



DATA PRINTER

MODEL No 60164

OPERATOR'S HANDBOOK (PART No 34219)

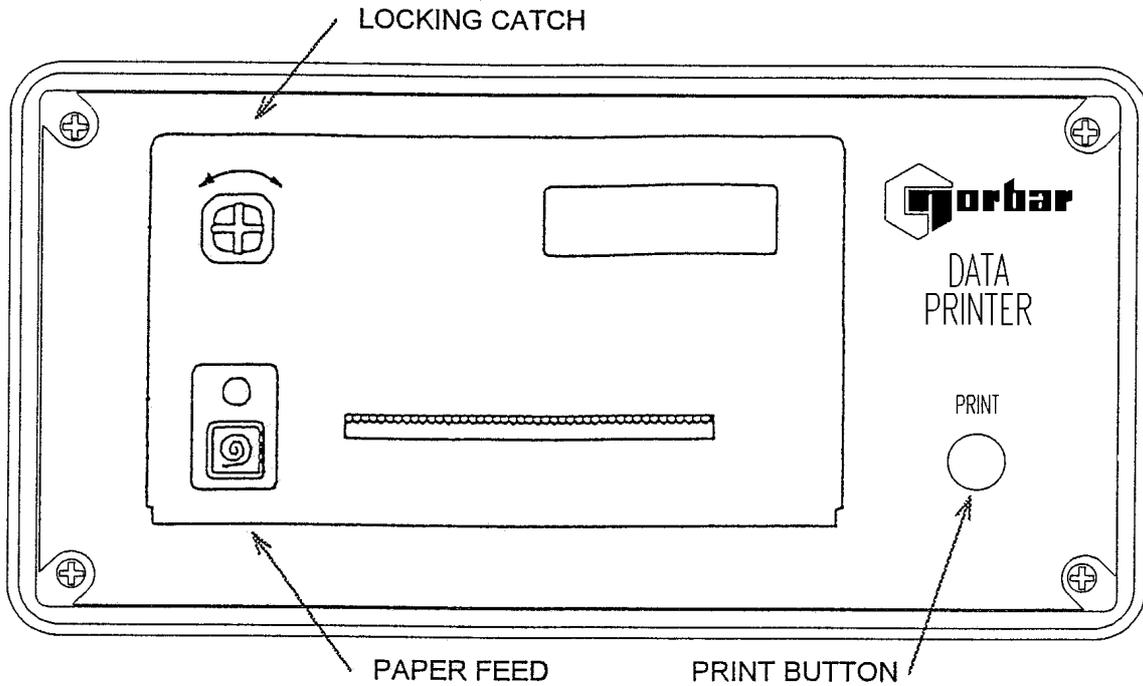
ISSUE 4



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INTRODUCTION



The Norbar Data Printer is a serial (RS232.C), dot matrix, impact ribbon printer that conforms to current EC Directives and Safety standards.

Designed for ease of operation, the Data Printer can be interfaced to any Norbar 'CE' marked Electronic Transducer System (ETS), Dedicated Transducer System (DTS) or Torque Wrench Analyser (TWA), with the interface cable provided. The Data Printer features a 'PRINT' button (request to send), that when pressed and released causes a printout of the displayed value and units of measurement.

Paper can be fed rapidly through the printer when the 'PAPER FEED' button is pressed. The amount of paper fed is dependent upon the length of time this button is held in.

The paper roll and ribbon cartridge can be easily replaced.

Power to the printer can be either via the mains supply, or Norbar battery power unit.

MAINS PLUG FITTING :- _____

If a mains plug is not fitted, follow the plug's own instructions. The following may be useful :

BROWN-LIVE BLUE-NEUTRAL GREEN / YELLOW-EARTH

WARNING! It is important that live, neutral and earth are all connected between the DATA PRINTER and mains supply. If no earth is available (2 wire mains supply) it is recommended that a separate earth is connected between the case (the bottom right hand fixing screw in the corner of the back panel is ideal) and a suitable earth. Alternatively the DATA PRINTER could be powered by battery.

If the plug has an internal fuse, a 1 amp value is recommended.

