240 Series Electrosensitive Matrix Printers

245 Printer Mechanism

General:

The 245 is a new non-impact printer mechanism of Japanese manufacture. It produces 7 x 5 dot-matrix characters on a 60mm wide electrosensitive paper strip, at a rate of up to two lines per second.
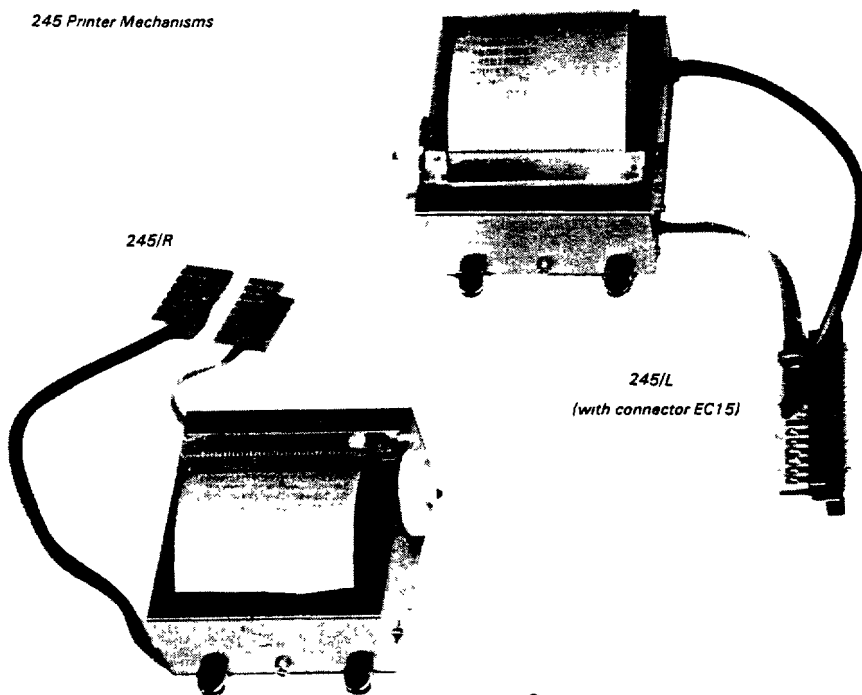
Four standard versions are available:

245/L prints left-to-right, with last line LOWEST and paper emerging UPWARDS.

245/R prints left-to-right, with last line UPPERMOST and paper emerging DOWNWARDS.

Either of the above can be factory preset to print 16, 20 or 32 characters per line.

245 Printer Mechanisms

245/R

245/L
(with connector EC15)

PU 245L 20
L 3 2

FEATURES:

* Extremely compact and light weight
* Long life head and mechanism
* Low power consumption
* No ink ribbon
* Fully alphanumeric
* High printing speed
* Very quiet operation

* D.C. power supply
* No lubrication required
* Up to 32 characters per line
* Up to 2 lines per second
* No special control tracks p.c. board required
* Permanent high-contrast record
* Very low price

Printing Method:

A very small, lightweight printhead incorporating 7 electrodes mounted in a vertical line is made to scan transversely across the metallised surface of the paper strip. This very thin metal layer is evaporated away by current pulses through the electrodes, thus revealing the underlying black varnish layer. Any character or graphics may be formed on a mechanically defined dot-matrix. For character printing a standard 7 x 5 matrix can be used, with the characters being formed from left-to-right, column by column.
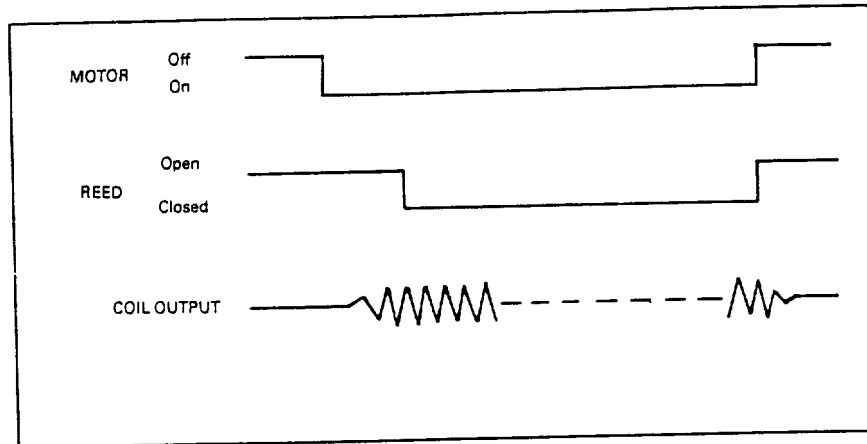
Operation:

