# OPERATING INSTRUCTIONS

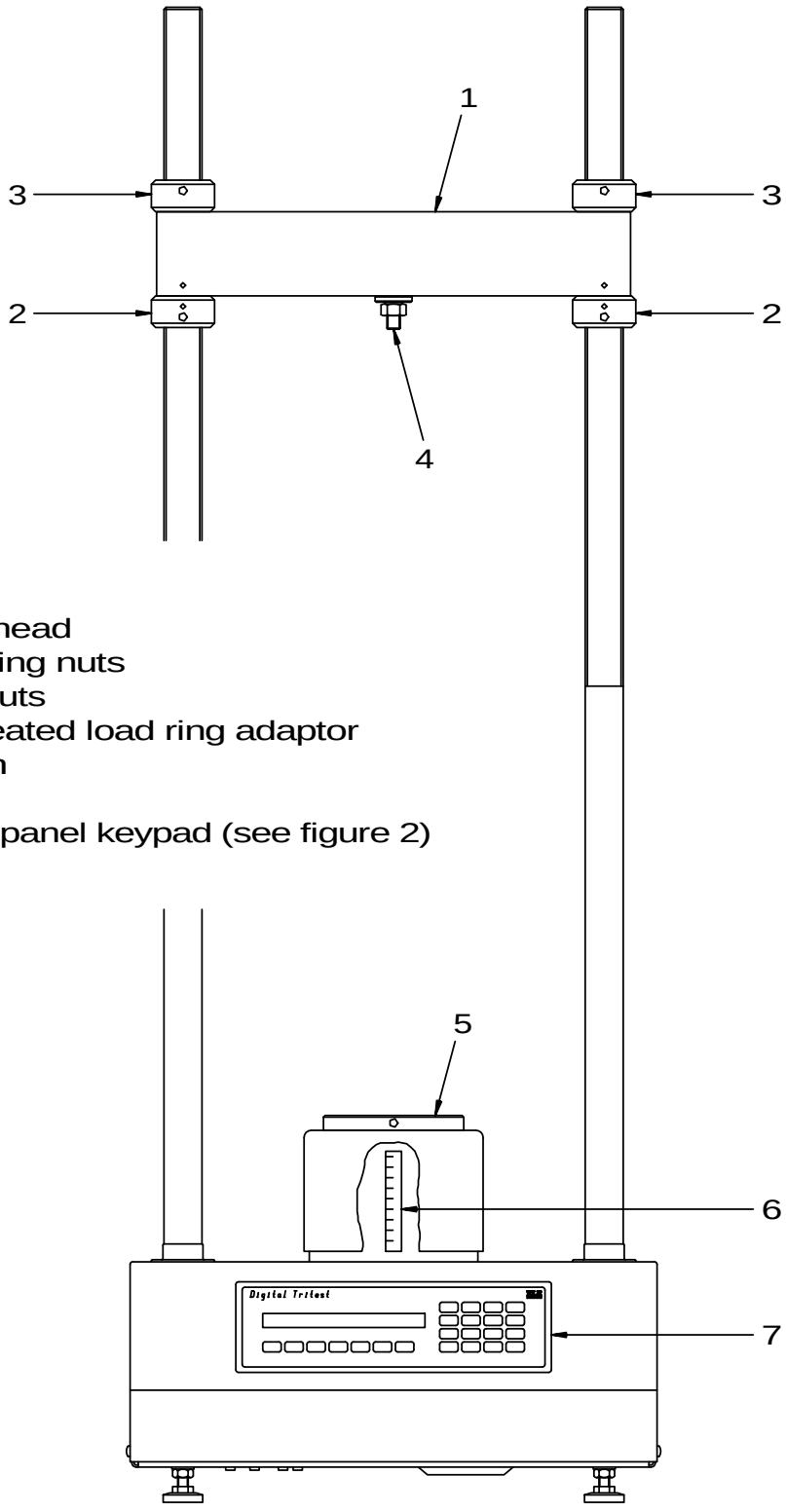
## Digital Tritest 50

## 25-3518

(Serial Numbers: 1884-X-XXX)

| | | |
|---|---|---|
| **ELE International**<br>Chartmoor Road, Chartwell Business Park<br>Leighton Buzzard, Bedfordshire, LU7 4WG<br>England<br>Sales: Civil +44 (0) 870 777 7706<br>Sales: Environmental +44 (0) 870 777 7717<br>Service: +44 (0) 870 777 7727<br>fax: +44 (0) 1525 249249<br>email: ele@eleint.co.uk http://www.ele.com<br>ELE International, a division of Danaher UK Industries Ltd | ***Distributor:*** | **ELE International**<br>Soiltest Product Division<br>PO Box 389<br>Loveland, CO 80539<br>USA<br>phone: +1 (800) 323 1242<br>fax: +1 (970) 663 9781<br>email: soiltest@eleusa.com<br>http://www.eleusa.com<br>ELE International, a division of Danaher Corporation |

## Contents




1. Crosshead
2. Adjusting nuts
3. Lock nuts
4. Ball seated load ring adaptor
5. Platen
6. Scale
7. Touch panel keypad (see figure 2)

