

Enter **Serial No.** here.

MANUAL No.Y-OM-01E

In the event of an enquiry please quote this serial number.

**Store this document safely and ensure it is available at all times.
Non-availability may affect the service / repair to your machine.**



OPERATING AND MAINTENANCE MANUAL

OMEGA DEPOSITOR

(400, 450, 580)

-DECLARATION OF CONFORMITY-



We hereby declare that this machine complies with
The essential health and safety requirements of :-

The Machinery Directive 2006/42/EC

The Low Voltage Directive 73/23/EEC

**The requirements of the
Electromagnetic Compatibility Directive
89/336/EEC, 91/263/EEC, 92/31/EEC**

**and
General Safety of Machinery and
Food Processing Standards applicable.**

Signed:  (Quality manager)
G.A. Williams

Date:

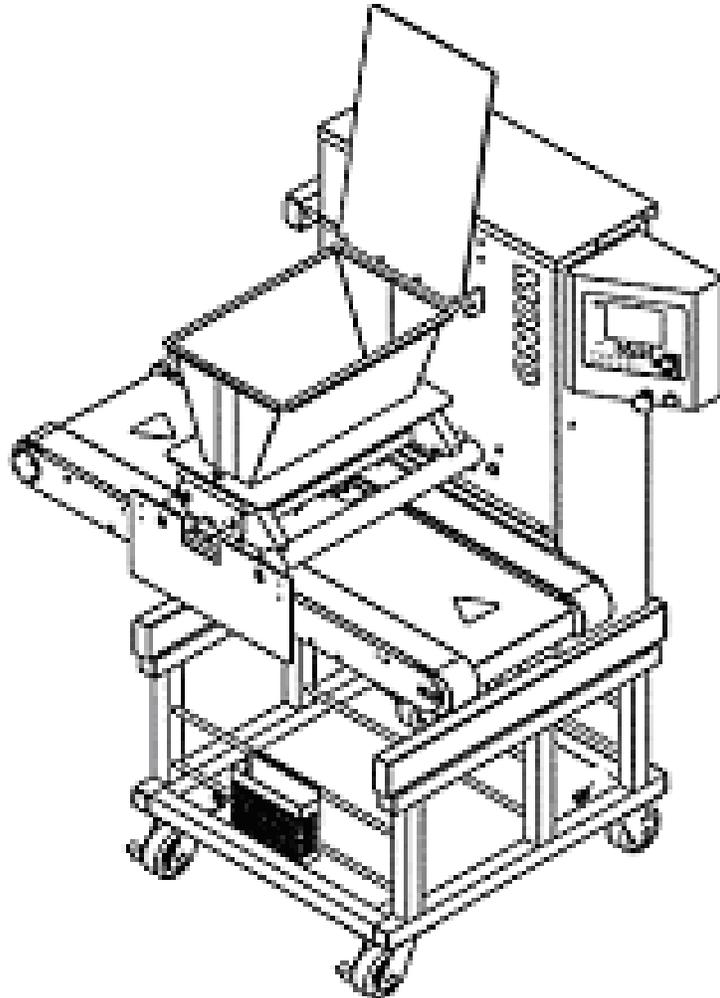
Machine Code FG Machine Serial No.

A technical construction file for this machine is retained at the following address:

MONO EQUIPMENT
Queensway
Swansea West Industrial Park
SWANSEA
SA5 4EB
UK

MONO EQUIPMENT IS A BUSINESS NAME OF AFE GROUP LTD
REGISTERED IN ENGLAND No.3872673
VAT REGISTRATION No. GB923428136
REGISTERED OFFICE: UNIT 35, BRYGGEN ROAD, NORTH LYNN INDUSTRIAL ESTATE, KINGS LYNN, NORFOLK, PE30 2HZ

Failure to adhere to the cleaning and maintenance instructions detailed in this booklet could affect the warranty of this machine.



▪ **DISPOSAL**

Care should be taken when the machine comes to the end of its working life. All parts should be disposed of in the appropriate place, either recycling or other means as the law permits at the time.

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Omega

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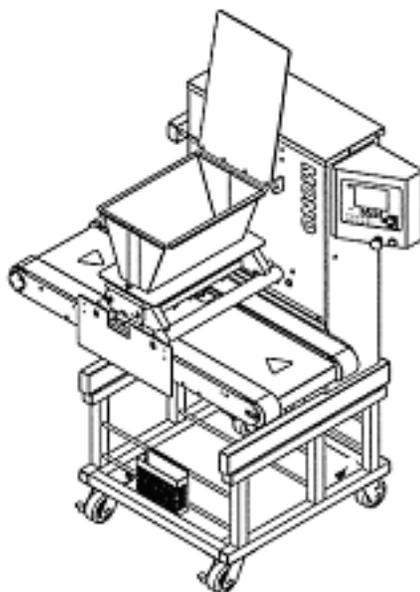
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CONVERSION FROM OPTIDRIVE TO ALTIVAR 1

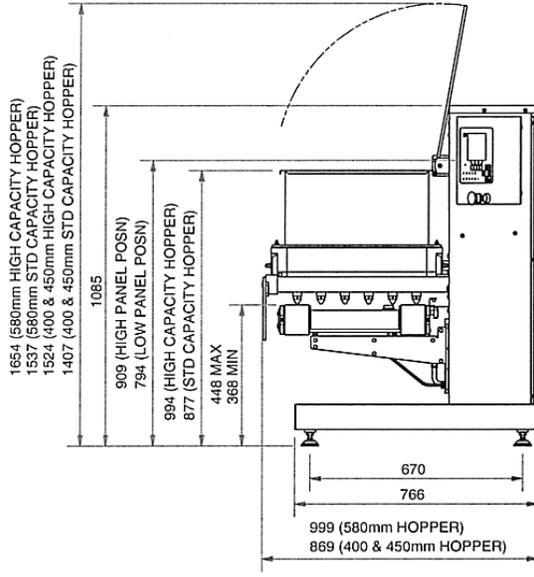
- The innovative “four axis deposit” design of MONO’s “**Omega**” depositor allows it to recreate most of the hand movements of the Master confectioner. This makes the “**Omega**” capable of exceptional accuracy of product weight, size and shape.
- Maintenance is kept to a minimum and the smooth body design makes daily cleaning quick and easy.
- Easy to use computer software gives access to 99 programs, which are stored in the memory and easily recalled for use or modification. Control is via a colour screen with graphically represented products already installed that can be created or edited to the required product.
- It is available with soft and hard dough hoppers or a hard dough hopper with a soft dough adapter. There is also a large selection of templates and nozzles.



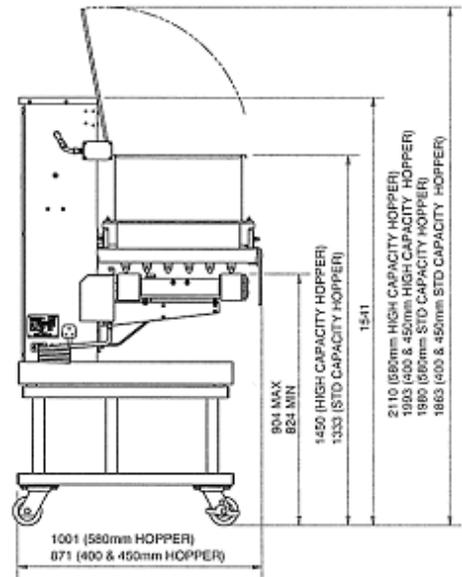
As it is our policy to improve our machines continuously,
we reserve the right to change specifications without prior notice

2.0 DIMENSIONS

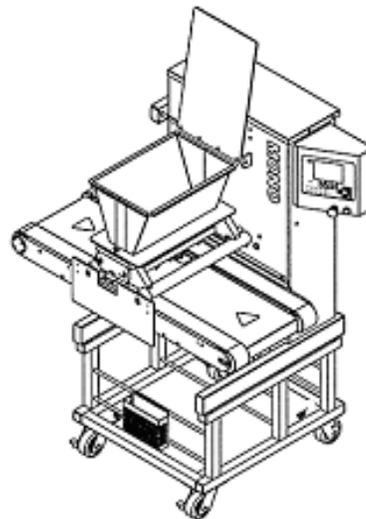
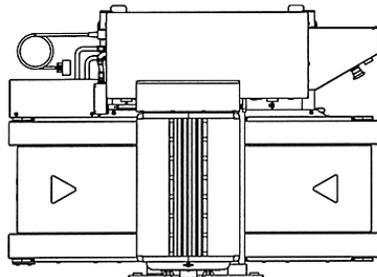
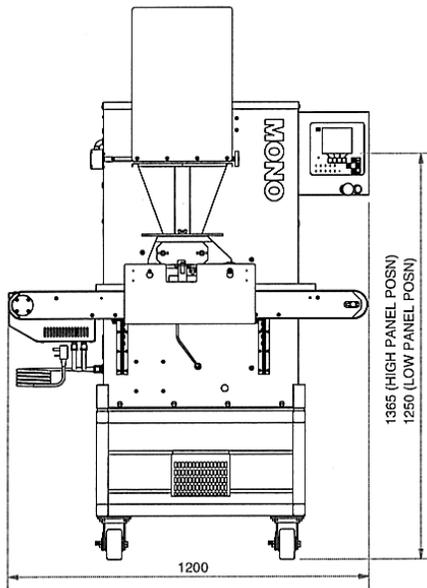
Omega



SURFACE MOUNTING DIMENSIONS



FLOOR MOUNTING DIMENSIONS



3.0 SPECIFICATIONS (SOFT DOUGH)

Omega

MODEL (Nom. hopper width (mm))	400	450	580
Weight (with soft dough hopper fitted): (Kg)	204	206	212
Standard hopper capacity: (litre)	20	22.5	29

Power: 2.5kW single phase fused at 13A

Min distance between trays = 50mm
Noise level = Less than 85dB
Electronics = All microprocessor controlled

NOTE:

The minimum deposit that can be made depends on several factors - recipe, mixing method, template size, nozzle size and deposit speed.

