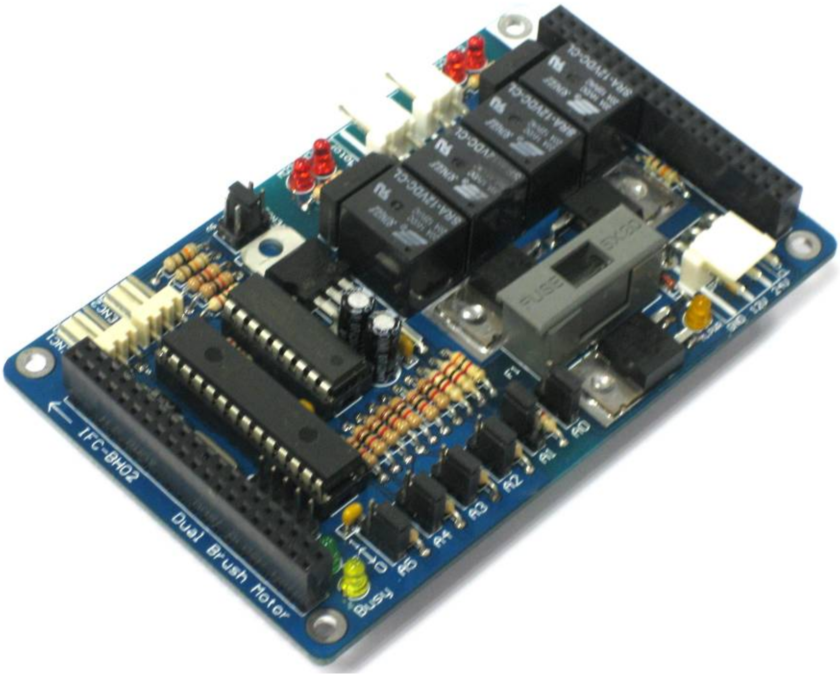
IFC-BH02
Interface Free Controller
Dual Brush Motor Card



Card Library Functions for Visual C# Express and Visual Basic Express

V1.0

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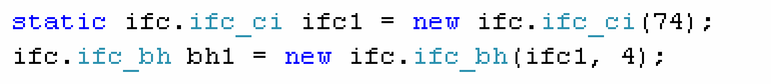
Function Prototype for Dual Brush motor (BH02)

This document explains the function prototype for controlling IFC-BH02 using PC through IFC-CI00. User may also use ‘object browser’ under Microsoft Visual C# to view the summary, parameter and return value description of IFC-BH02 function prototype. User need to add reference ‘ifc_ci.dll’ and ‘ifc_bh.dll’ for IFC-CI00 and IFC-BH02 card in order to control/communicate IFC-BH02 using PC. Please note that before user start the programming, user need to initialize the ‘ifc.ifc_ci’ and ‘ifc.ifc_bh’ in order to use the functions to control IFC-BH02. Example of creating a ‘ifc.ifc_ci’ class called ‘ifc1’ and ‘ifc.ifc_bh’ class called bh1:



```
static ifc.ifc_ci ifc1 = new ifc.ifc_ci(74);
ifc.ifc_bh bh1 = new ifc.ifc_bh(ifc1, 4);
```

For ‘ifc.ifc_ci’ class, user need to specified the COM Port that is connected to IFC-CI00 and for ‘ifc.ifc_bh’ class, user need to specified the IFC-CI00 in use and also the address for IFC-BH02. Please make sure that the address must be unique and different with other IFC card in the IFC system.

Function Prototype	Example	Summary	Parameter Description	Return Value
void bh_1_brake()	**bh1.bh_1_brake**()	To brake Motor 1.		
void bh_1_ccw()	**bh1.bh_1_ccw**()	To change the Motor 1 direction to counter-clockwise.		
void bh_1_cw()	**bh1.bh_1_cw**()	To change the Motor 1 direction to clockwise.		
void bh_1_enclr()	**bh1.bh_1_enclr**()	To clear Encoder 1 value.		
bh_1_enstat()	**bh1.bh_1_enstat**()	To read Encoder 1 stand alone encoding status.		Return true if Encoder 1 is in progress. (bool)
bh_1_enval()	**bh1.bh_1_enval**()	To read Encoder 1 value.		Encoder 1 value in 16-bit. (int)

bh_1_runstat()	**bh1.bh_1_runstat**()	To read Motor 1 run status.		Return false if Motor 1 is stopped or braked. (bool)
void bh_1_speed(int *pwm*)	**bh1.bh_1_speed(255**)	To change the speed of Motor 1.	*pwm*: Speed value of Motor 1 in range of 0 to 255. (int)	
void bh_1_speed(byte *pwm*)	**bh1.bh_1_speed(**255)	To change the speed of Motor 1.	*pwm*: Speed value of Motor 1 in range of 0 to 255. (byte)	
bh_1_spval()	**bh1.bh_1_spval**()	To read Motor 1 speed value.		Motor 1 speed value in 8-bit. (byte)
void bh_1_stop()	**bh1.bh_1_stop**()	To stop Motor 1.		
void bh_2_brake()	**bh1.bh_2_brake**()	To brake Motor 2.		
void bh_2_ccw()	**bh1.bh_2_ccw**()	To change the Motor 2 direction to counter-clockwise.		
void bh_2_cw()	**bh1.bh_2_cw**()	To change the Motor 2 direction to clockwise.		
void bh_2_enclr()	**bh1.bh_2_enclr**()	To clear Encoder 2 value.		
bh_2_enstat()	**bh1.bh_2_enstat**()	To read Encoder 2 stand alone encoding status.		Return true if Encoder 2 is in progress. (bool)
bh_2_enval()	**bh1.bh_2_enval**()	To read Encoder 2 value.		Encoder 2 value in 16-bit. (int)