Figure 1. Tritest 50 front view

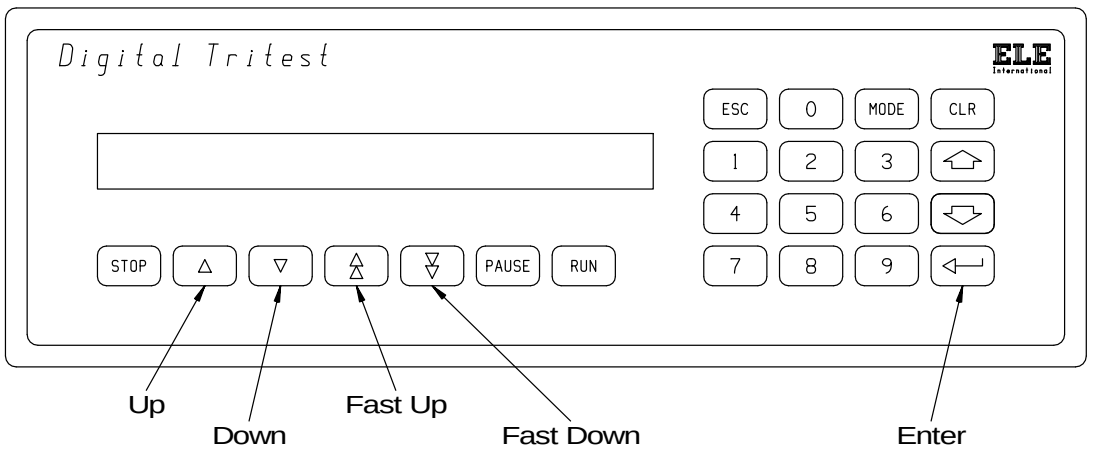



Figure 2. Keyboard

1. Mains Inlet
2. Mains ON/OFF Switch
3. Fuses/Voltage Selector
4. RS232 Outlet

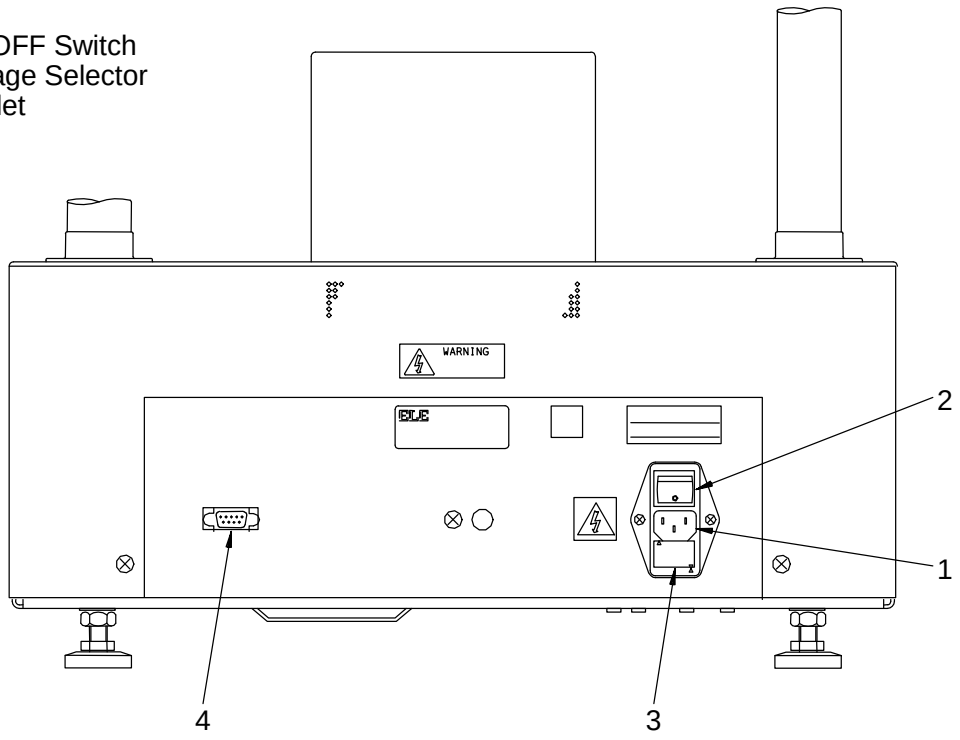



Figure 3. Tritest 50 rear view

# 1 Safety

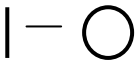
This equipment has been tested by ELE International and is safe to use providing that the proper safety precautions are observed:

***Do not use this equipment in any manner, other than as specified in this user manual; misuse may result in serious injury to personnel.***
***Do not attempt to operate the equipment with covers removed.***
***Only connect to the correct electrical supply. Equipment voltage setting is stated on the fuse cover of the appliance inlet module.***
***Refer to Installation section before installing machine.***
***Do not operate machine with wet hands.***

Please read this entire manual before unpacking, setting up, or operating this equipment. Pay particular attention to all ***DANGER*** and ***CAUTION*** statements. Failure to do so could result in serious injury to the operator, or other personnel, or damage to the equipment.

Ensure all moving parts are thoroughly secured before attempting any maintenance.

