9.1/A CHANNEL LIST _ STORMY

CHANNEL	CHANNEL MODE	
	STANDARD	**XENON**
1	INTENSITY	INTENSITY
2	DURATION	DURATION
3	RATE	RATE
4	-	MACRO

9.2/A CHANNEL FUNCTION _ STORMY

Channel Mode		DMX Value	Function
Standard	**Xenon**		
1	**1**		**INTENSITY**
		0 - 5	Light OFF
		6 - 255	Light output linearly increase from minimum to maximum brightness
2	**2**		**DURATION**
		0 - 255	Light time (versus dark time) linearly increases from shorter time (2.5msec) to longer time (650msec) *See details in a following dedicated table.* IMPORTANT: Duration Time must be lower than Rate Time (Period) for flashing. If Duration Time is equal or greater than Rate Time (Period) the light is continuously on.
3	**3**		**RATE**
		0 - 5	Light OFF
		6 - 255	Flashing at linearly variable frequency from low: (~0.3 flashes/sec or 1 flash every period of 3.5sec) to high (25 flashes/sec or 1°flash every period of 40msec) *See details in a following dedicated table.*
-	**4**		**MACRO**
		0 - 5	Macro OFF
		6 - 42	Macro 1 – UP ramp
		43 - 85	Macro 2 – DOWN ramp
		86 - 128	Macro 3 - UP↔DOWN ramp
		129 - 171	Macro 4 – Random
		172 - 214	Macro 5 – Lightning
		215 - 255	Macro 6 – Spikes

9.1/B CHANNEL LIST _ STORMY CC

CHANNEL	CHANNEL MODE		
	STANDARD	INDEPENDENT	EXTENDED
1	RED INTENSITY	RED INTENSITY	RED FOREGROUND
2	GREEN INTENSITY	RED DURATION	GREEN FOREGROUND
3	BLUE INTENSITY	RED RATE	BLUE FOREGROUND
4	WHITE INTENSITY	GREEN INTENSITY	WHITE FOREGROUND
5	MASTER INTENSITY	GREEN DURATION	DIMMER FOREGROUND
6	MASTER DURATION	GREEN RATE	MASTER DURATION
7	MASTER RATE	BLUE INTENSITY	MASTER RATE
8	-	BLU DURATION	MACRO t.b.d
9	-	BLU RATE	OFFSET t.b.d
10	-	WHITE INTENSITY	FUNCTION
11	-	WHITE DURATION	RED BACKGROUND
12	-	WHITE RATE	GREEN BACKGROUND
13	-	MASTER INTENSITY	BLUE BACKGROUND
14	-	MASK	WHITE BACKGROUND
15	-	-	DIMMER BACKGROUND

9.2/B CHANNEL FUNCTION _ STORMY CC

Channel Mode Standard	DMX Value	Function
1		**RED INTENSITY**
	0 - 255	Red colour linearly increase from no-light to maximum intensity
	0 - 5	Single Dimmer flash
	6 - 255	Flashing at linearly variable frequency from low: (~0.3 flashes/sec or 1 flash every period of 3.5sec) to high (25 flashes/sec or 1°flash every period of 40msec). See details in a following dedicated table.
2		**GREEN INTENSITY**
	0 - 255	Green colour linearly increase from no-light to maximum intensity
3		**BLUE INTENSITY**
	0 - 255	Blue colour linearly increase from no-light to maximum intensity
	0 - 5	Single Dimmer flash
4		**WHITE INTENSITY**
	0 - 255	White colour linearly increase from no-light to maximum intensity
	0 - 5	Single Dimmer flash
5		**MASTER INTENSITY**
	0 - 5	No Light output
	6 - 255	Light output linearly increase from minimum to maximum brightness
6		**MASTER DURATION**
	0 - 255	Light time (versus dark time) linearly increases from shorter time (2.5msec) to longer time (650msec) *See details in a following dedicated table.* IMPORTANT: Duration Time must be lower than Rate Time (Period) for flashing. If Duration Time is equal or greater than Rate Time (Period) the light is continuously on.

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Channel Mode Standard	DMX Value	Function
7		**MASTER RATE**
	0 - 5	Light OFF
	6 - 255	Flashing at linearly variable frequency from low: (~0.3 flashes/sec or 1 flash every period of 3.5sec) to high (25 flashes/sec or 1°flash every period of 40msec) See details in a following dedicated table.

