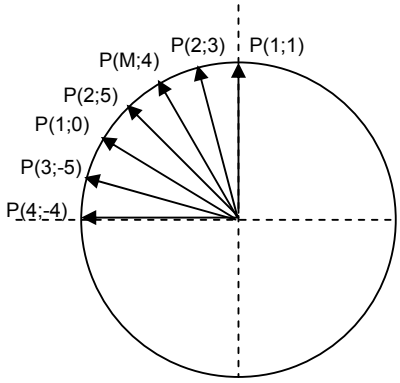
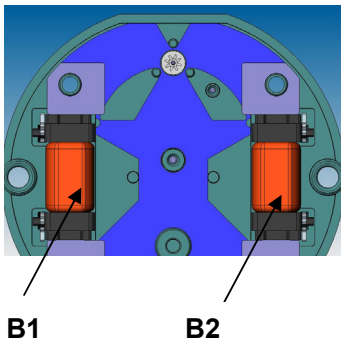
SZ 29-03-05

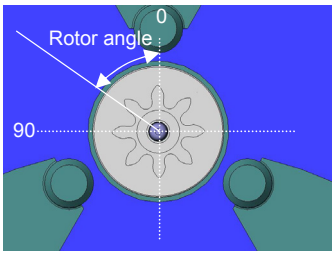
VID29 MOTOR DRIVING SIGNAL

General pulse driving for VID29 motor

STEP #	ROTOR Angle	B1	B2
0	0	**P 1**	**P 1**
1	15	**P 2**	**P 3**
2	30	**P M**	**P 4**
3	45	**P 2**	**P 5**
4	60	**P 1**	**0**
5	75	**P 3**	**- P 5**
6	90	**P 4**	**- P 4**







Driving signal calculated in order to minimize the angular error

The driving signal is a function of the peak current (I max) in the coil

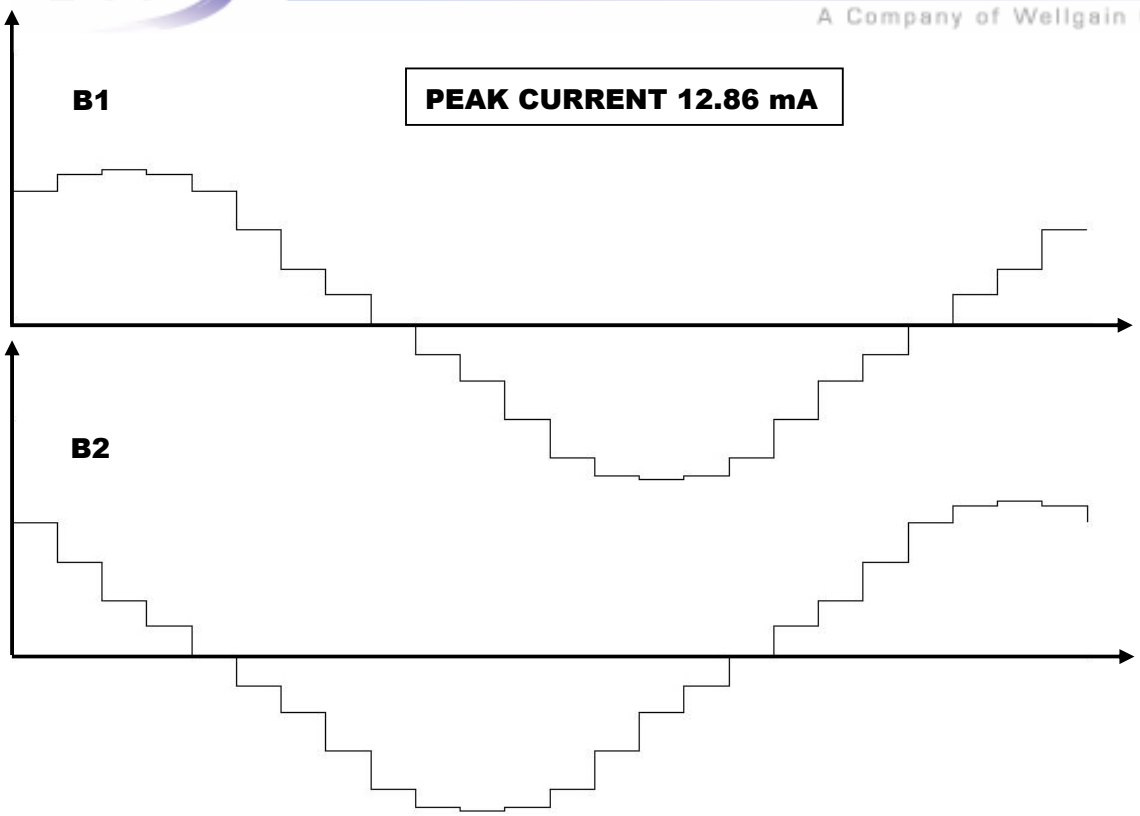
The followings formulas are valid ONLY for