## 1.1 Symbols

| | | |
|---|---|---|
|  | Green or Black | **PROTECTIVE CONDUCTOR TERMINAL**<br>Equipment safety earthing point |
|  | Any contrasting Color | **" I" = SUPPLY SWITCHED "ON"**<br>**"O" = SUPPLY SWITCHED "OFF"** |
|  | Any contrasting Color | **FUSE, FOR SAFE OPERATION OF THE EQUIPMENT, USE ONLY FUSES WITH RATINGS SPECIFIED** |
|  | Green or Black | **Earth (ground) TERMINAL**<br>Not for safety earthing purposes but provide an earth reference point. |
|  | Background Yellow; symbol and outline - Black | ***Caution, risk of electric shock*** |
|  | Background Yellow; symbol and outline - Black | ***Caution - refer to accompanying documents*** |
|  | Any contrasting Color | **Equipment conforms to the requirements of European CE Directives, as stated on the Declaration of Conformity** |

### 1.2 Use of Hazard Information

***DANGER***
Indicates a potentially or imminently hazardous situation which, if not avoided, could result in death or serious injury.

***CAUTION***
Indicates a potentially hazardous situation that may result in minor or moderate injury.

***Important Note:*** Information that requires special emphasis.

***Note:*** Information that supplements points in the main text.

## 2 Introduction

These instructions are for machines with a serial number beginning with 1884, i.e. of the format 1884-X-XXXX.

The Digital Tritest 50 is specifically designed for the triaxial testing of soil specimens and will also perform compression tests on a wide range of materials up to the maximum load of 50 kN.

Careful consideration has been given to the stability of the twin column construction.

The forces applied are generated by a ballscrew jack driven by an electric motor via a spur gearbox.

The gearbox is grease packed and lubricated for life and requires no maintenance.

Control of the machine is by a touch panel keypad with information being displayed on a backlit LCD display (figure 2).

Ram travel safety limit switches are fitted internally and protect the mechanism on both upward and downward movements of the ram.

A scale (6) (figure 1), situated underneath the platen shroud, becomes visible when the platen is raised from its lowest position and provides an approximate indication of platen travel.

An RS232 outlet (4) (figure 3) is a standard feature of these machines and is situated at the rear (see appendix A for details).

The crosshead (1) (figure 1) position is easily adjusted and accepts a wide range of test apparatus.

A ball seated load ring adaptor (4) (figure 1) is provided which accepts load rings up to, and including, 50 kN.

## 3 Specifications

| | |
|---|---|
| Capacity | 50 kN |
| Approximate dimensions | 490 x 500 x 1420 mm (length x width x height) |
| Enclosure | Metal casing with painted finish |
| Temperature | 5° C to 40° C |
| Relative Humidity | Up to 80% for temperatures up to 31° C, decreasing linearly to 50% RH at 40° C |
| Pollution category | ll |
| Installation category | ll |
| Maximum vertical clearance | 910 mm (platen down crosshead up) |
| Minimum vertical clearance | 305 mm (platen up crosshead down) |
| Horizontal clearance | 364 mm |
| Platen travel | 100 mm |
| Weight (approximate) | 90 kg |
| Speed range metric Fwd/Rev/Run | 0.00001 – 9.99999 mm/min |
| Speed range imperial Fwd/Rev/Run | 0.000001 – 0.399999 in/min |
| Serial interface | RS232 (Standard)<br>Programmable baud rate and protocol. |
| Supply voltage(s) | 115 VAC, 50/60Hz<br>230 VAC, 50/60Hz |
| Power consumption | 26W |
| Certifications | CE & to UL/CSA Safety by ETL (cETLus mark) |

## 4 Installation

### 4.1 Mechanical

***DANGER: The Tritest 50 is very heavy; it weighs more than 90 kg (198 lbs.). Do not attempt to unpack, carry or move without proper equipment and sufficient people to do so safely. Remember, always lift with your legs, not with your back. If you have a history of back problems or cardiovascular problems, do not attempt to unpack or lift the Tritest 50.***

The machine should be installed on a level bench capable of supporting Tritest 50's gross weight, and with sufficient space for safe operation of the equipment. The machine is provided with adjustable feet to compensate for any out of level, or unevenness, of the bench surface.

For compliance with North American UL and CSA safety standards, the machine must be secured to prevent tipping. To secure the equipment from tipping, small outriggers are provided and must be fitted to the feet. Swivel these so that they point outwards and bolt down to the bench.

To position the crosshead (1) (Figure 1), loosen the two adjusting nuts (2) (figure 1) and the two lock nuts (3) (figure 1) the required amount. To ensure that the crosshead is level, the dots on the adjusting nuts should coincide with corresponding dots on the crosshead. Check by means of a spirit level or by direct measurement. Tighten the lock nuts using the Tommy Bar supplied.

Make sure that the back of the machine is not less than 50 mm from any wall or similar object. The louvres in the underside of the machine and the grill in the rear must be kept clear of obstructions.

This equipment is suitable for non-hazardous locations.

4.2 Electrical- Power Supply

***DANGER: Servicing of this equipment must be performed by a qualified ELE service technician. Before removing any covers or performing maintenance repair and service, isolate from electrical supply by removing mains plug. Where mains supply connection is required during these activities, only fully trained technicians should perform the work.***

***DANGER: Dry hands before operating electrical machines.***

***DANGER: This unit is dual pole fused having both line and neutral fused, hence the two fuses for both 115V and 230V operation.***

***DANGER: Misapplication of the voltage to the machine can result in both electrical hazards and damage to the equipment. The position of the fuseholder drawer in the power inlet module determines the line voltage the machine is set for. The machine normally ships factory set for the correct voltage for the supplied power cord, but ALWAYS verify proper line voltage settings prior to applying power during the initial installation/s. (See item 2 in the following paragraph for details.)***

Fuses/Voltage Selector (3) (See Figure 3, Item 3)