Channel Mode Independent	DMX Value	Function
1		**RED INTENSITY**
	0 - 255	Red colour linearly increase from no-light to maximum intensity
2		**RED DURATION**
	0 - 255	Light time (versus dark time) linearly increases from shorter time (2.5msec) to longer time (650msec) *See details in a following dedicated table.* IMPORTANT: Duration Time must be lower than Rate Time (Period) for flashing. If Duration Time is equal or greater than Rate Time (Period) the light is continuously on.
3		**RED RATE**
	0 - 5	Single Dimmer flash
	6 - 255	Flashing at linearly variable frequency from low: (~0.3 flashes/sec or 1 flash every period of 3.5sec) to high (25 flashes/sec or 1°flash every period of 40msec). *See details in a following dedicated table.*
4		**GREEN INTENSITY**
	0 - 255	Green colour linearly increase from no-light to maximum intensity
5		**GREEN DURATION**
	0 - 255	Light time (versus dark time) linearly increases from shorter time (2.5msec) to longer time (650msec) *See details in a following dedicated table.* IMPORTANT: Duration Time must be lower than Rate Time (Period) for flashing. If Duration Time is equal or greater than Rate Time (Period) the light is continuously on.
6		**GREEN RATE**
	0 - 5	Single Dimmer flash
	6 - 255	Flashing at linearly variable frequency from low: (~0.3 flashes/sec or 1 flash every period of 3.5sec) to high (25 flashes/sec or 1°flash every period of 40msec) *See details in a following dedicated table.*
7		**BLUE INTENSITY**
	0 - 255	Blue colour linearly increase from no-light to maximum intensity

Channel Mode Independent	DMX Value	Function
8		**BLUE DURATION**
	0 - 255	Light time (versus dark time) linearly increases from shorter time (2.5msec) to longer time (650msec) *See details in a following dedicated table.* IMPORTANT: Duration Time must be lower than Rate Time (Period) for flashing. If Duration Time is equal or greater than Rate Time (Period) the light is continuously on.
9		**BLUE RATE**
	0 - 5	Single Dimmer flash
	6 - 255	Flashing at linearly variable frequency from low: (~0.3 flashes/sec or 1 flash every period of 3.5sec) to high (25 flashes/sec or 1°flash every period of 40msec). *See details in a following dedicated table.*
10		**WHITE INTENSITY**
	0 - 255	White colour linearly increase from no-light to maximum intensity
11		**WHITE DURATION**
	0 - 255	Light time (versus dark time) linearly increases from shorter time (2.5msec) to longer time (650msec) *See details in a following dedicated table.* IMPORTANT: Duration Time must be lower than Rate Time (Period) for flashing. If Duration Time is equal or greater than Rate Time (Period) the light is continuously on
12		**WHITE RATE**
	0 - 5	Single Dimmer flash
	6 - 255	Flashing at linearly variable frequency from low: (~0.3 flashes/sec or 1 flash every period of 3.5sec) to high (25 flashes/sec or 1°flash every period of 40msec) *See details in a following dedicated table.*
13		**MASTER INTENSITY**
	0 - 5	No Light output
	6 - 255	*Light output linearly increase from minimum to maximum brightness*
14		**MASK**
	0-31	No overwriting
	32-47	RED overwrites all other channels
	48-63	GREEN overwrites all other channels
	64-79	BLUE overwrites all other channels
	80-95	WHITE overwrites all other channels
	96-111	RED, GREEN overwrite BLUE, WHITE
	112-127	RED, BLUE overwrite GREEN, WHITE
	128-143	RED, WHITE overwrite GREEN, BLUE
	144-159	GREEN, BLUE overwrite RED, WHITE
	160-175	GREEN, WHITE overwrite RED, BLUE
	176-191	BLUE, WHITE overwrite RED, GREEN
	192-207	RED, GREEN, BLUE overwrite WHITE
	208-223	RED, GREEN, WHITE overwrite BLUE

Channel Mode Independent	DMX Value	Function
14	224-239	RED, BLUE, WHITE overwrite GREEN
	240-255	GREEN, BLUE, WHITE overwrite RED

