

THERMAL PRINTER & DRIVER CARD SPECIFICATION

The **EPM-207-LV** is a 2 inches, 5V, Easy Loading Printing Module with an integrated control board using serial communication protocols.

The EPM module consists of a set of mechanical and electronic parts designed to have a high grade of integration and to perform many different functions. This Printer is packed with features which are listed below.

1. Printer Features

- Ultra compact bucket printer
- Industry compatible paper roll container provision
- 2 inch paper width
- APS Thermal printer mechanism
- Default Character Per Line: 24
- Programmable speed up to 50 mm / sec.
- Universal ESC sequence compatible.
- Complete text and graphic printing.
- Inbuilt over temperature & voltage protection.
- Superior Mounting provision
- Clips provided for greater mounting stability.
- Head temperature protection
- Serial RS-232 interface.
- Single Supply operation – 5V only
- Available in two Colors – White & Grey



2. Functions Supported

- Graphics Printing
- Paper Roll Diameter: 60 mm
- Selectable Font sizes
- Regional Fonts Option Available
- Head temperature protection
- Head over-voltage protection.
- Error Indication(s):
 - Paper out (Continuous RED LED)
- Option of Economy mode for printing with lower current
- Self Test



3. Technical Specification

PRINTING SPECIFICATIONS	
Default Character Size	16 X 24
Character per line	24 Default (32 Selectable)
Resolution	8 Dots/mm
Print Width	48mm (Centered on Paper)
Print Speed	Up to 50mm/sec
Printing Capabilities	Alpha – Numeric & Graphics (Logo)
Interface	Serial (RS232C)
Data Format	Baud Rate 9600, 8Bit, 1 Stop Bit, No Parity
Command Set	ESC Sequence
Dimension W x D x H	76.8 x 77.4 x 43.5 (mm)
Paper Width	57 mm (max)
Paper Roll Size	Max. Ø60 mm (outside diameter)

ELECTRICAL SPECIFICATIONS		
Operating Voltage		+5V
Quiescent Current	(Idle State)	30mA
Current during printing	(Economy Mode)	870mA
Current during printing	(Normal Mode)	1.5A

GENERAL SPECIFICATIONS			
Operating Temperature		0° to + 55°C	
Storage Temperature		-40° to + 90°C	
EMC Standard	Designed to comply	Level B – FCC – CE	
Operating humidity	(RH%)	20-85 (No Condensation)	
Mechanism Life			
	Durability	Basic Condition	Max Variation
Thermal head pulse resistance	100 million Pulses	Room temp.: 20 – 25 °C	Max. 15% in resistance value (Ω) of any dot, from its initial value
Abrasion / wear resistance	50 Km of Paper		
Cover group opening / closing cycle	2000 Operation or More	–	–



4. Supported Command – Commands supported by ESC series

Sr no	Commands	Description	Hex value
1.	HT	Horizontal tab	<09h>
2.	LF	Line feed	<0Ah>
3.	CR	Print and carriage return	<0Dh>
4.	ESC SP	Set right character spacing	<1Bh> <20h> <n>
5.	ESC 2	Set default line spacing	<1Bh> <32h> <n>
6.	ESC 3 n	Set line spacing	<1Bh> <33h> <n>
7.	ESC @	Initialize printer	<1Bh> <40h>
8.	GS!	Select character size	<1Dh> <21h> <n>
9.	GS B	Turn Black\white mode on\off	<1Dh> <42h>
10.	GS L	Set Left Margin	<1Dh> <4Ch> <n>
11.	ESC D	Select Horizontal tab position	<1Bh> <24h><n1><n2>
12.	ESC G	Turn Double strike mode on\off	<1Bh> <47h><01> / <00>
13.	ESC v	Transmit paper sensor status	<1Bh> <76h>
14.	GS ENQ	Transmit Real Time Printer Status	<1Dh> <05h>
15.	ESC d	Print and feed line	<1Bh> <64h>
16.	ESC J	Print and feed paper	<1Bh> <4Ah> <n>
17.	ESC \$	Set absolute print position	<1Bh> <24h><n1><n2>
18.	ESC \	Set relative print position	<1Bh> <2Fh>
19.	ESC!	Select print mode	<1Bh> <21h> <n>
20.	GS W	Set printing area width	<1Dh> <77h> <n>
21.	ESC #	Print logo	<1Bh> <23h> <1Ah> <28h> <Hex String>
22.	GS (A	Print test slip	<1Dh> <28h><41h >



5. Pin Description

PIN NUMBER	SIGNAL NAME
1	VCC
2	NC
3	NC
4	GND
5	GND
6	Rx (Receive Data, Printer Input)
7	Tx (Transmit Data, Printer Output)
8	CTS (Request to Send, Printer Output)

Detailed Description:

PIN 1: *VCC* – This Pin accepts a regulated 5V input and supplies it to the Printer.

