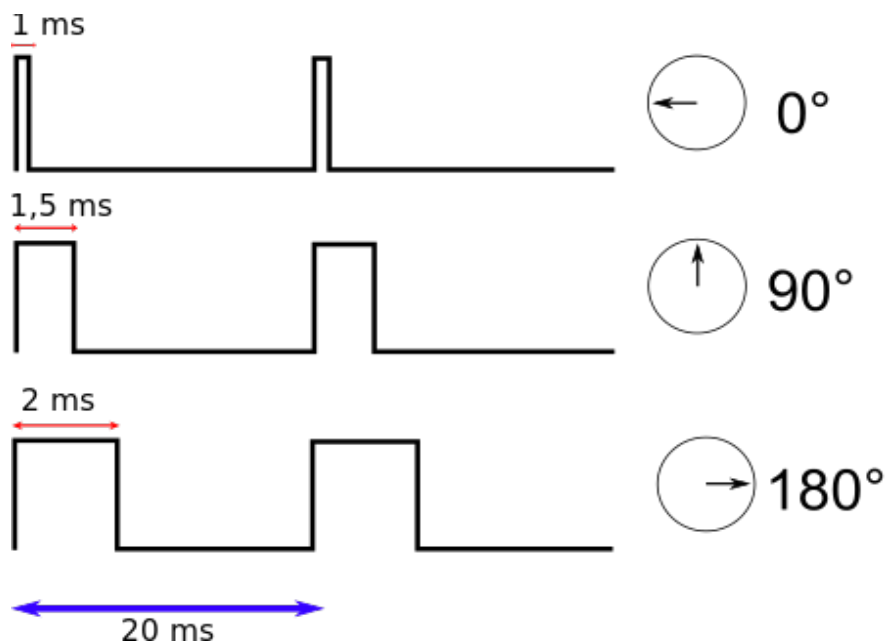


e16b005 – BEL3 – basic values PWM for servos

XMC4500 clock speed [Mhz]	120	according Infineon specification			
PWM frequency demand [Hz]	50	value for typical analog servo			
prescaler 2^n	6	7	8	9	10
prescaler result	64	128	256	512	1024
resulting frequency [kHz]	1875	937,5	468,75	234,375	117,1875
counter value for PWM frequency	37500	18750	9375	4687,5	2343,75
counter range [bit]	15,19	14,19	13,19	12,19	11,19

all values lower 16bit – without concenation XMC CCU 16bit
chosen prescaler 256 / 2^8 – counter value is still an integer



source: Wikipedia – typical analog servo

servo angle [°]	0	90	180
pulse time [ms]	1	1,5	2
pulse on percentage [%]	5	7,5	10

real values after calibration

lower servo

pulse on percentage [%]	3	7,5	12
resulting pulse time [ms]	0,6	1,5	2,4
linear value for lower servo	0,05		
resulting formular for lower servo	pulse = 0,05 * pitch[°] + 3.00		

upper servo

pulse on percentage [%]	3	7,5	12
resulting pulse time [ms]	0,6	1,5	2,4
linear value for lower servo	0,05		
resulting formular for lower servo	pulse = 0,05 * roll[°] + 3.00		