Channel Mode Extended	DMX Value	Function
1		**RED FOREGROUND**
	0 - 255	Red Foreground Colour linearly increase from no-light to maximum intensity
2		**GREEN FOREGROUND**
	0 - 255	Green Foreground Colour linearly increase from no-light to maximum intensity
3		**BLUE FOREGROUND**
	0 - 255	Blue Foreground Colour linearly increase from no-light to maximum intensity
4		**WHITE FOREGROUND**
	0 - 255	White Foreground Colour linearly increase from no-light to maximum intensity
5		**DIMMER FOREGROUND**
	0 - 5	No Light output
	6 - 255	Light output linearly increase from minimum to maximum brightness
6		**MASTER DURATION**
	0 - 255	Light time (versus dark time) linearly increases from shorter time (2.5msec) to longer time (650msec) *See details in a following dedicated table.* IMPORTANT: Duration Time must be lower than Rate Time (Period) for flashing. If Duration Time is equal or greater than Rate Time (Period) the light is continuously on.
7		**MASTER RATE**
	0 - 5	Light OFF
	6 - 255	Flashing at linearly variable frequency from low: (~0.3 flashes/sec or 1 flash every period of 3.5sec) to high (25 flashes/sec or 1°flash every period of 40msec) *See details in a following dedicated table.*
8		**MACRO**
	0 - 255	T.B.D.
9		**OFFSET**
	0 - 255	T.B.D.
10		**FUNCTION**
	0 - 9	Foreground overwrite Background (Xenon mode)
	10 - 19	Foreground + Background (Xenon mode)
	20 - 29	Foreground overwrite Background (Continuous mode)
	30 - 39	Foreground + Background (Continuous mode)
11		**RED BACKGROUND**
	0 - 255	Red Background Colour linearly increase from no-light to maximum intensity

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Channel Mode Extended	DMX Value	Function
12		**GREEN BACKGROUND**
	0 - 255	Green Background Colour linearly increase from no-light to maximum intensity
13		**BLUE BACKGROUND**
	0 - 255	Blue Background Colour linearly increase from no-light to maximum intensity
14		**WHITE BACKGROUND**
	0 - 255	White Background Colour linearly increase from no-light to maximum intensity
15		**DIMMER BACKGROUND**
	0 - 5	No Light output
	6 - 255	Light output linearly increase from minimum to maximum brightness

9.3 DURATION CHANNEL DETAILS

DMX level	Time [msec]	DMX level	Time [msec]	DMX level	Time [msec]	DMX level	Time [msec]	DMX level	Time [msec]	DMX level	Time [msec]
0	2.50	43	111.7	86	220.8	129	330.0	172	439.2	215	548.4
1	5.00	44	114.2	87	223.4	130	332.6	173	441.7	216	550.9
2	7.60	45	116.7	88	225.9	131	335.1	174	444.3	217	553.5
3	10.10	46	119.3	89	228.5	132	337.6	175	446.8	218	556.0
4	12.60	47	121.8	90	231.0	133	340.2	176	449.4	219	558.5
5	15.20	48	124.4	91	233.5	134	342.7	177	451.9	220	561.1
6	17.70	49	126.9	92	236.1	135	345.3	178	454.4	221	563.6
7	20.30	50	129.4	93	238.6	136	347.8	179	457.0	222	566.2
8	22.80	51	132.0	94	241.2	137	350.3	180	459.5	223	568.7
9	25.30	52	134.5	95	243.7	138	352.9	181	462.1	224	571.2
10	27.90	53	137.1	96	246.2	139	355.4	182	464.6	225	573.8
11	30.40	54	139.6	97	248.8	140	358.0	183	467.1	226	576.3
12	33.00	55	142.1	98	251.3	141	360.5	184	469.7	227	578.9
13	35.50	56	144.7	99	253.9	142	363.0	185	472.2	228	581.4
14	38.00	57	147.2	100	256.4	143	365.6	186	474.8	229	583.9
15	40.60	58	149.8	101	258.9	144	368.1	187	477.3	230	586.5
16	43.10	59	152.3	102	261.5	145	370.7	188	479.8	231	589.0
17	45.70	60	154.8	103	264.0	146	373.2	189	482.4	232	591.6
18	48.20	61	157.4	104	266.6	147	375.7	190	484.9	233	594.1
19	50.70	62	159.9	105	269.1	148	378.3	191	487.5	234	596.6
20	53.30	63	162.5	106	271.6	149	380.8	192	490.0	235	599.2
21	55.80	64	165.0	107	274.2	150	383.3	193	492.5	236	601.7
22	58.30	65	167.5	108	276.7	151	385.9	194	495.1	237	604.2
23	60.90	66	170.1	109	279.2	152	388.4	195	497.6	238	606.8
24	63.40	67	172.6	110	281.8	153	391.0	196	500.1	239	609.3
25	66.00	68	175.1	111	284.3	154	393.5	197	502.7	240	611.9
26	68.50	69	177.7	112	286.9	155	396.0	198	505.2	241	614.4
27	71.00	70	180.2	113	289.4	156	398.6	199	507.8	242	616.9
28	73.60	71	182.8	114	291.9	157	401.1	200	510.3	243	619.5
29	76.10	72	185.3	115	294.5	158	403.7	201	512.8	244	622.0
30	78.70	73	187.8	116	297.0	159	406.2	202	515.4	245	624.6
31	81.20	74	190.4	117	299.6	160	408.7	203	517.9	246	627.1
32	83.70	75	192.9	118	302.1	161	411.3	204	520.5	247	629.6
33	86.30	76	195.5	119	304.6	162	413.8	205	523.0	248	632.2
34	88.80	77	198.0	120	307.2	163	416.4	206	525.5	249	634.7
35	91.40	78	200.5	121	309.7	164	418.9	207	528.1	250	637.3
36	93.90	79	203.1	122	312.3	165	421.4	208	530.6	251	639.8
37	96.40	80	205.6	123	314.8	166	424.0	209	533.2	252	642.3
38	99.00	81	208.2	124	317.3	167	426.5	210	535.7	253	644.9
39	101.5	82	210.7	125	319.9	168	429.1	211	538.2	254	647.4
40	104.1	83	213.2	126	322.4	169	431.6	212	540.8	255	650.0
41	106.6	84	215.8	127	325.0	170	434.1	213	543.3		
42	109.1	85	218.3	128	327.5	171	436.7	214	545.8		

