									
13B	8192	212992	53248	2105	1052	263	131	69	35	28	14	7
12B	4096	106496	26624	4209	2105	526	263	137	70	55	28	14
11B	2048	53248	13312	8418	4209	1052	526	274	140	111	56	28
2D0 (001)	2000	52000	13000	8622	4302	1077	538	281	144	113	57	29
1D6	1600	41600	10400	10504	5391	1346	673	351	179	142	71	36
10B	1024	26624	6656	10504	8418	2105	1052	549	280	221	112	56
1D0 (002)	1000	26000	6500	10504	8622	2160	1077	562	287	227	114	57
D80	800	20800	5200	10504	10504	2695	1346	702	359	283	143	72
09B	512	13312	3328	10504	10504	4209	2105	1097	561	443	223	112
D50	500	13000	3250	10504	10504	4302	2160	1124	574	453	229	115
D40 (005)	400	10400	2600	10504	10504	5391	2695	1405	718	567	286	144
D32	320	8320	2080	10504	10504	6738	3360	1756	897	708	357	179
08B	256	6656	1664	10504	10504	8418	4209	2197	1122	886	447	224
D20 (010)	200	5200	1300	10504	10504	10504	5391	2806	1436	1134	572	287
D16	160	4160	1040	10504	10504	6738	3360	1756	897	708	357	179
07B	128	3328	832	10504	10504	10504	8418	4394	2244	1771	893	449
D10 (020)	100	2600	650	10504	10504	10504	5391	2806	1436	1134	572	287
D08	80	2080	520	10504	10504	6738	3360	1756	897	708	357	179
06B	64	1664	416	10504	10504	10504	10504	8788	4487	3542	1786	898
D04 (050)	40	1040	260	10504	10504	6738	3360	1756	897	708	357	179
05B	32	832	208	10504	10504	10504	10504	10504	8975	7085	3573	1796
04B	16	416	104	n/a	10504	10504	10504	10504	10504	10504	7146	3592
03B	8	208	52	n/a	n/a	10504	10504	10504	10504	10504	10504	7184
Minimum edge separation (µs)				0.07	0.13	0.50	1	2	4	5	10	20
Maximum count frequency (MHz)				15	8	2	1	0.5	0.25	0.2	0.1	0.05
Part numbering				K	A	B	C	D	E	F	G	H

MR040G Radial magnetic ring max speed 26 poles with protection cover

Valid for:

LM10	LM13	LM13_20 High speed	LM15	RLB	RLM	RLC
------	------	-----------------------	-------------	-----	-----	-----

Ordering code	Interpolation	Resolution		Maximum rpm								
		cpr	ppr									
13B	8192	212992	53248	2105	1052	263	131	69	35	28	14	7
12B	4096	106496	26624	4209	2105	526	263	137	70	55	28	14
11B	2048	53248	13312	8418	4209	1052	526	274	140	111	56	28
2D0 (001)	2000	52000	13000	8622	4302	1077	538	281	144	113	57	29
1D6	1600	41600	10400	10763	5391	1346	673	351	179	142	71	36
10B	1024	26624	6656	16818	8418	2105	1052	549	280	221	112	56
1D0 (002)	1000	26000	6500	17225	8622	2160	1077	562	287	227	114	57
D80	800	20800	5200	21545	10763	2695	1346	702	359	283	143	72
09B	512	13312	3328	33655	16818	4209	2105	1097	561	443	223	112
D50	500	13000	3250	34468	17225	4302	2160	1124	574	453	229	115
D40 (005)	400	10400	2600	42000*	21545	5391	2695	1405	718	567	286	144
D32	320	8320	2080	42000*	26917	6738	3360	1756	897	708	357	179
08B	256	6656	1664	42000*	33655	8418	4209	2197	1122	886	447	224
D20 (010)	200	5200	1300	42000*	42000*	10763	5391	2806	1436	1134	572	287
D16	160	4160	1040	42000*	26917	6738	3360	1756	897	708	357	179
07B	128	3328	832	42000*	42000*	16818	8418	4394	2244	1771	893	449
D10 (020)	100	2600	650	42000*	42000*	10763	5391	2806	1436	1134	572	287
D08	80	2080	520	42000*	26917	6738	3360	1756	897	708	357	179
06B	64	1664	416	42000*	42000*	33655	16818	8788	4487	3542	1786	898
D04 (050)	40	1040	260	42000*	26917	6738	3360	1756	897	708	357	179
05B	32	832	208	42000*	42000*	42000*	33655	17557	8975	7085	3573	1796
04B	16	416	104	n/a	42000*	42000*	42000*	35114	17950	14169	7146	3592
03B	8	208	52	n/a	n/a	42000*	42000*	42000*	35900	28338	14292	7184
Minimum edge separation (µs)				0.07	0.13	0.50	1	2	4	5	10	20
Maximum count frequency (MHz)				15	8	2	1	0.5	0.25	0.2	0.1	0.05
Part numbering				K	A	B	C	D	E	F	G	H

* The maximum available rotational speed is limited by the mechanical properties of the ring. For higher speeds please [contact RLS](#).

MR047B Radial magnetic ring max speed 76 poles without protection cover

Valid for:

LM10	LM13	LM13_20 High speed	LM15	RLB	RLM	RLC
------	------	-----------------------	------	-----	-----	-----

Ordering code	Interpolation	Resolution		Maximum rpm								
		cpr	ppr									
13B	8192	622592	155648	720	360	90	45	23	12	9	5	2
12B	4096	311296	77824	1440	720	180	90	47	24	19	10	5
11B	2048	155648	38912	2880	1440	360	180	94	48	38	19	10
2D0 (001)	2000	152000	38000	2949	1472	368	184	96	49	39	20	10
1D6	1600	121600	30400	3682	1844	461	230	120	61	48	24	12
10B	1024	77824	19456	5754	2880	720	360	188	96	76	38	19
1D0 (002)	1000	76000	19000	5893	2949	739	368	192	98	78	39	20
D80	800	60800	15200	7371	3682	922	461	240	123	97	49	25
09B	512	38912	9728	8842	5754	1440	720	375	192	151	76	38
D50	500	38000	9500	8842	5893	1472	739	384	196	155	78	39
D40 (005)	400	30400	7600	8842	7371	1844	922	481	246	194	98	49
D32	320	24320	6080	8842	8842	2305	1149	601	307	242	122	61
08B	256	19456	4864	8842	8842	2880	1440	752	384	303	153	77
D20 (010)	200	15200	3800	8842	8842	3682	1844	960	491	388	196	98
D16	160	12160	3040	8842	8842	2305	1149	601	307	242	122	61
07B	128	9728	2432	8842	8842	5754	2880	1503	768	606	306	154
D10 (020)	100	7600	1900	8842	8842	3682	1844	960	491	388	196	98
D08	80	6080	1520	8842	8842	2305	1149	601	307	242	122	61
06B	64	4864	1216	8842	8842	8842	5754	3006	1535	1212	611	307
D04 (050)	40	3040	760	8842	8842	2305	1149	601	307	242	122	61
05B	32	2432	608	8842	8842	8842	8842	6006	3070	2424	1222	614
04B	16	1216	304	n/a	8842	8842	8842	8842	6141	4847	2445	1229
03B	8	608	152	n/a	n/a	8842	8842	8842	8842	8842	4889	2458
Minimum edge separation (µs)				0.07	0.13	0.50	1	2	4	5	10	20
Maximum count frequency (MHz)				15	8	2	1	0.5	0.25	0.2	0.1	0.05
Part numbering				K	A	B	C	D	E	F	G	H

MR050E Radial magnetic ring max speed 80 poles without protection cover

Valid for:

LM10	LM13	LM13_20 High speed	LM15	RLB	RLM	RLC
------	------	-----------------------	------	-----	-----	-----

