

TALLER DE MICROCONTROLADORES CON DSPIC33FJ32MC202 CLASE6

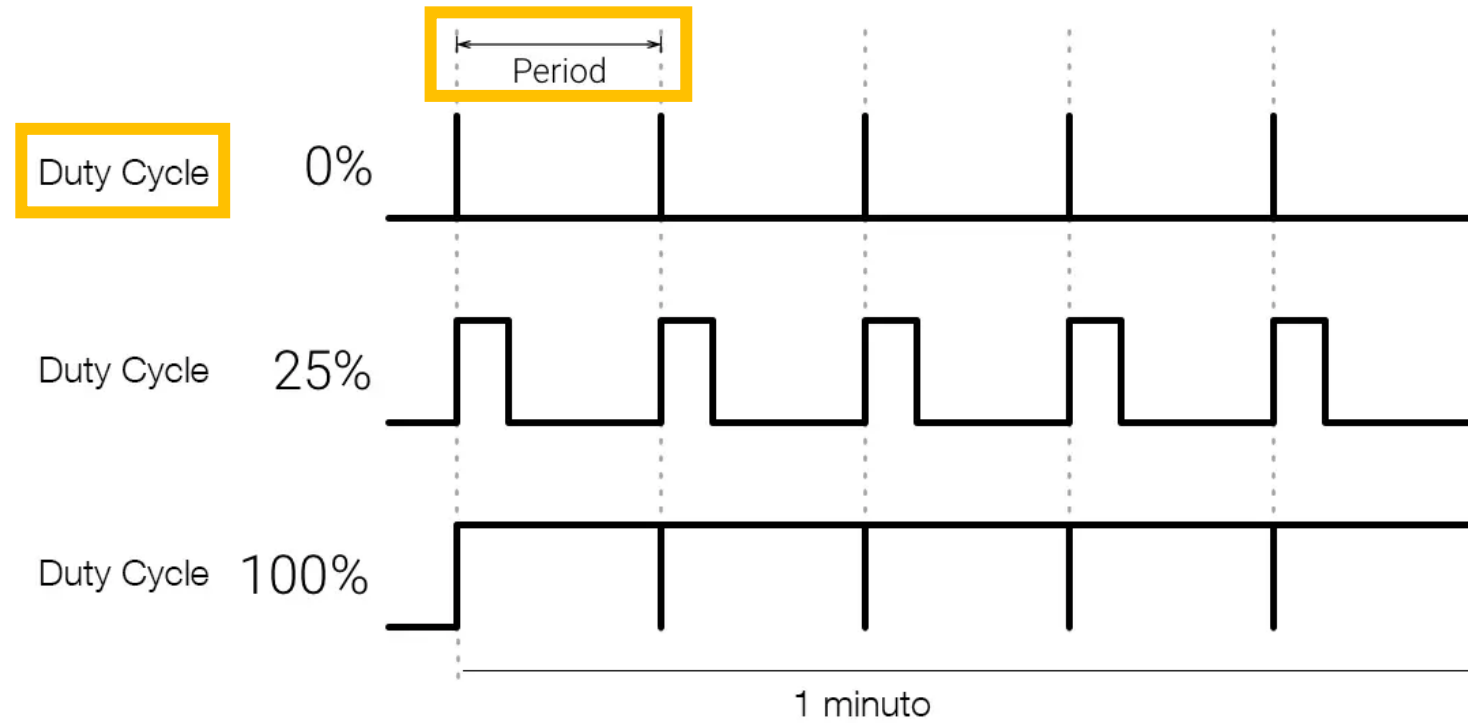
Instructor: Juan David Rosadio Vega

Miembro IEEE RAS UNAC

