

# TWIN AXIS TRAVERSER

The Twin-Axis Traverser offers a means of moving a print-head in two axes. PC set-up software allows the Traverser to be programmed for a large number of prints in any position within the envelope of the axes. The software also allows the programming of speeds and acceleration as well as offering a number of diagnostic features. Once programming is complete, connection to the PC is no longer required. Typical applications include printing onto vacuum packs on over-wrap machines etc. Due to the diverse nature of the applications, all Twin-Axis Traversers are custom designed variations on the standard layout.

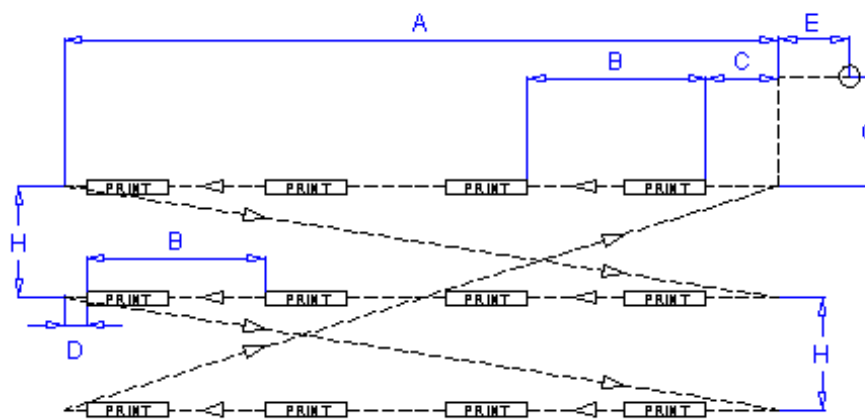


## OPERATION

The Twin Axis Traverser moves the print-head parallel to the control box, across the product/s whilst they are stationary. Print Go signals are issued to the printer as it is moving on a user programmed pitch. The Twin Axis Traverser can then index perpendicular to the control box on a set pitch to create rows of prints, the number of rows and the pitch of the rows is programmed by the user.

The Traverser can work in one of 2 ways:

-'Print ONE WAY ONLY'- The Twin Axis Traverser prints in only 1 direction (away from home) and performs a diagonal move on completion of each row to the beginning of the next row.



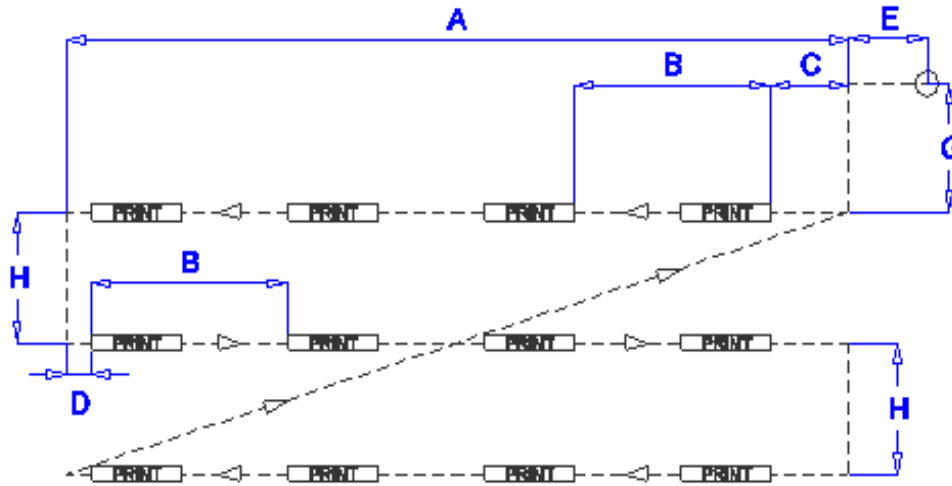
The diagram shows the print direction from the 'Home' position.

In the diagram above:

- |  |   |
|--|---|
| A= Parallel User Programmed Pitch          | B= Pitch Between Prints                         |
| C= Parallel Offset to first Print Position | D= Return Direction Offset                      |
| E= Offset from 'Home' Position             | G= Perpendicular Offset to first Print Position |
| H= Perpendicular User Programmed Pitch     |   |

-'Print BOTH Ways'- The Twin-Axis Traverser prints in both directions (to and from home). This method is faster than printing in 1 direction.