PIN 2: *NC (No Connection)* – This Pin is left un-connected for future use.

PIN 3: *NC (No Connection)* – This Pin is left un-connected for future use.

PIN 4 & 5: *GND* – This Pin Connects to the Common Ground.

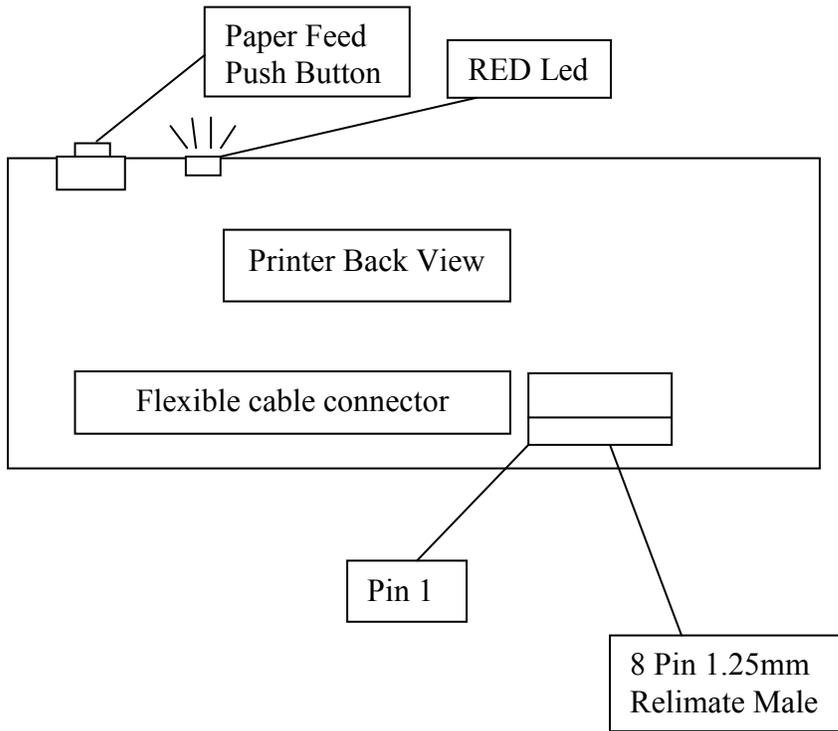
PIN 6: *RX (Receive)* – This is a Receive pin which accepts RS232 Level signals. This is an Input pin.

PIN 7: *TX (Transmit)* – This pin transmits RS232 Level Signals. This is an Output pin.

PIN 8: *RTS (Clear To Send)* – This pin transmits RS232 Level Signals. This is an output pin. When the printer is ready to print i.e, buffer is empty and lid is closed/Paper is present. This pin will turn to logic low indicating printer is ready to receive data. If Printer is not ready to print then the signal will change to Logic High.