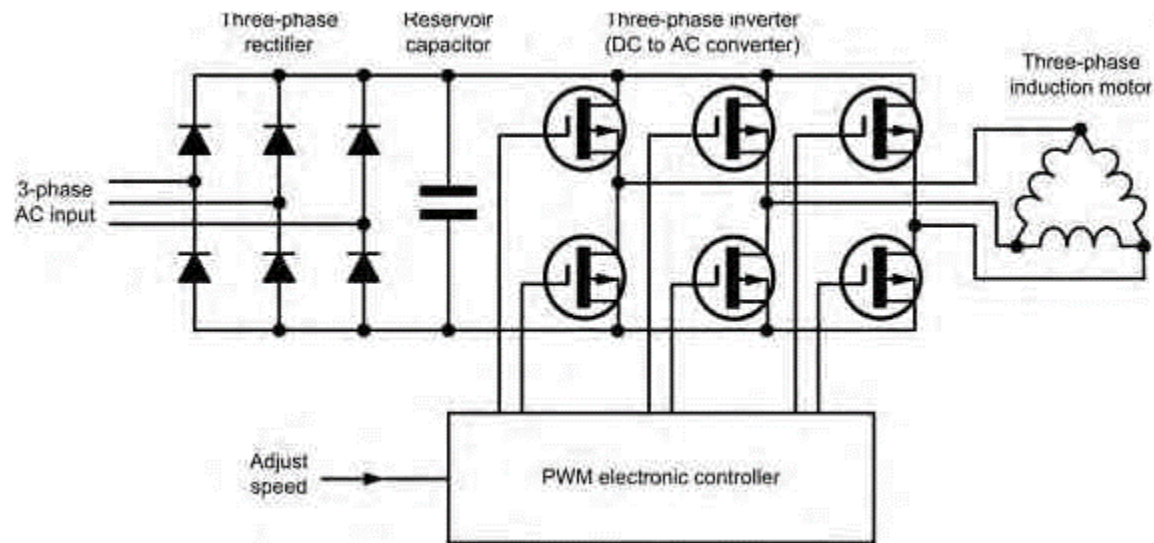
Contacto: +51933718584

jrlte98@gmail.com

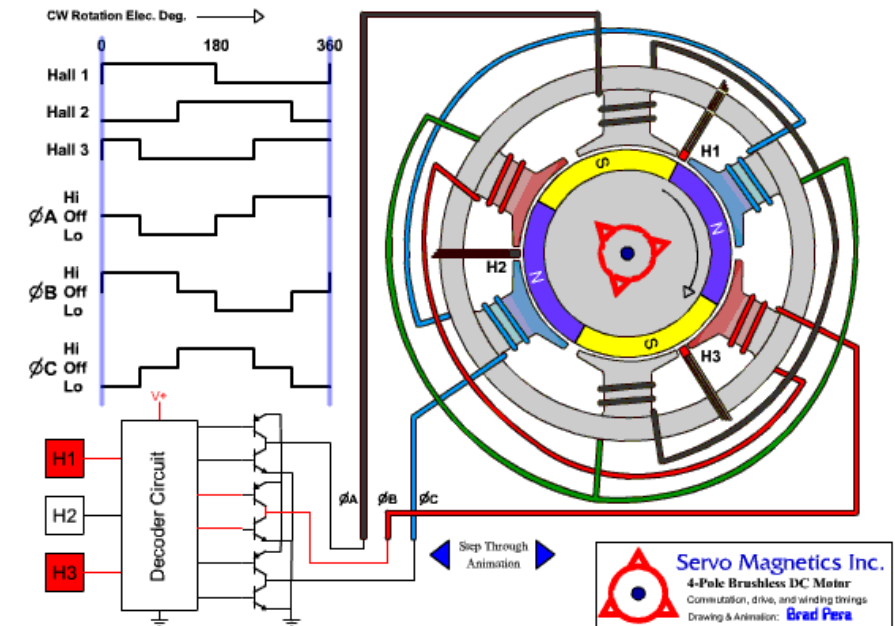
PWM (pulse-width modulation)



