Tyre controller using PIC24FG256GA702

PIC24FJ256GA702-I/PT 28 Pin dip

PIN	NAME	Fullname
1	MCLR	MCLR
2	RA0	VREF+/CVREF+/AN0/C3INC/RP26/CTED1/RA0
3	RA1	VREF-/CVREF-/AN1/C3IND/RP27/CTED2/RA1
4	RB0	PGD1/AN2/CTCMP/C2INB/RP0/RB0
5	RB1	PGC1/AN1-/AN3/C2INA/RP1/CTED12/RB1
6	RB2	AN4/C1INB/RP2/SDA2/CTED13/RB2
7	RB3	AN5/C1INA/RP3/SCL2/CTED8/RB3
8	Vss	VSS
9	RA2	OSCI/CLKI/C1IND/RA2
10	RA3	OSCO/CLKO/C2IND/RA3
11	RB4	SOSCI/RP4/RB4
12	RA4	SOSCO/PWRLCLK/RA4
13	VDD	Vdd
14	RB5	PGD3/RP5/ASDA1/OCM1E/RB5
15	RB6	PGC3/RP6/ASCL1/OCM1F/RB6
16	RB7	RP7/OCM1A/CTED3/INT0/RB7
17	RB8	TCK/RP8/SCL1/OCM1B/CTED10/RB8
18	RB9	TDO/C1INC/C2INC/C3INC/TMPRN/RP9/SDA1/T1CK/CTED4/RB9
19	Vss	Vss
20	Vcap	Vcap
21	RB10	PGD2/TDI/RP10/OCM1C/CTED11/RB10
22	RB11	PGC2/TMS/REFI1/RP11/CTED9/RB11
23	RB12	AN8/LVDIN/RP12/RB12
24	RB13	AN7/C1INC/RP13/OCM1D/CTPLS/RB13
25	RB14	CVREF/AN6/C3INB/RP14/CTED5/RB14
26	RC1	AN9/C3INA/RP15/CTED6/RB15
27	AVss	AVSS/VSS
28	AVdd	AVDD/VDD

Port mapping

PORT	PIN name	RE:Prog		ANALOG	PIN #
PORTA	RA0	RP26		AN0	2
	RA1	RP27		AN1	3
	RA2				9
	RA3				10
	RA4				12
Port B	RB0	RP0		AN2	4
	RB1	RP1		AN3	5
	RB2	RP2		AN4	6
	RB3	RP3		AN5	7
	RB4	RPi4			11
	RB5	RP5	5.5V tolerant		14
	RB6	RP6	5.5V tolerant		15
	RB7	RP7	5.5V tolerant		16
	RB8	RP8	5.5V tolerant		17
	RB9	PR9			18
	RB10	RP10	5.5V tolerant		21
	RB11	RP11	5.5V tolerant		22
	RB12	PR12		AN8	23
	RB13	PR13		AN7	24
	RB14	PR14		AN6	25
	RB15	RP15		AN9	26

Application allocation

Purpose	Name in MCC	Group
Motor Drive	MD	Digital Outputs
Chip Select SD	CS_SD	
Chip Select Port Exp	CS_PE	
Port Expand INT	INT_PE	Digital input
Spare		
Left for PGD1		
Left for PGC1		
SDI1	Default	SPI for SD card
SDO1	Default	
SCK1	Default	
UART Receive data	Default	Pin 2 Terminal comms
SDO2	Default	SPI for LCD
SCK2	Default	
SDI3	Default	SPI for port expander
SDO3	Default	
SCK3	Default	
UART Transmit data	Default	Pin 1 Terminal comms
Temperature	LM45	Analog in
Pressure Sens 2	SENS2	
Pressure Sens 1	SENS1	
Supply Voltage in	VIN	

MD has to be a direct RP Pin as it's connected to the PWM module

Switch 1	PE_SW1	Digital inputs	
Switch 2	PE_SW2		
Air release Valve	PE_VALVE		
Buzzer	PE_BUZER		
Indicator LED	PE_LED1	Digital outputs	
LCD Chip Select	PE_LCD_CS		
LCD Data/Command	PE_LCD_DC		
LCD back light	PE_LCD_BL	Spare	