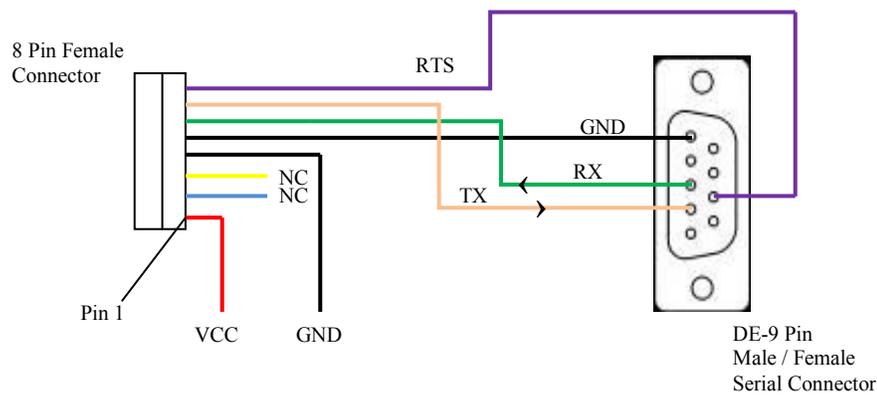


6. Controller Board Diagram



7. Connection Details

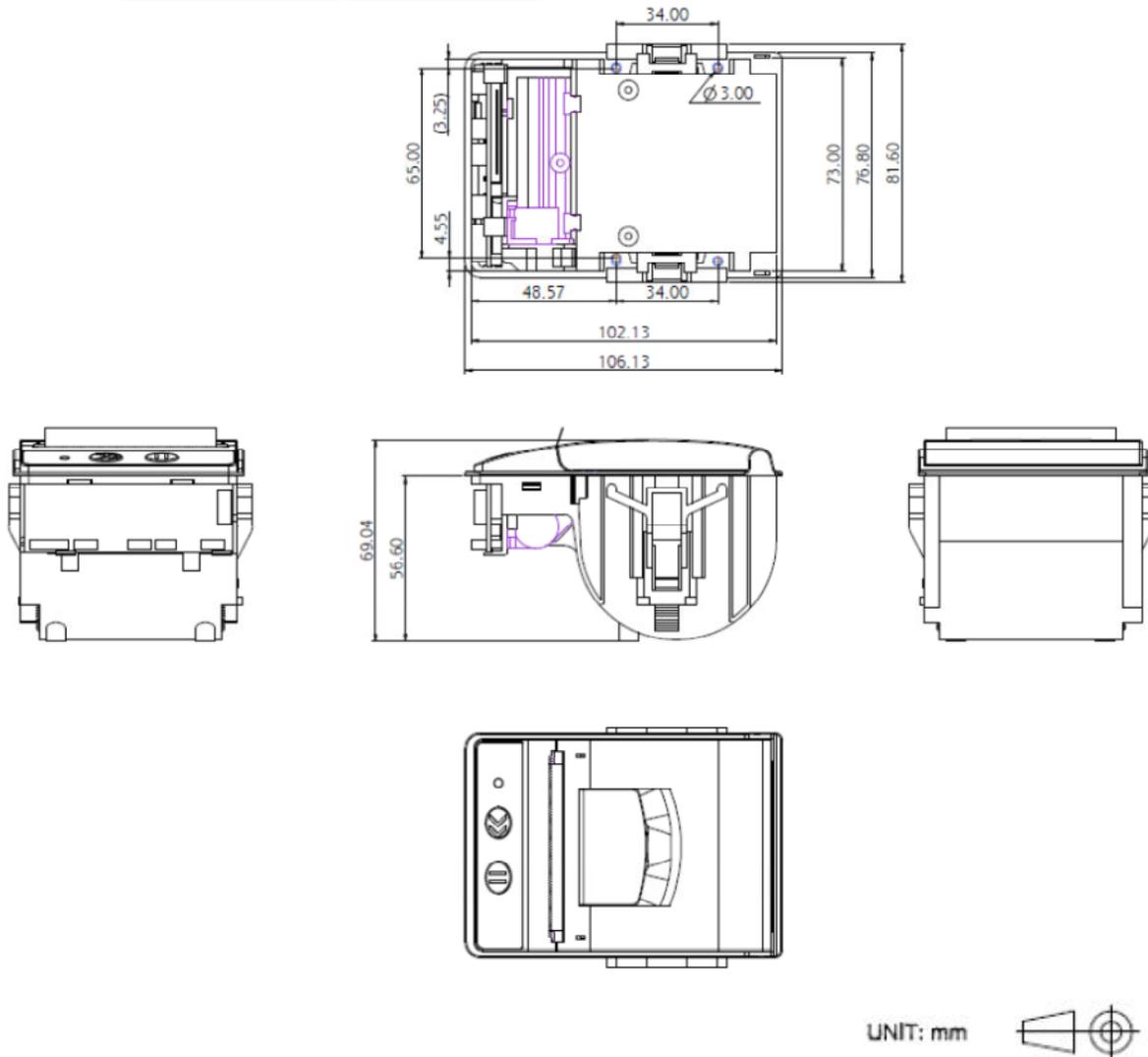
The printer may be connected to your device in the following manner



Note: The actual Wire colors given may not be the same as shown above.