Ordering code	Interpolation	Resolution		Maximum rpm								
		cpr	ppr									
13B	8192	655360	163840	684	342	85	43	22	11	9	5	2
12B	4096	327680	81920	1368	684	171	85	45	23	18	9	5
11B	2048	163840	40960	2736	1368	342	171	89	46	36	18	9
2D0 (001)	2000	160000	40000	2802	1398	350	175	91	47	37	19	9
1D6	1600	128000	32000	3498	1752	438	219	114	58	46	23	12
10B	1024	81920	20480	5466	2736	684	342	178	91	72	36	18
1D0 (002)	1000	80000	20000	5598	2802	702	350	183	93	74	37	19
D80	800	64000	16000	7002	3498	876	438	228	117	92	46	23
09B	512	40960	10240	8387	5466	1368	684	357	182	144	73	36
D50	500	40000	10000	8387	5598	1398	702	365	187	147	74	37
D40 (005)	400	32000	8000	8387	7002	1752	876	457	233	184	93	47
D32	320	25600	6400	8387	8387	2190	1092	571	292	230	116	58
08B	256	20480	5120	8387	8387	2736	1368	714	365	288	145	73
D20 (010)	200	16000	4000	8387	8387	3498	1752	912	467	368	186	93
D16	160	12800	3200	8387	8387	2190	1092	571	292	230	116	58
07B	128	10240	2560	8387	8387	5466	2736	1428	729	576	290	146
D10 (020)	100	8000	2000	8387	8387	3498	1752	912	467	368	186	93
D08	80	6400	1600	8387	8387	2190	1092	571	292	230	116	58
06B	64	5120	1280	8387	8387	8387	5466	2856	1458	1151	581	292
D04 (050)	40	3200	800	8387	8387	2190	1092	571	292	230	116	58
05B	32	2560	640	8387	8387	8387	8387	5706	2917	2302	1161	584
04B	16	1280	320	n/a	8387	8387	8387	8387	5834	4605	2322	1167
03B	8	640	160	n/a	n/a	8387	8387	8387	8387	8387	4645	2335
Minimum edge separation (µs)				0.07	0.13	0.50	1	2	4	5	10	20
Maximum count frequency (MHz)				15	8	2	1	0.5	0.25	0.2	0.1	0.05
Part numbering				K	A	B	C	D	E	F	G	H

MR050E Radial magnetic ring max speed 80 poles with protection cover

Valid for:

LM10	LM13	LM13_20 High speed	LM15	RLB	RLM	RLC
------	------	-----------------------	------	-----	-----	-----

Ordering code	Interpolation	Resolution		Maximum rpm								
		cpr	ppr	NOTE: Values in brackets are valid for LM13 standard version only.								
13B	8192	655360	163840	684	342	85	43	22	11	9	5	2
12B	4096	327680	81920	1368	684	171	85	45	23	18	9	5
11B	2048	163840	40960	2736	1368	342	171	89	46	36	18	9
2D0 (001)	2000	160000	40000	2802	1398	350	175	91	47	37	19	9
1D6	1600	128000	32000	3498	1752	438	219	114	58	46	23	12
10B	1024	81920	20480	5466	2736	684	342	178	91	72	36	18
1D0 (002)	1000	80000	20000	5598	2802	702	350	183	93	74	37	19
D80	800	64000	16000	7002	3498	876	438	228	117	92	46	23
09B	512	40960	10240	10938 (8400)	5466	1368	684	357	182	144	73	36
D50	500	40000	10000	11202 (8400)	5598	1398	702	365	187	147	74	37
D40 (005)	400	32000	8000	13998 (8400)	7002	1752	876	457	233	184	93	47
D32	320	25600	6400	17502 (8400)	8748 (8400)	2190	1092	571	292	230	116	58
08B	256	20480	5120	21876 (8400)	10938 (8400)	2736	1368	714	365	288	145	73
D20 (010)	200	16000	4000	28002 (8400)	13998 (8400)	3498	1752	912	467	368	186	93
D16	160	12800	3200	17502 (8400)	8748 (8400)	2190	1092	571	292	230	116	58
07B	128	10240	2560	38000 (8400)	21876 (8400)	5466	2736	1428	729	576	290	146
D10 (020)	100	8000	2000	28002 (8400)	13998 (8400)	3498	1752	912	467	368	186	93
D08	80	6400	1600	17502 (8400)	8748 (8400)	2190	1092	571	292	230	116	58
06B	64	5120	1280	38000 (8400)	38000 (8400)	10938 (8400)	5466	2856	1458	1151	581	292
D04 (050)	40	3200	800	17502 (8400)	8748 (8400)	2190	1092	571	292	230	116	58
05B	32	2560	640	38000 (8400)	38000 (8400)	21876 (8400)	10938 (8400)	5706	2917	2302	1161	584
04B	16	1280	320	n/a	38000 (8400)	38000 (8400)	21876 (8400)	11412 (8400)	5834	4605	2322	1167
03B	8	640	160	n/a	n/a	38000 (8400)	38000 (8400)	22824 (8400)	11667 (8400)	9210 (8400)	4645	2335
Minimum edge separation (µs)				0.07	0.13	0.50	1	2	4	5	10	20
Maximum count frequency (MHz)				15	8	2	1	0.5	0.25	0.2	0.1	0.05
Part numbering				K	A	B	C	D	E	F	G	H

* The maximum available rotational speed is limited by the mechanical properties of the ring. For higher speeds please [contact RLS](#).

MR050E Radial magnetic ring max speed 32 poles without protection cover

Valid for:

LM10	LM13	LM13_20 High speed	LM15	RLB	RLM	RLC
------	------	-----------------------	-------------	-----	-----	-----

Ordering code	Interpolation	Resolution		Maximum rpm								
		cpr	ppr									
13B	8192	262144	65536	1710	854	214	107	56	28	22	11	6
12B	4096	131072	32768	3420	1710	427	214	111	57	45	23	11
11B	2048	65536	16384	6840	3420	854	427	223	114	90	45	23
2D0 (001)	2000	64000	16000	7005	3495	875	438	228	117	92	46	23
1D6	1600	51200	12800	8387	4380	1094	547	285	146	115	58	29
10B	1024	32768	8192	8387	6840	1710	854	446	228	180	91	46
1D0 (002)	1000	32000	8000	8387	7005	1755	875	457	233	184	93	47
D80	800	25600	6400	8387	8387	2190	1094	571	292	230	116	58
09B	512	16384	4096	8387	8387	3420	1710	892	456	360	181	91
D50	500	16000	4000	8387	8387	3495	1755	913	467	368	186	93
D40 (005)	400	12800	3200	8387	8387	4380	2190	1141	583	461	232	117
D32	320	10240	2560	8387	8387	5475	2730	1427	729	576	290	146
08B	256	8192	2048	8387	8387	6840	3420	1785	912	720	363	182
D20 (010)	200	6400	1600	8387	8387	8387	4380	2280	1167	921	465	233
D16	160	5120	1280	8387	8387	5475	2730	1427	729	576	290	146
07B	128	4096	1024	8387	8387	8387	6840	3570	1823	1439	726	365
D10 (020)	100	3200	800	8387	8387	8387	4380	2280	1167	921	465	233
D08	80	2560	640	8387	8387	5475	2730	1427	729	576	290	146
06B	64	2048	512	8387	8387	8387	8387	7140	3646	2878	1452	730
D04 (050)	40	1280	320	8387	8387	5475	2730	1427	729	576	290	146
05B	32	1024	256	8387	8387	8387	8387	8387	7292	5756	2903	1459
04B	16	512	128	n/a	8387	8387	8387	8387	8387	8387	5806	2918
03B	8	256	64	n/a	n/a	8387	8387	8387	8387	8387	8387	5837
Minimum edge separation (µs)				0.07	0.13	0.50	1	2	4	5	10	20
Maximum count frequency (MHz)				15	8	2	1	0.5	0.25	0.2	0.1	0.05
Part numbering				K	A	B	C	D	E	F	G	H

MR050E Radial magnetic ring max speed 32 poles with protection cover

Valid for:

LM10	LM13	LM13_20 High speed	LM15	RLB	RLM	RLC
------	------	-----------------------	-------------	-----	-----	-----