If it is necessary to convert the product to a different line voltage, the line voltage must be manually switched and a suitable line cord for the voltage must be connected before connecting to mains power. The machine's voltage setting can be changed by removing and repositioning the fuseholder drawer, located in the machines power inlet module. To change the machines line voltage:

1) Pull the fuseholder drawer from the power inlet module. (When changing voltage it is not necessary to replace the fuses. The supplied T 1.6A, 250V fuses are suitable for either 115 or 230 volt, 50/60 Hz, 26W operation.)
2) Select the desired line voltage by aligning the voltage setting on the fuseholder drawer. The desired voltage setting (i.e. 110-120V or 220-240V) must be upright at the base of the fuseholder drawer; the selected voltage indicator's arrow will be pointing down. When properly oriented, push the fuseholder drawer into the power inlet module for the desired line voltage.
3) Select and install a power cord suitable for the local country code. (A 3 conductor power cord with Protective Earth (Ground) terminal is required.)

***DANGER: A good low impedance Protective Earth Ground connection is required to the power cord to assure electrical safety.***

## 5 Portable Appliance Tests

All ELE designed products are tested for electrical safety prior to sale.

An electrical safety test label is fitted, (usually adjacent to the mains input socket).

Users of this equipment have an obligation to ensure equipment is maintained and is safe for use.

***IMPORTANT NOTE: DO NOT FLASH TEST ELECTRONIC EQUIPMENT.***

If in doubt as to the most suitable connection point (which will usually be an earth stud or an external earth connection) contact ELE Service Department for assistance.

## 6 Controls/Description

### 6.1 Mains On/Off

The main switch is situated at the rear of the machine, this switch turns the power supply ON and OFF.

When the mains supply is first switched on the display will show:

```
TRITEST-50                          V*.**
<<  SYSTEM CHECK  >>
```

This will remain for approximately 2 seconds, during which time a series of automatic, electronic checks are made. If the checks are passed, the display will show either:

The top line shows the firmware release version number, eg. ‘V4.01’.

```
(MANUAL)   = STOP =       x.xxxxx mm/min
[Mode] / Enter Speed      #.##### mm/min
```

or…

```
(MANUAL)   = STOP =       0.xxxxxx in/min
[Mode] / Enter Speed      0.###### in/min
```

or…

```
(RS232)    = STOP =       0.00000 mm/min
  [           ]Rx  Tx[                 ]
```

or…

```
(RS232)    = STOP =       0.000000 in/min
[           ]Rx  Tx[                  ]
```

**Note:** x.xxxxx denotes last speed retained in memory.

## 6.2 Mode Selection

The [Mode] key is used to enable the selection of the system's various operating modes. These are:

| | |
|---|---|
| ***Manual*** | Control from front panel push buttons and keypad |
| ***Serial*** | Control via serial RS232 interface |
| ***Set 0 Datum*** | Set Datum position for Return-to-Datum function |
| ***Set-Up*** | Configuration for Serial Interface protocol and System Options (units/type/contrast/diagnostics) |

When the [Mode] key is repeatedly pressed, the bottom line display will scroll through:

‘ [Enter] [Mode] : Manual or [Esc] ’

‘ [Enter] [Mode] : Serial or [Esc] ’

‘ [Enter] [Mode] : Set 0 Datum or [Esc] ’

‘ [Enter] [Mode] : Set-Up or [Esc] ’

When the desired mode is displayed, press the [Enter] key to select it, or press the [Esc] key to abort and return to the current mode.

## 6.3 Manual Mode

The display will show:

```
(MANUAL)   = STOP =        x.xxxxx mm/min
[Mode] / Enter Speed       #.##### mm/min
```

The top line shows the system status and the preset speed.

The preset speed may be changed, at any time, by numeric entry via the keypad. The new speed will be indicated on the bottom line, in place of the # markers, and will become active when the Enter [Ent] key is pressed. The Clear [Clr] key may be used to clear an erroneous entry prior to the [Ent] key being pressed. Trailing zeros do not need to be entered.

The motor is controlled by the Command Push Buttons:

| | | |
|---|---|---|
| [Stop] | Cancels all movement functions | *motor stops* |
| [Up] | Move UP at Preset Speed | *momentary* |
| [Down] | Move DOWN at Preset Speed | *latching* |
| [Fast Up] | Move UP at Fast Speed | *momentary* |
| [Fast Down] | Move DOWN at Fast Speed | *latching* |
| [Pause] | See Pause-Mode later | *latching* |
| [Run] | Move UP at Preset Speed | *latching* |
| [⇩] | Return-to-Datum (if Datum 0 Set) | *latching* |

The system's status is indicated on the display as follows:

| | | |
|---|---|---|
| =STOP= | *steady* | Motor stopped normally |
| ↑ RUN ↑ | *flashing* | Run Mode, moving UP Preset Speed |
| ↑ | *flashing* | Moving UP at Preset Speed |
| ↓ | *flashing* | Moving DOWN at Preset Speed |
| ↑↑ | *flashing* | Moving UP at Fast Speed |
| ↓↓ | *flashing* | Moving DOWN at Fast Speed |
| \|PAUSE\| | *steady* | Paused (stopped) in Run Mode |
| ↓STOP↓ | *flashing* | Stopped at Overtravel limit |
| ↑STOP↑ | *flashing* | Stopped at Undertravel limit |
| ⇩ ↓↓ | *flashing* | Returning to Datum |
| ⇩ ↑↑ | *flashing* | Returning to Datum |

### 6.4 Pause-Mode

If the [Pause] button is pressed during a Run sequence, the motor will stop. Press the [Pause] button again to continue the Run sequence. While the motor is stopped in PAUSE, a Pause-Mode Speed may be entered via the keypad. This new speed will operate when PAUSE is released by pressing the [Pause] button again, and will be retained while in Pause-Mode. Pressing any other control button than [Pause] will exit the Pause-Mode and return to the Preset Speed.