As a guide the following is the minimum that should be attempted:

Macaroons	6g,
Meringues	3g,
Choux Paste	5g,
Viennese	4g,
Sponge Drops	4g.

However, consult **Mono Equipment** if intended product falls outside the above general machine specification to determine the exact capabilities of the "Omega" with any specific product.

- 1 Never use a machine in a faulty condition and always report any damage.
- 2 Only trained engineers may remove parts from this machine that requires a tool to do so.
- 3 Always ensure hands are dry before touching any electrical appliance (including cable, switch and plug). **NEVER move machinery by pulling on the power cords or cables.**
- 4 **Ensure that the floor area around the OMEGA is clean to avoid slipping** – especially if carrying heavy hopper and template components to and from the machine.
- 5 All operatives must be fully trained.

Use of the machine can prove dangerous if:

- the machine is operated by untrained or unskilled staff
- the machine is not used for its intended purpose
- the machine is not operated correctly

All safety devices applied to the machine during manufacture and the operating instructions in this manual are required to operate this machine safely. The owner and the operator are responsible for operating this machine safely.

- 6 People undergoing training on the machine must be under direct supervision.
- 7 Do not operate the machine with any panels or guards removed.
- 8 No loose clothing or jewellery should be worn while operating the machine.
- 9 Switch off power at the mains isolator when machine is not in use and before carrying out any cleaning or maintenance.

- 10 The bakery manager or the bakery supervisor must carry out daily safety checks on the machine.

- 11 Do not operate machine without hopper template fitted correctly.



(10) HOPPER TEMPLATE FITTED

**ALL CLEANING AND MAINTENANCE OPERATIONS MUST
BE MADE WITH MACHINE DISCONNECTED FROM THE
POWER SUPPLY.**

5.0 INSTALLATION

Omega

- 1 Ensure that the depositor is connected to correct electric supply as specified on the serial number plate on the side of the machine.
- 2 Ensure that the correct fuse rating is fitted in the electrical supply

6.0 ISOLATION

IN AN EMERGENCY, SWITCH OFF AT THE MAINS WALL ISOLATOR, OR EMERGENCY STOP BUTTON.

To release the emergency stop button, turn clockwise.



7.0 CLEANING INSTRUCTIONS

Omega

NOTE:

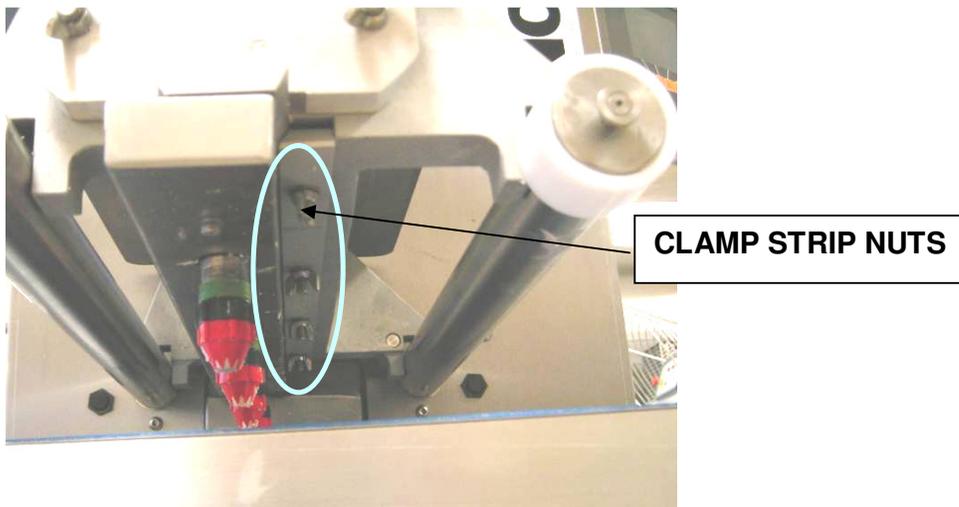
- Cleaning must be carried out by fully trained personnel only.
- Isolate machine from mains supply before carrying out any cleaning.
- Do not steam clean or use a jet of water.

All the outer surfaces of the machine should be wiped over daily with warm soapy water.

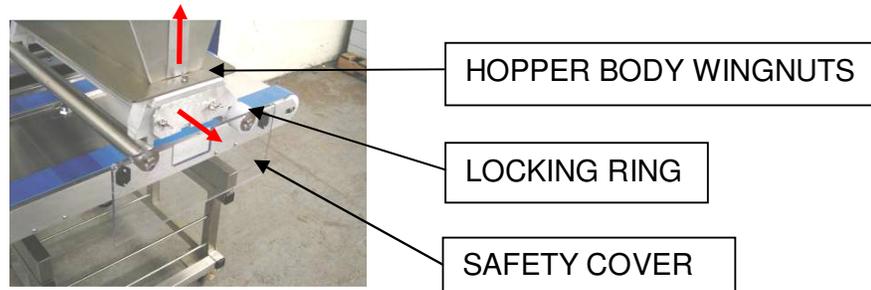
-Do not use any form of caustic detergent or abrasive.

BETWEEN PRODUCT MIX CHANGES

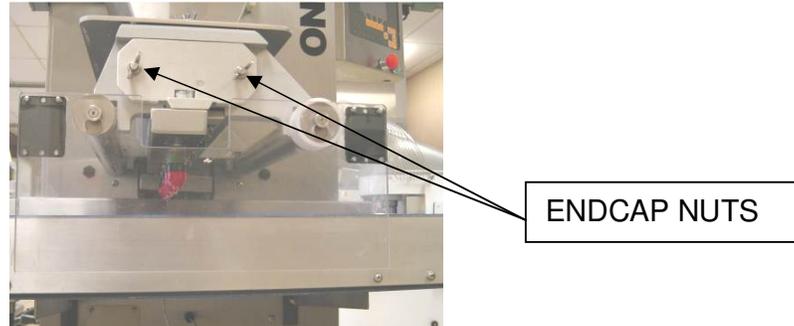
- 1 The feed hopper, hopper pump, template, nozzles etc. should be removed from the machine and dismantled for thorough cleaning.
- 2 Slacken template clamp strip nuts and remove fitted template from hopper pump assembly by sliding out to avoid subsequent damage.



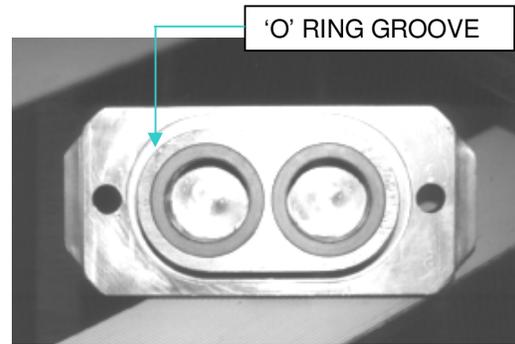
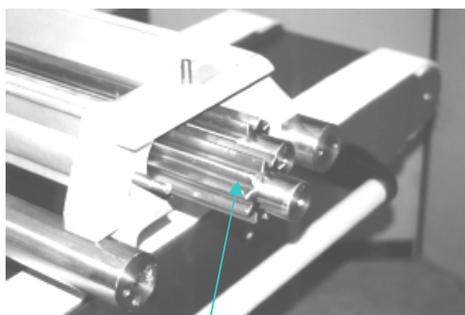
- 3 To reduce weight and bulk, separate and remove empty feed hopper body from hopper pump assembly whilst still on machine. Unscrew the wing nuts holding the feed hopper body to the hopper pump to reveal the 'O' sealing ring. Ensure seal is not damaged during cleaning.



- 4 Lift off front see-through safety cover and locking-ring.
- 5 Unscrew the nuts holding the pump end cap to the hopper. Ensure that the nuts are placed where they will not be lost.



- 6 Withdraw the end-cap with the pump gears, if still attached. Ensure that the 'O' sealing ring on the inside of the end-cap is not damaged during cleaning.



NOTE:

Use only warm soapy water to clean these parts that should be rinsed and thoroughly dried before re-assembly.

The greatest care must be taken not to drop the hopper.

Do not leave any components in the hopper.

□ CLEANING OF HARD DOUGH HOPPER

- 1 Remove feed hopper from hopper body assembly by removing the wing nut at either end.
- 2 Lift off both upper plastic end-caps.
Remove both gears from the assembly; ensure that the hopper has been disengaged from the drive, to enable removal.