Ordering code	Interpolation	Resolution		Maximum rpm								
		cpr	ppr									
13B	8192	262144	65536	1710	854	214	107	56	28	22	11	6
12B	4096	131072	32768	3420	1710	427	214	111	57	45	23	11
11B	2048	65536	16384	6840	3420	854	427	223	114	90	45	23
2D0 (001)	2000	64000	16000	7005	3495	875	438	228	117	92	46	23
1D6	1600	51200	12800	8745	4380	1094	547	285	146	115	58	29
10B	1024	32768	8192	13665	6840	1710	854	446	228	180	91	46
1D0 (002)	1000	32000	8000	13995	7005	1755	875	457	233	184	93	47
D80	800	25600	6400	17505	8745	2190	1094	571	292	230	116	58
09B	512	16384	4096	27345	13665	3420	1710	892	456	360	181	91
D50	500	16000	4000	28005	13995	3495	1755	913	467	368	186	93
D40 (005)	400	12800	3200	34995	17505	4380	2190	1141	583	461	232	117
D32	320	10240	2560	38000*	21870	5475	2730	1427	729	576	290	146
08B	256	8192	2048	38000*	27345	6840	3420	1785	912	720	363	182
D20 (010)	200	6400	1600	38000*	34995	8745	4380	2280	1167	921	465	233
D16	160	5120	1280	38000*	21870	5475	2730	1427	729	576	290	146
07B	128	4096	1024	38000*	38000*	13665	6840	3570	1823	1439	726	365
D10 (020)	100	3200	800	38000*	34995	8745	4380	2280	1167	921	465	233
D08	80	2560	640	38000*	21870	5475	2730	1427	729	576	290	146
06B	64	2048	512	38000*	38000*	27345	13665	7140	3646	2878	1452	730
D04 (050)	40	1280	320	38000*	21870	5475	2730	1427	729	576	290	146
05B	32	1024	256	38000*	38000*	38000*	27345	14265	7292	5756	2903	1459
04B	16	512	128	n/a	38000*	38000*	38000*	28530	14584	11512	5806	2918
03B	8	256	64	n/a	n/a	38000*	38000*	38000*	29169	23025	11612	5837
Minimum edge separation (µs)				0.07	0.13	0.50	1	2	4	5	10	20
Maximum count frequency (MHz)				15	8	2	1	0.5	0.25	0.2	0.1	0.05
Part numbering				K	A	B	C	D	E	F	G	H

* The maximum available rotational speed is limited by the mechanical properties of the ring. For higher speeds please [contact RLS](#).

MR057E Radial magnetic ring max speed 90 poles without protection cover

Valid for:

LM10	LM13	LM13_20 High speed	LM15	RLB	RLM	RLC
------	------	-----------------------	------	-----	-----	-----

Ordering code	Interpolation	Resolution		Maximum rpm								
		cpr	ppr									
13B	8192	737280	184320	608	304	76	38	20	10	8	4	2
12B	4096	368640	92160	1216	608	152	76	40	20	16	8	4
11B	2048	184320	46080	2432	1216	304	152	79	41	32	16	8
2D0 (001)	2000	180000	45000	2491	1243	311	156	81	41	33	17	8
1D6	1600	144000	36000	3109	1557	389	194	101	52	41	21	10
10B	1024	92160	23040	4859	2432	608	304	159	81	64	32	16
1D0 (002)	1000	90000	22500	4976	2491	624	311	162	83	65	33	17
D80	800	72000	18000	6224	3109	779	389	203	104	82	41	21
09B	512	46080	11520	7437	4859	1216	608	317	162	128	65	32
D50	500	45000	11250	7437	4976	1243	624	325	166	131	66	33
D40 (005)	400	36000	9000	7437	6224	1557	779	406	207	164	83	41
D32	320	28800	7200	7437	7437	1947	971	507	259	205	103	52
08B	256	23040	5760	7437	7437	2432	1216	635	324	256	129	65
D20 (010)	200	18000	4500	7437	7437	3109	1557	811	415	327	165	83
D16	160	14400	3600	7437	7437	1947	971	507	259	205	103	52
07B	128	11520	2880	7437	7437	4859	2432	1269	648	512	258	130
D10 (020)	100	9000	2250	7437	7437	3109	1557	811	415	327	165	83
D08	80	7200	1800	7437	7437	1947	971	507	259	205	103	52
06B	64	5760	1440	7437	7437	7437	4859	2539	1296	1023	516	259
D04 (050)	40	3600	900	7437	7437	1947	971	507	259	205	103	52
05B	32	2880	720	7437	7437	7437	7437	5072	2593	2047	1032	519
04B	16	1440	360	n/a	7437	7437	7437	7437	5186	4093	2064	1038
03B	8	720	180	n/a	n/a	7437	7437	7437	7437	7437	4129	2075
Minimum edge separation (µs)				0.07	0.13	0.50	1	2	4	5	10	20
Maximum count frequency (MHz)				15	8	2	1	0.5	0.25	0.2	0.1	0.05
Part numbering				K	A	B	C	D	E	F	G	H

MR057E Radial magnetic ring max speed 90 poles with protection cover

Valid for:

LM10	LM13	LM13_20 High speed	LM15	RLB	RLM	RLC
------	------	-----------------------	------	-----	-----	-----

Ordering code	Interpolation	Resolution		Maximum rpm								
		cpr	ppr	NOTE: Values in brackets are valid for LM13 standard version only.								
13B	8192	737280	184320	608	304	76	38	20	10	8	4	2
12B	4096	368640	92160	1216	608	152	76	40	20	16	8	4
11B	2048	184320	46080	2432	1216	304	152	79	41	32	16	8
2D0 (001)	2000	180000	45000	2491	1243	311	156	81	41	33	17	8
1D6	1600	144000	36000	3109	1557	389	194	101	52	41	21	10
10B	1024	92160	23040	4859	2432	608	304	159	81	64	32	16
1D0 (002)	1000	90000	22500	4976	2491	624	311	162	83	65	33	17
D80	800	72000	18000	6224	3109	779	389	203	104	82	41	21
09B	512	46080	11520	9723 (7467)	4859	1216	608	317	162	128	65	32
D50	500	45000	11250	9957 (7467)	4976	1243	624	325	166	131	66	33
D40 (005)	400	36000	9000	12443 (7467)	6224	1557	779	406	207	164	83	41
D32	320	28800	7200	15557 (7467)	7776 (7467)	1947	971	507	259	205	103	52
08B	256	23040	5760	19445 (7467)	9723 (7467)	2432	1216	635	324	256	129	65
D20 (010)	200	18000	4500	24891 (7467)	12443 (7467)	3109	1557	811	415	327	165	83
D16	160	14400	3600	15557 (7467)	7776 (7467)	1947	971	507	259	205	103	52
07B	128	11520	2880	35000* (7467)	19445 (7467)	4859	2432	1269	648	512	258	130
D10 (020)	100	9000	2250	24891 (7467)	12443 (7467)	3109	1557	811	415	327	165	83
D08	80	7200	1800	15557 (7467)	7776 (7467)	1947	971	507	259	205	103	52
06B	64	5760	1440	35000* (7467)	35000* (7467)	9723 (7467)	4859	2539	1296	1023	516	259
D04 (050)	40	3600	900	15557 (7467)	7776 (7467)	1947	971	507	259	205	103	52
05B	32	2880	720	35000* (7467)	35000* (7467)	19445 (7467)	9723 (7467)	5072	2593	2047	1032	519
04B	16	1440	360	n/a	35000* (7467)	35000* (7467)	19445 (7467)	10144 (7467)	5186	4093	2064	1038
03B	8	720	180	n/a	n/a	35000* (7467)	35000* (7467)	20288 (7467)	10371 (7467)	8187 (7467)	4129	2075
Minimum edge separation (µs)				0.07	0.13	0.50	1	2	4	5	10	20
Maximum count frequency (MHz)				15	8	2	1	0.5	0.25	0.2	0.1	0.05
Part numbering				K	A	B	C	D	E	F	G	H

* The maximum available rotational speed is limited by the mechanical properties of the ring. For higher speeds please [contact RLS](#).

MR057E Radial magnetic ring max speed 36 poles without protection cover

Valid for:

LM10	LM13	LM13_20 High speed	LM15	RLB	RLM	RLC
------	------	-----------------------	-------------	-----	-----	-----