**Note:** the Pause-Mode Speed is indicated by an '*' on the top line display thus:

```
(MANUAL)    | PAUSE |     * 2.34567 mm/min
```

### 6.5 Serial Mode

The display will show:

```
 (RS232)     = STOP =        0.00000 mm/min
[            ]Rx  Tx[                    ]
```

The top line shows the system status and the requested speed.

The bottom line shows the Received Characters (Rx) on the left and Transmitted Characters (Tx) on the right.

The speed and direction may be remotely controlled, by a computer or terminal, via the serial interface.

The speed may be programmed over the range 0.00000 to 9.99999 mm/min for metric, or 0.000000 to 0.399999 in/min for Imperial units. The direction is controlled by a leading '+' or '-' character (+ for UP, - for DOWN). Positive (UP) speeds may also be entered without a leading '+' symbol.

Example: for speed of 3.25400 mm/min or 0.125400 in/min in the UP direction, the following ASCII string would be sent:

(+)3.25400 (metric) or (+)0.125400 (Imperial), '+' not necessary for UP speeds.

All serial command strings must be terminated with the receive terminator as selected in the Serial Interface Set-Up (see later).

If the command string is accepted by the system, it will be returned to the source along with the transmit terminator.

If the motor is inhibited from moving in the requested direction, because it is at a limit switch or at the MAX position (see later), the following string will be returned:

+0.00000 (metric) or +0.000000 (Imperial)

If the command string is incorrectly formed, or the wrong termination is used, the following string will be returned:

* COMMAND ERROR *

Again, the selected transmit termination will be appended to these strings.

The sequence of Command/Reply must be maintained by the source controller at all times.

When the Mode is changed from Manual to Serial, the motor will stop and remain stopped until a serial command is received.

Press the [Stop] Command Push Button to manually override any serial command and force the motor to stop.

Use the [Mode] key (see earlier) to select any of the alternative operating modes.

## 6.6 Additional Serial Commands (Metric)

| Command | Reply | Function |
|---|---|---|
| VSN | V **.* | Echo firmware release version number **.* |
| FAST + | FAST + | Ram moves UP at 40 mm/min for 250 mS |
| FAST - | FAST - | Ram moves DOWN at 40 mm/min for 250 mS |
| MAX +** | MAX +** | Set Upper Limit at **mm from current position |
| MAX -** | MAX -** | Set Lower Limit at **mm from current position |
| | | Power-up default is ± 99 mm |
| POSN | +*** | Echo current position ±*** mm relative to point at which last MAX command was issued. |
| STATUS | ABCDEFGHIJ | Echo system status |
| | A | Motor Stopped |
| | B | Motor Moving UP |
| | C | Motor moving DOWN |
| | D | Ram limit UP |
| | E | Ram limit DOWN |
| | F | MAX limit UP |
| | G | MAX limit DOWN |
| | H | Stepper fault |
| | I | For future use |
| | J | For future use |
| | | Any status code that is not valid will be replaced by a period (.) character. |
| DATUM | DAT-0 | Set Datum for RETURN at current position. A symbol will show in the display to indicate that the datum has been set. |
| RETURN | RET-0 | Return-To-Datum position (if Datum set) NO-DATUM if Datum has not been set since power-up. |
| HOME | HOME | Return to the bottom limit switch. |
| XSW | 000000 | Echo switch status. |

6.7 Alternative Serial Commands (Imperial)

| Command | Reply | Function |
|---|---|---|
| MAX +*.* | MAX +*.* | Set Upper Limit at *.* in from current position. |
| MAX -*.* | MAX -*.* | Set Lower Limit at *.* in from current position. |
| | | Power-up default is ± 3.9 in. |
| | | Maximum range is ± 3.9 in. |
| POSN | +*.* | Echo current position ±*.* in relation to point at which last MAX command was issued. |

6.8 Return-To-Datum

Position the system at the required Datum Position.

Press the [Mode] key until the bottom line display shows:

```
[Enter] [Mode] : Set 0 Datum       [Esc]
```

Press the [Ent] key to datum an internal position counter to 0.

The display will revert to the current bottom line, and a ⇩ symbol will appear on the top line to indicate that the datum has been set. Press the [⇩] key, at any time after setting the datum, to initiate a Return-To-Datum at the Fast Speed. The motor will stop at the Datum Position. The Return-To-Datum sequence may be terminated by pressing any of the other Command Push Buttons. The Datum may be cleared by selecting Manual Mode.

6.9 Set-Up Mode

The display will show the <SET-UP> Menu:

```
(SETUP)    [1]:Units – **/min
          [2]:Serial Interface [⇩][Esc]
```

Press the [1] key to toggle the operating units between ‘mm/min’ and ‘in/min’.

Press the [2] key to configure the Serial Interface.

Press the [⇩] key to show setup options [3] & [4].

Press the [3] key to select System Options (service feature only, see Service Instructions – ELE document number 9904X0013).