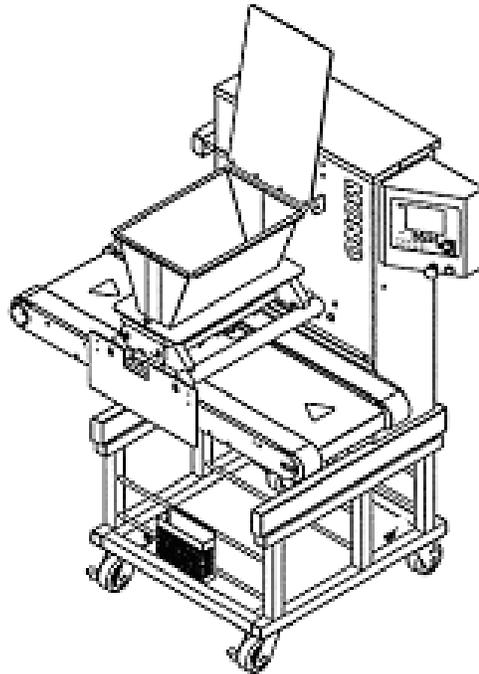
NOTE: The main hopper could be heavy and may need to be lifted off by two people.

8.0 OPERATING CONDITIONS

Omega

To obtain the best product results and consistent operation,

- ✓ Make sure the depositor is used on a **level floor**.
- ✓ Ensure **flat trays** of consistent length, width, material and edge dimensions are used.
- ✓ Ensure undamaged nozzles are used.



9.0 PREPARING FOR OPERATION

Omega

- 1 Select template and nozzles required and fit as section 9a & 9b following.
Fill hopper with mix and close hopper guard. It is recommended that when heavy mixes are used, the inside of the hopper should be coated with vegetable oil; for lighter mixes such as meringue, dampen with water. The oil or water will help the mix to settle down the hopper walls and prevent air being sucked in.



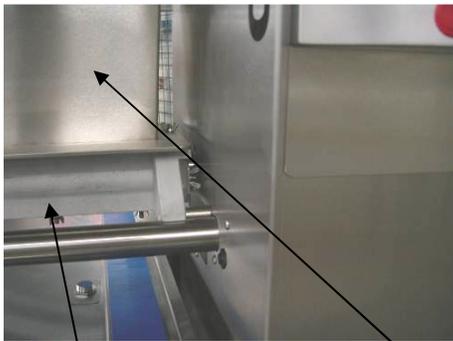
- 2 Connect power cable to electrical supply.
Make sure stop button is in released position. (turn clockwise if required).
- 3 Press green button and controller screen will illuminate.
- 4 Select an existing program or create a new program through the on-screen menus.
- 5 The machine is now ready for operation

9a FITTING THE HOPPER

CAUTION SHOULD BE TAKEN WHEN FITTING HOPPER PUMP AS WEIGHT EXCEEDS 20KGS.

MAKE SURE FLOOR AREA AROUND MACHINE IS CLEAN

- 1 To reduce weight and bulk fit the complete hopper assembly in two stages - first the hopper pump assembly, then the feed hopper body.
- 2 Align hopper pump drive gear with drive shaft and slide hopper on support bars until fully up against locating boss. (The pump drive may have to be turned by hand to ensure correct alignment)

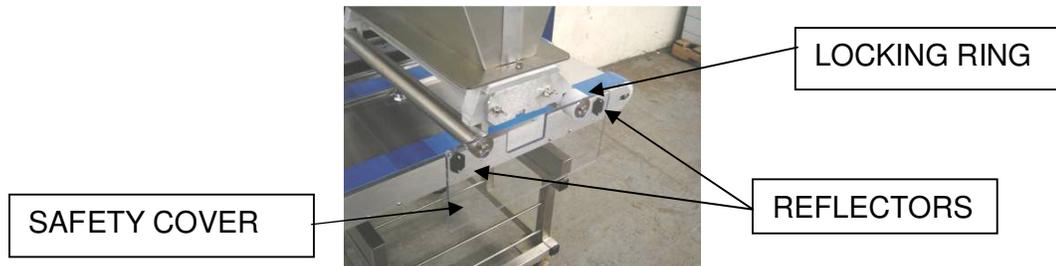


PUMP ASSEMBLY

FEED HOPPER ASSEMBLY

LOCATING BOSS

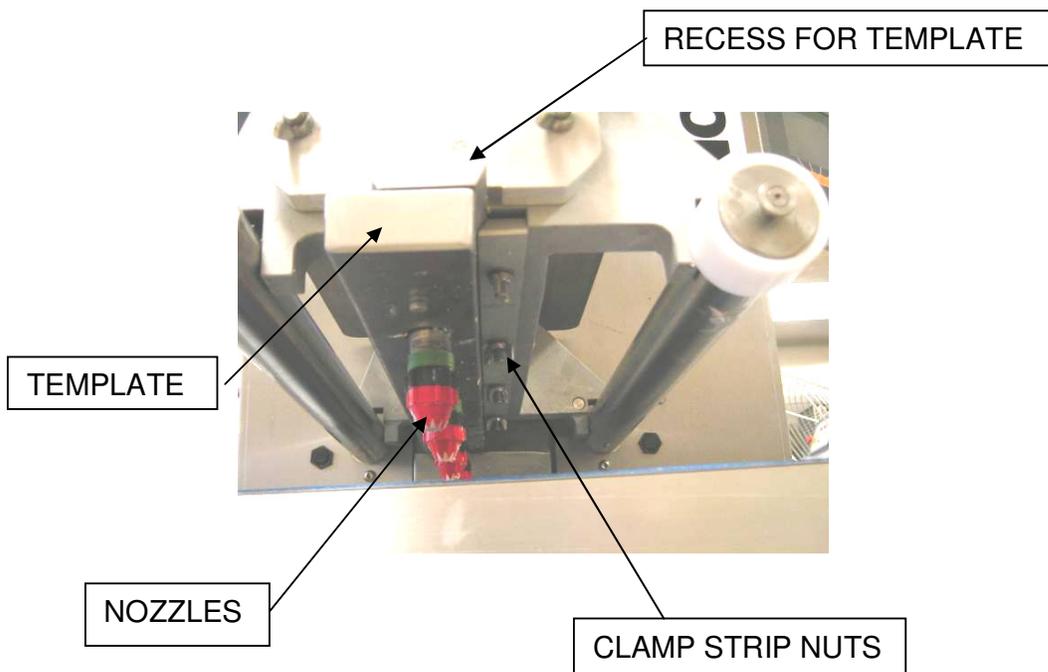
- 3 Hopper-locking ring **MUST BE** replaced on hopper bar and safety cover replaced with the reflectors facing towards machine body.



DO NOT OPERATE MACHINE WITHOUT TEMPLATE FITTED

□ **9b FITTING A TEMPLATE**

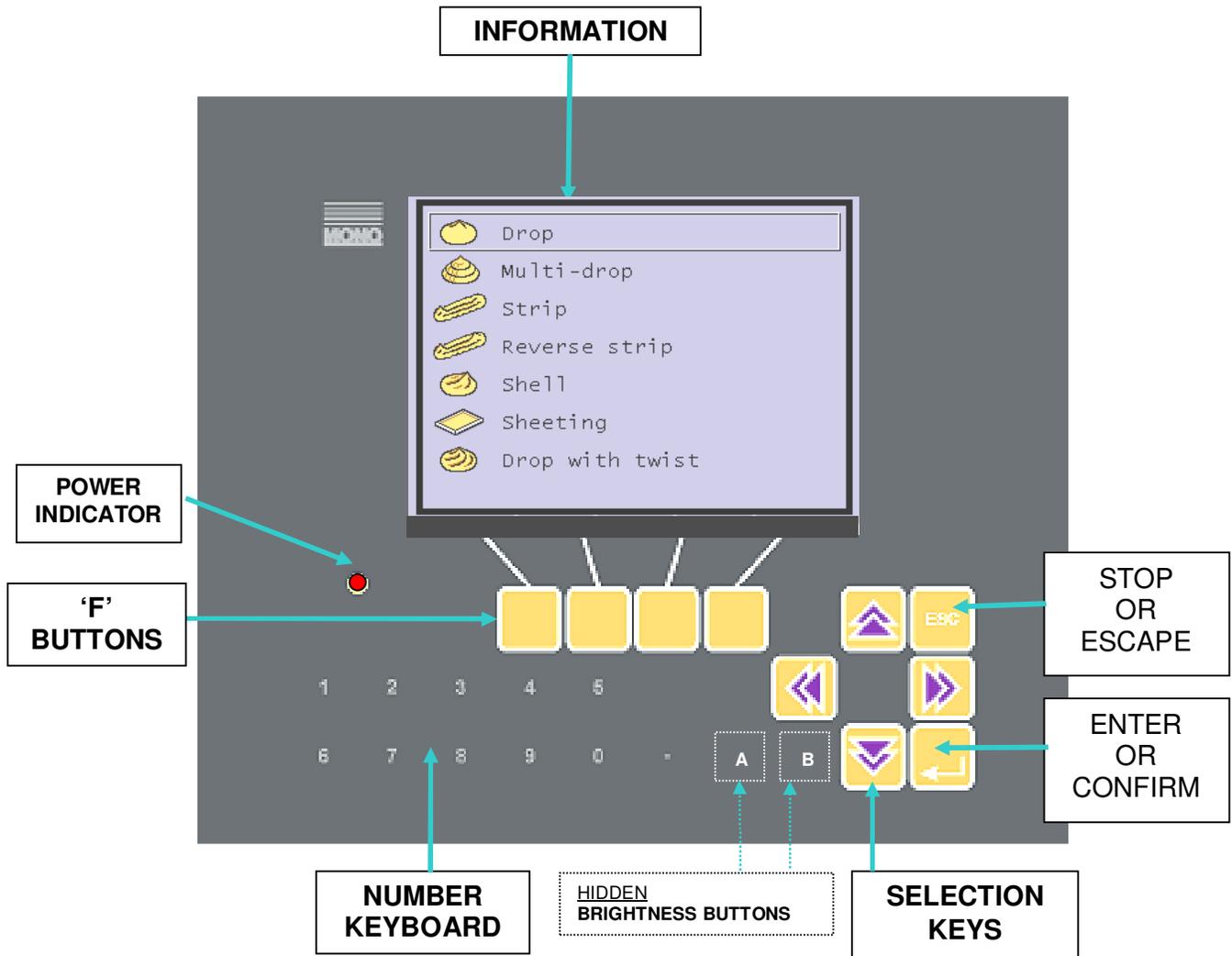
- 1 Select template and nozzles required.
- 2 Attach nozzles to template body:
 - **Soft dough**
Non-rotary templates that are able to be fitted with nozzles, requires screwing the nozzles into the threaded holes provided.
Rotary templates can have plastic nozzles screwed into nozzle holders (straight or offset).
OR
Metal nozzles secured in place by a separate nut.
 - **Hard dough**
Rotary and non-rotary templates require nozzles to be secured in place with a separate nut.



