KSU03B Ver 2.0

USB Proximity Reader
Dimensions: 97mm x 57mm x 23.5mm

RFID Smart Card Reader
with USB interface

AVEA
www.avea.cc

INTRODUCTION

The KSU03B proximity reader unit built in with USB interface. It is a cost effective solution for proximity card application systems, e.g. time recorder for attendance, library card, membership card etc. Users can write their own applications freely.

The KSU03B proximity reader unit is fully software compatible with KS232 with enhanced functionalities.

SETTINGS

The KSU03B emulate a standard serial communication port. The communication speed is fixed at 1200 bit/s. The frame format is 8 bit data, no parity, one start bit and one stop bit.

Four data formats are available, first 3 are ASCII based and the fourth is framed format. The default is format 3.

FMT1	FMT0	FUNCTION
1	1	Format 0, xxxxxxxxxxx<0x0a><0x0d> (i.e. 11 digit + LF + CR)
1	0	Format 1, xxx,xxxxx<0x0a><0x0d> (i.e. 3 digit + comma + 5 digit + LF + CR)
0	1	Format 2, xxxxx,xxxxxxxx<0x0a><0x0d> (i.e. 5 digit + comma + 8 digit + LF + CR)
0	0	Format 3, 0x02+0x06+n1+n2+n3+n4+n5+cs+0x03 Where cs=n1+n2+n3+n4+n5

BEEP	FUNCTION
0	No Beep
1	Auto Beep

MODE	FUNCTION
0	Auto Repeat
1	No Repeat

COMMUNICATION PROTOCOLS

PC can send commands to the reader at any time and the reader will send back the response (if available). When the reader read a valid card, it will send the card code to the PC. The communication format from PC to reader is fixed. But there are four formats can be selected for reader to send to PC.

Commands (From PC to reader):

| Command	Hex	Description
~l	0x7e, 0x6c	Turn off LED
~L	0x7e, 0x4c	Turn on LED
~oX	0x7e, 0x6f, X	Set options, where X=(0x41 + options) and option bit definitions are: Bit 0 – FMT 0 Bit 1 – FMT 1 Bit 2 – BEEP Bit 3 – MODE

ASCII RESPONSE (From reader to PC, format 0, 1 & 2)

Response	Hex	Description
'RST'+LF+CR	0x52, 0x53, 0x54, 0x0a, 0x0d	Reader reset
'S'+[s1]+[s2]+[s3]+[s4]+CR+LF	0x53, s1, s2, s3, s4, 0x0a, 0x0d	Status response, where s1 to s4 can be 'H' or 'L' only (0x48, 0x4c): S1 – N.A. S2 – Red LED state S3 – N.A. S4 – Buzzer state
's'+options+CR+LF	0x73, options, 0x0a, 0x0d	Options response, where options='A'+X, X 's bit definitions are: Bit 0 – FMT 0 Bit 1 – FMT 1 Bit 2 – BEEP Bit 3 – MODE

Packet Response (From reader to PC, format 3)

Response	Description
0x02, 0x02, 0x52, 0x52, 0x03	Reader reset
0x02, 0x02, 0x50, 0x50, 0x03	Switch closed
0x02, 0x02, 0x70, 0x70, 0x03	Switch opened
0x02, 0x02, 0xfX, 0xfX, 0x03	Status response, where X 's bit definitions are: Bit 0 – switch state Bit 1 – Red LED state Bit 2 – Relay state Bit 3 – Buzzer state
0x02, 0x02, 0xeX, 0xeX, 0x03	Status response, where X 's bit definitions are: Bit 0 – FMT 0 Bit 1 – FMT 1 Bit 2 – BEEP Bit 3 – MODE

DIMENSION
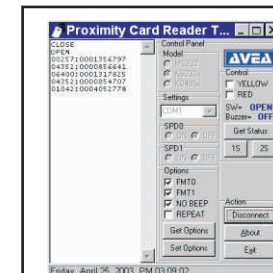
Test software is available from www.avea.cc