Ordering code	Interpolation	Resolution		Maximum rpm								
		cpr	ppr									
13B	8192	294912	73728	1520	760	190	95	50	25	20	10	5
12B	4096	147456	36864	3040	1520	380	190	99	51	40	20	10
11B	2048	73728	18432	6080	3040	760	380	198	101	80	40	20
2D0 (001)	2000	72000	18000	6227	3107	778	389	203	104	82	41	21
1D6	1600	57600	14400	7437	3893	972	486	254	130	102	52	26
10B	1024	36864	9216	7437	6080	1520	760	396	203	160	81	41
1D0 (002)	1000	36000	9000	7437	6227	1560	778	406	207	164	83	41
D80	800	28800	7200	7437	7437	1947	972	507	259	205	103	52
09B	512	18432	4608	7437	7437	3040	1520	793	405	320	161	81
D50	500	18000	4500	7437	7437	3107	1560	812	415	327	165	83
D40 (005)	400	14400	3600	7437	7437	3893	1947	1014	519	409	206	104
D32	320	11520	2880	7437	7437	4867	2427	1268	648	512	258	130
08B	256	9216	2304	7437	7437	6080	3040	1587	810	640	323	162
D20 (010)	200	7200	1800	7437	7437	7437	3893	2027	1037	819	413	207
D16	160	5760	1440	7437	7437	4867	2427	1268	648	512	258	130
07B	128	4608	1152	7437	7437	7437	6080	3173	1620	1279	645	324
D10 (020)	100	3600	900	7437	7437	7437	3893	2027	1037	819	413	207
D08	80	2880	720	7437	7437	4867	2427	1268	648	512	258	130
06B	64	2304	576	7437	7437	7437	7437	6347	3241	2558	1290	649
D04 (050)	40	1440	360	7437	7437	4867	2427	1268	648	512	258	130
05B	32	1152	288	7437	7437	7437	7437	7437	6482	5117	2580	1297
04B	16	576	144	n/a	7437	7437	7437	7437	7437	7437	5161	2594
03B	8	288	72	n/a	n/a	7437	7437	7437	7437	7437	7437	5188
Minimum edge separation (µs)				0.07	0.13	0.50	1	2	4	5	10	20
Maximum count frequency (MHz)				15	8	2	1	0.5	0.25	0.2	0.1	0.05
Part numbering				K	A	B	C	D	E	F	G	H

MR057E Radial magnetic ring max speed 36 poles with protection cover

Valid for:

LM10	LM13	LM13_20 High speed	LM15	RLB	RLM	RLC
------	------	-----------------------	-------------	-----	-----	-----

Ordering code	Interpolation	Resolution		Maximum rpm								
		cpr	ppr									
13B	8192	294912	73728	1520	760	190	95	50	25	20	10	5
12B	4096	147456	36864	3040	1520	380	190	99	51	40	20	10
11B	2048	73728	18432	6080	3040	760	380	198	101	80	40	20
2D0 (001)	2000	72000	18000	6227	3107	778	389	203	104	82	41	21
1D6	1600	57600	14400	7773	3893	972	486	254	130	102	52	26
10B	1024	36864	9216	12147	6080	1520	760	396	203	160	81	41
1D0 (002)	1000	36000	9000	12440	6227	1560	778	406	207	164	83	41
D80	800	28800	7200	15560	7773	1947	972	507	259	205	103	52
09B	512	18432	4608	24307	12147	3040	1520	793	405	320	161	81
D50	500	18000	4500	24893	12440	3107	1560	812	415	327	165	83
D40 (005)	400	14400	3600	31107	15560	3893	1947	1014	519	409	206	104
D32	320	11520	2880	35000*	19440	4867	2427	1268	648	512	258	130
08B	256	9216	2304	35000*	24307	6080	3040	1587	810	640	323	162
D20 (010)	200	7200	1800	35000*	31107	7773	3893	2027	1037	819	413	207
D16	160	5760	1440	35000*	19440	4867	2427	1268	648	512	258	130
07B	128	4608	1152	35000*	35000*	12147	6080	3173	1620	1279	645	324
D10 (020)	100	3600	900	35000*	31107	7773	3893	2027	1037	819	413	207
D08	80	2880	720	35000*	19440	4867	2427	1268	648	512	258	130
06B	64	2304	576	35000*	35000*	24307	12147	6347	3241	2558	1290	649
D04 (050)	40	1440	360	35000*	19440	4867	2427	1268	648	512	258	130
05B	32	1152	288	35000*	35000*	35000*	24307	12680	6482	5117	2580	1297
04B	16	576	144	n/a	35000*	35000*	35000*	25360	12964	10233	5161	2594
03B	8	288	72	n/a	n/a	35000*	35000*	35000*	25928	20466	10322	5188
Minimum edge separation (µs)				0.07	0.13	0.50	1	2	4	5	10	20
Maximum count frequency (MHz)				15	8	2	1	0.5	0.25	0.2	0.1	0.05
Part numbering				K	A	B	C	D	E	F	G	H

* The maximum available rotational speed is limited by the mechanical properties of the ring. For higher speeds please [contact RLS](#).

MR057R Radial magnetic ring max speed 90 poles without protection cover

Valid for:

LM10	LM13	LM13_20 High speed	LM15	RLB	RLM	RLC
------	------	-----------------------	------	-----	-----	-----

Ordering code	Interpolation	Resolution		Maximum rpm								
		cpr	ppr									
13B	8192	737280	184320	608	304	76	38	20	10	8	4	2
12B	4096	368640	92160	1216	608	152	76	40	20	16	8	4
11B	2048	184320	46080	2432	1216	304	152	79	41	32	16	8
2D0 (001)	2000	180000	45000	2491	1243	311	156	81	41	33	17	8
1D6	1600	144000	36000	3109	1557	389	194	101	52	41	21	10
10B	1024	92160	23040	4859	2432	608	304	159	81	64	32	16
1D0 (002)	1000	90000	22500	4976	2491	624	311	162	83	65	33	17
D80	800	72000	18000	6224	3109	779	389	203	104	82	41	21
09B	512	46080	11520	7307	4859	1216	608	317	162	128	65	32
D50	500	45000	11250	7307	4976	1243	624	325	166	131	66	33
D40 (005)	400	36000	9000	7307	6224	1557	779	406	207	164	83	41
D32	320	28800	7200	7307	7307	1947	971	507	259	205	103	52
08B	256	23040	5760	7307	7307	2432	1216	635	324	256	129	65
D20 (010)	200	18000	4500	7307	7307	3109	1557	811	415	327	165	83
D16	160	14400	3600	7307	7307	1947	971	507	259	205	103	52
07B	128	11520	2880	7307	7307	4859	2432	1269	648	512	258	130
D10 (020)	100	9000	2250	7307	7307	3109	1557	811	415	327	165	83
D08	80	7200	1800	7307	7307	1947	971	507	259	205	103	52
06B	64	5760	1440	7307	7307	7307	4859	2539	1296	1023	516	259
D04 (050)	40	3600	900	7307	7307	1947	971	507	259	205	103	52
05B	32	2880	720	7307	7307	7307	7307	5072	2593	2047	1032	519
04B	16	1440	360	n/a	7307	7307	7307	7307	5186	4093	2064	1038
03B	8	720	180	n/a	n/a	7307	7307	7307	7307	7307	4129	2075
Minimum edge separation (µs)				0.07	0.13	0.50	1	2	4	5	10	20
Maximum count frequency (MHz)				15	8	2	1	0.5	0.25	0.2	0.1	0.05
Part numbering				K	A	B	C	D	E	F	G	H

MR057R Radial magnetic ring max speed 90 poles with protection cover

Valid for:

LM10	LM13	LM13_20 High speed	LM15	RLB	RLM	RLC
------	------	-----------------------	------	-----	-----	-----

Ordering code	Interpolation	Resolution		Maximum rpm								
		cpr	ppr	NOTE: Values in brackets are valid for LM13 standard version only.								
13B	8192	737280	184320	608	304	76	38	20	10	8	4	2
12B	4096	368640	92160	1216	608	152	76	40	20	16	8	4
11B	2048	184320	46080	2432	1216	304	152	79	41	32	16	8
2D0 (001)	2000	180000	45000	2491	1243	311	156	81	41	33	17	8
1D6	1600	144000	36000	3109	1557	389	194	101	52	41	21	10
10B	1024	92160	23040	4859	2432	608	304	159	81	64	32	16
1D0 (002)	1000	90000	22500	4976	2491	624	311	162	83	65	33	17
D80	800	72000	18000	6224	3109	779	389	203	104	82	41	21
09B	512	46080	11520	9723 (7467)	4859	1216	608	317	162	128	65	32
D50	500	45000	11250	9957 (7467)	4976	1243	624	325	166	131	66	33
D40 (005)	400	36000	9000	12443 (7467)	6224	1557	779	406	207	164	83	41
D32	320	28800	7200	15557 (7467)	7776 (7467)	1947	971	507	259	205	103	52
08B	256	23040	5760	19445 (7467)	9723 (7467)	2432	1216	635	324	256	129	65
D20 (010)	200	18000	4500	24891 (7467)	12443 (7467)	3109	1557	811	415	327	165	83
D16	160	14400	3600	15557 (7467)	7776 (7467)	1947	971	507	259	205	103	52
07B	128	11520	2880	35000* (7467)	19445 (7467)	4859	2432	1269	648	512	258	130
D10 (020)	100	9000	2250	24891 (7467)	12443 (7467)	3109	1557	811	415	327	165	83
D08	80	7200	1800	15557 (7467)	7776 (7467)	1947	971	507	259	205	103	52
06B	64	5760	1440	35000* (7467)	35000* (7467)	9723 (7467)	4859	2539	1296	1023	516	259
D04 (050)	40	3600	900	15557 (7467)	7776 (7467)	1947	971	507	259	205	103	52
05B	32	2880	720	35000* (7467)	35000* (7467)	19445 (7467)	9723 (7467)	5072	2593	2047	1032	519
04B	16	1440	360	n/a	35000* (7467)	35000* (7467)	19445 (7467)	10144 (7467)	5186	4093	2064	1038
03B	8	720	180	n/a	n/a	35000* (7467)	35000* (7467)	20288 (7467)	10371 (7467)	8187 (7467)	4129	2075
Minimum edge separation (µs)				0.07	0.13	0.50	1	2	4	5	10	20
Maximum count frequency (MHz)				15	8	2	1	0.5	0.25	0.2	0.1	0.05
Part numbering				K	A	B	C	D	E	F	G	H

* The maximum available rotational speed is limited by the mechanical properties of the ring. For higher speeds please [contact RLS](#).