- 3 Slide template into matching recess at base of hopper pump until the stop is in position.
- 4 Tighten nuts on clamp strip (on underside of hopper pump) to secure template.
 - *If the nuts are not securely tightened, leakage of mix will occur, affecting deposit weights.*

DO NOT OPERATE MACHINE WITHOUT TEMPLATE FITTED

10.0 'OMEGA' CONTROL PANEL LAYOUT

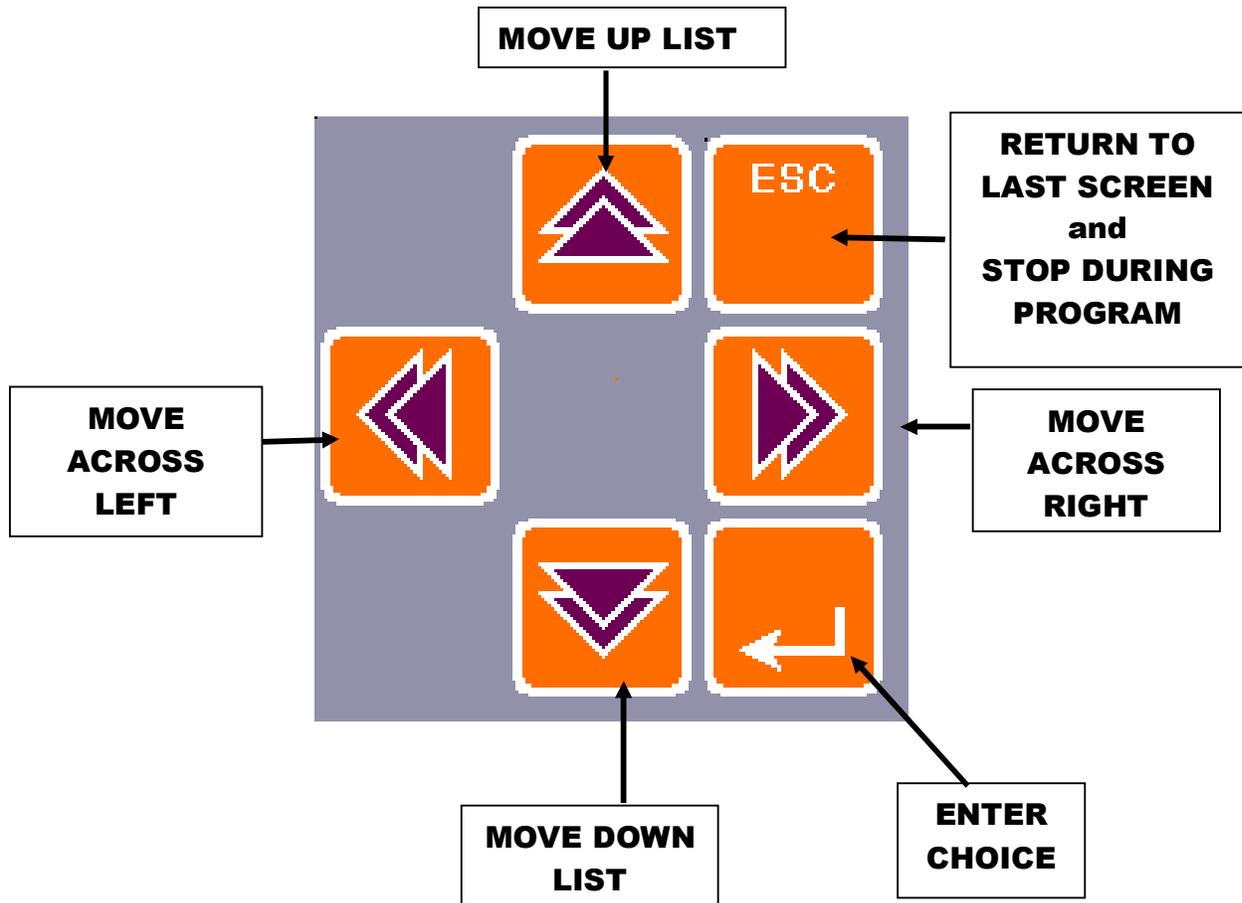


The keyboard (screen) is split into four sections

- The information panel** (shows selected items)
 - 'Function' buttons** (for operation of graphic buttons on the information panel)
 - The number keyboard** (for numerical entry of quantities etc.)
 - Selection keys** (for navigating around information panel)
- There is also a small red indicator light when power is on and two Hidden buttons to control the screen brightness

11.0 DESCRIPTION OF CONTROL PANEL **- KEY FUNCTIONS**

SELECTION KEY CONTROLS



HIDDEN BUTTONS (SCREEN BRIGHTNESS)

To change the screen brightness:

1. Turn power on (wait for Mono screen to appear).
2. Press hidden buttons "A" and "B" together for 2 seconds and release.
3. Press "A" to darken the screen or "B" to lighten the screen.
4. Press any button other than "A" or "B" to save the setting.

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TO OPERATE DEPOSITOR USING READY-PROGRAMMED PRODUCTS

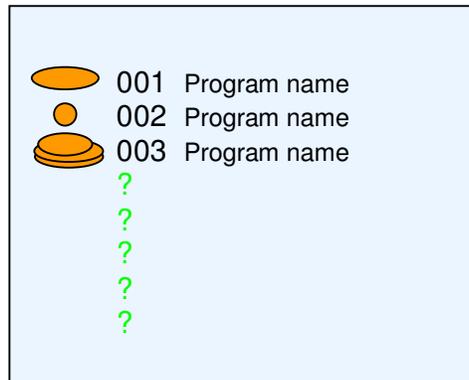
Omega

(OPTION 1)

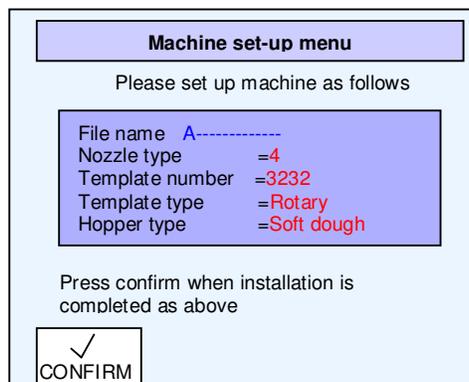
- 1) Turn power on (wait for Mono screen to appear)



- 2) Choose (1) operator menu



- 3) Use up/down keys to highlight the product required. press return. ↩



- 4) Set up machine as instructed on the screen.
when sure everything is correct press confirm

- 5) Load hopper with product and place a tray under nozzles

Operator menu			
File name: A-----			
Adjust weight +0%			
Machine set-up information Template No. 3232 Nozzle type 4 Rotary Soft dough			
WEIGHT	AUTO	MAN	PRIME

- 6) Press green go button under main control panel then press and **hold** prime button in to allow pump gears and nozzles to fill with product.
(return any deposited product to the hopper if desired.)
- 7) Place tray on table (*against tray guide but not covering the tray sensor*) and press either:

MAN – for manual feed.

This deposits product on the tray and then returns the tray back to its starting position

THE BELTS STOP.

or

AUTO – Continuous production

This deposits product on the tray and then passes it out the other side to allow for the next tray to be positioned.

