UCRM100 Philips Mifare Reader/Writer (USB Port)

GENERAL SPECIFICATION

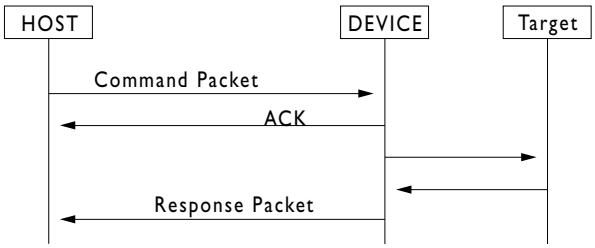
- Power Specification : RS232 OR USB OR CMOS (DC 5V, RX, TX, GND)
- Communication Method : Full-duplex
- Baud Rate : 38400BPS
- Data Length : 8Bit
- Parity Bit : None
- Start Bit : 1 Bit
- Stop Bit : 1 Bit

A Add 10H (DLE) in front of the relevant Data when the Data is 02H(STX)/03H(ETX) /10H(DLE).The added 10(DLE) is not added both Data Length and BBC. However, BBC does not add 10H(DLE).

Ex1 02 F0 66 84 45 46 00 10 02 03 10
Ex2 02 F0 66 84 45 46 00 10 03 03 11
Ex3 02 F0 66 85 42 52 00 01 10 10 03 11

*he example above is the one for 10H(DLE), and so this is not the same as actual command.

COMMUNICATION PROTOCOL



B Packet Data Timeout 300ms

a HOST or DEVICE

- When any data except STX, ACK, NAK Packet are received
- When SEX, ACK, NAK are received after the opening data without receiving ETX
- When the following STX, ACK, NAK are received in 300ms without receiving Data Length Delete the value and put the new STX, ACK, NAK in the beginning of the Packet.

b DEVICE responds NAK in the following cases.

- When BCC is mismatched. (Error Status:0x16)
- When Data Length is mismatched. (Error Status:0x15)

c DEVICE moves to the routine to receive STX in the following cases.

- When it is ID1 & ID2 error in serial communication after receiving STX till ETX receiving.
- When Data Length is more than 128 in serial communication after receiving STX till ETX. (However, FFh (DL Command) is exception.)

COMMUNICATION PACKET

Command Packet (HOST > DEVICE)

STX	ID1	ID2	Data Length		Data Part		ETX	BCC
(1)	(1)	(1)	(1)		(n+3)		(1)	(1)
02h	66h	F0h	Len	Command (2)	Option (1)	Data (n)	03h	BCC

Response Packet (DEVICE > HOST)

STX	ID1	ID2	DataLength		Data Part		ETX	BCC
(1)	(1)	(1)	(1)		(n+3)		(1)	(1)
02h	F0h	66h	Len	Command (2)	Option (1)	Data (n)	03h	BCC

	Byte No	Description
STX	1	Communication Packet Initial Control Code (02h)
ID1	1	Device ID to receive Communication Packet (set in 0xF0)
ID2	1	Device ID to send Communication Packet (set in 0x66)
Len	1	The length of Data part, Set MSB 1 at a maximum 128
Command	2	Use in sending/receiving in HOST cf. (Table 1. Command)
Option	1	Use in sending in HOST cf. (Table 3. Option)
Status	1	Use in receiving in HOSTcf. (Table 1. Error status)
Data	n	Data in itself for each Command. There are times the Data part doesn't exist in sending/receiving in HOST. Especially, Status value is not 00h in receiving, the Data part doesn't exist.
ETX	1	Data Part Control Code(03h)
BCC	1	XOR including ID1~ET

ACK/NAK Packet

When "Command Packet" is received, "ASK Packet" is sent. When "Command Packet" is not received, "NAK Packet" is sent. The details are given in Communication Protocol.

ACK (0x06) : 1Byte

NAK (0x15) : 1 Byte