MR075E Radial magnetic ring max speed 120 poles without protection cover

Valid for:

LM10	LM13	LM13_20 High speed	LM15	RLB	RLM	RLC
------	------	-----------------------	------	-----	-----	-----

Ordering code	Interpolation	Resolution		Maximum rpm								
		cpr	ppr									
13B	8192	983040	245760	456	228	57	28	15	8	6	3	2
12B	4096	491520	122880	912	456	114	57	30	15	12	6	3
11B	2048	245760	61440	1824	912	228	114	59	30	24	12	6
2D0 (001)	2000	240000	60000	1868	932	233	117	61	31	25	12	6
1D6	1600	192000	48000	2332	1168	292	146	76	39	31	15	8
10B	1024	122880	30720	3644	1824	456	228	119	61	48	24	12
1D0 (002)	1000	120000	30000	3732	1868	468	233	122	62	49	25	12
D80	800	96000	24000	4668	2332	584	292	152	78	61	31	16
09B	512	61440	15360	5573	3644	912	456	238	122	96	48	24
D50	500	60000	15000	5573	3732	932	468	243	124	98	50	25
D40 (005)	400	48000	12000	5573	4668	1168	584	304	156	123	62	31
D32	320	38400	9600	5573	5573	1460	728	380	194	154	77	39
08B	256	30720	7680	5573	5573	1824	912	476	243	192	97	49
D20 (010)	200	24000	6000	5573	5573	2332	1168	608	311	246	124	62
D16	160	19200	4800	5573	5573	1460	728	380	194	154	77	39
07B	128	15360	3840	5573	5573	3644	1824	952	486	384	194	97
D10 (020)	100	12000	3000	5573	5573	2332	1168	608	311	246	124	62
D08	80	9600	2400	5573	5573	1460	728	380	194	154	77	39
06B	64	7680	1920	5573	5573	5573	3644	1904	972	767	387	195
D04 (050)	40	4800	1200	5573	5573	1460	728	380	194	154	77	39
05B	32	3840	960	5573	5573	5573	5573	3804	1945	1535	774	389
04B	16	1920	480	n/a	5573	5573	5573	5573	3889	3070	1548	778
03B	8	960	240	n/a	n/a	5573	5573	5573	5573	5573	3097	1556
Minimum edge separation (µs)				0.07	0.13	0.50	1	2	4	5	10	20
Maximum count frequency (MHz)				15	8	2	1	0.5	0.25	0.2	0.1	0.05
Part numbering				K	A	B	C	D	E	F	G	H

MR075E Radial magnetic ring max speed 120 poles with protection cover

Valid for:

LM10	LM13	LM13_20 High speed	LM15	RLB	RLM	RLC
------	------	-----------------------	------	-----	-----	-----

Ordering code	Interpolation	Resolution		Maximum rpm								
		cpr	ppr	NOTE: Values in brackets are valid for LM13 standard version only.								
13B	8192	983040	245760	456	228	57	28	15	8	6	3	2
12B	4096	491520	122880	912	456	114	57	30	15	12	6	3
11B	2048	245760	61440	1824	912	228	114	59	30	24	12	6
2D0 (001)	2000	240000	60000	1868	932	233	117	61	31	25	12	6
1D6	1600	192000	48000	2332	1168	292	146	76	39	31	15	8
10B	1024	122880	30720	3644	1824	456	228	119	61	48	24	12
1D0 (002)	1000	120000	30000	3732	1868	468	233	122	62	49	25	12
D80	800	96000	24000	4668	2332	584	292	152	78	61	31	16
09B	512	61440	15360	7292 (5600)	3644	912	456	238	122	96	48	24
D50	500	60000	15000	7468 (5600)	3732	932	468	243	124	98	50	25
D40 (005)	400	48000	12000	9332 (5600)	4668	1168	584	304	156	123	62	31
D32	320	38400	9600	11668 (5600)	5832 (5600)	1460	728	380	194	154	77	39
08B	256	30720	7680	14584 (5600)	7292 (5600)	1824	912	476	243	192	97	49
D20 (010)	200	24000	6000	18668 (5600)	9332 (5600)	2332	1168	608	311	246	124	62
D16	160	19200	4800	11668 (5600)	5832 (5600)	1460	728	380	194	154	77	39
07B	128	15360	3840	29168 (5600)	14584 (5600)	3644	1824	952	486	384	194	97
D10 (020)	100	12000	3000	18668 (5600)	9332 (5600)	2332	1168	608	311	246	124	62
D08	80	9600	2400	11668 (5600)	5832 (5600)	1460	728	380	194	154	77	39
06B	64	7680	1920	31000* (5600)	29168 (5600)	7292 (5600)	3644	1904	972	767	387	195
D04 (050)	40	4800	1200	11668 (5600)	5832 (5600)	1460	728	380	194	154	77	39
05B	32	3840	960	31000* (5600)	31000* (5600)	14584 (5600)	7292 (5600)	3804	1945	1535	774	389
04B	16	1920	480	n/a	31000* (5600)	29168 (5600)	14584 (5600)	7608 (5600)	3889	3070	1548	778
03B	8	960	240	n/a	n/a	31000* (5600)	29168 (5600)	15216 (5600)	7778 (5600)	6140 (5600)	3097	1556
Minimum edge separation (µs)				0.07	0.13	0.50	1	2	4	5	10	20
Maximum count frequency (MHz)				15	8	2	1	0.5	0.25	0.2	0.1	0.05
Part numbering				K	A	B	C	D	E	F	G	H

* The maximum available rotational speed is limited by the mechanical properties of the ring. For higher speeds please [contact RLS](#).

MR075E Radial magnetic ring max speed 48 poles without protection cover

Valid for:

LM10	LM13	LM13_20 High speed	LM15	RLB	RLM	RLC
------	------	-----------------------	------	-----	-----	-----

Ordering code	Interpolation	Resolution		Maximum rpm								
		cpr	ppr									
13B	8192	393216	98304	1140	570	142	71	37	19	15	8	4
12B	4096	196608	49152	2280	1140	285	142	74	38	30	15	8
11B	2048	98304	24576	4560	2280	570	285	149	76	60	30	15
2D0 (001)	2000	96000	24000	4670	2330	583	292	152	78	61	31	16
1D6	1600	76800	19200	5573	2920	729	365	190	97	77	39	19
10B	1024	49152	12288	5573	4560	1140	570	297	152	120	60	30
1D0 (002)	1000	48000	12000	5573	4670	1170	583	304	156	123	62	31
D80	800	38400	9600	5573	5573	1460	729	380	194	154	77	39
09B	512	24576	6144	5573	5573	2280	1140	594	304	240	121	61
D50	500	24000	6000	5573	5573	2330	1170	609	311	246	124	62
D40 (005)	400	19200	4800	5573	5573	2920	1460	761	389	307	155	78
D32	320	15360	3840	5573	5573	3650	1820	951	486	384	194	97
08B	256	12288	3072	5573	5573	4560	2280	1190	608	480	242	122
D20 (010)	200	9600	2400	5573	5573	5573	2920	1520	778	614	310	156
D16	160	7680	1920	5573	5573	3650	1820	951	486	384	194	97
07B	128	6144	1536	5573	5573	5573	4560	2380	1215	959	484	243
D10 (020)	100	4800	1200	5573	5573	5573	2920	1520	778	614	310	156
D08	80	3840	960	5573	5573	3650	1820	951	486	384	194	97
06B	64	3072	768	5573	5573	5573	5573	4760	2431	1919	968	486
D04 (050)	40	1920	480	5573	5573	3650	1820	951	486	384	194	97
05B	32	1536	384	5573	5573	5573	5573	5573	4861	3837	1935	973
04B	16	768	192	n/a	5573	5573	5573	5573	5573	5573	3871	1946
03B	8	384	96	n/a	n/a	5573	5573	5573	5573	5573	5573	3891
Minimum edge separation (µs)				0.07	0.13	0.50	1	2	4	5	10	20
Maximum count frequency (MHz)				15	8	2	1	0.5	0.25	0.2	0.1	0.05
Part numbering				K	A	B	C	D	E	F	G	H