9.4 RATE CHANNEL DETAILS

DMX level	Time [msec]	Frequency [flash/sec]
0	-	0
1	-	0
2	-	0
3	-	0
4	-	0
5	-	0
6	3500	0.29
7	3500	0.29
8	2320	0.43
9	2320	0.43
10	1760	0.57
11	1760	0.57
12	1400	0.71
13	1400	0.71
14	1160	0.86
15	1160	0.86
16	1000	1.00
17	1000	1.00
18	880.0	1.14
19	880.0	1.14
20	760.0	1.32
21	740.0	1.35
22	720.0	1.39
23	700.0	1.43
24	640.0	1.56
25	600.0	1.67
26	580.0	1.72
27	570.0	1.75
28	560.0	1.79
29	540.0	1.85
30	500.0	2.00
31	490.0	2.04
32	480.0	2.08
33	460.0	2.17
34	440.0	2.27
35	430.0	2.33
36	420.0	2.38
37	410.0	2.44
38	400.0	2.50
39	390.0	2.56
40	384.0	2.60
41	376.0	2.66
42	360.0	2.78

DMX level	Time [msec]	Frequency [flash/sec]
43	350.0	2.86
44	336.0	2.98
45	330.0	3.03
46	320.0	3.13
47	315.0	3.17
48	310.0	3.23
49	305.0	3.28
50	300.0	3.33
51	290.0	3.45
52	284.0	3.52
53	280.0	3.57
54	275.0	3.64
55	270.0	3.70
56	264.0	3.79
57	255.0	3.92
58	250.0	4.00
59	245.0	4.08
60	240.0	4.17
61	237.0	4.22
62	234.0	4.27
63	231.0	4.33
64	227.0	4.41
65	224.0	4.46
66	220.0	4.55
67	217.0	4.61
68	214.0	4.67
69	211.0	4.74
70	208.0	4.81
71	205.0	4.88
72	200.0	5.00
73	197.5	5.06
74	195.0	5.13
75	192.5	5.19
76	190.0	5.26
77	187.5	5.33
78	185.0	5.41
79	182.5	5.48
80	180.0	5.56
81	178.0	5.62
82	176.0	5.68
83	174.0	5.75
84	172.0	5.81
85	170.0	5.88