BELTS CONTINUE RUNNING

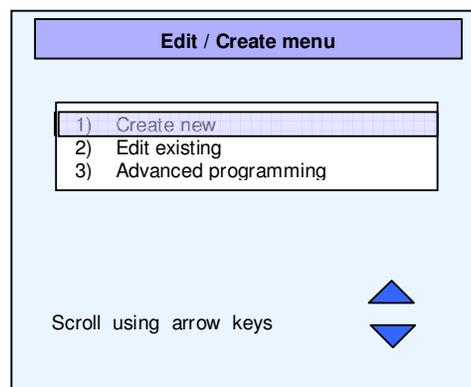
- 8) Press escape to stop - *returns to program screen.*

(OPTION 2)

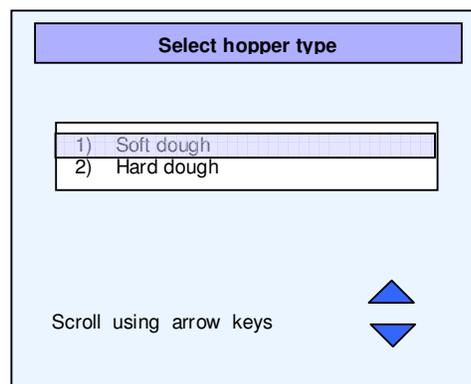


- 1) Operator menu
- 2) Edit / Create
- 3) Memory menu
- 4) Configuration menu

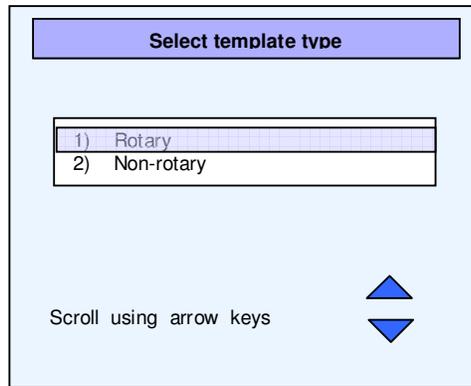
1) Choose (2) – edit / create, *press return*



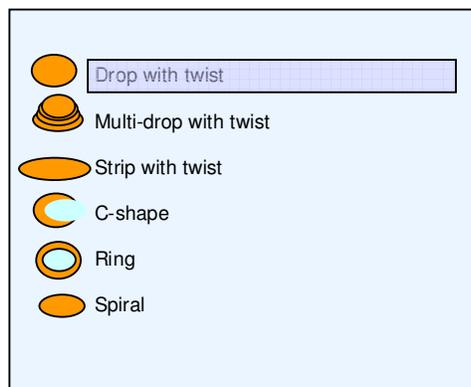
2) Choose (1) - create new, *press return*



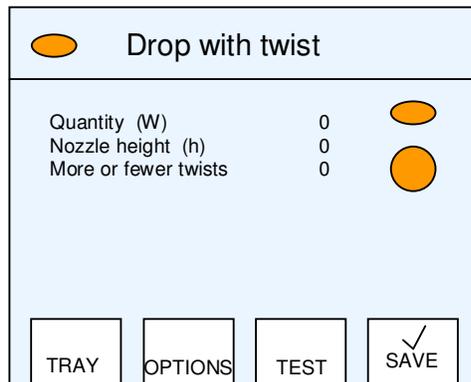
3) Choose soft or hard dough, *press return*



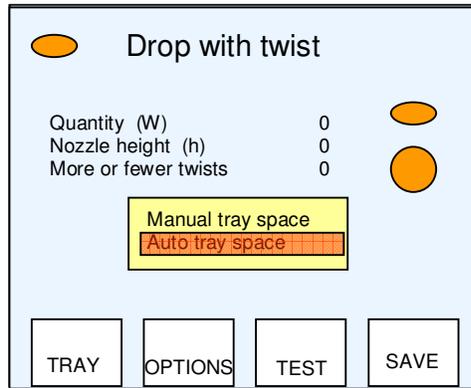
4) Choose rotary or non- rotary, *press return*



5) Highlight type of product required using up/down keys, *press return*



6) Enter information required at each position using number keys and up/down keys to move to each position.



- 7) Press tray button.
Highlight **manual tray space** or **auto tray space** using Up/down buttons
Press *Return*

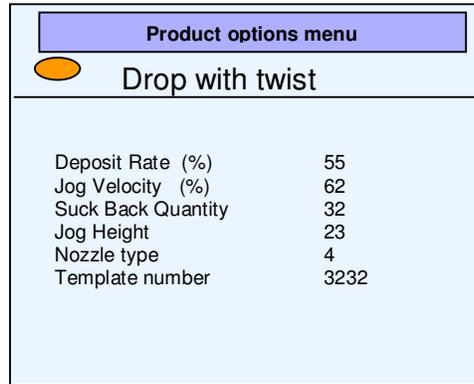
Manual allows the setting of:

- rows per tray
- tray length
- distance to first deposit
- pitch
- edge height

Auto allows the setting of:

- rows per tray
- tray length
- edge height

Press **OK**



8) Press **options** button.

This allows adjustment of settings for:

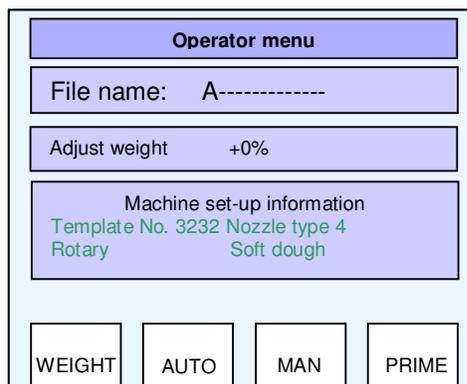
- Deposit Rate
- Jog Velocity
- Suck back quantity
- Jog Height
- Nozzle type
- Template number

(use arrow keys and return to move around screen)

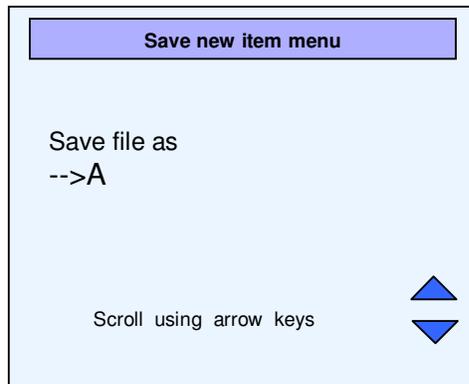
Press OK

9) Press **test** button

This moves to the operator menu that allows testing of the settings before being saved.



10) Press esc. This returns to the previous setting screen

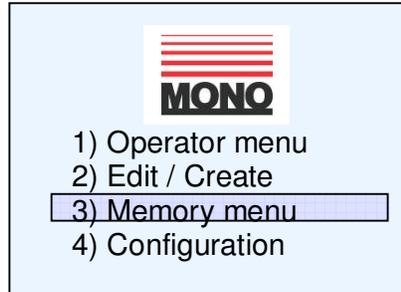


11) Press save

-save file with name of product required.

Use up/down keys to find letter required and left/right keys to move to next letter.

Pressing “Return” saves the settings



The Memory Menu has the following functions available:

- | | | |
|----------------------------------|-------|--|
| 1) <i>Save</i> | _____ | USED IN ADVANCED PROGRAMMING.
SEE SEPARATE MANUAL OR CONTACT "MONO"
IF REQUIRED. |
| 2) <i>Save new file</i> | _____ | |
| 3) <i>Retrieve file</i> | _____ | |
| 4) Sort files | | |
| 5) Delete file | | |
| 6) Delete whole directory | | |

Each function operates as follows:

SORT FILES

The *Sort files* function allows the names of the product files in the directory listing to be sorted. The file names are sorted first numerically then alphabetically.

- Select the '*Sort files*' option from the *Memory Menu*.
- Select 'Yes' from the next screen to perform the function.

DELETE FILE

The *Delete file* function allows product files to be deleted from the directory listing individually.

- Select the '*Delete file*' option from the *Memory Menu* and enter the correct password in the next screen when prompted.
- Move the cursor onto the product file to be deleted using the arrow keys and press Enter button on the keypad.
- Select 'Yes' from the next screen to delete the product file.

DELETE WHOLE DIRECTORY

The *Delete whole directory* function allows all the product files to be deleted from the directory listing in one operation.

- Select the '*Delete whole directory*' option from the *Memory Menu* and enter the correct password in the next screen when prompted.
- Read the on-screen warning and press the Left Arrow key to perform the delete operation.



The Configuration Menu has the following functions available:

- 1) Diagnostics
- 2) System gains menu
- 3) Speed variable menu
- 4) Password menu
- 5) Language menu

Each function operates as follows:

1) DIAGNOSTICS

The Diagnostics Menu (at the top of the screen will be the loaded software version) is password protected and has the following functions available:

- 1) Set time
- 2) Set date
- 3) Test dacs
- 4) Test I/O
- 5) Exit to op sys

Each function operates as follows:

Set time allows the time of day to be altered. Choose the 'Set time ' option and input the time in the format:

Hour : Minute : Second shown on the screen as **HH : MM : SS**

Input the 'Hour' information first followed by the 'Minute' information then the 'Second' information. Press 'Enter' after each input to accept the information and to move onto the next.

Set date allows the date to be altered. Choose the 'Set date' option and input the date in the format:

Day - Month - Year shown on the screen as **DD - MM - YY**

Input the 'Day' information first followed by the 'Month' information then the 'Year' information. Press 'Enter' after each input to accept the information and to move onto the next.

Test dacs is for use by trained service technicians only for checking the correct function of the control panel.

Test I/O allows testing of the operation of the various sensors and switches on the Omega. The 'Test I/O Menu' displays the inputs and outputs from the sensors and switches as zeroes and ones underneath a unique identifier character. Each character represents one sensor or switch although not all are used on the machine.

Screen details are as follows:

F	E	D	C	B	A	9	8	7	6	5	4	3	2	1	0	3FFF
0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
F	E	D	C	B	A	9	8	7	6	5	4	3	2	1	0	Drivers
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

The top two rows of the screen (shown highlighted) show the identification of the switch on the top row and the on/off state of the switch on the second row.

The third and fourth rows are for use by trained service technicians only.

The **sensors and switches** that are used on the Omega are identified below along with their indication in each state condition.

