

10 CHANNEL SELECTION UNIT

MODEL No 60165

OPERATOR'S HANDBOOK (PART No 34220)

ISSUE 6



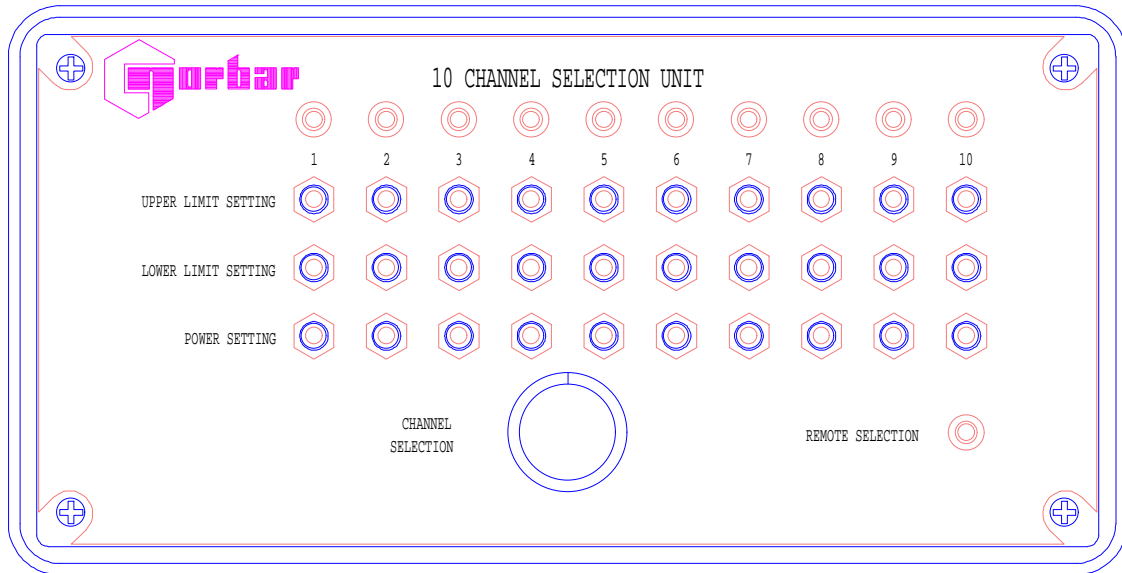
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NOTE :- The 10 channel selection unit can only be used in conjunction with the following Norbar display instruments :-

- 1) Electronic Transducer System fitted with Limit Detector
ETS + LD, Model No. 40326 with
Operators Handbook, Part No. 34210.
- 2) Dedicated Transducer System fitted with Limit Detector
DTS + LD, Model No. 43163 or
DTS + LD for Flask Tightening Tool, Model No.43168 with
Operators Handbook, Part No. 34212.

INTRODUCTION



The Norbar 10 channel selection unit is used in conjunction with ETS + LD model no. 40326, DTS + LD model no. 43163 or DTS + LD model no. 43168, to expand the number of settable limits (upper and lower) from one up to a maximum of ten.

Any one of the ten limit settings (1 - 10) can be instantly recalled, so allowing applications with multiple limit settings to be reduced to a simple switching operation. The limit selection that is currently being acted upon by the ETS/DTS, is indicated by a light emitting diode (L.E.D.) on the front panel of the 10 channel selection unit.

A third row of potentiometers enable the setting of a controlled power value to be applied to an optional tool head. A remote selection facility passes channel selection to external control, i.e. tool head.

For more information on the ETS, DTS or tool head, see the relevant instruction manuals.

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.