**Note:** this will require a user port to be specified on the printer in order to reverse the print on the return moves.



The diagram shows the print direction to and from the 'Home' position.

In the diagram above:

A= Parallel User Programmed Pitch	B= Pitch Between Prints
C= Parallel Offset to first Print Position	D= Return Direction Offset
E= Offset from 'Home' Position	G= Perpendicular Offset to first Print Position
H= Perpendicular User Programmed Pitch	

**Note:** The requirement to print in both directions should be specified when ordered as the 'Print Reverse' cable and splitter does not come with the Traverser as standard.

## Print Pitch

The number of prints and the pitch between the prints can be set in the setup software provided with the Twin-Axis Traverser. These parameters can be set to have a set number of prints with an equal pitch, or alternatively each print can have it's own pitch setting, up to a maximum of 9 variable print positions.

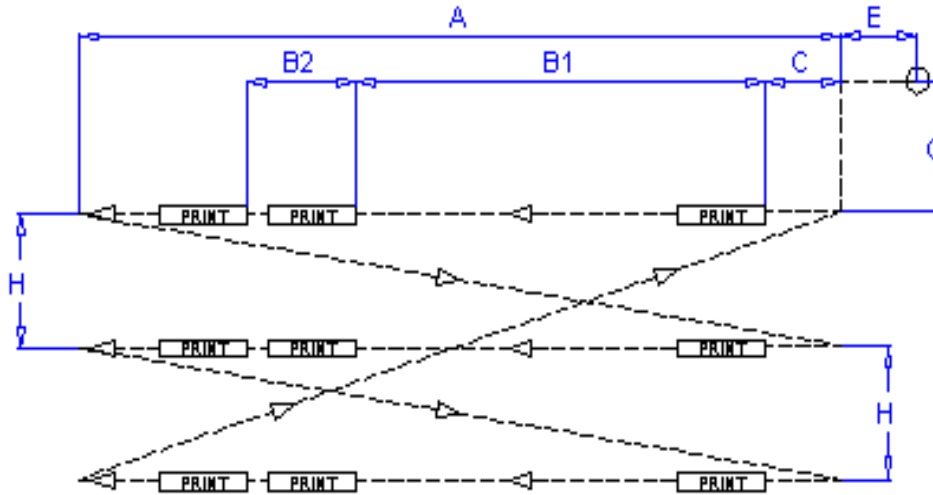


Diagram showing variable print positions

In the diagram above:

A= Parallel User Programmed Pitch

B2= Pitch Between Prints 2 and 3

D= Return Direction Offset

G= Perpendicular Offset to  
first Print Position

B1= Pitch Between Prints 1 and 2

C= Parallel Offset to first Print Position

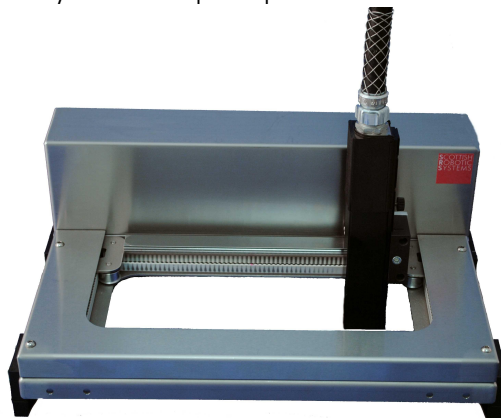
E= Offset from 'Home' Position

H= Perpendicular User Programmed Pitch

## Program Select

Up to sixteen programs (set of movements) can be stored in the Traverser at any one time and these can be accessed using the software provided or through external I/O, for example using outputs from a host machine, or an external program selector switch (detailed further on) .

Once programmed the Traverser can be disconnected from the PC and will not be required to reconnect until changes to the dynamic or print parameters need to be made.