F	E	D	C	B	A	9	8	7	6	5	4	3	2	1	0
0	0	1													

Front safety switch: 1 = obstructed; 0 = unobstructed
 Rear safety switch: 1 = obstructed; 0 = unobstructed
 Start switch: 1 = released; 0 = pressed

Top guard: 1 = open; 0 = closed

Tray sensor: 1 = tray not seen; 0 = tray seen
 Vertical home switch: 1 = target seen; 0 = target not seen

Exit to op sys allows updating of the machine program through connection to support computer. This operation should only be carried out by trained personnel.

2) System gains menu

The systems gains menu allows entry of important motion control parameters. Access to this screen is password protected and is only required by trained service technicians.

Factory settings in this screen are as follows:

Gain Axis 0	258
Gain Axis 1	128
Gain Axis 2	511
Filter A 0	210
Filter A 1	210
Filter A 2	210
Filter B 0	64
Filter B 1	64
Filter B 2	64
Follow error	0

3) Speed variable menu

The speed variable menu allows entry of important machine set up parameters. Access to this screen is password protected and is only required by trained service technicians.

Factory settings in this screen are as follows:

Deposit speed	60
Tray speed	50
Jog speed	100
Init tray vel	35
Max acc lim	48
Tray acc lim	48
Offset SD Hop	0
Offset HD Hop	-19

4) Password menu

The Password menu allows entry of passwords for the password-protected operations on the Omega. Access to this screen is itself password-protected.

The operations that are password-protected on the Omega are shown on the screen as:

Diagnostics menu	:	1111
Systems Gains menu	:	1111
Speed Variable menu	:	1111
Delete directory	:	1111
Password menu:	:	1111
Save menu	:	1111
Delete menu	:	1111

(Passwords shown are factory settings and can be changed on installation)

Note: It may be necessary to exercise caution with the distribution of passwords to avoid loss of data and/or proper machine function.

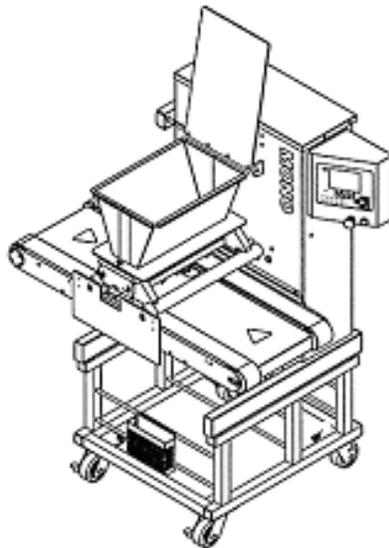
5) Language menu

The Language menu allows the language of use on the Omega to be changed.

- Select the 'Language menu' option and press 'Enter'.
- Select the language of choice by using the arrow keys to select and press 'Enter'.

Under most conditions the machine only needs to be kept clean and used as instructed in this manual.

**WARNING: DO NOT UNDER ANY CIRCUMSTANCES
USE A WATER HOSE TO CLEAN MACHINE.**



17.0

SPARES AND SERVICE

If a fault arises, please do not hesitate to contact the Customer Service Department, quoting the **machine serial number** on the silver information plate of the machine and on the front cover of this manual

UK SERVICE:

MILLERS VANGUARD LTD

1 Chesham Fold Road
Bury
Lancashire.
BL9 6LE

email: service@millersvanguard.co.uk
web site: www.Millersvanguard.co.uk

Tel: 0161 7648646
Fax: 0161 7610016

SPARES and OVERSEAS SUPPORT:

MONO

Queensway
Swansea West Industrial Estate
Swansea. SA5 4EB UK

email: spares@monoequip.com
Web site: www.monoequip.com

Tel. 01792 561234
Fax. 01792 561016



18.0 Recommended spares list

ELECTRICAL SPARES LIST

Omega

DRAWING PT-Ref	DESCRIPTION	PART NUMBER
B1	TRAY SENSOR	B735-99-001 (assy 078-25-00037)
E1	DEPOSIT MOTOR ENCODER	B742-99-003
E2	TRAY MOTOR ENCODER	B742-99-003
E3	JOG MOTOR ENCODER	B742-99-003
F1	POWER MCB	B872-22-064
F2	56V AC MCB	B872-22-094
INV1	ROTARY HEAD INVERTER	(B807-80-001)
	11/05 ONWARDS	B801-80-010
M1	ROTARY HEAD MOTOR/GEARBOX	B912-74-027
M2	DEPOSIT MOTOR	B741-74-003
M3	TRAY MOTOR/GEARBOX	B912-74-026
M4	JOG MOTOR	B741-74-002
P1	SAFETY PHOTOCELL No1 REFLECTOR	B801-99-007(assy 078-25-00036) B801-99-008
P2	SAFETY PHOTOCELL No2 REFLECTOR	B801-99-007(assy 078-25-00036) B801-99-008
P3	JOG SENSOR	B842-99-001 (assy 078-25-00039)
R1	SURGE RESISTOR	B842-59-014
S1	HOPPER GUARD SWITCH	B871-07-003
S2	STOP BUTTON	B801-12-015
	CONTACT BLOCK	B801-14-002
S3	START BUTTON	B801-12-029
	CONTACT BLOCK	B801-14-001

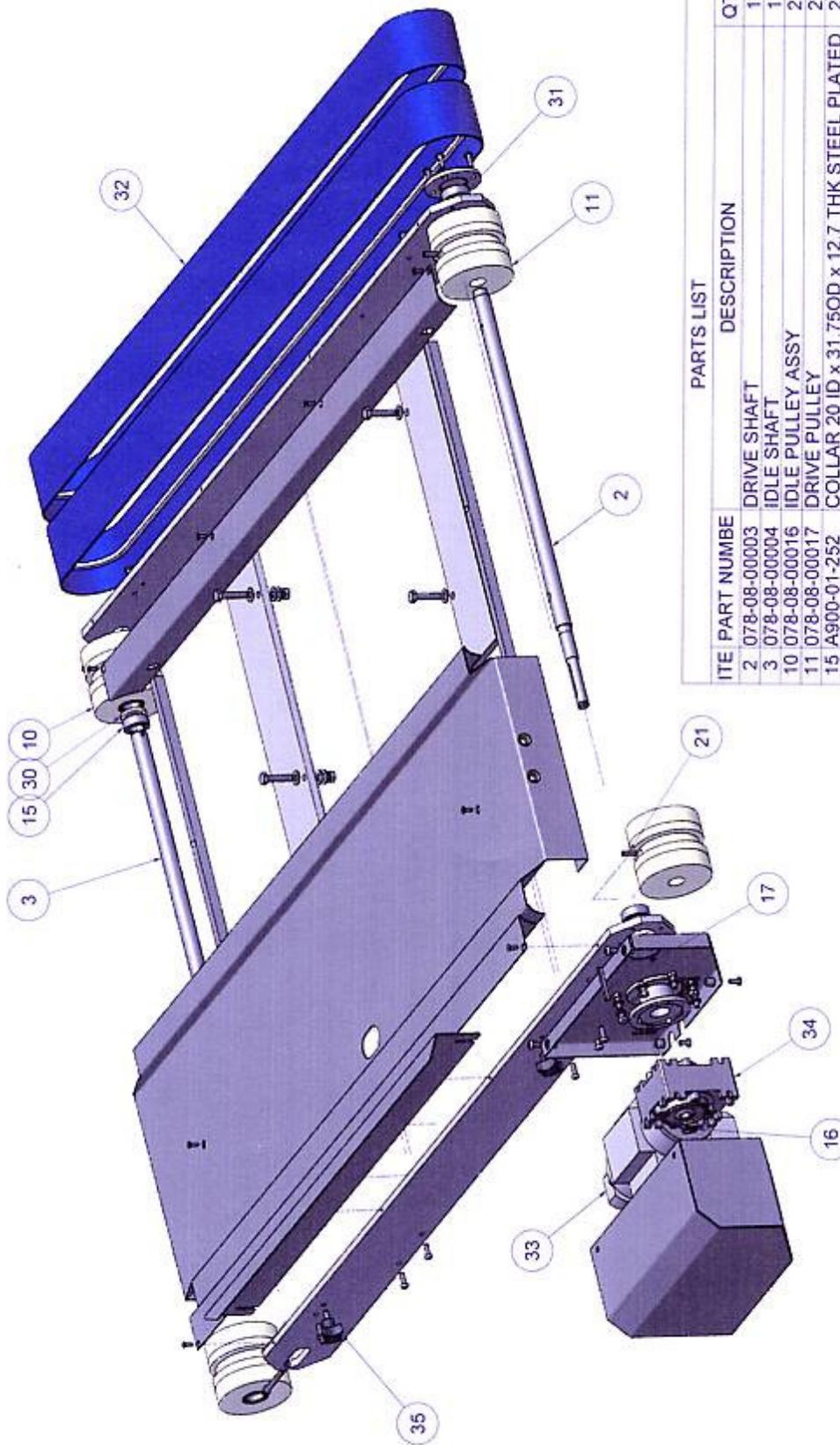
T1	TORIODAL TRANSFORMER	0-220v	B726-31-005
	OR		
T1	TORIODAL TRANSFORMER	0-200v	B726-31-006

U1	INTERFACE PCB	078-25-00025
U2	DEPOSIT MOTOR AMPLIFIER	B728-80-002
U3	TRAY MOTOR AMPLIFIER	B728-80-001
U4	JOG MOTOR AMPLIFIER	B728-80-001
U5	DISPLAY PCB	B728-93-015
Z1	MAINS INPUT FILTER	B773-48-001
Z2	VDR SUPPRESOR	B842-48-002
Z3	VDR SUPPRESOR	B842-48-002

