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//#####
// FILE:   IODriveEmulatorApi.c
// TITLE:  API Commands for Flaxer IO-Drive Com Emulator.
// AUTHOR: Flaxer Eli - April 2020
//#####
#include <rs232.h>

#define DIGI_OUT    1
#define DIGI_IN    2
#define ANAL_OUT0   3
#define ANAL_OUT1   4
#define ANAL_IN0    5
#define ANAL_IN1    6

#define DAC_RES     12
#define ADC_RES     12

#define DAC_RANGE   10.0
#define ADC_RANGE   10.0

static int ComPort = 0;

/*****/
int OpenCommunication(int Com)
{
int Err;
ComPort = Com;
Err = OpenComConfig (ComPort, "", 115200, 0, 8, 1, 512, 512);
return(Err);
}
/*****/
int CloseCommunication()
{
return( CloseCom (ComPort));
}
/*****/
void DigitalOut(int Data)
{
ComWrtByte (ComPort, DIGI_OUT);
ComWrtByte (ComPort, Data);
}
/*****/
int DigitalIn()
{
int Data;
ComWrtByte (ComPort, DIGI_IN);
Data = ComRdByte (ComPort);
return(Data);
}
/*****/
void AnalogOut(int Chan, double Volt)
{
short DacOutVoltBin;
DacOutVoltBin = (Volt/(2*DAC_RANGE)) * (1<<DAC_RES);
ComWrtByte (ComPort, ANAL_OUT0+Chan);
ComWrt (ComPort, (char*)&DacOutVoltBin, 2);
}
/*****/
double AnalogIn(int Chan)
{
short AdcInVoltBin;
double AdcInVolt;
ComWrtByte (ComPort, ANAL_IN0+Chan);
ComRd (ComPort, (char*)&AdcInVoltBin, 2);
AdcInVolt = 2*ADC_RANGE * (double)AdcInVoltBin / (1<< ADC_RES);
return (AdcInVolt);
}
/*****/

```