MR075E Radial magnetic ring max speed 48 poles with protection cover

Valid for:

LM10	LM13	LM13_20 High speed	LM15	RLB	RLM	RLC
------	------	-----------------------	-------------	-----	-----	-----

Ordering code	Interpolation	Resolution		Maximum rpm								
		cpr	ppr									
13B	8192	393216	98304	1140	570	142	71	37	19	15	8	4
12B	4096	196608	49152	2280	1140	285	142	74	38	30	15	8
11B	2048	98304	24576	4560	2280	570	285	149	76	60	30	15
2D0 (001)	2000	96000	24000	4670	2330	583	292	152	78	61	31	16
1D6	1600	76800	19200	5830	2920	729	365	190	97	77	39	19
10B	1024	49152	12288	9110	4560	1140	570	297	152	120	60	30
1D0 (002)	1000	48000	12000	9330	4670	1170	583	304	156	123	62	31
D80	800	38400	9600	11670	5830	1460	729	380	194	154	77	39
09B	512	24576	6144	18230	9110	2280	1140	594	304	240	121	61
D50	500	24000	6000	18670	9330	2330	1170	609	311	246	124	62
D40 (005)	400	19200	4800	23330	11670	2920	1460	761	389	307	155	78
D32	320	15360	3840	29170	14580	3650	1820	951	486	384	194	97
08B	256	12288	3072	31000*	18230	4560	2280	1190	608	480	242	122
D20 (010)	200	9600	2400	31000*	23330	5830	2920	1520	778	614	310	156
D16	160	7680	1920	29170	14580	3650	1820	951	486	384	194	97
07B	128	6144	1536	31000*	31000*	9110	4560	2380	1215	959	484	243
D10 (020)	100	4800	1200	31000*	23330	5830	2920	1520	778	614	310	156
D08	80	3840	960	29170	14580	3650	1820	951	486	384	194	97
06B	64	3072	768	31000*	31000*	18230	9110	4760	2431	1919	968	486
D04 (050)	40	1920	480	29170	14580	3650	1820	951	486	384	194	97
05B	32	1536	384	31000*	31000*	31000*	18230	9510	4861	3837	1935	973
04B	16	768	192	n/a	31000*	31000*	31000*	19020	9723	7675	3871	1946
03B	8	384	96	n/a	n/a	31000*	31000*	31000*	19446	15350	7741	3891
Minimum edge separation (µs)				0.07	0.13	0.50	1	2	4	5	10	20
Maximum count frequency (MHz)				15	8	2	1	0.5	0.25	0.2	0.1	0.05
Part numbering				K	A	B	C	D	E	F	G	H

* The maximum available rotational speed is limited by the mechanical properties of the ring. For higher speeds please [contact RLS](#).

MR080R Radial magnetic ring max speed 128 poles without protection cover

Valid for:

LM10	LM13	LM13_20 High speed	LM15	RLB	RLM	RLC
------	------	-----------------------	------	-----	-----	-----

Ordering code	Interpolation	Resolution		Maximum rpm								
		cpr	ppr									
13B	8192	1048576	262144	428	214	53	27	14	7	6	3	1
12B	4096	524288	131072	855	428	107	53	28	14	11	6	3
11B	2048	262144	65536	1710	855	214	107	56	28	22	11	6
2D0 (001)	2000	256000	64000	1751	874	219	109	57	29	23	12	6
1D6	1600	204800	51200	2186	1095	273	137	71	36	29	15	7
10B	1024	131072	32768	3416	1710	428	214	111	57	45	23	11
1D0 (002)	1000	128000	32000	3499	1751	439	219	114	58	46	23	12
D80	800	102400	25600	4376	2186	548	273	143	73	58	29	15
09B	512	65536	16384	5232	3416	855	428	223	114	90	45	23
D50	500	64000	16000	5232	3499	874	439	228	117	92	46	23
D40 (005)	400	51200	12800	5232	4376	1095	548	285	146	115	58	29
D32	320	40960	10240	5232	5232	1369	683	357	182	144	73	36
08B	256	32768	8192	5232	5232	1710	855	446	228	180	91	46
D20 (010)	200	25600	6400	5232	5232	2186	1095	570	292	230	116	58
D16	160	20480	5120	5232	5232	1369	683	357	182	144	73	36
07B	128	16384	4096	5232	5232	3416	1710	893	456	360	181	91
D10 (020)	100	12800	3200	5232	5232	2186	1095	570	292	230	116	58
D08	80	10240	2560	5232	5232	1369	683	357	182	144	73	36
06B	64	8192	2048	5232	5232	5232	3416	1785	912	720	363	182
D04 (050)	40	5120	1280	5232	5232	1369	683	357	182	144	73	36
05B	32	4096	1024	5232	5232	5232	5232	3566	1823	1439	726	365
04B	16	2048	512	n/a	5232	5232	5232	5232	3646	2878	1452	730
03B	8	1024	256	n/a	n/a	5232	5232	5232	5232	5232	2903	1459
Minimum edge separation (µs)				0.07	0.13	0.50	1	2	4	5	10	20
Maximum count frequency (MHz)				15	8	2	1	0.5	0.25	0.2	0.1	0.05
Part numbering				K	A	B	C	D	E	F	G	H

MR080R Radial magnetic ring max speed 128 poles with protection cover

Valid for:

LM10	LM13	LM13_20 High speed	LM15	RLB	RLM	RLC
------	------	-----------------------	------	-----	-----	-----

Ordering code	Interpolation	Resolution		Maximum rpm								
		cpr	ppr	NOTE: Values in brackets are valid for LM13 standard version only.								
13B	8192	1048576	262144	428	214	53	27	14	7	6	3	1
12B	4096	524288	131072	855	428	107	53	28	14	11	6	3
11B	2048	262144	65536	1710	855	214	107	56	28	22	11	6
2D0 (001)	2000	256000	64000	1751	874	219	109	57	29	23	12	6
1D6	1600	204800	51200	2186	1095	273	137	71	36	29	15	7
10B	1024	131072	32768	3416	1710	428	214	111	57	45	23	11
1D0 (002)	1000	128000	32000	3499	1751	439	219	114	58	46	23	12
D80	800	102400	25600	4376	2186	548	273	143	73	58	29	15
09B	512	65536	16384	6836 (5250)	3416	855	428	223	114	90	45	23
D50	500	64000	16000	7001 (5250)	3499	874	439	228	117	92	46	23
D40 (005)	400	51200	12800	8749 (5250)	4376	1095	548	285	146	115	58	29
D32	320	40960	10240	10939 (5250)	5468 (5250)	1369	683	357	182	144	73	36
08B	256	32768	8192	13673 (5250)	6836 (5250)	1710	855	446	228	180	91	46
D20 (010)	200	25600	6400	17501 (5250)	8749 (5250)	2186	1095	570	292	230	116	58
D16	160	20480	5120	10939 (5250)	5468 (5250)	1369	683	357	182	144	73	36
07B	128	16384	4096	27345 (5250)	13673 (5250)	3416	1710	893	456	360	181	91
D10 (020)	100	12800	3200	17501 (5250)	8749 (5250)	2186	1095	570	292	230	116	58
D08	80	10240	2560	10939 (5250)	5468 (5250)	1369	683	357	182	144	73	36
06B	64	8192	2048	29730 (5250)	27345 (5250)	6836 (5250)	3416	1785	912	720	363	182
D04 (050)	40	5120	1280	10939 (5250)	5468 (5250)	1369	683	357	182	144	73	36
05B	32	4096	1024	29730 (5250)	29730 (5250)	13673 (5250)	6836 (5250)	3566	1823	1439	726	365
04B	16	2048	512	n/a	29730 (5250)	27345 (5250)	13673 (5250)	7133 (5250)	3646	2878	1452	730
03B	8	1024	256	n/a	n/a	29730 (5250)	27345 (5250)	14265 (5250)	7292 (5250)	5756 (5250)	2903	1459
Minimum edge separation (µs)				0.07	0.13	0.50	1	2	4	5	10	20
Maximum count frequency (MHz)				15	8	2	1	0.5	0.25	0.2	0.1	0.05
Part numbering				K	A	B	C	D	E	F	G	H

