Description for Custom CAN Bus Protocol

Overview

We can use C language for custom CAN bus protocol.In the folder builddriver in software folder as shown in Fig.1,there is a file named fbserver.c,it is used to program CAN protocol.Users only need to make the CAN protocol with C language in following framework.

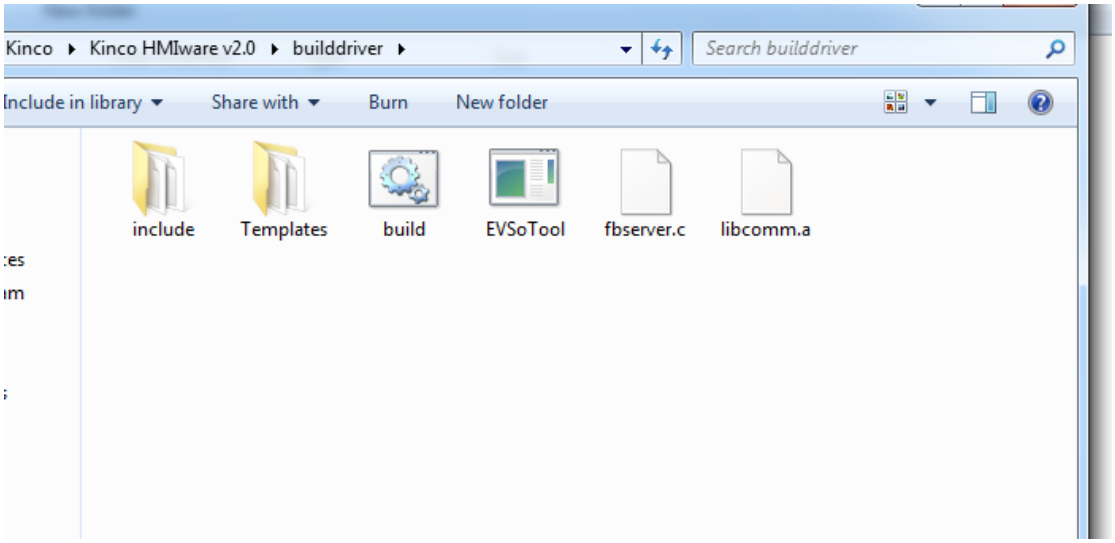

Fig.1

Functions that to realize the protocol

void Init(CAN_PORT canport)

Execution way： only execute once when the program starts.

Function： used to initialize the program

void main_process(CAN_PORT canport)

Execution way： Cyclic execution,default cycle time is 10ms,the interval time can set in function Set_Cycle.

Function： main function in program.

void MsgDispatch(CO_Data* d, Message *m)

Execution way： Execute once when receive CAN message.

Function： commonly used to respond CAN message.

