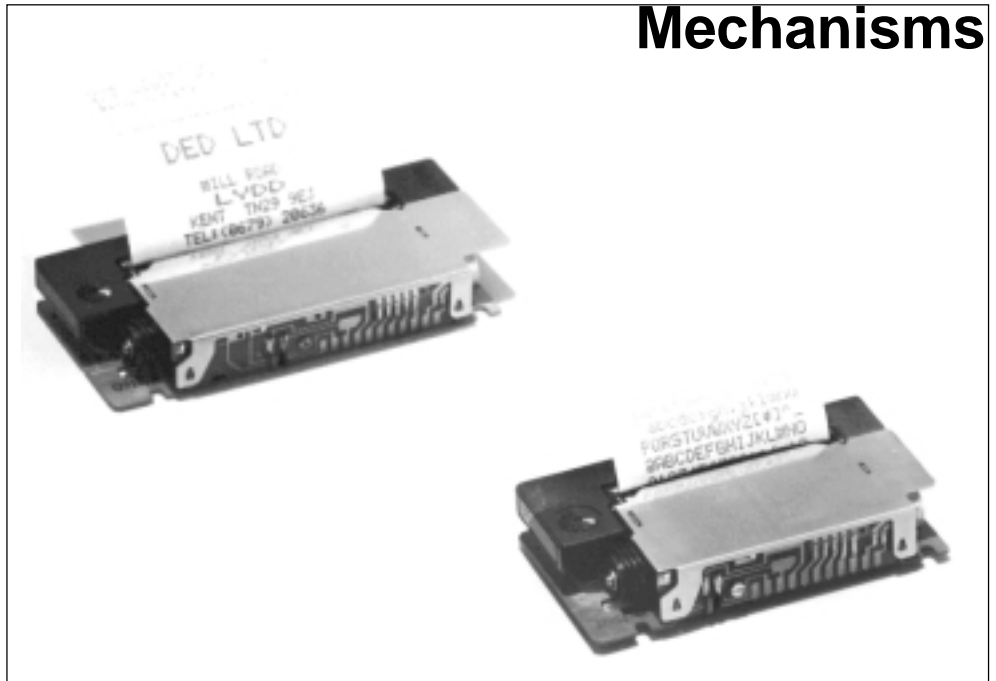


Mechanisms

Features

- 16, 24, 40 Characters per line
- 4 Horizontal Needles
- Graphics Capability
- Uses Standard Paper
- Cassette Ribbon
- Compact Size, Low Profile
- Horizontal or Vertical Mounting
- 5Vdc Supply
- Wide Range of Interfaces Available
- Industry Standard Mechanisms
- High Reliability
- Low Cost



Applications

- Industrial Control
- Cash Dispensers
- Vending Machines
- Hand Held/Portable Terminals
- Low Cost Printers
- Automatic Test Equipment
- Alarm Monitoring
- Data Logging
- Ticket Issuing

Introduction

The M150, M160 and M164 are Epson industry standard miniature printer mechanisms using impact dot matrix method.

Their low power consumption, compact size and light weight make them ideally suited to portable applications.

A wide range of accessories are available. Interfaces to serial and parallel sources enable them to be run quickly and easily from standard sources. Plastic and metal printer assemblies contain the mechanism and paper roll holder together with cutting edge. The mechanisms can mount vertically for panel mount applications are generated. In addition paper rewinds, power supplies and guillotines are available.

The M150 is a smaller size than the M160 and M164. It also uses narrower paper and runs faster. It has 16 columns per line. The M160 and M164 have 24 and 40 columns per line but as they use the same width paper the 40 column has more compressed printing.

Operation

The mechanisms consist of 4 horizontal solenoids on a head which shuttles sideways so that each solenoid prints $\frac{1}{4}$ the characters. A +5Vdc signal applied to the single motor activates the shuttle movement. As the head moves, timing signals are generated from a tachometer fitted to the motor. For each timing signal one of the solenoids can be fired which causes a needle to be propelled outward. The needle hits the ink cassette ribbon onto the paper to cause a dot to be printed. Each of the 4 solenoids are fired in turn until the specified number of dots across the paper has been counted. The motor continues operating and a Cam is triggered which causes the paper to advance automatically 1 dot line. The cassette ribbon is also automatically advanced.

The ribbon is a multishot self inking ribbon housed in an easy to change cassette. At the beginning of each dot line a reed switch is closed which when opens is used to indicate that the next timing pulse is the start of the dot line.

Typically 7 dot lines are used to print characters with a further 3 dot lines spacing. Each dot is directly addressable so full graphic printing is achievable.

11 wires must be soldered to the leaf connector to control the mechanisms. The mechanisms are fixed via 2 slotted screw holes.