SPECIFICATIONS

DATA PRINTER :-

DATA INPUT CONTROL WORD (factory settings)	RS232.C serial, 8 data bits, no parity, 1200 baud rate.
CHARACTER SET	64 character ASCII
PRINT SPEED	2.5 lines per second
NUMBER OF COLUMNS	24
CHARACTER MATRIX	5 x 7 dots
BUFFER	1 character line
RELIABILITY	1 million lines
POWER REQUIREMENTS	Selectable 110/120 Volts AC +/- 10 % or 220/240 Volts AC +/- 10% at 50-60 Hz. or Norbar battery power unit.
MAINS POWER FUSE	T500 mA anti-surge (2 off)
POWER CONSUMPTION	15 W - maximum.
OPERATING TEMP RANGE	0 °C to 40 °C.
MAXIMUM OPERATING HUMIDITY	85% Relative Humidity @30°C.
MAINS POWER CABLE	2.5 metres (8 ft 2 ins) long.
RS232 CABLE	0.6 metres (1 ft 11 ins) long.
WEIGHT	3.6 kg (7.9 lb) as standard.
DIMENSIONS	108 mm high x 197 mm wide x 282 mm long.
CASE MATERIALS / FINISH	Case engineered in aluminium extrusions and castings. Finished in tough texture paint.
ENVIRONMENT	Indoor use within a light industrial environment.
ELECTROMAGNETIC COMPATIBILITY (EMC) DIRECTIVE	In conformance with EN 50081-1 : 1992 & EN 50082-1 : 1992.
LOW VOLTAGE DIRECTIVE	In conformance with EN 61010-1 : 1993. To environmental conditions Pollution Degree 2 & Installation Category (Overvoltage Category) II.

Note : If equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment could be impaired.

SPECIFICATIONS

PAPER ROLL :- _____

(Norbar part no. 38341)

TYPE	Plain paper tally roll
DIMENSIONS	57.5mm +/- 0.5mm (width) 45mm max (Roll diameter) 85 microns (Thickness)

INK RIBBON CASSETTE :- _____

(Norbar part no. 38342)

LIFE	250,000 characters
COLOUR	Purple

RS232.C INPUT CONNECTOR :- _____

PIN No	FUNCTION
1	No connection.
2	Received data (from instrument).
3	No connection.
4	No connection.
5	Signal ground 0V.
6	No connection.
7	Request to send (from print button on printer).
8	No connection.
9	No connection.

OPERATING INSTRUCTIONS

1. After unpacking the Norbar Data Printer, check that the paper roll has been installed. The leading edge of the paper roll should be seen protruding from the slot in the printer face. If the paper is not present, refer to 'Replacing the Paper Roll' in the 'Maintenance' section of this handbook.

2. Fit the RS232 cable to the back panels of the printer and the instrument being used.

3. There are two possible ways to power the Data Printer :

a) 110/120 V or 220/240 V AC MAINS

Standard IEC type plug inlet with integral mains filter for use with mains cable supplied. Ensure voltage selector drawer at the rear of the instrument is correctly positioned for your mains supply.

Drawer orientation indicates 110/120 or 220/240 V AC mains input. Remove, turn through 180° and reinsert drawer to alter voltage selection. To remove the drawer, firstly remove the mains lead, then place a small screwdriver into the slot at the top of the drawer and gently lever open. The drawer contains two fuses, one for 110/120V and one for 220/240V AC operation. Both are T500 mA anti-surge fuses.

The fuse for the selected voltage is located on the right hand side of the drawer as it is removed.

Always replace fuses with the same value and type of fuses as originally fitted.

Connect AC mains power lead and switch power 'ON' at rear.

b) EXTERNAL BATTERY POWER UNIT (BPU) MODEL No. 60166

Connect Data Printer and BPU with lead provided and switch the BPU into the 'BATTERY' position to power the printer. The Data Printer rear mains switch is inoperative when powered from the BPU, so the Data Printer must be switched on and off from the BPU.

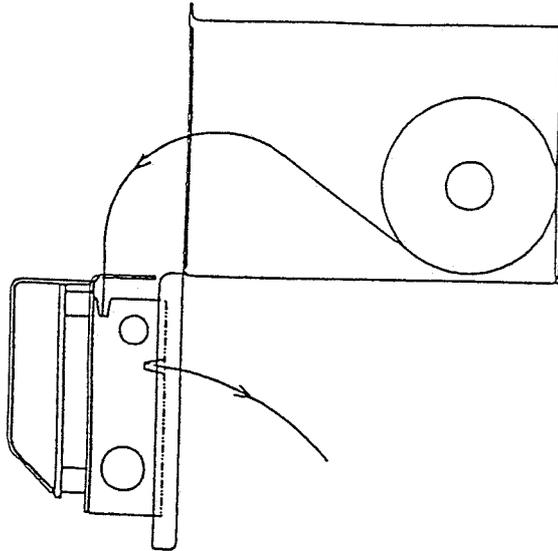
Check the green LED on the printer front panel is illuminated.

