

```

/*****
/* Program          : MOTOR.C
/* Function         : Motor Control Procedures
/* Author          : John F. Fitter B.E.
/*
/* These procedures are designed to operate a single Siemens Profet Smart Switch device.
/*
/* In the case of the BTS410E2 the following applies;
/*
/* Minimum delay from Vbb high to +ve input slope to ensure turn-on = Td(bb IN) = 150uS
/* Status invalid after +ve input slope and short circuit = Td(SC) = 450uS max.
/* Status invalid after +ve input slope and open load      = Td(ST) = 1400uS max.
/*
/* Rev No.   Rev date   Test date   Test platform   Description
/* -----   -
/*      00    6jun98
/*
/* Copyright © 1998 Eagle Air Australia Pty. Ltd. All rights reserved
*****/
#define _MOTOR_C

#include <commdefs.h>
#include "main.h"
#include "motor.h"
#include "delays.h"

// Procedure to initialize the motor control circuitry and return the status.
unsigned char init_motor() {

    unsigned char n = 200;

    do delay_10us(); while(--n);
    mpwr      = P_OFF;           // wait Td(bb IN)
    mpwr_dir  = B_OUT;          // ensure the motor is turned off
    mstat_dir = B_IN;           // set motor power to output
    flg_motor_on = false;      // set motor status to input
    return mswitch_status();    // flag motor as off
                                // return the motor switch status
}

// Procedure to turn the motor on or off and return the status of the motor switch.
// The motor status port pin is high for normal operation and low for a fault condition.
// The motor drive status flag is the logical and of the desired drive status and the
// status port pin, ie. it is only high if the motor was turned on and there are no faults.
unsigned char drive_motor(unsigned char motoron) {

    mpwr = motoron;           // turn the motor on or off
    if(motoron) delay_ms(2);  // wait Td(ST)
    flg_motor_on = motoron && mswitch_status(); // flag the motor drive status
    return mswitch_status();  // return the motor switch status
}

// ***** EOF MOTOR.C *****

```