BASE MACHINE SPARES LIST

Omega

Spares Item Description	Mono Part No.	Qty Req. per M/C
Deposit Motor	B741-74-003	1
Jog Motor	B741-74-002	1
Rotary Motor/Gearbox	B912-74-027	1
Deposit Gearbox	A900-11-086	1
Jog Gearbox	A900-11-087	1
Concentric Guide Roller	A900-06-274	2
Eccentric Guide Roller	A900-06-273	2
Slide Plate	078-03-00016	2
Jog Drive Chain	A900-08-066	1
Simplex Sprocket 16T 1/2" Pitch	A900-07-071	1
Idler Sprocket 16T 1/2" Pitch	A900-07-072	1
Circlip-Ext Metric 14mm Dia	A900-01-280	1
Circlip-Ext Metric 24mm Dia	A900-01-193	1
Drive Shaft – Hopper	078-03-00015	1
Rotary Drive Shaft	078-03-00011	1
Drive Gear - Rotary Template	078-03-00010	1
Lip Seal (Rotary Drive Shaft)	A900-12-075	1
Lip Seal (Deposit Drive Shaft)	A900-12-079	1
Top Guard 450mm Hopper	078-09-00005	1
End Guard	078-11-00001	1
Retainer – End Guard	078-11-00002	2
Spacer - 450/580mm Hopper	078-11-00003	1
Seal-Rear Cover	A900-25-309	1
Levelling Foot (if fitted)	A900-27-178	4



PARTS LIST			
ITE	PART NUMBER	DESCRIPTION	QT
2	078-08-00003	DRIVE SHAFT	1
3	078-08-00004	IDLE SHAFT	1
10	078-08-00016	IDLE PULLEY ASSY	2
11	078-08-00017	DRIVE PULLEY	2
15	A900-01-252	COLLAR 20 ID x 31.75OD x 12.7 THK STEEL PLATED	2
16	A900-01-280	CIRCLIP-EXT METRIC 14mm DIA	1
17	A900-01-293	KEY 5x5 45LG - RBE	1
21	A900-03-758	Grub Screw Knurl-Point Hex. Soc. M6x20	2
30	A900-05-210	WASHER-NYLON M20	2
31	A900-06-277	BRG-DEEP GROOVE BALL 17x35x10mm	2
32	A900-22-120	BELT - CONVEYOR	2
33	B742-99-003	ENCODER TYPE 260	1
34	B912-74-026	MOTOR/GEARBOX MRT28	1
35	P700-04-018	THUMB SCREW (STAR)	2

TABLE ASSEMBLY AND PARTS LIST

HOPPER SPARES LIST

Omega

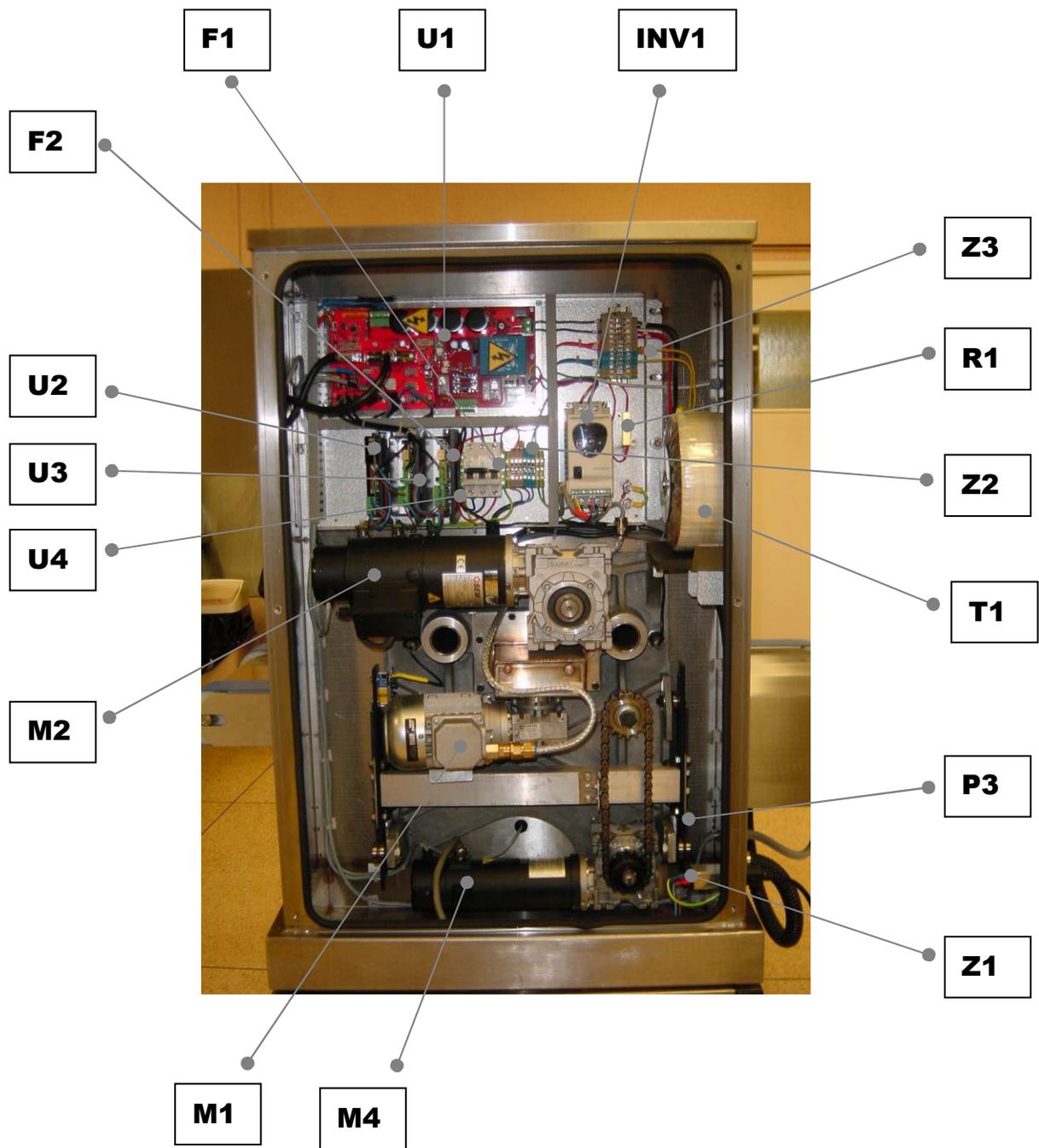
Table size	Spares Item Description	Mono Part Number	Qty Req.
400mm	Template clamp strip	073-09-00400	1
	End cap - drive side	073-09-00500	1
	End cap - non drive side	073-09-00502	1
	End cap bush	073-09-00600	4
	Template clamp stud	073-09-01000	4
	End cap stud	073-09-01100	4
	Hopper stud	073-09-01200	2
	End cap O-ring	A900-12-074	2
	Hopper seal	A900-12-083	1
	Clamp strip nut	A900-04-131	4
	450mm	Template clamp strip	073-09-00402
End cap - drive side		073-09-00500	1
End cap - non drive side		073-09-00502	1
End cap bush		073-09-00600	4
Template clamp stud		073-09-01000	4
End cap stud		073-09-01100	4
Hopper stud		073-09-01200	2
End cap O-ring		A900-12-074	2
Hopper seal		A900-12-084	1
Clamp strip nut		A900-04-131	4
580mm		Template clamp strip	073-09-00403
	End cap - drive side	073-09-00500	1
	End cap - non drive side	073-09-00502	1
	End cap bush	073-09-00600	4
	Template clamp stud	073-09-01000	4
	End cap stud	073-09-01100	4
	Hopper stud	073-09-01200	2
	End cap O-ring	A900-12-074	2
	Hopper seal	A900-12-085	1
	Clamp strip nut	A900-04-131	5



