DRPC100-Matrix LED UART PROTOCOL SPECIFICATION

Programmer Reference Manual

Version 1.3

Revision History

Revision	Issue Date	Comments
V1.0	2012/5/7	Initial release
V1.3	2012/9/18	Release

Agenda

- **Communication Protocol**
- **Command List**
- **COM port configuration**
- **Example**

Communication Protocol

- DRPC100 is presetting communication channel to Matrix-LED module by COM5 1200 N 8 1, all defined command are initialized by system/host/DRPC100, and response might generated by Matrix-LED module for system reference.

- Commands to MCU and data returned from MCU are conveyed in the following communication format :

Communication Protocol

Command	**Data**

Response	**Data**

Command List

- You can use following pre-defined commands on the application to communicate with Matrix-LED module and to receive data returned from it.

Command List:

Command and Data	Description	Response and Data
0xEE	Echo	0xEE
0xFD	Get ID	0x45
0xFE	Read IO Status (detection minimal interval at 200ms, 1=high, 0=low)	[BYTE0][BYTE1][BYTE2] TX1=BYTE0.bit0 RX1=BYTE0.bit1 TX2=BYTE0.bit2 RX2=BYTE0.bit3 TX3=BYTE0.bit4 RX4=BYTE0.bit5 RX4=BYTE0.bit6 TX4=BYTE0.bit7 DIN1=BYTE1.bit0 DIN0=BYTE1.bit1 DOUT3=BYTE1.bit2 DOUT2=BYTE1.bit3 DOUT1=BYTE1.bit4 DOUT0=BYTE1.bit5 CAN0=BYTE2.bit0 CAN1=BYTE2.bit1 DIN3=BYTE2.bit2 DIN2=BYTE2.bit5

COM port configuration

Com port configuration setting	
Com Port	5
Baud rate	1200
Data bit	8
Parity check bit	None
Stop bit	1

Example

System SEND **LED Module <Echo>** Command:

System->Module:
Command：<0xEE>
Module->System
Response : <0xEE>

System SEND **LED Module <Get ID>** Command:

System->Module:
Command：<0xFD>
Module->System
Response : <0x45>

System SEND **LED Module <Read IO Status>** Command:

System->Module:
Command：<0xFE>
Module->System
Response : <0x00><0x3F><0x24>

TX1=Low (inactive)
RX1=Low(inactive)
TX2= Low(inactive)
RX2= Low(inactive)
TX3= Low(inactive)
RX4= Low(inactive)
RX4= Low(inactive)
TX4= Low(inactive)
DIN1=High
DIN0= High
DOUT3= High
DOUT2= High
DOUT1= High
DOUT0= High
CAN0= Low(inactive)
CAN1= Low(inactive)
DIN3= High
DIN2= High