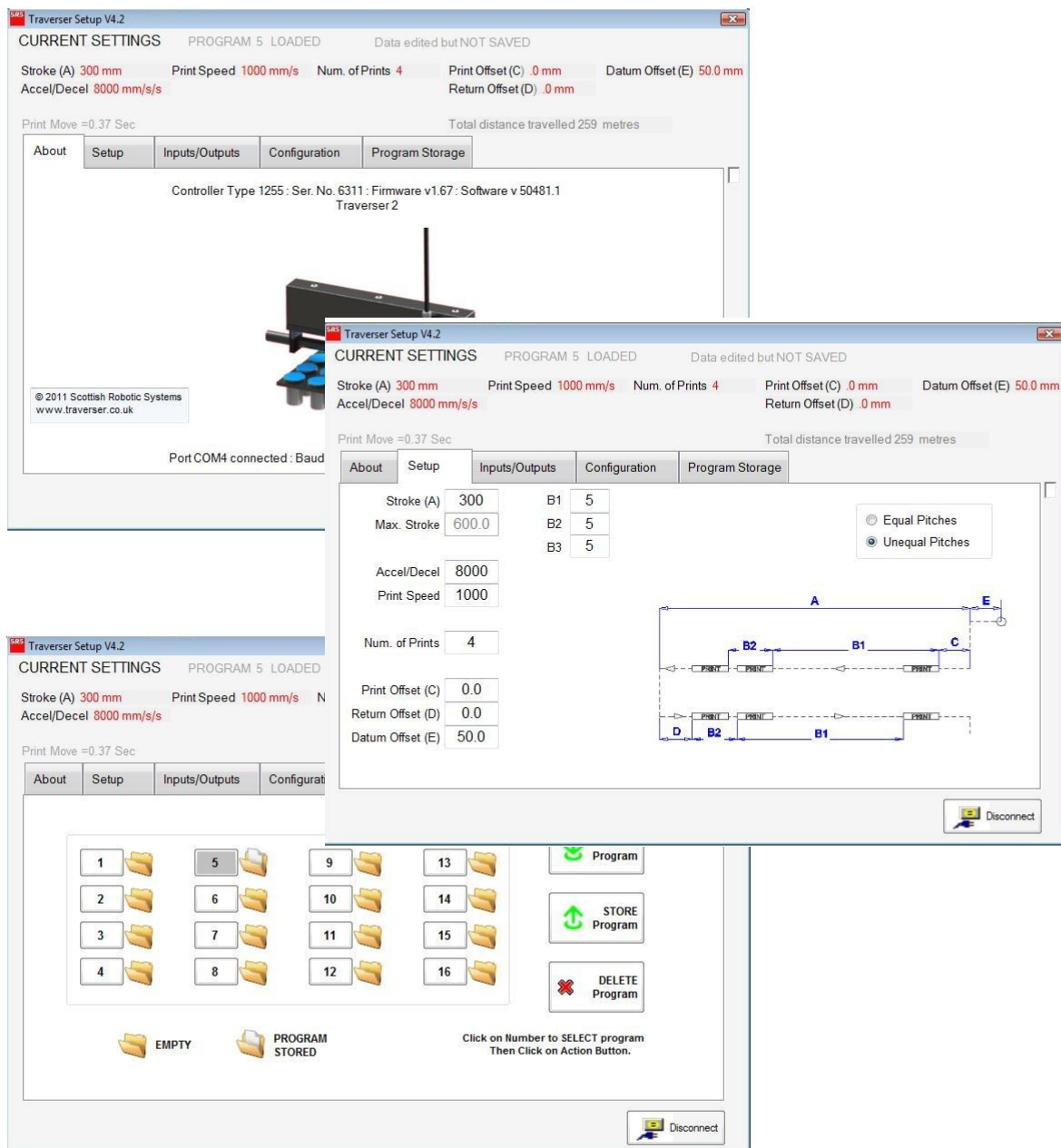


## SETUP SOFTWARE

PC based set-up software is supplied to allow the Traverser to be configured to suit the requirements of each installation. The software displays the current movement and printing parameters and allows these to be adjusted on the 'Setup' screen to suit the application's requirements.

The software is also used to change the configuration of the Traverser for example; Changing which direction of travel the Traverser will print on, and when the "Ready" output signal of the Traverser will be sent to the host machine to let the machine know when it can index the next line of products to be printed.

Displays of the Traversers Inputs and Outputs via an LED type display screen and annotated diagrams give an Installation Engineer/Technician real-time feed-back from the Traverser and clear information as to how the selected configuration will affect the Traverser's operation.