DMX level	Time [msec]	Frequency [flash/sec]
86	168.0	5.95
87	166.0	6.02
88	164.0	6.10
89	162.0	6.17
90	160.0	6.25
91	158.0	6.33
92	156.0	6.41
93	154.0	6.49
94	152.0	6.58
95	151.0	6.62
96	150.0	6.67
97	149.0	6.71
98	148.0	6.76
99	147.0	6.80
100	146.0	6.85
101	145.0	6.90
102	144.0	6.94
103	142.0	7.04
104	140.0	7.14
105	138.0	7.25
106	136.0	7.35
107	134.0	7.46
108	132.0	7.58
109	130.0	7.69
110	128.0	7.81
111	127.0	7.87
112	126.0	7.94
113	125.0	8.00
114	124.0	8.06
115	123.0	8.13
116	122.0	8.20
117	121.0	8.26
118	120.0	8.33
119	119.0	8.40
120	118.0	8.47
121	117.0	8.55
122	116.0	8.62
123	115.0	8.70
124	114.0	8.77
125	113.0	8.85
126	112.0	8.93
127	111.0	9.01
128	110.0	9.09

9.4 RATE CHANNEL DETAILS

DMX level	Time [msec]	Frequency [flash/sec]
129	109.0	9.17
130	110.0	9.09
131	109.5	9.13
132	109	9.17
133	108.5	9.22
134	108.0	9.26
135	107.5	9.30
136	107.0	9.35
137	106.5	9.39
138	106.0	9.43
139	105.5	9.48
140	105.0	9.52
141	104.5	9.57
142	104.0	9.62
143	103.0	9.71
144	102.0	9.80
145	101.0	9.90
146	100.0	10.00
147	99.0	10.10
148	98.0	10.20
149	97.0	10.31
150	96.0	10.42
151	95.0	10.53
152	94.0	10.64
153	93.0	10.75
154	92.0	10.87
155	91.0	10.99
156	90.0	11.11
157	89.5	11.17
158	89.0	11.24
159	88.5	11.30
160	88.0	11.36
161	87.5	11.43
162	87.0	11.49
163	86.5	11.56
164	86.0	11.63
165	85.5	11.70
166	85.0	11.76
167	84.5	11.83
168	84.0	11.90
169	83.5	11.98
170	83.0	12.05
171	82.5	12.12
172	82.0	12.20

DMX level	Time [msec]	Frequency [flash/sec]
173	81.5	12.27
174	81.0	12.35
175	80.5	12.42
176	80.0	12.50
177	79.6	12.56
178	79.2	12.63
179	78.8	12.69
180	78.4	12.76
181	78.0	12.82
182	77.6	12.89
183	77.2	12.95
184	76.8	13.02
185	76.4	13.09
186	76.0	13.16
187	75.6	13.23
188	75.2	13.30
189	74.8	13.37
190	74.4	13.44
191	74.0	13.51
192	73.6	13.59
193	73.2	13.66
194	72.8	13.74
195	72.4	13.81
196	72.0	13.89
197	71.6	13.97
198	71.2	14.04
199	70.8	14.12
200	70.4	14.20
201	70.0	14.29
202	69.6	14.37
203	69.2	14.45
204	69.0	14.49
205	68.7	14.56
206	68.4	14.62
207	68.1	14.68
208	67.8	14.75
209	67.5	14.81
210	67.2	14.88
211	66.9	14.95
212	66.6	15.02
213	66.3	15.08
214	66.0	15.15
215	65.7	15.22
216	65.4	15.29

DMX level	Time [msec]	Frequency [flash/sec]
217	65.1	15.36
218	64.8	15.43
219	64.5	15.50
220	64.2	15.58
221	63.9	15.65
222	63.6	15.72
223	63.3	15.80
224	63.0	15.87
225	62.7	15.95
226	62.4	16.03
227	62.1	16.10
228	61.8	16.18
229	61.5	16.26
230	61.2	16.34
231	60.9	16.42
232	60.6	16.50
233	60.3	16.58
234	60.0	16.67
235	59.0	16.95
236	58.0	17.24
237	57.0	17.54
238	56.0	17.86
239	55.0	18.18
240	54.0	18.52
241	53.0	18.87
242	52.0	19.23
243	51.0	19.61
244	50.0	20.00
245	49.0	20.41
246	48.0	20.83
247	47.0	21.28
248	46.0	21.74
249	45.0	22.22
250	44.0	22.73
251	43.0	23.26
252	42.0	23.81
253	41.0	24.39
254	40.0	25.00
255	40.0	25.00