The printhead is moved to and fro by a D.C. motor, gearbox and wire loop arrangement. An integral generator within the gearbox produces a train of pulses which determine the exact position of each printed character, thus ensuring excellent synchronisation between the printhead and character generator. During the carriage return part of each print cycle the electrodes are automatically lifted away from the paper, so that no characters can be printed, and head wear is reduced.

In both basic types of printer currently available printing is effected from left to right; with type 'L' the paper feed knob is located to the left-hand side and the paper emerges 'UPWARDS', with the last printed line LOWEST. With type 'R' the paper feed knob is to the right-hand side and the paper emerges DOWNWARDS with the last printed line UPPERMOST. Type L is ideal for message-printing applications, production of columns of figures with a total at the bottom, etc., whereas type 'R' is in keeping with many data recording applications.

The number of teeth on the pulse generator gearwheel determines the number of characters printed per line. Three standard line lengths are currently available:— 16, 20 and 32 characters, on a 60mm wide paper For large-volume applications 40 characters per line can be specified. The paper is automatically moved one line pitch after each printed line. A manual paper feed knob and a paper release button are provided.

Datac LIMITED

TIMING DIAGRAM

Specification:

line length	16, 20 or 32 characters standard
speed	up to 2 lines per second
character size	2.4 ± 0.2mm high x 1.5mm (nominal @ 20 ch/line) wide
line pitch	4.8mm typical
printhead energy requirement	0.5 mJ/dot
dot diameter	0.3mm
dot pitch	0.40mm
motor supply	—24V DC ± 5%; 350mA max., 85mA average, 150mA brake current
pulse generator output	0.3V min. (sinewave peak voltage 0.33V min.)
	pulse width 100 usec. min.
	pick up coil R. = 1K ohm max. @ 25°C
reed switch	2 millisec. max. bounce time
	max. 80mA @ 50V DC
temperature range	—5°C to +50°C operating (tested for 3 hours)
	—40°C to +80°C storage (tested for 72 hours)
humidity	90% RH @ 40°C operating (tested for 3 hours)
	95% RH @ 60°C storage (tested for 72 hours)
vibration	1.5mm amplitude over 10 to 55Hz along X, Y and Z axes (tested for 2 hours along each axis)
shock	½ sine wave; 50G for 11 millisec. along X, Y and Z axes
insulation resistance	10 Mohms @ 500V DC min (connector to body)
paper	59 ± 1mm wide, metallised (readily available from Datac Ltd., and other sources)
life expectancy	printhead type PH-45; 30 Million characters expected useful life
	mechanism type 245 1 million lines MTBF
	3 million lines expected useful life
dimensions	approx. 95mm wide x 42.5mm high x 110mm deep overall
weight	370g approx.
connectors	printed circuit board edge connectors
	No. .1 (7 contacts) for motor, reed switch, etc.
	No. 2 (8 contacts) for printhead
	See separate Bulletin for connection details.

To Order

Specify printer type, direction of paper movement and line length.
For example: 245/L/20 denotes a printer type 245 with upwards paper flow printing 20 ch/line.