Press the [4] key to select Diagnostics (service feature only, see Service Instructions – ELE document number 9904X0013).

Press the [Esc] key to return to the current Operating Mode.

6.10 Set-Up Serial Interface

The display will show:

```
 (SETUP)    = STOP =        x.xxxxx mm/min
Baud Rate : 9600       * [⇧][⇩][Enter][Esc]
```

Press the [⇧] or [⇩] keys until the desired setting is indicated.

The current setting is indicated by the presence of an asterix (*) next to the value.

Press [Enter] to select the indicated value and to step on to the next configuration parameter in the sequence. If a value is changed, then the [Enter] key must be pressed to save the new selection.

Press the [Esc] key to return to the (SET-UP) Menu, when the settings are satisfactory.

Available serial settings are as follows:

‘Baud Rate’ 1200, 2400, 4800, 9600 or 19200

‘Rx. Term.’ CR, LF, CRLF or LFCR

‘Tx. Term.’ CR, LF, CRLF or LFCR

‘Echo Mode’ Off or On

**Note:** Echo Mode, when set to On, is for use with a dumb terminal. All received characters will be echoed back to the terminal.

## 7 Operation

Position the Crosshead (see section 3.3).

In order to retain maximum platen travel, it is suggested that any test is started with the platen set approximately 10 mm up from its lowest position.

Assemble the test apparatus in the load frame and take up excess clearance.

Select the speed required.

Note: a slight buzzing sound may be noticed at low speed. This is quite normal and may be ignored. It will disappear once the machines have been loaded.

To raise the platen at the commencement of a test, press the run button on the front panel. The readout will confirm commencement and direction of platen travel.

The speed may be altered at any time during a test.

To lower the platen at the completion of a test, press the STOP button followed by the FAST DOWN button.

If the mains power supply to the machine is interrupted at a load in excess of 25 kN, the machine will unload itself to approximately this figure.

## 8 Maintenance

**DANGER: Servicing of this equipment must be performed by a qualified ELE service technician. Before removing any covers or performing maintenance repair and service, isolate from electrical supply by removing mains plug. Where mains supply connection is required during these activities, only fully trained technicians should perform the work.**

***DANGER:* Always disconnect machine from mains before carrying out any adjustment or maintenance work.**

Clean the outside of the machine only using a damp cloth, and a little non-scouring detergent if necessary.

It is suggested that to ensure satisfactory service from the machine, the following procedure is adopted.

Each time machine is used, lightly oil surface of platen (5) (figure 1).

Each month very lightly oil the column top threads and platen.

Every 6 months lubricate ball screw thread by unscrewing platen (5) (figure 1) complete with shroud and applying 2 or 3 squirts of 20 W/50 oil into the exposed hole in the centre of the ram.

**Fuse Replacement**: This machine is dual pole fused having both line and neutral fused, hence the two fuses.

***DANGER: Always replace fuses with fuses of the same type and rating.***

To replace or check a fuse, pull the fuseholder drawer from the power inlet module. (See Figure 3, Item 3 for fuse location). If necessary, replace the failed fuse/s with a fuse of the same type and rating (T 1.6A, 250V). The T 1.6A, 250V fuses are suitable for either 115 or 230 volt operation. Properly orient the fuseholder for the desired line voltage by aligning the voltage setting on the fuseholder drawer. The desired voltage setting (i.e. 110-120V or 220-240V) must be upright at the base of the fuseholder drawer; the selected voltage indicator's arrow will be pointing down. When properly oriented, push the fuseholder drawer into the power inlet module for the desired line voltage.

***DANGER: Misapplication of the voltage can result in both electrical hazards and damage to the equipment.***

***Important Note:*** Fuse failures generally indicate an electrical problem with the equipment. If problem persists contact ELE for machine servicing.

## 9 Accessories

**25-3479**

Platen Adapter. For 159 mm (6¼ inch) diameter recessed triaxial cell bases.

## 10 Certifications

UL 61010-1 and CSA C22.2 No. 61010-1 safety standards (ETL Listed, cETLus mark)

CE – see Declaration of Conformity at end of this document (All models)

## 11 Appendix A: RS232

A1 Communication connection

A1.1 Rear panel connector (4) (figure 3) 9-way male D type.

The Tritest is configured to behave as 'Data Terminal Equipment' (DTE).

| Pin No. | Assignment | Comment |
|---|---|---|
| 2 | RXD | Receive data |
| 3 | TXD | Transmit data |
| 5 | Signal ground | |

**Note:** A minimum connection of pins 2, 3 and 5 are required on the RS232 lead.

A 'cross-over' cable is required when connecting a host computer to the Tritest. This style of cable will have pins 2 – 3 and 3 –2 connected *(see below)*. Linking of the handshake lines, pins 1 – 4 – 6 and pins 7 – 8 may also be necessary at the host computer end of the cable. Because both the PC and Tritest require the same style of connector, it would be wise to insert these links to both connectors.

The wiring connection format for all IBM compatible PC's is shown in figure 4.