Flow chart for custom CAN protocol

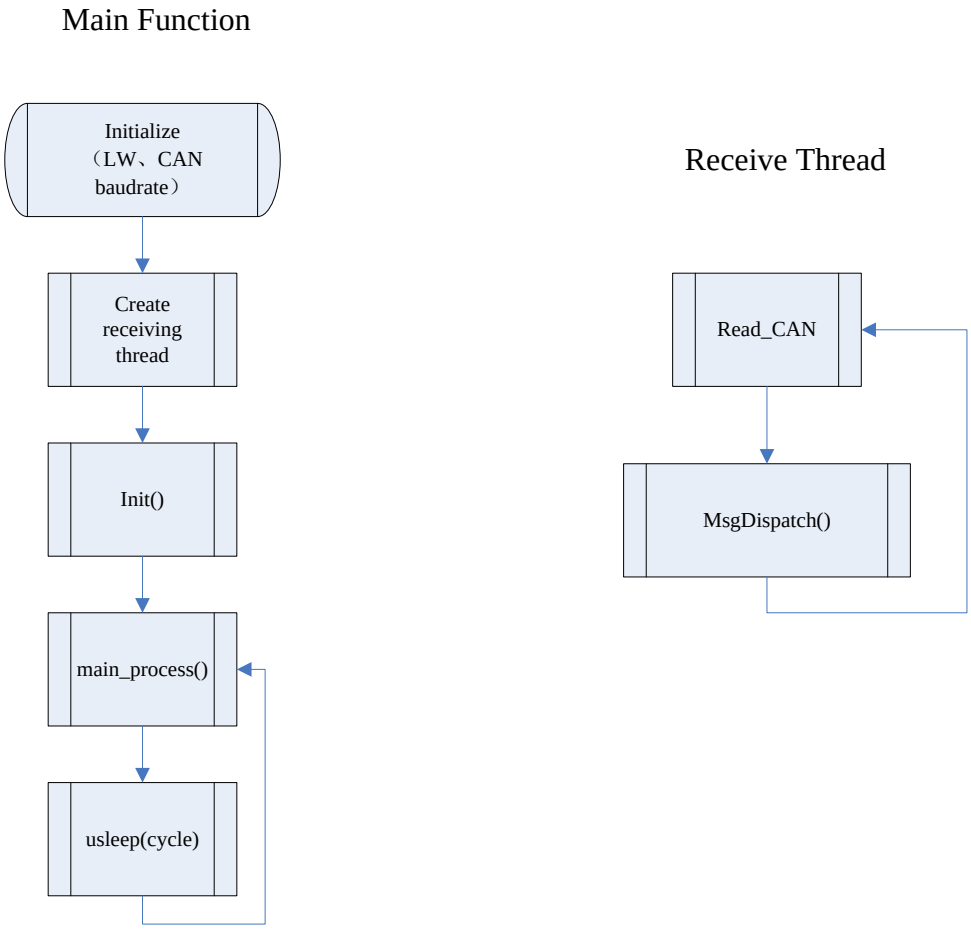

Fig.2

API functions for user

void Set_Cycle(ms)

Function： used to set the cycle time of main_proces

Parameter： unit is ms,can't set as 0.

UNS8 Send_Msg(CAN_PORT port, Message *m,UNS8 bExtended)

Function： Send out a frame of CAN message.

Parameter： port:port No.
m:Pointer of message structure
bExtended: 1-send as extended frame,0-send as standard frame.

void Write_LW8K (UNS32 n,UNS16 val)

Function： Write value "val" into register "LW8000＋n"

Parameter： n:offset,maximum is 999. val:the value needs to write

UNS16 Read_LW8K (UNS32 n)

Function： Read the value in register “LW8000＋n”

Parameter： n:offset,maximum is 999

void Set_Timer(TimerCallback_t callback,TIMEVAL value, TIMEVAL period)

Function： use timer,and execute “callback” function after setting time.

Parameter： callback:callback function pointer, value: target time for timer, period:set whether it is cyclic

Compile and Generate driver

After finishing the program,then execute the file “build.bat”(in Fig.1) to generate driver files.The driver files will be saved in the route “\lib\fieldbus driver” and named “CAN Custom.so” and “CAN Custom.ge”.

How to use driver

1. Open the attribute window of HMI as shown in Fig.3.

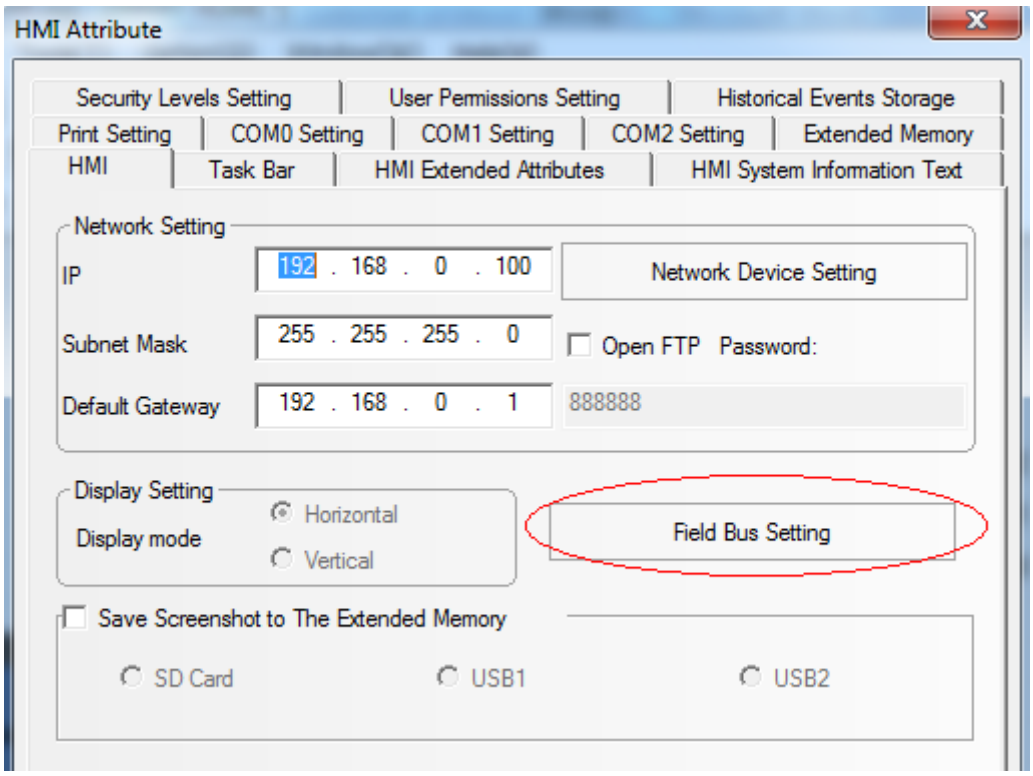

图 3

2. Click “Fieldd Bus Setting” to open Field bus configuration window.Then click “Add” to choose the protocol as shown in Fig.4.