MR100F Radial magnetic ring max speed 160 poles without protection cover

Valid for:

LM10	LM13	LM13_20 High speed	LM15	RLB	RLM	RLC
------	------	-----------------------	------	-----	-----	-----

Ordering code	Interpolation	Resolution		Maximum rpm								
		cpr	ppr									
13B	8192	1310720	327680	342	171	43	21	11	6	4	2	1
12B	4096	655360	163840	684	342	85	43	22	11	9	5	2
11B	2048	327680	81920	1368	684	171	85	45	23	18	9	5
2D0 (001)	2000	320000	80000	1401	699	175	88	46	23	18	9	5
1D6	1600	256000	64000	1749	876	219	109	57	29	23	12	6
10B	1024	163840	40960	2733	1368	342	171	89	46	36	18	9
1D0 (002)	1000	160000	40000	2799	1401	351	175	91	47	37	19	9
D80	800	128000	32000	3501	1749	438	219	114	58	46	23	12
09B	512	81920	20480	4181	2733	684	342	178	91	72	36	18
D50	500	80000	20000	4181	2799	699	351	183	93	74	37	19
D40 (005)	400	64000	16000	4181	3501	876	438	228	117	92	46	23
D32	320	51200	12800	4181	4181	1095	546	285	146	115	58	29
08B	256	40960	10240	4181	4181	1368	684	357	182	144	73	36
D20 (010)	200	32000	8000	4181	4181	1749	876	456	233	184	93	47
D16	160	25600	6400	4181	4181	1095	546	285	146	115	58	29
07B	128	20480	5120	4181	4181	2733	1368	714	365	288	145	73
D10 (020)	100	16000	4000	4181	4181	1749	876	456	233	184	93	47
D08	80	12800	3200	4181	4181	1095	546	285	146	115	58	29
06B	64	10240	2560	4181	4181	4181	2733	1428	729	576	290	146
D04 (050)	40	6400	1600	4181	4181	1095	546	285	146	115	58	29
05B	32	5120	1280	4181	4181	4181	4181	2853	1458	1151	581	292
04B	16	2560	640	n/a	4181	4181	4181	4181	2917	2302	1161	584
03B	8	1280	320	n/a	n/a	4181	4181	4181	4181	4181	2322	1167
Minimum edge separation (µs)				0.07	0.13	0.50	1	2	4	5	10	20
Maximum count frequency (MHz)				15	8	2	1	0.5	0.25	0.2	0.1	0.05
Part numbering				K	A	B	C	D	E	F	G	H

MR122E Radial magnetic ring max speed 194 poles without protection cover

Valid for:

LM10	LM13	LM13_20 High speed	LM15	RLB	RLM	RLC
------	------	-----------------------	------	-----	-----	-----

Ordering code	Interpolation	Resolution		Maximum rpm								
		cpr	ppr									
13B	8192	1589248	397312	282	141	35	18	9	5	4	2	1
12B	4096	794624	198656	564	282	70	35	18	9	7	4	2
11B	2048	397312	99328	1128	564	141	70	37	19	15	7	4
2D0 (001)	2000	388000	97000	1155	576	144	72	38	19	15	8	4
1D6	1600	310400	77600	1442	722	180	90	47	24	19	10	5
10B	1024	198656	49664	2254	1128	282	141	74	38	30	15	8
1D0 (002)	1000	194000	48500	2308	1155	289	144	75	38	30	15	8
D80	800	155200	38800	2887	1442	361	180	94	48	38	19	10
09B	512	99328	24832	3444	2254	564	282	147	75	59	30	15
D50	500	97000	24250	3444	2308	576	289	151	77	61	31	15
D40 (005)	400	77600	19400	3444	2887	722	361	188	96	76	38	19
D32	320	62080	15520	3444	3444	903	450	235	120	95	48	24
08B	256	49664	12416	3444	3444	1128	564	294	150	119	60	30
D20 (010)	200	38800	9700	3444	3444	1442	722	376	192	152	77	38
D16	160	31040	7760	3444	3444	903	450	235	120	95	48	24
07B	128	24832	6208	3444	3444	2254	1128	589	301	237	120	60
D10 (020)	100	19400	4850	3444	3444	1442	722	376	192	152	77	38
D08	80	15520	3880	3444	3444	903	450	235	120	95	48	24
06B	64	12416	3104	3444	3444	3444	2254	1178	601	475	239	120
D04 (050)	40	7760	1940	3444	3444	903	450	235	120	95	48	24
05B	32	6208	1552	3444	3444	3444	3444	2353	1203	949	479	241
04B	16	3104	776	n/a	3444	3444	3444	3444	2406	1899	958	481
03B	8	1552	388	n/a	n/a	3444	3444	3444	3444	3444	1915	963
Minimum edge separation (µs)				0.07	0.13	0.50	1	2	4	5	10	20
Maximum count frequency (MHz)				15	8	2	1	0.5	0.25	0.2	0.1	0.05
Part numbering				K	A	B	C	D	E	F	G	H

MR122E Radial magnetic ring max speed 194 poles with protection cover

Valid for:

LM10	LM13	LM13_20 High speed	LM15	RLB	RLM	RLC
------	------	-----------------------	------	-----	-----	-----

Ordering code	Interpolation	Resolution		Maximum rpm								
		cpr	ppr	NOTE: Values in brackets are valid for LM13 standard version only.								
13B	8192	1589248	397312	282	141	35	18	9	5	4	2	1
12B	4096	794624	198656	564	282	70	35	18	9	7	4	2
11B	2048	397312	99328	1128	564	141	70	37	19	15	7	4
2D0 (001)	2000	388000	97000	1155	576	144	72	38	19	15	8	4
1D6	1600	310400	77600	1442	722	180	90	47	24	19	10	5
10B	1024	198656	49664	2254	1128	282	141	74	38	30	15	8
1D0 (002)	1000	194000	48500	2308	1155	289	144	75	38	30	15	8
D80	800	155200	38800	2887	1442	361	180	94	48	38	19	10
09B	512	99328	24832	4511 (3464)	2254	564	282	147	75	59	30	15
D50	500	97000	24250	4619 (3464)	2308	576	289	151	77	61	31	15
D40 (005)	400	77600	19400	5772 (3464)	2887	722	361	188	96	76	38	19
D32	320	62080	15520	7217 (3464)	3607 (3464)	903	450	235	120	95	48	24
08B	256	49664	12416	9021 (3464)	4511 (3464)	1128	564	294	150	119	60	30
D20 (010)	200	38800	9700	11547 (3464)	5772 (3464)	1442	722	376	192	152	77	38
D16	160	31040	7760	7217 (3464)	3607 (3464)	903	450	235	120	95	48	24
07B	128	24832	6208	17000* (3464)	9021 (3464)	2254	1128	589	301	237	120	60
D10 (020)	100	19400	4850	11547 (3464)	5772 (3464)	1442	722	376	192	152	77	38
D08	80	15520	3880	7217 (3464)	3607 (3464)	903	450	235	120	95	48	24
06B	64	12416	3104	17000* (3464)	17000* (3464)	4511 (3464)	2254	1178	601	475	239	120
D04 (050)	40	7760	1940	7217 (3464)	3607 (3464)	903	450	235	120	95	48	24
05B	32	6208	1552	17000* (3464)	17000* (3464)	9021 (3464)	4511 (3464)	2353	1203	949	479	241
04B	16	3104	776	n/a	17000* (3464)	17000* (3464)	9021 (3464)	4706 (3464)	2406	1899	958	481
03B	8	1552	388	n/a	n/a	17000* (3464)	17000* (3464)	9412 (3464)	4811 (3464)	3798 (3464)	1915	963
Minimum edge separation (µs)				0.07	0.13	0.50	1	2	4	5	10	20
Maximum count frequency (MHz)				15	8	2	1	0.5	0.25	0.2	0.1	0.05
Part numbering				K	A	B	C	D	E	F	G	H

* The maximum available rotational speed is limited by the mechanical properties of the ring. For higher speeds please [contact RLS](#).