## SPECIFICATION

Type Twin Axis Traverser  
Stroke Custom stroke, built to order  
Construction Anodised Aluminium/Stainless Steel

## PERFORMANCE

Speed: Programmable from 10 mm/s up to 1000 mm/s  
Acceleration: Programmable from 500 mm/s/s up to 10000 mm/s/s  
Duty Cycle: 100%

## INPUTS

- Cycle Start
- 4 binary program select inputs allow 1 of 16 stored programs to be selected (Program selector switch available as an accessory, see below)
- Program select input to initiate program change following change of binary inputs

## OUTPUTS

- Print Go
- Ready (Contact closure rated 2A 30vdc)
- Virtual Encoder (maintains print width during acceleration/deceleration)
- Print Reverse

The 'Print Go' and 'Print Reverse' outputs on the Traverser are PNP as standard, however where required to be changed to NPN, for example when used in conjunction with a Domino A-Series *Classic* Printer, Converter cables are available and are detailed in the Accessories section of this document.

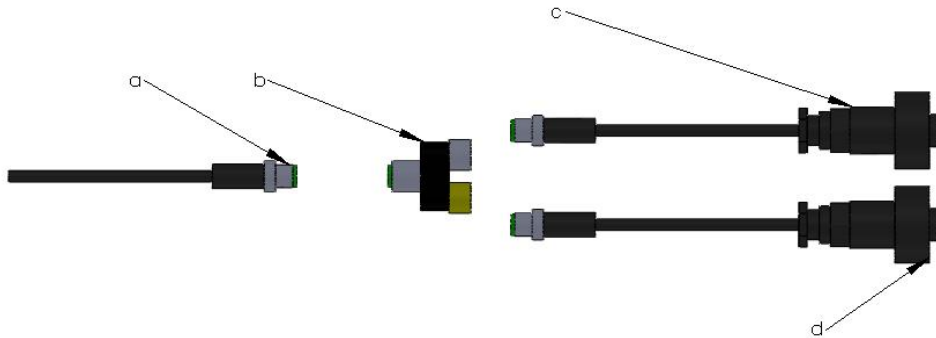
## ENVIRONMENT

Temperature Range: 5-45°C  
Humidity: 10 – 90% RH (non condensing)  
Electrical Requirements: Single Phase, 120-230 vac, 50/60 Hz, 40VA  
Protection: All units are IP65 rated  
Operating Noise: <70 dB(A)

## ACCESSORIES

### PRINT REVERSE CABLE

Traverser is supplied as standard without the print reverse connector to connect to the Domino user port. A splitter and cable are available to allow use of print reverse signal. The splitter enables the print reverse cable to be plugged in alongside the print go connector as shown below:



Splitter (b) Part No T10197

Print Reverse Cable (d) Part No T10198

### PRINTER CABLE EXTENSION

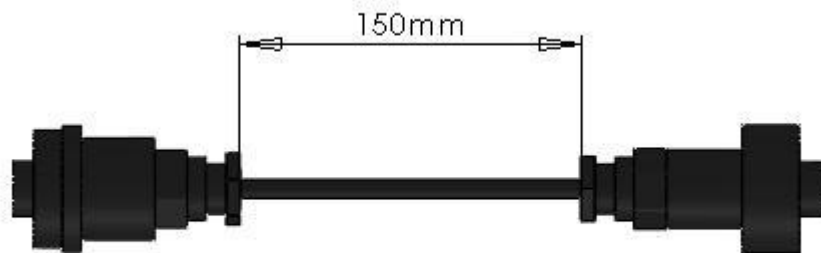
The cable which takes Print Go, Encoder and Print reverse signals from the Traverser to the Domino A-series is supplied 3m long. Extension cables are available, with a length of 2m. The extension cable is installed before the splitter (between a and b in the above diagram) If necessary, more than one of these cables can be joined end to end.

Extension Cable Part No T10204

## CONVERTER CABLES

The Traverser 2 is designed for use with Domino A-Series *plus* printers. If the Traverser is to be used with an A-Series classic printer, in-line converters for print/go and print reverse (if used) will be required.

Print Go Converter Part No T10152.



Print Reverse Converter Part No T10153

## USB-SERIAL CONVERTER

An RS232 serial connection is required to connect a PC to the traverser. Many computers are supplied without serial ports. Part no T10079 USB-Serial converter can be used to communicate with a Traverser on computers that do not have a serial port.



## FOOT-SWITCH

If the Traverser is to be operator triggered a simple foot-switch is available, this switch can also be hand operated if necessary.

Foot-switch Part No T10205.