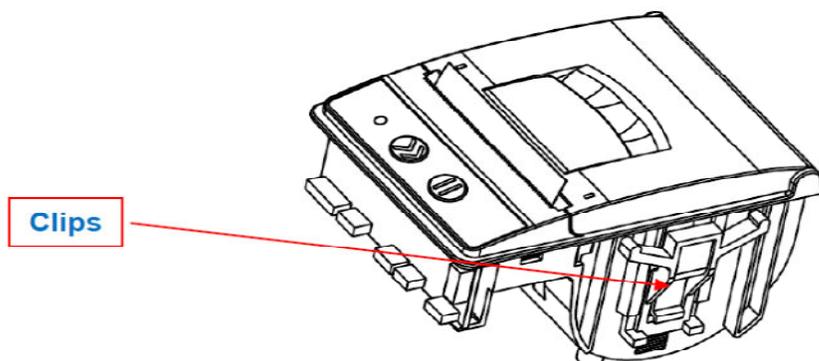


8. Printer Casing Dimensions



The mechanism has to be fixed using the clips provided for this purpose.

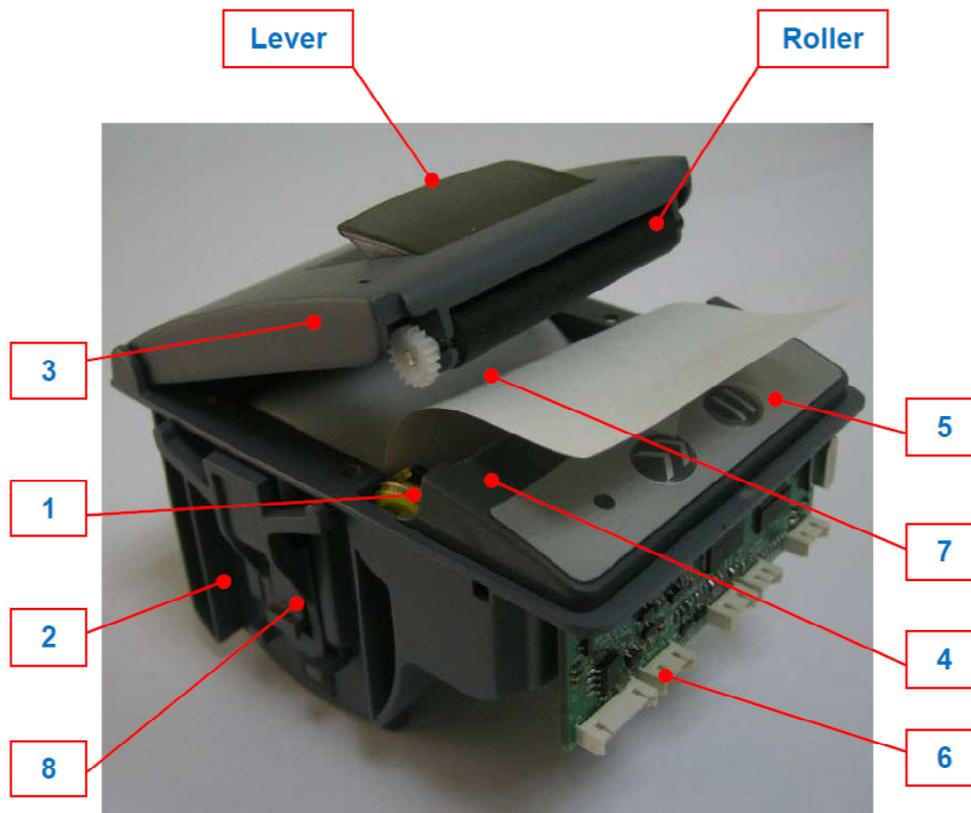
To avoid any kind of deformation or distortion, a flat surface for contact is required, otherwise the printer's life will be drastically reduced.



9. Printer Sections

The sections that form the EPM module are described in the following image.

1. Printer mechanism, easy loading type
2. Paper roll housing
3. Cover group, with Lever (for easy opening) and Roller
4. Tear Bar, for paper cutting
5. Control panel with push button for paper feed and one LED for Indication
6. Electronic Control board
7. Paper Roll: Max 60mm
8. Mount Clip





10. Contact Us

You May contact us for Technical support or for Sales enquiry at the below mail address.
info@siliconcomponents.net



Silicon Components Pvt. Ltd.
Beyond Sourcing
Your Knowledge Partner

102-B, Rassaz Castle,
Malpa Dongri No. 1, Near TCS Compound
Western Express Highway,
Andheri – (EAST), Mumbai – 400 093
Tel: +91-22-2681 5500
Fax: +91-22-2687 8346
Website: www.siliconcomponents.net