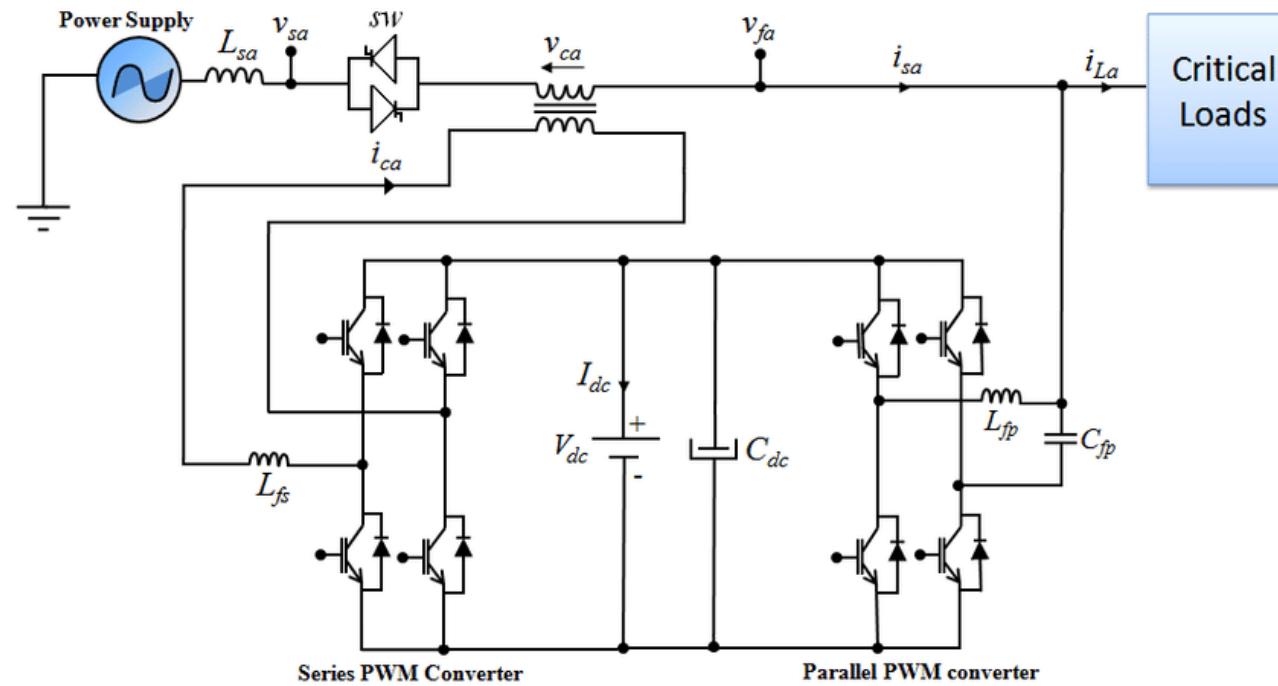
- 3-Phase AC Induction Motor



- Brushless DC (BLDC) Motor



- Uninterruptible Power Supply (UPS)



28-PIN SPDIP, SOIC, SSOP

■ = Pins are up to 5V tolerant

MCLR	1	28	AVDD
AN0/VREF+/CN2/RA0	2	27	AVSS
AN1/VREF-/CN3/RA1	3	26	PWM1L1/ RP15 ⁽¹⁾ /CN11/RB15
PGED1/AN2/C2IN-/RP0 ⁽¹⁾ /CN4/RB0	4	25	PWM1H1/ RP14 ⁽¹⁾ /CN12/RB14
PGEC1/AN3/C2IN+/RP1 ⁽¹⁾ /CN5/RB1	5	24	PWM1L2/ RP13 ⁽¹⁾ /CN13/RB13
AN4/RP2 ⁽¹⁾ /CN6/RB2	6	23	PWM1H2/ RP12 ⁽¹⁾ /CN14/RB12
AN5/RP3 ⁽¹⁾ /CN7/RB3	7	22	PGEC2/TM3/PWM1L3/ RP11 ⁽¹⁾ /CN15/RB11
VSS	8	21	PGED2/TD1/PWM1H3/ RP10 ⁽¹⁾ /CN16/RB10
OSC1/CLKI/CN30/RA2	9	20	VCAP
OSC2/CLKO/CN29/RA3	10	19	VSS
SOSCI/ RP4 ⁽¹⁾ /CN1/RB4	11	18	TD0/PWM2L1/ ASDA1/ RP9 ⁽¹⁾ /CN21/RB9
SOSCO/T1CK/CN0/RA4	12	17	TD1/PWM2H1/ ASCL1/ RP8 ⁽¹⁾ /CN22/RB8
VDD	13	16	INT0/ RP7/CN23/RB7
PGED3/ASDA1/ RP5 ⁽¹⁾ /CN27/RB5	14	15	PGEC3/ASCL1/ RP6 ⁽¹⁾ /CN24/RB6

Calculo del registro de Periodo de PWM

$$PxTPER = \frac{F_{CY}}{F_{PWM} \times PxTMR \times Prescaler \times 2} - 1$$

$$F_{cy} = 2Mhz, Prescaler = 1, \quad T = 20ms \rightarrow f = 50Hz$$

$$PER = \frac{2000000}{50 * 1 * 2} - 1$$

$$PER = 19999$$

Control de Servomotor