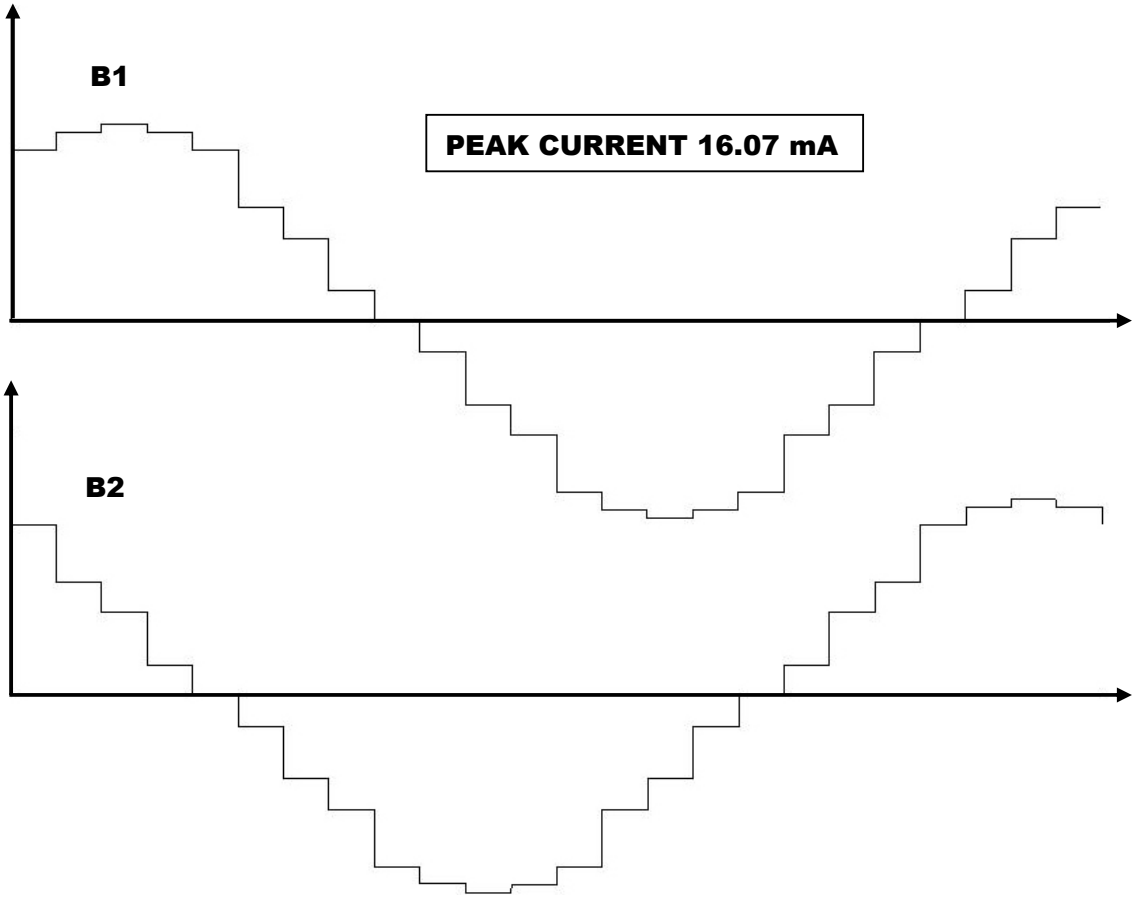
12.8 mA < I max < 16.1 mA

PULSE NUMBER	VALUE OF CURRENT [mA]
P M	**I = Imax**
P 1	**I = Imax * 0.866**
P 2	**I = 0.967* Imax**
P 3	**I = Imax * (0.764- 0.0083* Imax)**
P 4	**I = Imax * (0.0012*Imax*Imax- 0.052*Imax + 0.88)**
P 5	**I = Imax * (0.0015*Imax*Imax- 0.05*Imax + 0.6)**

Examples of driving pulse for I max = 12.86 mA and I max = 16.07 mA

STEP #	ROTOR Angle	Pointer Angle	Peak Current Value 12.86 m A		Peak Current Value 16.07 m A	
			B1	B2	B1	B2
			CURRENT m A		CURRENT m A	
-12	-180	1.00	-11.14	-11.14	-13.93	-13.93
-11	-165	0.92	-12.43	-8.43	-15.54	-10.14
-10	-150	0.83	-12.86	-5.29	-16.07	-5.71
-9	-135	0.75	-12.43	-2.71	-15.54	-3.07
-8	-120	0.67	-11.14	0.00	-13.93	0.00
-7	-105	0.58	-8.43	2.71	-10.14	3.07
-6	-90	0.50	-5.29	5.29	-5.71	5.71
-5	-75	0.42	-2.71	8.43	-3.07	10.14
-4	-60	0.33	0.00	11.14	0.00	13.93
-3	-45	0.25	2.71	12.43	3.07	15.54
-2	-30	0.17	5.29	12.86	5.71	16.07
-1	-15	0.08	8.43	12.43	10.14	15.54
0	**0**	**0.00**	11.14	11.14	13.93	13.93
1	15	-0.08	12.43	8.43	15.54	10.14
2	30	-0.17	12.86	5.29	16.07	5.71
3	45	-0.25	12.43	2.71	15.54	3.07
4	60	-0.33	11.14	0.00	13.93	0.00
5	75	-0.42	8.43	-2.71	10.14	-3.07
6	90	-0.50	5.29	-5.29	5.71	-5.71
7	105	-0.58	2.71	-8.43	3.07	-10.14
8	120	-0.67	0.00	-11.14	0.00	-13.93
9	135	-0.75	-2.71	-12.43	-3.07	-15.54
10	150	-0.83	-5.29	-12.86	-5.71	-16.07
11	165	-0.92	-8.43	-12.43	-10.14	-15.54
12	180	-1.00	-11.14	-11.14	-13.93	-13.93


B1
PEAK CURRENT 12.86 mA
B2


B1
PEAK CURRENT 16.07 mA
B2