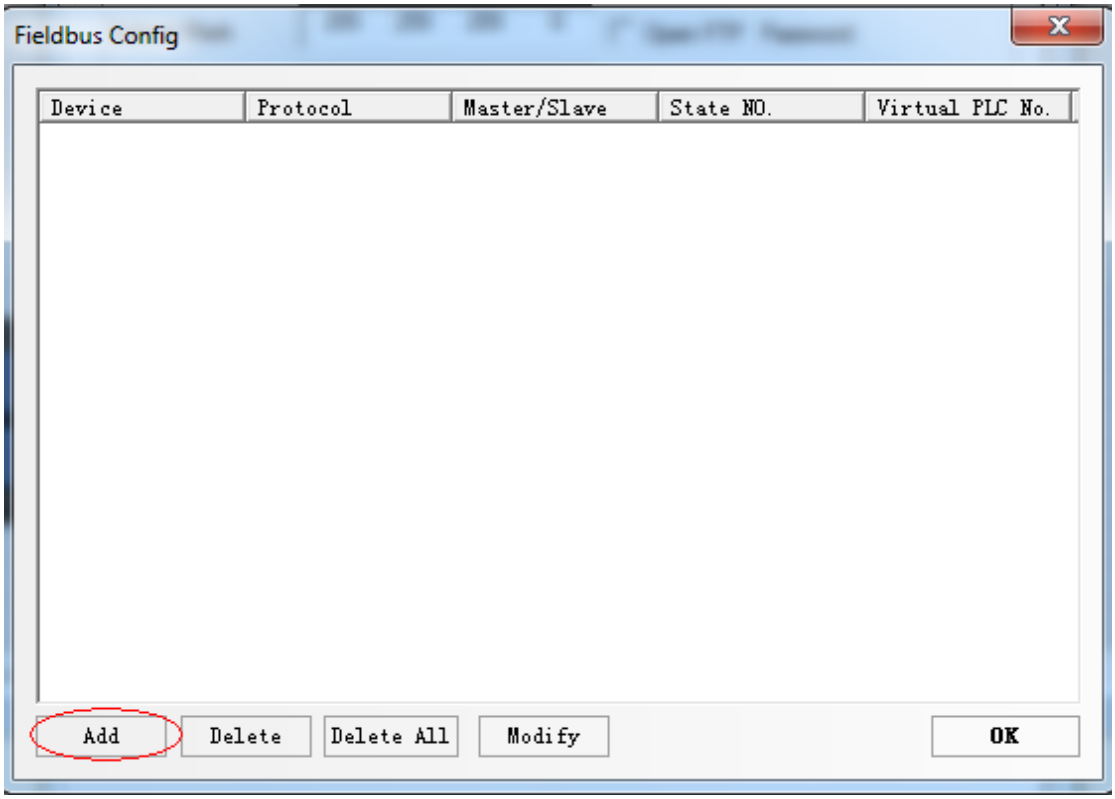

Fig.4

3. Select “CAN Custom Slave” as shown in Fig.5

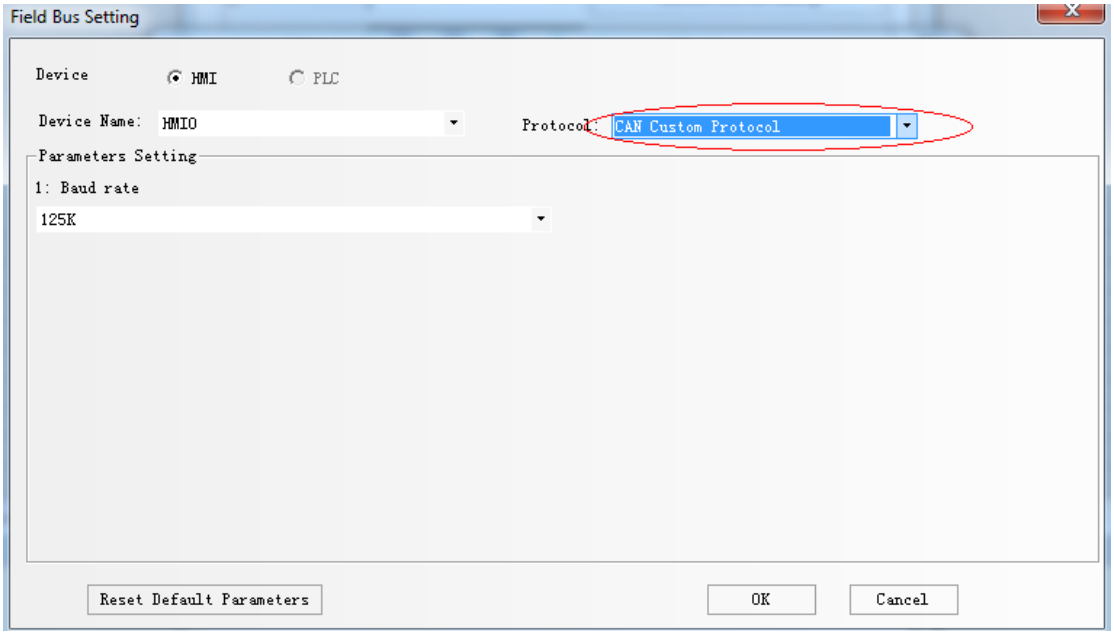

Fig.5

4. Make the program.At present,HMI uses registers LW8000~LW8999 for CAN protocol.