EM1X Series

Embedded Thermal Printer Module

Model Explication

EM1XKRX

- Null: 3.3~8.5V
- H: 24V
- Null: without key button
- K: with key button
- Null:with one SAM card slot
- 2:with two SD card slots
- A: with adaptor Board
- R: with RS232 Driver Board
- U: with USB Driver Board
- T: with TTL Driver Board
- N: with none Board

EM1XR

EM1XKXR

Technical Specification

Model		EM1X(Low Voltage)	EM1HX
Printing	Printing method	Thermal dot printing	
	Number of dots	384dots/line	288dots/line
	Resolution	8dots/mm(203dpi)	
	Paper width (mm)	58mm(Paper width: 57±0.5mm)	
	Valid Printing width (mm)	48mm	48±0.2mm
	Paper roll diameter (mm)	Φ50mm Max	
	Paper thickness (μm)	60~80μm	
	Max printing speed	80mm/s	250mm/s
	Paper loading	Easy loading	
Detection	Paper end/black mark sensor	By photo interrupter	
	Head temperature	By NTC thermistor 30KΩ (25°C)	
Operating voltage	For printer head	4.2V~8.5V	24V
	For moter	4.5V~8.5V	24V
	For logic	3.3V~5V	3.3V~5V
Peak current	For Head	3.09A (at 8.5V, 64dots)	2.36A (at 24V, 64dots)
		4.64A (at 8.5V, 96dots)	3.54A (at 24V, 96dots)
	For Motor	0.6A	1A
Character	Character set	1 resident	
	Character size	12*24	
	Character per line(max)	32	24
Font	Normal, Double width&height, white/black reverse, upside–down, bold		
Instruction set	ESC/POS		
Graphics	Variable width and offset, double width and height		
Barcodes	11 barcodes, normal and rotated 90°		
	UPC-A, UPC-E, EAN8, EAN13, CODE39, I25, CODABAR, CODE128, CODE11, MSI, CODE93		
Interface	RS 232C, RS232TTL, USB(under developing)		
Life	Abrasion resistance	100km(Mitsubishi F230AA)	
	Pulse activation	100 million	
Operating environment	Operating temperature	0~50°C	
	Operating humidity	10~90%RH (No condensation)	
	Storage temperature	-20~60°C	
	Storage humidity	5~95%RH (No condensation)	
Physical characteristics	Dimension	76.6*80.9*54.8mm(With key button) 76.6*73.6*54.8mm(Without key button)	
	Weight (g)	82g±15g	

Unique Functions

※ World's smallest 57mm*Φ50 thermal printer module
※ Used as panel printer when fixed on an iron plate, and used as an embedded printer when embedded in other devices.
※ With software command to enter standby mode, and ultra low standby current (6.0mA), which is very applicable to the devices with battery.
※ To control the number of dots and the interval of heating by the software command, and allocate the peak current
※ SAM connector space inside each is applicable for SD or SAM card(customizable).

Features

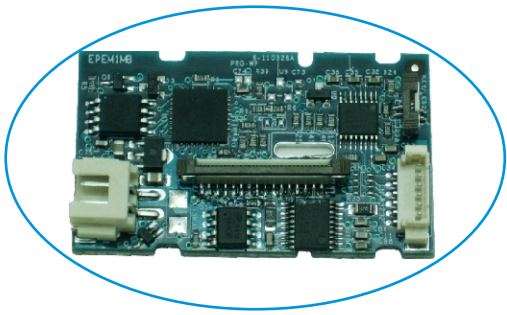
※ Support Windows driver
※ High printing endurance up to 100km(by using F230AA Mitsubishi paper, DJ03 or equivalent thermal paper)
※ High printing speed, up to 250mm/s (EM1HX)

Appliactions

※ Protable printers and terminals
※ Hand held ternimals
※ Measuring instruments and analyzers
※ Data terminal devices
※ Medical equipments
※ Taximeters

Driver board specification

Board model	AEM1MB7-RS232	AEM1MB7-TTL	ACS3EM1AB3
Printing method	Thermal dot printing		/
Printing speed	80mm/s		/
Buffer	4KB		/
Character	Character set: ANK, 12*24		/
	Column: 32		/
Command	ESC/POS		/
Barcode	UPC-A, UPC-E, EAN8, EAN13, CODE39, I 25, CODE93, CODABAR, CODE128, CODE11, MSI		/
Communication port	RS232	TTL RS232	SPI,IO
Over-temperature protection	YES		/
Paper end detection	YES		/
Protection circuit	With protective circuit to cut off the circuit when meeting Logic Exceptions, which can protect the TPH from electrochemical corrosion, and avoid the steppermotor and TPH burnt when CPU hangs.		
Paper cutter	NO		/
Dimension	45*26mm		39*23.5mm