bh_2_runstat()	**bh1.bh_2_runstat**()	To read Motor 2 run status.		Return false if Motor 2 is stopped or braked. (bool)
void bh_2_speed(int *pwm*)	**bh1.bh_2_speed**(180)	To change the speed of Motor 2.	*pwm*: Speed value of Motor 2 in range of 0 to 255. (int)	
void bh_2_speed(byte *pwm*)	**bh1.bh_2_speed**(180)	To change the speed of Motor 2.	*pwm*: Speed value of Motor 2 in range of 0 to 255. (byte)	
bh_2_spval()	**bh1.bh1.bh_2_spval**()	To read Motor 2 speed value.		Motor 2 speed value in 8-bit. (byte)
void bh_2_stop()	**bh1.bh_2_stop**()	To stop Motor 2.		
ifc_bh(ifc.ifc_ci *ifc_ci*, int *address*)	**ifc.ifc_bh**(ifc1, 4)	Initializes a new instance of the ifc.ifc_bh class using the specified ifc.ifc_ci and address for IFC-BH02.	*ifc_ci*: ifc.ifc_ci in use. *address*: Address for IFC-BH02, in range of 0 to 63. (int)	
ifc_bh(ifc.ifc_ci *ifc_ci*, byte *address*)	**ifc.ifc_bh**(ifc1, 4)	Initializes a new instance of the ifc.ifc_bh class using the specified ifc.ifc_ci and address for IFC-BH02.	*ifc_ci*: ifc.ifc_ci in use. *address*: Address for IFC-BH02, in range of 0 to 63. (byte)	
bh_1_encon		To enable stand alone encoding process for Encoder 1. (please refer to Table 2 for sub functions)		
bh_2_encon		To enable stand alone encoding process for Encoder 2. (please refer to Table 3 for sub functions)		

Table 1 Function Prototype for BH02

Table 2 is function prototype for sub function of '**bh_1_encon**'. These functions are to enable stand alone encoding process for Encoder 1.

Function Prototype	Example	Summary	Parameter Description
void brake(int *enc_data*)	**bh1.bh_1_encon.brake**(2000)	Motor 1 brake after targeted encoder value is reached.	*enc_data*: Targeted encoder value in range of 0 to 65535. (int)
void ccw(int *enc_data*, int *act_val*)	**bh1.bh_1_encon.ccw**(2000, 150)	Motor 1 change direction to counter-clockwise after targeted encoder value is reached.	*enc_data*: Targeted encoder value in range of 0 to 65535. (int) *act_val*: Motor 1 speed after targeted encoder value is reached. (int)
void cw(int *enc_data*, int *act_val*)	**bh1.bh_1_encon.cw**(1500, 250)	Motor 1 change direction to clockwise after targeted encoder value is reached.	*enc_data*: Targeted encoder value in range of 0 to 65535. (int) *act_val*: Motor 1 speed after targeted encoder value is reached. (int)
void none(int *enc_data*)	**bh1.bh_1_encon.none**(1500)	No action after targeted encoder value is reached.	*enc_data*: Targeted encoder value in range of 0 to 65535. (int)
void speed(int *enc_data*, int *act_val*)	**bh1.bh_1_encon.speed**(1500, 150)	Motor 1 change speed after targeted encoder value is reached.	*enc_data*: Targeted encoder value in range of 0 to 65535. (int) *act_val*: Motor 1 speed after targeted encoder value is reached. (int)
void stop(int *enc_data*)	**bh1.bh_1_encon.stop**(2000)	Motor 1 stop after targeted encoder value is reached.	*enc_data*: Targeted encoder value in range of 0 to 65535. (int)

Table 2

Table 3 is function prototype for sub function of ‘**bh_2_encon**’. These functions are to enable stand alone encoding process for Encoder 2.

Function Prototype	Example	Summary	Parameter Description
void brake(int *enc_data*)	**bh1.bh_2_encon.brake**(2000)	Motor 2 brake after targeted encoder value is reached.	*enc_data*: Targeted encoder value in range of 0 to 65535. (int)
void ccw(int *enc_data*, int *act_val*)	**bh1.bh_2_encon.ccw**(2000, 150)	Motor 2 change direction to counter-clockwise after targeted encoder value is reached.	*enc_data*: Targeted encoder value in range of 0 to 65535. (int) *act_val*: Motor 2 speed after targeted encoder value is reached. (int)
void cw(int *enc_data*, int *act_val*)	**bh1.bh_2_encon.cw**(1500, 250)	Motor 2 change direction to clockwise after targeted encoder value is reached.	*enc_data*: Targeted encoder value in range of 0 to 65535. (int) *act_val*: Motor 2 speed after targeted encoder value is reached. (int)
void none(int *enc_data*)	**bh1.bh_2_encon.none**(1500)	No action after targeted encoder value is reached.	*enc_data*: Targeted encoder value in range of 0 to 65535. (int)
void speed(int *enc_data*, int *act_val*)	**bh1.bh_2_encon.speed**(1500, 150)	Motor 2 change speed after targeted encoder value is reached.	*enc_data*: Targeted encoder value in range of 0 to 65535. (int) *act_val*: Motor 2 speed after targeted encoder value is reached. (int)
void stop(int *enc_data*)	**bh1.bh_2_encon.stop**(2000)	Motor 2 stop after targeted encoder value is reached.	*enc_data*: Targeted encoder value in range of 0 to 65535. (int)

Table 3

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