## PROGRAM SELECTOR

An external program select switch is available which allows the user to select between 8 different programs. The selector is mounted in an enclosure manufactured from 304 grade stainless steel. A push button is also installed to allow the program selection to be activated. Normal operating procedure is that the required program number is selected on the rotary switch then the push-button is pressed to trigger the Traverser to load the new program data. The program selector is supplied with a 3m cable, if a longer cable is required 2m extension cables are available.



Program Select Box

Program Selector part number T10207

Extension Cable (2m) part number T10204

## TOUCH-SCREEN

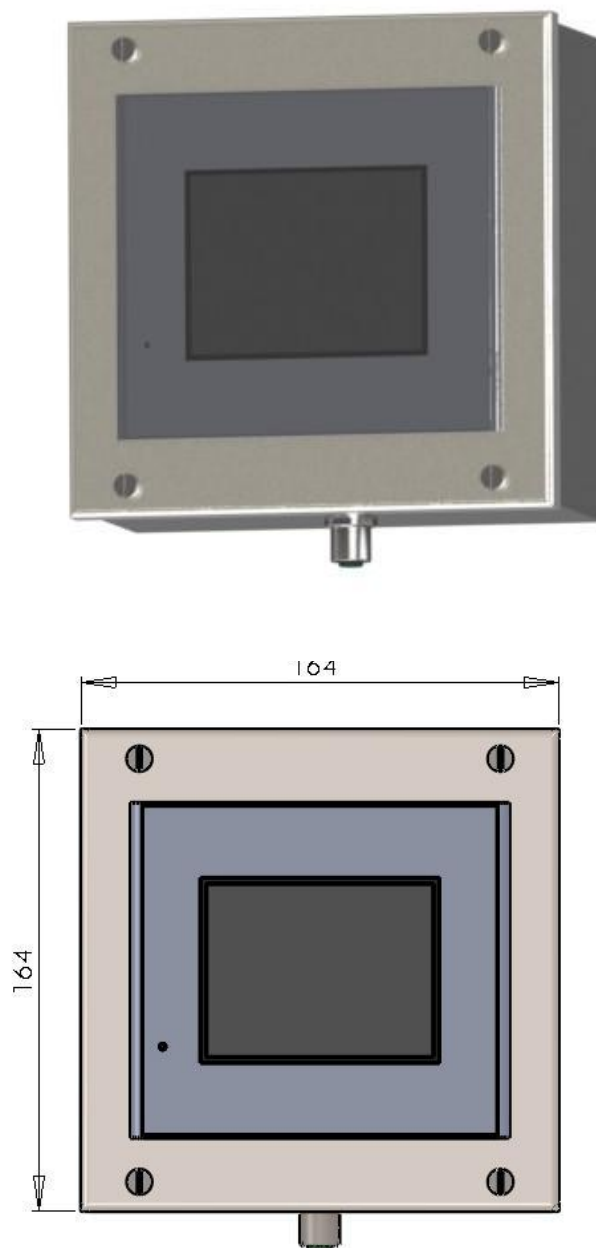
The option of a touch-screen HMI can be provided with the Traverser to make the system as easy as possible to use and with minimal effort to set up.