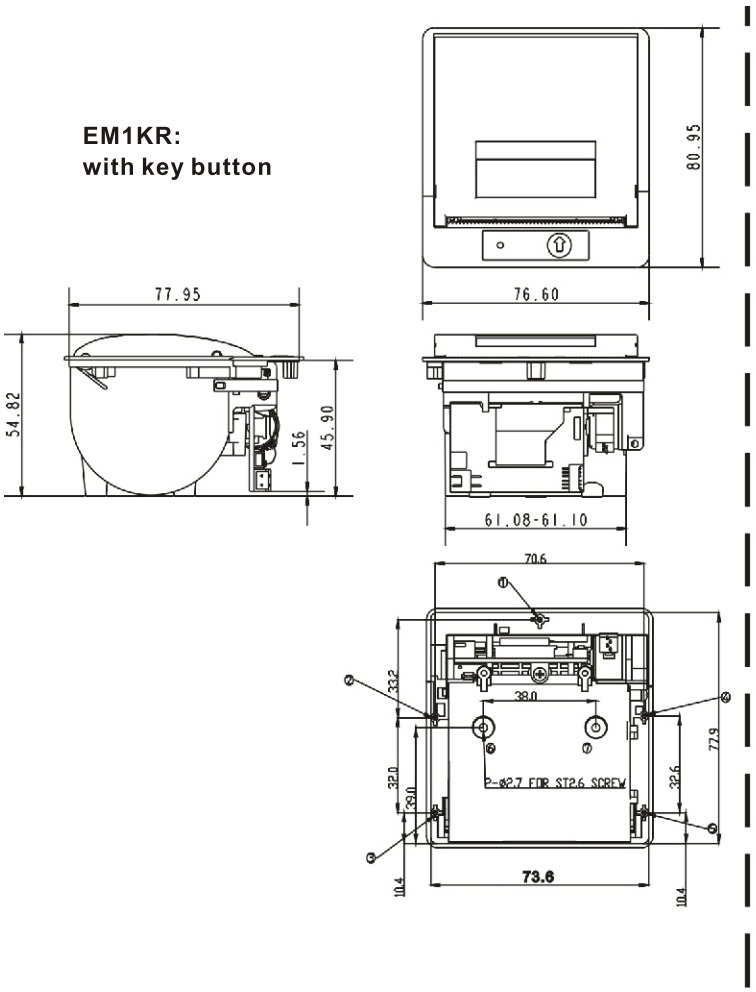
AEM1MB7

Dimension

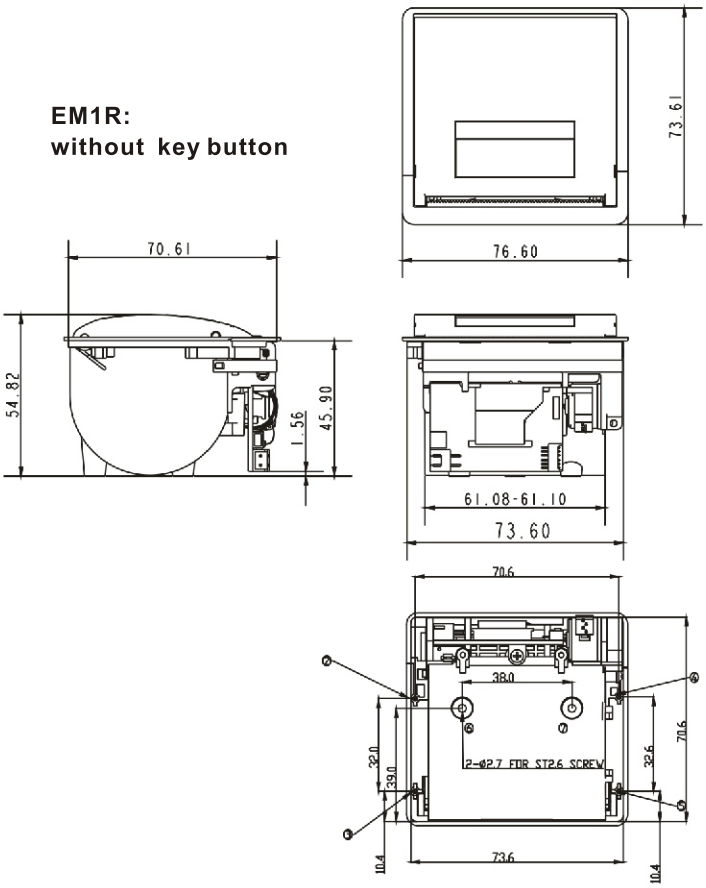
Unit:mm

General tolerance: ±0.5mm, ±5°

EM1KR:
with key button



EM1R:
without key button



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