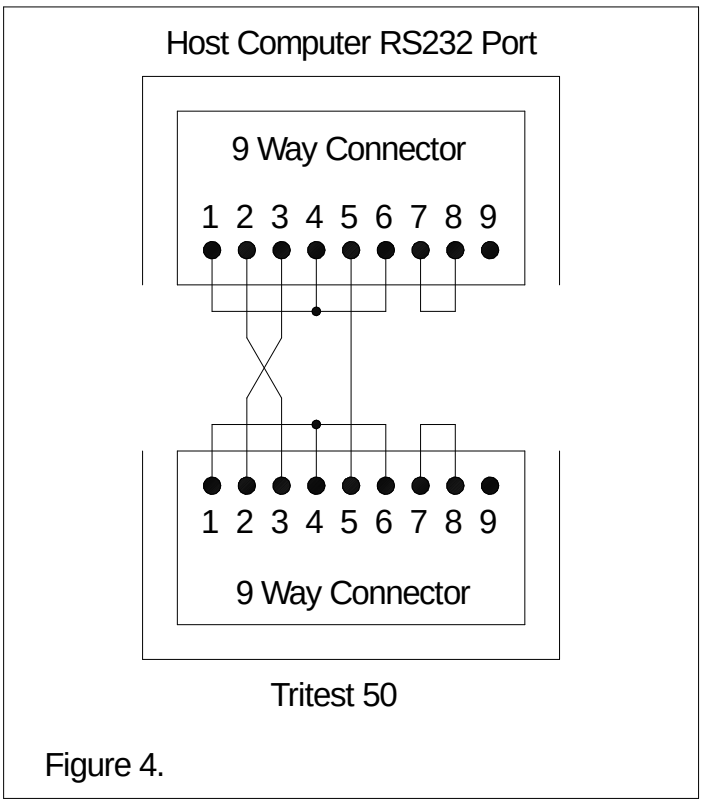



Figure 4.

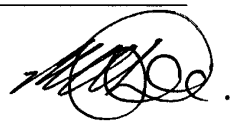
# Declaration of Conformity

Issued By: **ELE International**

Date of Issue: 30/4/03 ELE Product Ref: 1884

ELE International



Approved Signatory 

We, ELE International, Chartmoor Road, Chartwell Business Park, Leighton Buzzard, Beds LU7 4WG, England, declare under sole responsibility that the following product(s) to which this declaration relates is (are) in conformity with the provisions of:

73/23/EEC Electrical Equipment Directive implemented in the UK by S.I.1989/728 amended by 93/68/EEC 1/1/1997 and S.I.1994/3260.
Electrical Safety to relevant clauses: BS EN 60204-1: 1998

89/392/EEC, 91/368/EEC, 93/44/EEC and 93/68/EEC Machinery Directive implemented in the UK by S.I.1992/3073 and S.I.1994/2063.
Safety of Machinery to relevant clauses (noise test): BS EN 292-1/2: 1991

89/336/EEC, 91/263/EEC, 92/31/EEC (the EMC Directive) amended by 93/68/EEC and implemented in the UK by S.I.1992/2372 and S.I.1994/3080 and S.I.1995/3180
Emissions to relevant clauses: BS EN 61326: 1998 Residential, Commercial & Light Industrial.
Immunity to relevant clauses: BS EN 61326: 1998 Industrial.

| Product Description | Serial No. |
|---|---|
| Catalogue Number 25-3518<br>Digital Tritest 50 | See details on product identification plate |

BS EN ISO9001: 1994 approved
Certificate number 860461

Responsible person's/approved signatory
P Doe, Group Financial Director

This Declaration of Conformity complies with BS 7514 (EN 45014), General Criteria for suppliers' Declaration of Conformity

**ELE International**
Chartmoor Road, Chartwell Business Park, Leighton Buzzard, Beds, LU7 4WG
England
phone: + (0)1525 249200
fax: + (0)1525 249249
email: ele@eleint.co.uk
http: www.ele.com
ELE International, a division of Danaher UK Industries Ltd

## DIRECTIVE ON WASTE ELECTRICAL & ELECTRONIC EQUIPMENT (WEEE)

Electrical equipment marked with this symbol may not be disposed of in European public disposal systems after 12 August of 2005. In conformity with European local and national regulations (EU Directive 2002/96/EC), European electrical equipment users must now return old or end-of life equipment to the Producer for disposal at no charge to the user.

***Note:*** *For return for recycling, please contact the equipment producer or supplier for instructions on how to return end-of-life equipment for proper disposal.*

**Important document. Retain with product records.**

### GERMAN

Elektrogeräte, die mit diesem Symbol gekennzeichnet sind, dürfen in Europa nach dem 12. August 2005 nicht mehr über die öffentliche Abfallentsorgung entsorgt werden. In Übereinstimmung mit lokalen und nationalen europäischen Bestimmungen (EU-Richtlinie 2002/96/EC), müssen Benutzer von Elektrogeräten in Europa ab diesem Zeitpunkt alte bzw. zu verschrottende Geräte zur Entsorgung kostenfrei an den Hersteller zurückgeben.

***Hinweis:*** *Bitte wenden Sie sich an den Hersteller bzw. an den Händler, von dem Sie das Gerät bezogen haben, um Informationen zur Rückgabe des Altgeräts zur ordnungsgemäßen Entsorgung zu erhalten.*

**Wichtige Informationen. Bitte zusammen mit den Produktinformationen aufbewahren.**

### FRENCH

A partir du 12 août 2005, il est interdit de mettre au rebut le matériel électrique marqué de ce symbole par les voies habituelles de déchetterie publique. Conformément à la réglementation européenne (directive UE 2002/96/EC), les utilisateurs de matériel électrique en Europe doivent désormais retourner le matériel usé ou périmé au fabricant pour élimination, sans frais pour l'utilisateur.