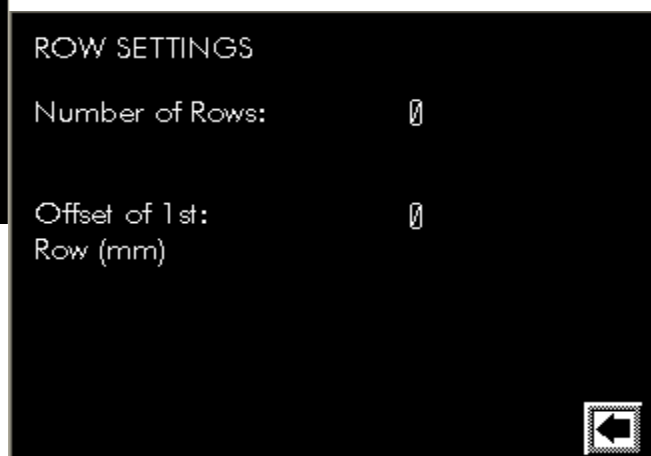
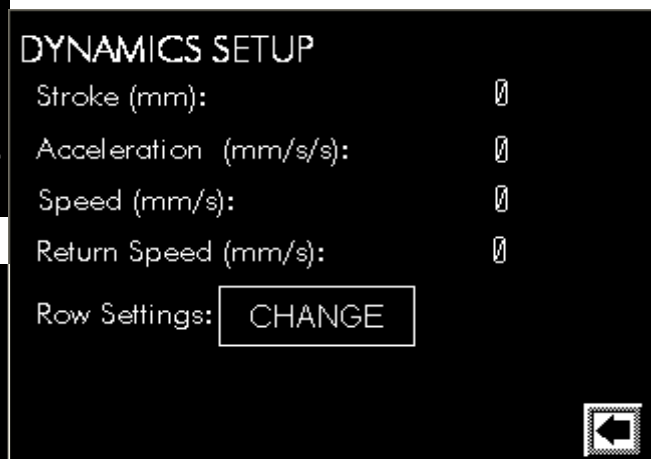
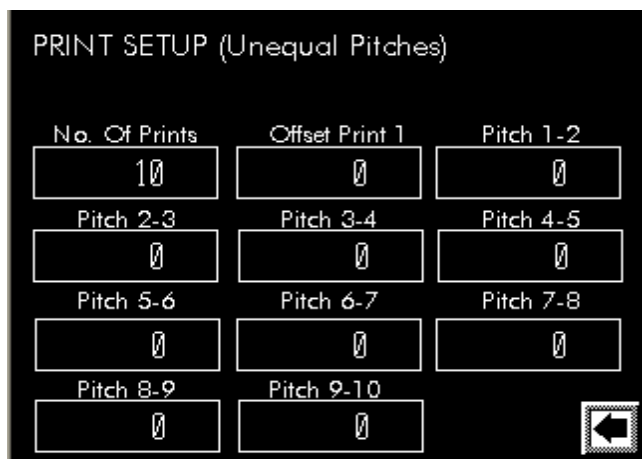
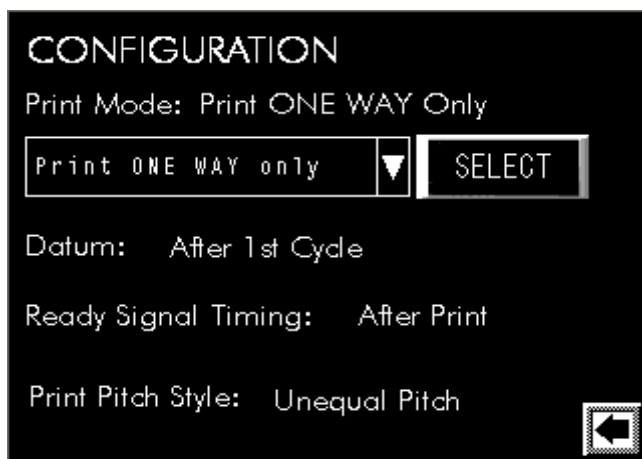
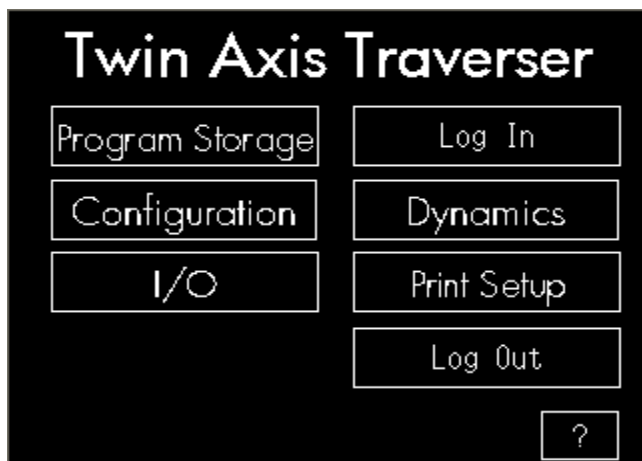
The HMI allows the engineer/technician to change motion parameters, print parameters, monitor inputs/outputs and manage the program storage function of the Traverser.

The HMI comes in a high quality, compact, stainless steel enclosure, which is IP65 rated for wet environments. The touch-screen is supplied with a 3m cable to connect to the traverser, if necessary this can be extended using 2m long extension cables.