SPECIFICATIONS

Printing System: Impact Dot Matrix

	M150	M160	M164
Characters per Line:	16	24	40
Dots per Line:	96	144	240
Print Speed:	1 Dot Line: 100	150	250mS
	1 Char Line (5x7) 1.0	0.7	0.4Line/Sec

Paper Feed: Fed Automatically after Printing Line

Dot Size:	Width:	0.35	0.33	0.2mm
	Height:	0.35	0.33	0.33mm

Dot Line Pitch:	0.35	0.33	0.33mm
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Character Size:	Width:	1.8	1.7	1.1mm
	Height:	2.5	2.4	2.4mm

Paper: Type: Standard
 Width: 44 57.5 57.5mm
 Thickness: 0.07mm Approx
 Weight: 52.3gsm Typical

Inking: Type: Cassette
 Operation: Automatically fed by motor
 Life: 250,000 Characters Approx

Motor: Voltage: 4.5 +0.5 -0.7Vdc
 Average Current: 0.2A
 Peak Current: 0.8A

Print Solenoids: Number: 4
 Voltage: 4.5 +0.5 -1.2Vdc
 Peak Current: 2.5A
 Pulse Width: 1 Timing Pulse Width (0.2 to 0.6mS)
 Duty Cycle: 1 in 4

Timing Detector: Tachometer Connected to Motor

Reset Detector: Reed Switch closes at Home Position

Operating Temp: 0°C to 50°C (Extended temp version of M160 Available)

Reliability: 500,000 Lines

Dimensions:	Width:	73.4	91	91mm
	Depth:	42.6	42.6	42.6mm
	Height:	12.8	12.8	12.8mm

Weight: 60 75 75grams

Connection: PCB with 0.1" pitch pads fitted to mechanism

Power Supply: Text only: 0.3A Average, 1.5A Maximum
 Full graphics: 1.5A Average, 2.0A Maximum

ACCESSORIES

Cassette Ribbon: M150 Stock No: 553-150
 M160/M164 Stock No: 553-160

Paper Roll Single Ply: M150 Stock No: 5 5 2 - 044

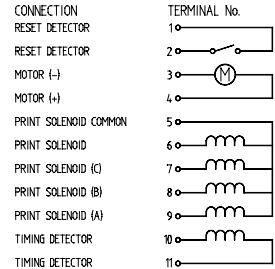
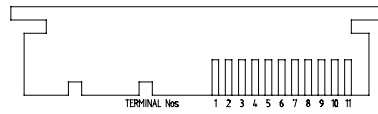
M160/M164 Stock No: 552-057
 D148: Serial and Parallel Interface
 D193: Serial and Parallel Interface, 2KRam, Clock
 D167: Power Supply
 D138: Panel Mount Plastic Assembly
 D151: 3u High Rack Mount Plastic Assembly
 D182: Panel Mount Metal Assembly
 D143: Panel Mount Metal Assembly with Rewind
 D130: Rewinds
 D175: Paper Holders

DPN-233: Complete Printer
 D166: Panel Mount Printer

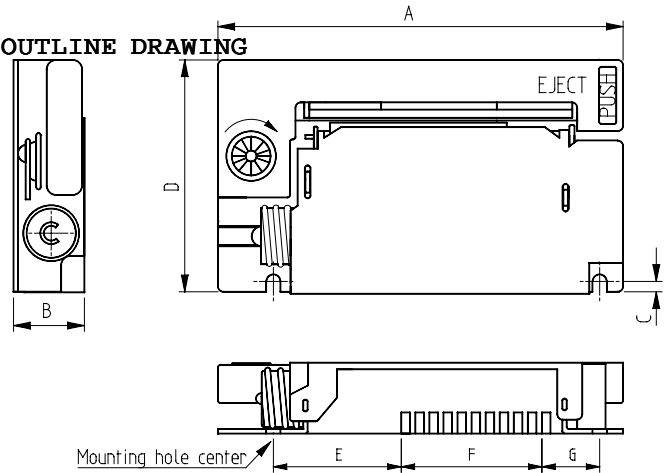
ORDER CODE

M150 16 column Mechanism, Cassette
 M160 24 Column Mechanism, Cassette
 M164 40 Column Mechanism, Cassette

CONNECTION



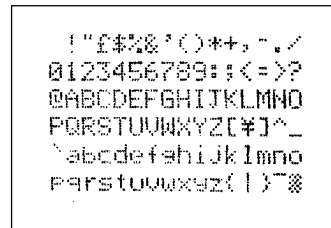
OUTLINE DRAWING



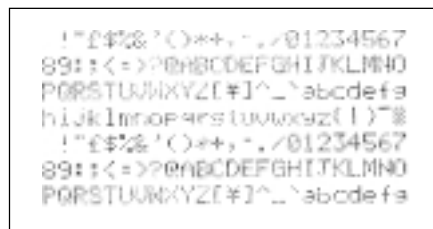
DIMENSION	A	B	C	D	E	F	G
M150	73.2	12.8	1.9	41.9	23.1	25.4	10.5
M160/164	90.9	12.8	1.9	41.9	36.1	25.4	10.5

PRINT SAMPLES

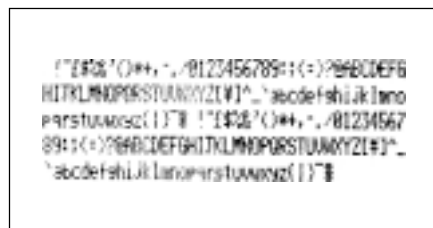
M150



M160



M164



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Specifications are subject to change without notice



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