



# RFID 125KHz EM read module

## PIEM-ES-SEA1

Ver. 19.2

### ● Features

- AM 125KHz proximity reading module for EM, Temic cards.
- With LED output.
- Variable formats output by selection.
- Low cost, compact size with high performance.
- Antenna coil embedded.
- Suitable for designing many tag or card reading application, such as Access reader, Fingerprint reader...etc.

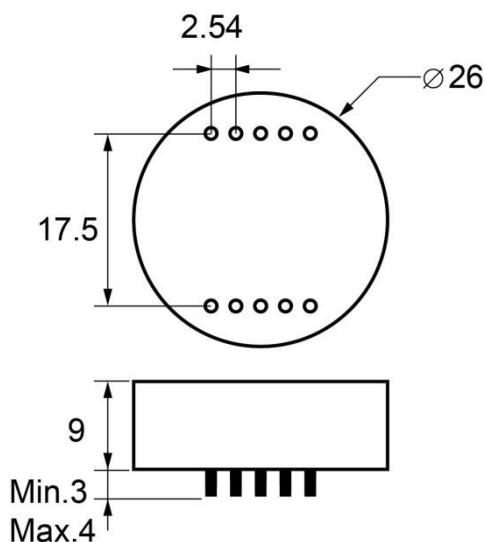
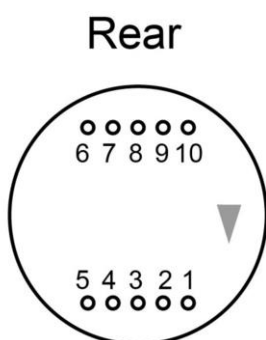
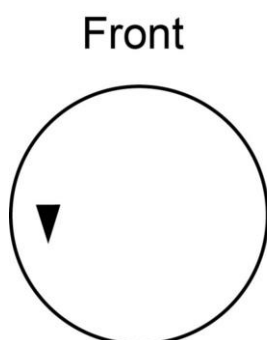


### ● Specification

Dimensions	26 (Diameter) x 9 (H) mm
Transmitting frequency	AM 125 KHz
Card format	EM 4102 or compatible, Temic 5557
Read range	4 ±1 cm
DC power input	DC +3.3V~5V±5%
Standby Current	16 mA ~34mA±5%
Operating Current	16 mA ~34mA±5%
Encoding	Manchester 40 bits or 80 bits
Operating temperature	-10°C ~ 70°C
Storage temperature	-10°C ~ 85°C
Storage humidity	5~95% RH
Net weight	9.2g

### ● Bottom view

### ● Dimensions (Unit: mm)



## ● Pin assignments

PIN	NAME	I/O	SYMBLE	MIN	TYP	MAX	DESCRIPTION
1	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---
4	Tx	O	Vo-H Vo-L	Vcc-0.2V -	Vcc GND	Vcc+0.2V Vss+0.2V	TTL(to IC UART)
5	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---
7	GLLED	O	Vo-H Vo-L	Vcc-0.2V -	Vcc GND	Vcc+0.2V Vss+0.2V	High active
8	RLED	O	Vo-H Vo-L	Vcc-0.2V -	Vcc GND	Vcc+0.2V Vss+0.2V	Low active
9	VCC		Vcc	3.3V-	5V	5.25V	VCC
10	GND						Ground

## ● Data formats: RS232C (ASCII) Output.

1. Data output format
  - a. 9600bps, N, 8, 1
  - b. PIN3:TX non-reverse output
  - c. PIN4:TXreverse output
  - d. CHECKSUM: Using card 10 bytes DATA for XOR calculation

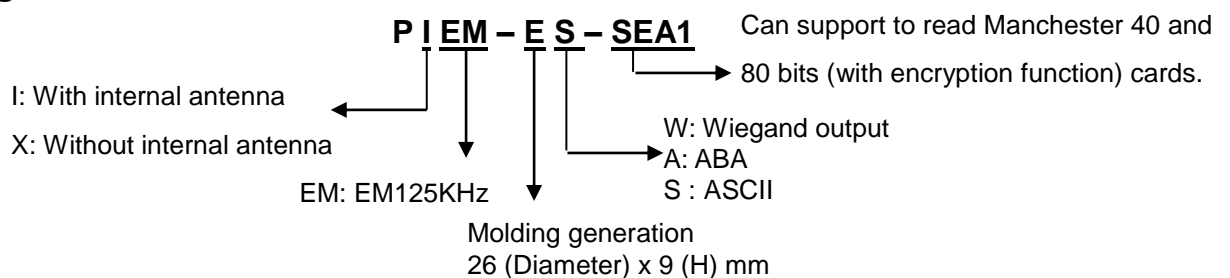
<b>40bit</b>	STX(02Hex)	<b>DATA (5 hexadecimal bytes)</b>	Check Sum (1 hexadecimal bytes)	0X0D (CR)
<b>80bit</b>	STX(02Hex)	<b>DATA (10 hexadecimal bytes)</b>	Check Sum (1 hexadecimal bytes)	0X0D (CR)

For example: card number : 62E3086CED

**ASCII with check sum : 62H, E3H, 08H, 6CH, EDH**

**Check sum algorism : 62(H) XOR (E3H) XOR (08H) XOR (6CH) XOR (EDH)=08H**

## ● Ordering information



**Other customer request specifications are welcomed.**

**Specifications subject to change without notice for further modification.**