HMI Part No: T10231

Extension Cable: T10232



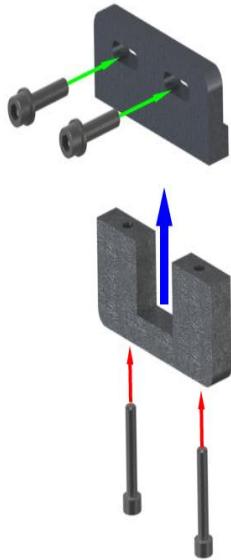


Twin-Axis Traverser HMI Menus

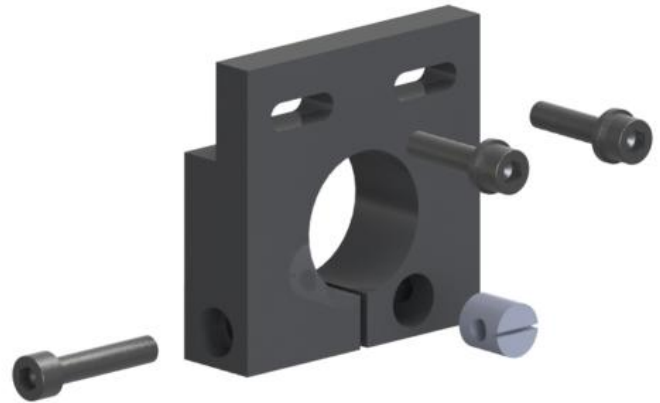
## MOUNTING BRACKET OPTIONS

Mounting brackets are available to mount the Twin Axis Traverser on either 32mm diameter round tubing or 25mm square tubing.

- 32mm diameter brackets mount directly to standard Domino mounting system.
- 25mm square brackets mount onto mounting system available separately.



T10220



T10230

T10220 Twin axis 25mm Mounting kit consists of 4 sets of brackets as shown above. The brackets are slotted to allow adjustment.

T10230 Twin axis 32dia mounting kit consists of 4 brackets as shown above. The brackets are slotted to allow adjustment.



Twin Axis traverser mounted on 32mm diameter rail

## MOUNTING SYSTEM

A 25mm rail mounting system is available as a goalpost kit in 2 different widths to suit all stroke lengths. Usually 2 of these kits will be required to mount a twin axis traverser

T10161 Goalpost system 1m wide.

Contents:                3x 1 metre long 25x25mm stainless steel tubes.  
                              2x 90deg clamp blocks.  
                              2x pedestal clamps.  
                              4x end caps.

T10162 Goalpost system 1.5m wide.

Contents:                2x 1 metre long 25x25mm stainless steel tubes.  
                              1x 1.5 metre long 25x25mm stainless steel tubes.  
                              2x 90deg clamp blocks.  
                              2x pedestal clamps.  
                              4x end caps.

Individual mounting system components and lengths of rail available on request.



25x25mm Stainless Steel Goalpost System

## CONDUIT SUPPORT

The conduit support allows the print-head conduit to be supported and be free to move with the Traverser at the same time.

The Conduit Support kit consists of a polyurethane hanger, which can be adjusted to allow the conduit to be supported from different heights, a stainless steel adjustment collar, a stainless steel tensioning collar, a stainless steel snap ring to release the mounting and a stainless steel loop bracket. The loop bracket can be fitted to, for example the roof of the host machine.

There are additional components available to clamp the conduit support top mounting hook to 25mm x 25mm rail and 32mm diameter rail.

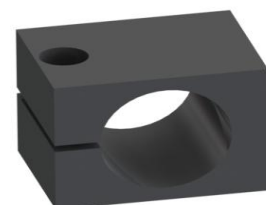
The polyurethane hanger is looped around itself and tensioned against the print-head conduit with the stainless steel tensioning collar.



Conduit Support Kit Part No T10208



25mm by 25mm Square Bar Conduit  
Kit Clamp Part No T10209



Diameter 32 Round Bar  
Conduit Kit Clamp Part No T10210

## LUBRICATION

To ensure that the Twin-Axis Traverser maintains its high level of performance and low level of maintenance, the moving parts of the system should be lubricated at regular intervals.

Twin-Axis Traversers should not require any other maintenance except for the greasing of the linear slide mechanism.

The recommended interval for lubrication is every 100km, however this figure is dependent on environment and conditions of use and may vary. The amount of travel the Traverser has done can be monitored using the software that is supplied with the Traverser.

Available for order are the:

Traverser Grease Gun Part No T10221, which consists of the grease gun, which uses 70g refill tubes of grease and 2 applicator nozzles which help accurately pipe the lubricant onto the greasing nipples of the Traverser.

Traverser Grease Part No T10222, which is a 70g tube of grease, specially suited to the high speeds which the Traverser is capable of moving at.