RFID 125KHz Dual Decoding Read Module
RFID 125KHz ASK/FSK Read Module
PXEH-FWS-TRA

Ver.23.1

● Introduction

The 125KHz proximity reading module equipped with the **ASK / FSK** dual decoding circuits to read the both EM & H.I.D. contactless cards or tags into Wiegand & UART formats. In this version, we output the Wiegand 26 bits or UART signal by external jumper selection. Additionally, we supported various module versions to answer different requirements, please refer to our products catalog.

● Features

● 125KHz proximity dual decoding technologies reading for EM, TEMIC, H.I.D. cards at the same mode.

● Embedded with internal antenna or external bigger antenna at the same model.

● Epoxy potted for weather resistant with reliable quality.

● Compact size with high performance.

● Ease system design for access control, fingerprint, mobile handheld device etc.

● Specification

Type	EM	H.I.D.
Dimensions	26 (L) x 25 (W) x 7 (H) mm	
Net weight	7g ± 5%	
Enclosure material	ABS	
Card	EM 4001,EM 4102 or compatible / TEMIC 5557	H.I.D., TEMIC 5557
Operation frequency	125KHz, ASK	125KHz, FSK
Reading range	Depending on tag size, tag type and antenna size	
Output format	Wiegand26 bits or UART(9,600 bps , 8, N, 1)	
Power requirements	5VDC @ 18mA nominal	
Operating temperature	-10℃ ~ 75℃	
Storage temperature	-20℃ ~ 85℃	

● Bottomview

● Pin assignments

Pin No.	Description	Wiegand26	ASCII
Pin 1	Zero Volts and Tuning Capacitor Ground	GND 0V	GND 0V
Pin 2	Reset	Input low pulse for 10ms to reset MCU	
Pin 3	To External Antenna and Tuning Capacitor	Antenna	Antenna
Pin 4	To External Antenna	Antenna	Antenna
Pin 5	Heartbeat	Continuous bar signal, 50~60ms per cycle	
Pin 6	Future	Future	Future
Pin 7	Format Selector(+/-)	Strap to +5V	Strap to GND
Pin 8	Data 1	One Output*	Complementary output
Pin 9	Data 0	Zero Output*	UART
Pin 10	3.1 kHz Logic	Beeper/LED	Beeper/LED
Pin 11	DC Voltage Supply	+5V	+5V

※Complementary& TTL in ASCII output could support differential RS-485 interface.

● Data formats

UART output format

STX(02Hex)	CARD ID(10 ASCII)	CHECK SUM(2 ASCII)	CR(0DHex)	LF(0AHex)	ETX(03Hex)

Card No. <u>18000D7E90</u>   HEX Value

10 ASCII DATA: 31H,   38H,   30H,   30H,   30H,   44H,   37H,   45H,   39H,   30H

                        1   8   0   0   0   D   7   E   9   0

CHECKSUM:

(18H)XOR(00H)XOR(0DH)XOR(7EH)XOR(90H)=FB

The Reader Output Format:

STX   CHECKSUM CR   LF   ETX

02H,   31H,   38H,   30H,   30H,   30H,   44H,   37H,   45H,   39H,   30H,   46H,   42H,   0DH,   0AH,   03H

Wiegand 26bits output format

| 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
P	E	E	E	E	E	E	E	E	E	E	E	E	O	O	O	O	O	O	O	O	O	O	O	O	P
Summed for even parity(E)													Summed for Odd parity(O)												

P=Starts Even parity bit and stop Odd parity bit.

Even parity "E" is generated by summing from bit2 to bit13; Odd parity "O" is generated by summing from bit14 to bit25.

● **Dimensions(Unit: mm)**
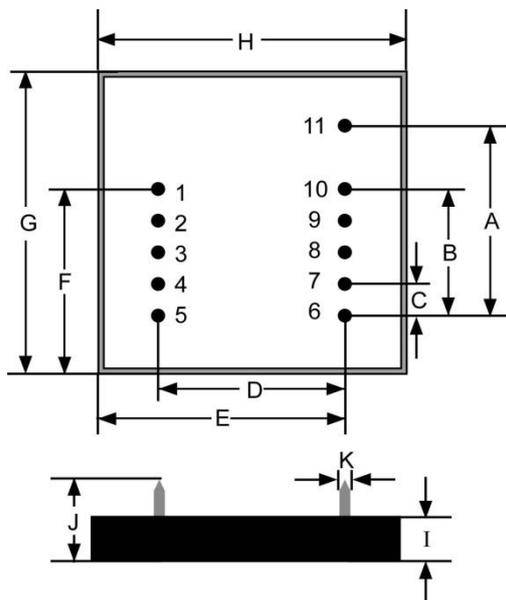
	Nom.	Min	Max.
A	12.0	11.6	12.4
B	8.0	7.6	8.4
C	2.0	1.8	2.2
D	15.0	14.6	15.4
E	20.3	19.8	20.9
F	16.3	15.8	16.9
G	26.4	26.1	27.1
H	25.3	24.9	25.9
I	6.0	5.8	6.6
J	9.9	9.40	10.5
K	0.66	0.62	0.67

● **Application fields**

POS system   Time attendance   Access control   Logistics   Production control   Mobile handheld device
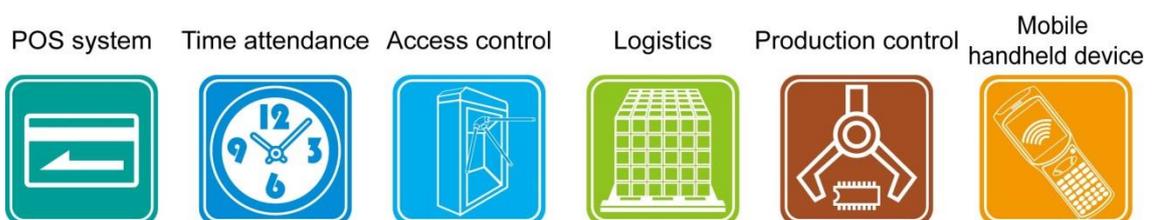
Specifications subject to change without notice for further modification.