4. Switch on, and select measuring mode of instrument being used (refer to ETS, DTS or TWA operators handbook).

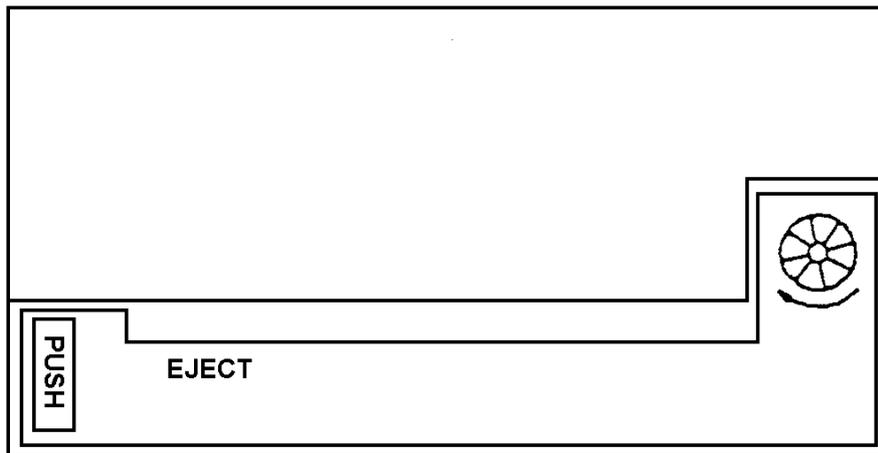
5. The Data Printer is now ready for use.

MAINTENANCE

REPLACING THE PAPER ROLL :- _____



1. Open the printer door by rotating the 'LOCKING CATCH', then pull forward the bracket housing the printer mechanism. Remove any remaining old paper, do not pull the paper backwards out of the rear of the mechanism. Replace the mechanism bracket and press the 'PAPER FEED' switch until any excess paper left in the mechanism is fed out.
2. Reel off a few centimetres from the new paper roll and ensure that the end is square. Pull forward the mechanism bracket and place the paper roll in the paper well inside the printer so that the paper end is coming from the bottom of the roll.
3. Offer the paper into the mechanism slot (see diagram above), then press and hold the 'PAPER FEED' switch until enough paper has been fed out for insertion through the paper exit slot in the printer door.
4. Feed the paper through the exit slot and close the printer door. Push in the 'LOCKING CATCH' to secure the door.

REPLACING THE INK RIBBON CASSETTE :- _____

**PUSH THIS
EDGE TO
EJECT CASSETTE**

**TURN WHEEL IN
DIRECTION SHOWN
TO WIND RIBBON**

1. Open the printer door by rotating the 'LOCKING CATCH'. Locate the ink ribbon cassette and place a small flat screwdriver between the 'PUSH' sign on the cassette and the mechanism bracket. Twist the screwdriver to move the cassette to the right and pull the cassette forward to remove it.
2. To insert a new ink ribbon cassette, first check that it is taut. Clip it into position making sure that the paper protruding from the mechanism is located between the exposed ribbon and the plastic cassette. Rotate the wheel on the cassette in the direction indicated to take up any slack in the ribbon.
3. Feed the paper through the exit slot and close the printer door. Push in the 'LOCKING CATCH' to secure the door.

CLEANING :- _____

Do not use abrasives or solvent based cleaners. We recommend a propriety brand of foam based fabric / vinyl cleaner. Use a soft cloth to avoid scratches.

TROUBLE SHOOTING

1. Data Printer does not power up.

- a) Check the Voltage Selector drawer is in the correct orientation for your mains supply.
- b) Check fuse in the voltage selector drawer (on the right hand side as draw is removed).
- c) Check fuse in mains plug.

2. Data Printer does power up but does not feed paper.

This could be a print head jam condition, check that there is no paper jammed in the mechanism.

3. The paper does not feed correctly.

If the print looks squashed, check that the paper roll is sitting correctly in the paper well and that the paper roll is the correct way up, see 'Replacing the Paper Roll' in the 'MAINTENANCE' section of this handbook.

4. Printer operates but does not print on the paper.

Check that the ribbon is present and not excessively worn, the ribbon should move freely around the cassette. Also check that the cassette has been fitted correctly and that the ribbon is above the paper, see 'Replacing the Ink Ribbon Cassette' in the 'MAINTENANCE' section of this handbook.

5. Printer feeds paper but does print.

- a) Check that control word on the instrument and the data printer match.
- b) Check that you have the correct RS 232.C connecting lead.

6. Repair of Data Printer

If there is any doubt concerning the functionality of the Data Printer, it should be returned to Norbar, or a Norbar appointed agent for repair.