***Remarque :*** *Veuillez vous adresser au fabricant ou au fournisseur du matériel pour les instructions de retour du matériel usé ou périmé aux fins d'élimination conforme.*

**Ce document est important. Conservez-le dans le dossier du produit.**

### ITALIAN

Le apparecchiature elettriche con apposto questo simbolo non possono essere smaltite nelle discariche pubbliche europee successivamente al 12 agosto 2005. In conformità alle normative europee locali e nazionali (Direttiva UE 2002/96/EC), gli utilizzatori europei di apparecchiature elettriche devono restituire al produttore le apparecchiature vecchie o a fine vita per lo smaltimento senza alcun costo a carico dell'utilizzatore.

***Nota:*** *Per conoscere le modalità di restituzione delle apparecchiature a fine vita da riciclare, contattare il produttore o il fornitore dell'apparecchiatura per un corretto smaltimento.*

**Documento importante. Conservare con la documentazione del prodotto.**

### DANISH

Elektriske apparater, der er mærket med dette symbol, må ikke bortskaffes i europæiske offentlige affaldssystemer efter den 12. august 2005. I henhold til europæiske lokale og nationale regler (EU-direktiv 2002/96/EF) skal europæiske brugere af elektriske apparater nu returnere gamle eller udtjente apparater til producenten med henblik på bortskaffelse uden omkostninger for brugeren.

***Bemærk:*** *I forbindelse med returnering til genbrug skal du kontakte producenten eller leverandøren af apparatet for at få instruktioner om, hvordan udtjente apparater bortskaffes korrekt.*

**Vigtigt dokument. Opbevares sammen med produktdokumenterne.**

## SWEDISH

Elektronikutrustning som är märkt med denna symbol kanske inte kan lämnas in på europeiska offentliga sopstationer efter 2005-08-12. Enligt europeiska lokala och nationella föreskrifter (EU-direktiv 2002/96/EC) måste användare av elektronikutrustning i Europa nu återlämna gammal eller utrangerad utrustning till tillverkaren för kassering utan kostnad för användaren.

***Obs!*** *Om du ska återlämna utrustning för återvinning ska du kontakta tillverkaren av utrustningen eller återförsäljaren för att få anvisningar om hur du återlämnar kasserad utrustning för att den ska bortskaffas på rätt sätt.*

**Viktigt dokument. Spara tillsammans med dina produktbeskrivningar.**

## SPANISH

A partir del 12 de agosto de 2005, los equipos eléctricos que lleven este símbolo no deberán ser desechados en los puntos limpios europeos. De conformidad con las normativas europeas locales y nacionales (Directiva de la UE 2002/96/EC), a partir de esa fecha, los usuarios europeos de equipos eléctricos deberán devolver los equipos usados u obsoletos al fabricante de los mismos para su reciclado, sin coste alguno para el usuario.

***Nota:*** *Sírvase ponerse en contacto con el fabricante o proveedor de los equipos para solicitar instrucciones sobre cómo devolver los equipos obsoletos para su correcto reciclado.*

**Documento importante. Guardar junto con los registros de los equipos.**

## DUTCH

Elektrische apparatuur die is voorzien van dit symbool mag na 12 augustus 2005 niet meer worden afgevoerd naar Europese openbare afvalsystemen. Conform Europese lokale en nationale wetgegeving (EU-richtlijn 2002/96/EC) dienen gebruikers van elektrische apparaten voortaan hun oude of afgedankte apparatuur kosteloos voor recycling of vernietiging naar de producent terug te brengen.

***Nota:*** *Als u apparatuur voor recycling terugbrengt, moet u contact opnemen met de producent of leverancier voor instructies voor het terugbrengen van de afgedankte apparatuur voor een juiste verwerking.*

**Belangrijk document. Bewaar het bij de productpapieren.**

## POLISH

Sprzęt elektryczny oznaczony takim symbolem nie może być likwidowany w europejskich systemach utylizacji po dniu 12 sierpnia 2005. Zgodnie z europejskimi, lokalnymi i państwowymi przepisami prawa (Dyrektywa Unii Europejskiej 2002/96/EC), użytkownicy sprzętu elektrycznego w Europie muszą obecnie przekazywać Producentowi stary sprzęt lub sprzęt po okresie użytkowania do bezpłatnej utylizacji.

***Uwaga:*** *Aby przekazać sprzęt do recyklingu, należy zwrócić się do producenta lub dostawcy sprzętu w celu uzyskania instrukcji dotyczących procedur przekazywania do utylizacji sprzętu po okresie użytkowania.*

**Ważny dokument. Zachować z dokumentacją produktu.**

## PORTUGESE

Qualquer equipamento eléctrico que ostente este símbolo não poderá ser eliminado através dos sistemas públicos europeus de tratamento de resíduos sólidos a partir de 12 de Agosto de 2005. De acordo com as normas locais e europeias (Directiva Europeia 2002/96/EC), os utilizadores europeus de equipamentos eléctricos deverão agora devolver os seus equipamentos velhos ou em fim de vida ao produtor para o respectivo tratamento sem quaisquer custos para o utilizador.

***Nota:*** *No que toca à devolução para reciclagem, por favor, contacte o produtor ou fornecedor do equipamento para instruções de devolução de equipamento em fim de vida para a sua correcta eliminação.*

**Documento importante. Mantenha junto dos registos do produto.**