MR162Q Radial magnetic ring max speed 256 poles without protection cover

Valid for:

LM10	LM13	LM13_20 High speed	LM15	RLB	RLM	RLC
------	------	-----------------------	------	-----	-----	-----

Ordering code	Interpolation	Resolution		Maximum rpm								
		cpr	ppr									
13B	8192	2097152	524288	214	107	27	13	7	4	3	1	1
12B	4096	1048576	262144	428	214	53	27	14	7	6	3	1
11B	2048	524288	131072	855	428	107	53	28	14	11	6	3
2D0 (001)	2000	512000	128000	876	437	109	55	29	15	12	6	3
1D6	1600	409600	102400	1093	548	137	68	36	18	14	7	4
10B	1024	262144	65536	1708	855	214	107	56	28	22	11	6
1D0 (002)	1000	256000	64000	1749	876	219	109	57	29	23	12	6
D80	800	204800	51200	2188	1093	274	137	71	36	29	15	7
09B	512	131072	32768	2598	1708	428	214	111	57	45	23	11
D50	500	128000	32000	2598	1749	437	219	114	58	46	23	12
D40 (005)	400	102400	25600	2598	2188	548	274	143	73	58	29	15
D32	320	81920	20480	2598	2598	684	341	178	91	72	36	18
08B	256	65536	16384	2598	2598	855	428	223	114	90	45	23
D20 (010)	200	51200	12800	2598	2598	1093	548	285	146	115	58	29
D16	160	40960	10240	2598	2598	684	341	178	91	72	36	18
07B	128	32768	8192	2598	2598	1708	855	446	228	180	91	46
D10 (020)	100	25600	6400	2598	2598	1093	548	285	146	115	58	29
D08	80	20480	5120	2598	2598	684	341	178	91	72	36	18
06B	64	16384	4096	2598	2598	2598	1708	893	456	360	181	91
D04 (050)	40	10240	2560	2598	2598	684	341	178	91	72	36	18
05B	32	8192	2048	2598	2598	2598	2598	1783	912	720	363	182
04B	16	4096	1024	n/a	2598	2598	2598	2598	1823	1439	726	365
03B	8	2048	512	n/a	n/a	2598	2598	2598	2598	2598	1452	730
Minimum edge separation (µs)				0.07	0.13	0.50	1	2	4	5	10	20
Maximum count frequency (MHz)				15	8	2	1	0.5	0.25	0.2	0.1	0.05
Part numbering				K	A	B	C	D	E	F	G	H

MR162Q Radial magnetic ring max speed 256 poles with protection cover

Valid for:

LM10	LM13	LM13_20 High speed	LM15	RLB	RLM	RLC
------	------	-----------------------	------	-----	-----	-----

Ordering code	Interpolation	Resolution		Maximum rpm								
		cpr	ppr	NOTE: Values in brackets are valid for LM13 standard version only.								
13B	8192	2097152	524288	214	107	27	13	7	4	3	1	1
12B	4096	1048576	262144	428	214	53	27	14	7	6	3	1
11B	2048	524288	131072	855	428	107	53	28	14	11	6	3
2D0 (001)	2000	512000	128000	876	437	109	55	29	15	12	6	3
1D6	1600	409600	102400	1093	548	137	68	36	18	14	7	4
10B	1024	262144	65536	1708	855	214	107	56	28	22	11	6
1D0 (002)	1000	256000	64000	1749	876	219	109	57	29	23	12	6
D80	800	204800	51200	2188	1093	274	137	71	36	29	15	7
09B	512	131072	32768	3418 (2625)	1708	428	214	111	57	45	23	11
D50	500	128000	32000	3501 (2625)	1749	437	219	114	58	46	23	12
D40 (005)	400	102400	25600	4374 (2625)	2188	548	274	143	73	58	29	15
D32	320	81920	20480	5469 (2625)	2734 (2625)	684	341	178	91	72	36	18
08B	256	65536	16384	6836 (2625)	3418 (2625)	855	428	223	114	90	45	23
D20 (010)	200	51200	12800	8751 (2625)	4374 (2625)	1093	548	285	146	115	58	29
D16	160	40960	10240	5469 (2625)	2734 (2625)	684	341	178	91	72	36	18
07B	128	32768	8192	13673 (2625)	6836 (2625)	1708	855	446	228	180	91	46
D10 (020)	100	25600	6400	8751 (2625)	4374 (2625)	1093	548	285	146	115	58	29
D08	80	20480	5120	5469 (2625)	2734 (2625)	684	341	178	91	72	36	18
06B	64	16384	4096	14764 (2625)	13673 (2625)	3418 (2625)	1708	893	456	360	181	91
D04 (050)	40	10240	2560	5469 (2625)	2734 (2625)	684	341	178	91	72	36	18
05B	32	8192	2048	14764 (2625)	14764 (2625)	6836 (2625)	3418 (2625)	1783	912	720	363	182
04B	16	4096	1024	n/a	14764 (2625)	13673 (2625)	6836 (2625)	3566 (2625)	1823	1439	726	365
03B	8	2048	512	n/a	n/a	14764 (2625)	13673 (2625)	7133 (2625)	3646 (2625)	2878 (2625)	1452	730
Minimum edge separation (µs)				0.07	0.13	0.50	1	2	4	5	10	20
Maximum count frequency (MHz)				15	8	2	1	0.5	0.25	0.2	0.1	0.05
Part numbering				K	A	B	C	D	E	F	G	H

Head office

RLS merilna tehnika d.o.o.

Poslovna cona Žeje pri Komendi
Pod vrbami 2
SI-1218 Komenda
Slovenia

T +386 1 5272100

F +386 1 5272129

E mail@rls.si

www.rls.si

Document issues

Issue	Date	Page	Corrections made
1	18. 9. 2019	General	New document
2	16. 7. 2020	General	Radial and axial rings separation, radial rings speed tables amended
3	23. 7. 2020	General	Radial rings with cover foil maximum speed amended

This product is not designed or intended for use outside the environmental limitations and operating parameters expressly stated on the product's datasheet. Products are not designed or intended for use in medical, military, aerospace, automotive or oil & gas applications or any safety-critical applications where a failure of the product could cause severe environmental or property damage, personal injury or death. Any use in such applications must be specifically agreed to by seller in writing, and is subject to such additional terms as the seller may impose in its sole discretion. Use of products in such applications is at buyer's own risk, and buyer will indemnify and hold harmless seller and its affiliates against any liability, loss, damage or expense arising from such use. Information contained in this datasheet was derived from product testing under controlled laboratory conditions and data reported thereon is subject to the stated tolerances and variations, or if none are stated, then to tolerances and variations consistent with usual trade practices and testing methods. The product's performance outside of laboratory conditions, including when one or more operating parameters is at its maximum range, may not conform to the product's datasheet. Further, information in the product's datasheet does not reflect the performance of the product in any application, end-use or operating environment buyer or its customer may put the product to. Seller and its affiliates make no recommendation, warranty or representation as to the suitability of the product for buyer's application, use, end-product, process or combination with any other product or as to any results buyer or its customer might obtain in their use of the product. Buyer should use its own knowledge, judgment, expertise and testing in selecting the product for buyer's application, end-use and/or operating environment, and should not rely on any oral or written statement, representation, or samples made by seller or its affiliates for any purpose. EXCEPT FOR THE WARRANTIES EXPRESSLY SET FORTH IN THE SELLER'S TERMS AND CONDITIONS OF SALE, SELLER MAKES NO WARRANTY EXPRESS OR IMPLIED WITH RESPECT TO THE PRODUCT, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE, WHICH ARE DISCLAIMED AND EXCLUDED. All sales are subject to seller's exclusive terms and conditions of sale which, where the seller is (a) RLS merilna tehnika d.o.o., are available at <https://www.rls.si/customer-service>, (b) Renishaw, Inc., are available at <http://www.renishaw.com/Shop/legal/en/-42186>, or (c) another person, are available on request, and in each case, are incorporated herein by reference, and are the exclusive terms of sale. No other terms and conditions apply. Buyer is not authorized to make any statements or representations that expand upon or extend the environmental limitations and operating parameters of the products, or which imply permitted usage outside of that expressly stated on the datasheet or agreed to in writing by seller.

RLS merilna tehnika d.o.o. has made considerable effort to ensure the content of this document is correct at the date of publication but makes no warranties or representations regarding the content. RLS merilna tehnika d.o.o. excludes liability, howsoever arising, for any inaccuracies in this document. © 2020 RLS d.o.o.