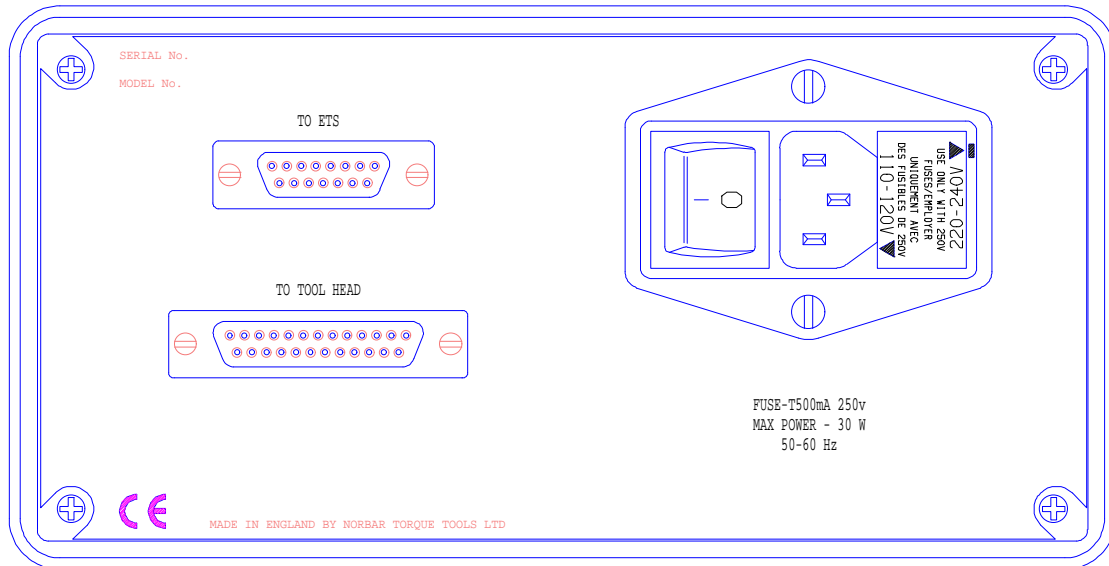
SPECIFICATION

10 CHANNEL SELECTION UNIT SPECIFICATION :- _____

POWER REQUIREMENTS	Selectable 110/120 Volts AC +/- 10 % or 220/240 Volts AC +/- 10% at 50-60 Hz.
MAINS POWER FUSE	T500 mA anti-surge (2 off)
POWER CONSUMPTION	30 W - maximum
LIMIT SETTINGS	Ten upper and ten lower settable limits with the value being displayed on the ETS/DTS.
POWER SETTINGS	10 settings variable between 0 and full power.
MAINS POWER CABLE	2.5 meters (8 ft 2 ins) long.
ANCILLARIES CABLE	0.3 meters (1 ft) long.
ANCILLARIES CONNECTOR - "TO ETS"	15 Way 'D' plug.
TOOL HEAD / REMOTE OPERATION CONNECTOR - "TO TOOL HEAD"	25 Way 'D' socket.
OPERATING TEMP RANGE	0 °C to 50 °C.
MAXIMUM OPERATING HUMIDITY	85% Relative Humidity @30°C.
WEIGHT	3.5 kg (7.7 lb).
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.

CONNECTING UP



1. Connect a transducer to the ETS/DTS using the transducer lead.
2. Plug the transducer's amplifier into the rear of the ETS (not needed for DTS).
3. Connect the 25 way 'D' plug to 15 way 'D' socket lead between the 'ANCILLARIES' connector on the ETS/DTS, and the 'TO ETS' connector on the 10 CHANNEL SELECTION UNIT.
4. Ensure the mains power voltage selector drawers on the ETS/DTS and 10 channel selection unit are correctly positioned for your 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 left of the drawer and gently lever open. The drawer contains two fuses, one for 110/120V and one for 220/240V operation. The fuse for the selected voltage is located at the top of the drawer as it is removed.
 Always replace fuses with the same value and type of fuses as originally fitted.

Connect the power leads to the ETS/DTS and 10 channel selection unit,

5. Connect to tool head if required, see the relevant instructions for tool head or machine.

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 10 Channel selection unit and the 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.

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

OPERATING INSTRUCTIONS

1. Apply electrical supplies to the system and switch 'ON'.
2. Ensure the ETS/DTS is in the 'TRACK' mode of operation.
3. Select channel 1 on the 10 channel selection unit.
4. Select 'SET UPPER LIMIT' on ETS/DTS limit detector.
Adjust channel 1 'UPPER LIMIT SETTING' potentiometer on 10 channel selection unit.
5. Select 'SET LOWER LIMIT' on ETS/DTS limit detector.
Adjust channel 1 'LOWER LIMIT SETTING' potentiometer on 10 channel selection unit.
6. If a tool head is being used, the 'POWER SETTING' potentiometer for channel 1 can now be set.
See tool head instructions
7. Channel 1 is now set. Other channels can be set by selecting the channel and setting in the same way as above. An adjustment to any one setting will only adjust that setting and leave all others unchanged.
8. Select 'LOWER LIMIT ONLY', 'UPPER LIMIT ONLY' or 'BOTH LIMITS' on the ETS/DTS limit detector. For details of the ETS/DTS and Limit Detector operating instructions, refer to the ETS or DTS operators handbook.
9. With no torque on the tool, adjust the zero on the transducer amplifier (at the rear of the ETS) to read zero on the ETS display. For DTS use the 'ZERO ADJUST' knob on the back panel.
10. For tool head details see tool head instruction manual.
11. Select the correct pre-programmed limits on the 10 channel selection unit.
12. Use the ETS/DTS as usual.

TOOL HEAD CONNECTOR

The tool head connector (25 way 'D' socket) is situated on the back panel of the 10 channel selection unit and is used to communicate information to and from an optional tool head.

Features that can be created include :

1. Using the 'POWER SETTING' feature on the front panel to control an electronic air regulator or power controller. The power setting is variable between 0v (0 p.s.i. or 0 current) and 10v (full air pressure or full current).
2. Using 'REMOTE SELECTION' to allow limit selection from the tool head.
3. Reset of the ETS / DTS torque value from the tool head.
4. Tool head electronics powered from existing regulated voltages.

For a customer who wishes to access this socket, a 25 way 'D' connector plug and connector hood are supplied. To wire to this connector please ensure the following stipulations are met :

1. All work to be completed by a competent person.
2. Fitting instructions are supplied with the connector hood (Die-cast backshell).
3. Do not exceed the maximum current limitations given in the table below.
4. Use a good quality screened cable to reduce electromagnetic interference.

Any tool head assembly is a custom item, designed specifically for an individual system. Full details of tool head applications can be obtained from Norbar Torque Tools at the address on the title page.

TOOL HEAD CONNECTOR PIN DESIGNATION

PIN No	FUNCTION
1	Remote Selection for Limit 1.
2	Remote Selection for Limit 2.
3	Remote Selection for Limit 3.
4	Remote Selection for Limit 4.
5	Remote Selection for Limit 5.
6	Remote Selection for Limit 6.
7	Remote Selection for Limit 7.
8	Remote Selection for Limit 8.
9	Remote Selection for Limit 9.
10	Remote Selection for Limit 10.
11	Tool Control 0V.
12	Remote Selection Common.
13	Power Setting (0V TO 10V).
14	Spare.
15	Spare.
16	+24V Output with respect to tool control 0V. maximum current 330 mA.
17	Spare.
18	+12V Output with respect to tool control 0V. maximum current 20 mA.
19	Reset (To ETS/DTS memory).
20	Earth.
21	Spare.
22	Spare.
23	Spare.
24	Spare.
25	Spare.