10. DURATION time - RATE time (PERIOD) relation

Period
(Rate time)

Duration

Light   Dark   Light   Dark
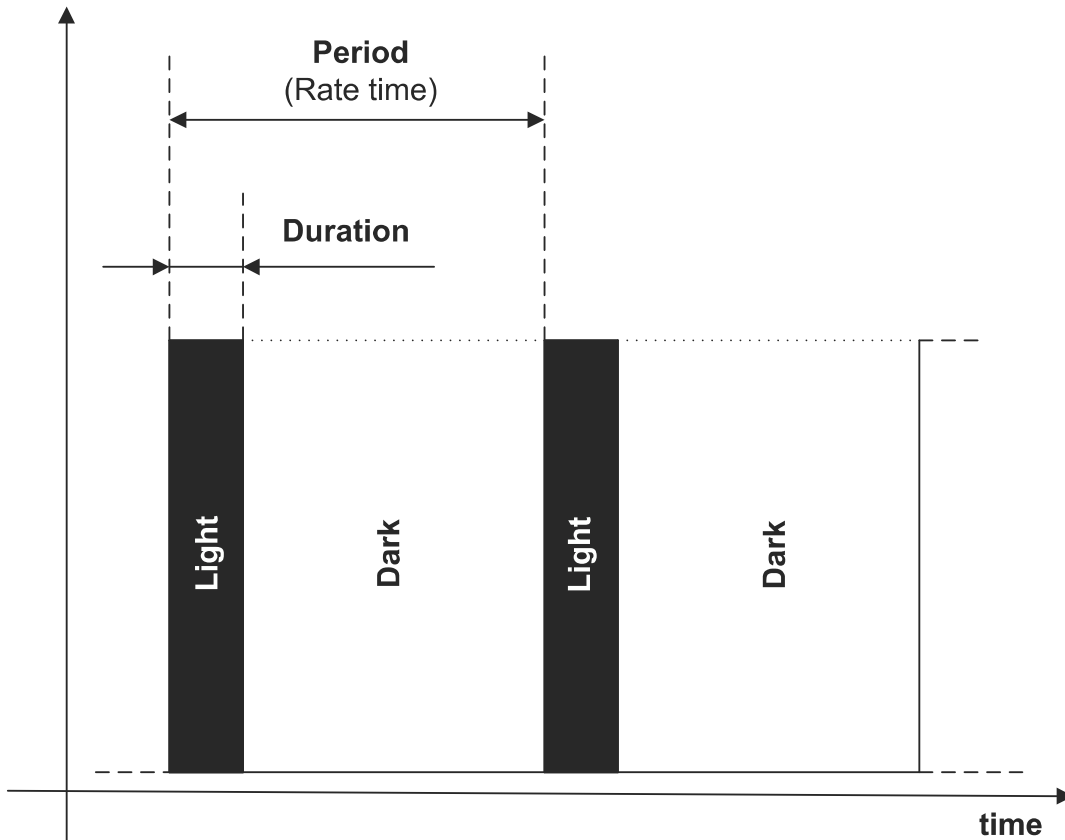
time

Duration time < Period   : Flashing
Duration time >= Period : Light continuously ON

MAX CURRENT vs DUTY CYCLE

Max Current

MAX

SUBMAX

CONT

	MAX	SUBMAX	CONT
	CURRENT VALUES		
RED:	2.0A	RED: 1.5A	RED: 1.0A
GREEN:	2.0A	GREEN: 1.5A	GREEN: 1.0A
BLUE:	2.4A	BLUE: 2.0A	BLUE: 1.5A
WHITE:	2.4A	WHITE: 2.0A	WHITE: 1.5A

25 30   100   Duty Cycle [%]

MAX CURRENT vs TIME ON

Max Current

MAX

SUBMAX

CONT

	MAX	SUBMAX	CONT
	CURRENT VALUES		
RED:	2.0A	RED: 1.5A	RED: 1.0A
GREEN:	2.0A	GREEN: 1.5A	GREEN: 1.0A
BLUE:	2.4A	BLUE: 2.0A	BLUE: 1.5A
WHITE:	2.4A	WHITE: 2.0A	WHITE: 1.5A

20   100   500   TIME ON [ms]