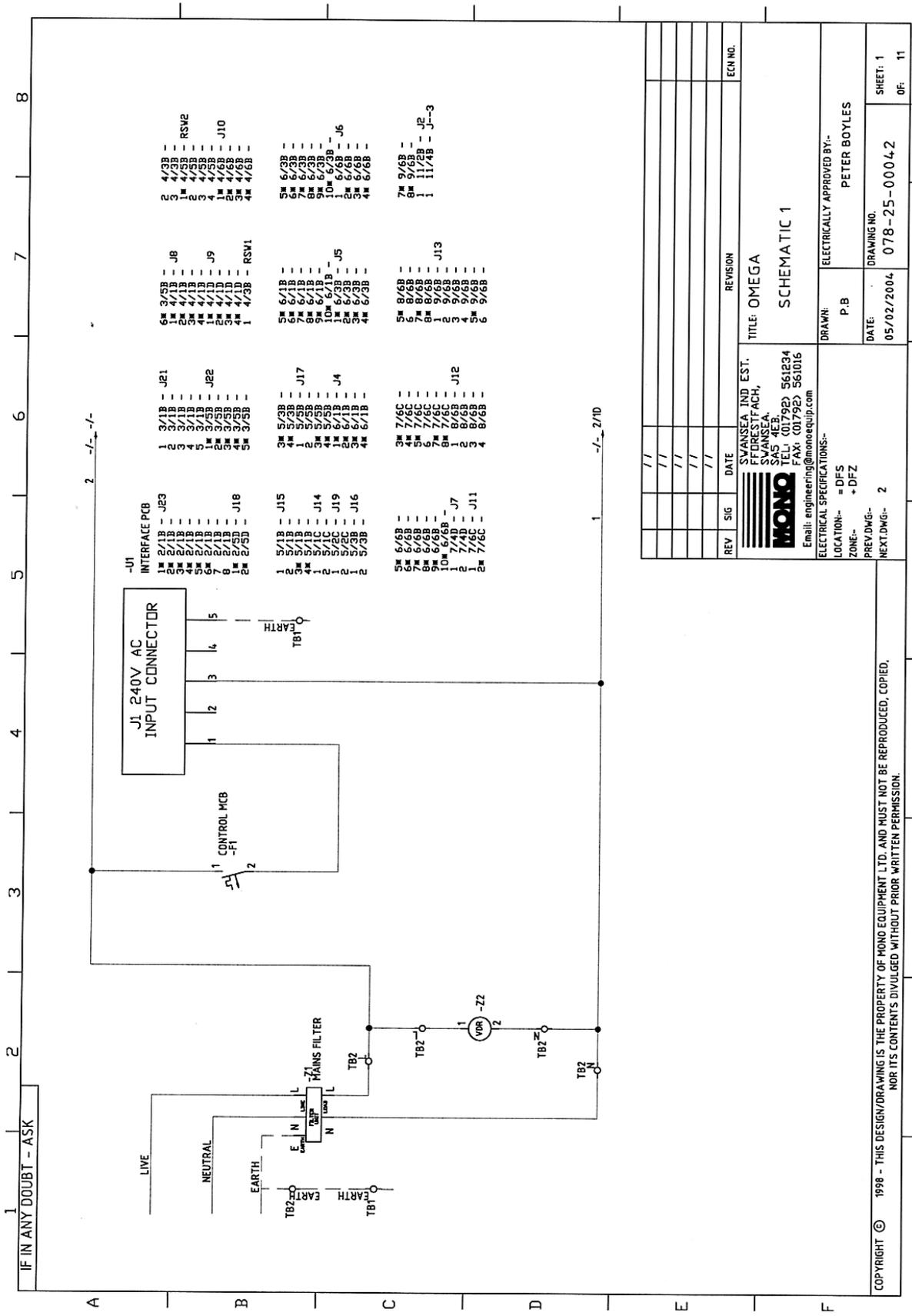
19.0 ELECTRICAL INFORMATION

ELECTRICAL COMPONENT LAYOUT PARTS LIST

DRAWING PT-Ref	DESCRIPTION	PART NUMBER
B1	TRAY SENSOR	B735-99-001
E1	DEPOSIT MOTOR ENCODER	B742-99-003
E2	TRAY MOTOR ENCODER	B742-99-003
E3	JOG MOTOR ENCODER	B742-99-003
F1	POWER MCB	B872-22-064
F2	56V AC MCB	B872-22-094
INV1	ROTARY HEAD INVERTER	(B807-80-001)
	11/05 ONWARDS	B801-80-010
M1	ROTARY HEAD MOTOR/gearbox	B912-74-027
M2	DEPOSIT MOTOR	B741-74-003
M3	TRAY MOTOR/gearbox	B912-74-026
M4	JOG MOTOR	B741-74-002
P1	SAFETY PHOTOCELL No1	B801-99-007
	REFLECTOR	B801-99-008
P2	SAFETY PHOTOCELL No2	B801-99-007
	REFLECTOR	B801-99-008
P3	JOG SENSOR	B842-99-001
R1	SURGE RESISTOR	B842-59-014
S1	HOPPER GUARD SWITCH	B818-07-017
S2	STOP BUTTON	B801-12-015
	CONTACT BLOCK	B801-14-002
S3	START BUTTON	B801-12-029
	CONTACT BLOCK	B801-14-001
T1	TORIODAL TRANSFORMER	0-220v B726-31-005
	OR	
T1	TORIODAL TRANSFORMER	0-200v B726-31-006
U1	INTERFACE PCB	078-25-00025
U2	DEPOSIT MOTOR AMPLIFIER	B728-80-002
U3	TRAY MOTOR AMPLIFIER	B728-80-001
U4	JOG MOTOR AMPLIFIER	B728-80-001
U5	DISPLAY PCB	B728-93-015
Z1	MAINS INPUT FILTER	B773-48-001
Z2	VDR SUPPRESOR	B842-48-002
Z3	VDR SUPPRESOR	B842-48-002



Omega



IF IN ANY DOUBT - ASK

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SWANSEA IND EST.
 FFEWESTFACH,
 SWANSEA.
MONO
 TEL: (01792) 561234
 FAX: (01792) 561016
 Email: engineering@monoequip.com

MONO
 TEL: (01792) 561234
 FAX: (01792) 561016
 Email: engineering@monoequip.com

ELECTRICAL SPECIFICATIONS:-
 LOCATION:- + DFS
 ZONE:- + DFZ
 PREV.DWG:- 2
 NEXT.DWG:-

TITLE: OMEGA
 SCHEMATIC 1

DRAWN: P.B
 ELECTRICALLY APPROVED BY:- PETER BOYLES

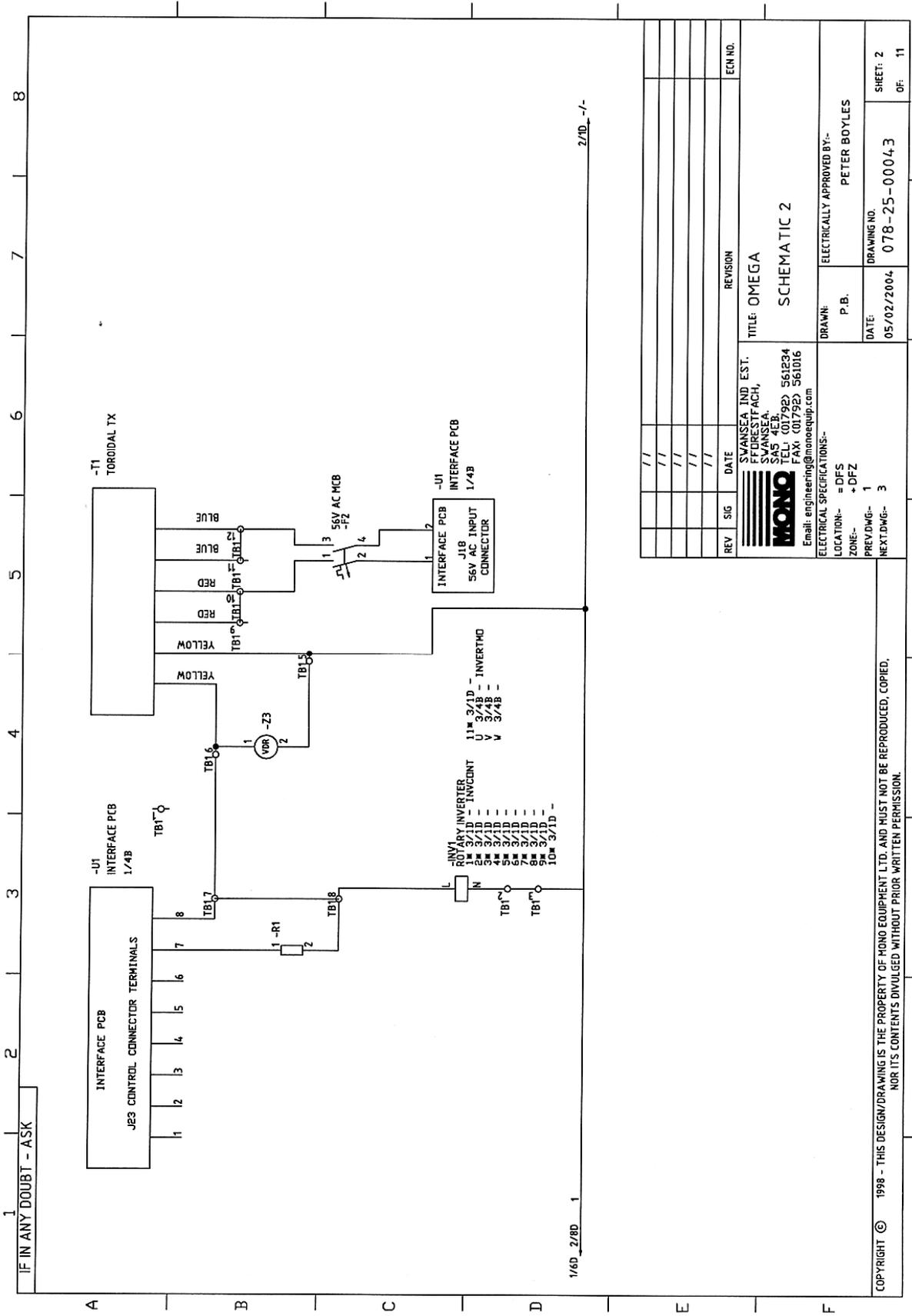
DATE: 05/02/2004
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SHEET: 1
 OF: 11

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SVANSEA IND. EST.
 FOREST ACH,
 SVANSEA,
 SAS 4EB,
 TEL: (01792) 561234
 FAX: (01792) 561016
 Email: engineering@monoequip.com

TITLE: OMEGA
 SCHEMATIC 2

DRAWN: P.B.
 ELECTRICALLY APPROVED BY: PETER BOYLES

DATE: 05/02/2004
 DRAWING NO. 078-25-0004.3
 SHEET: 2 OF 11

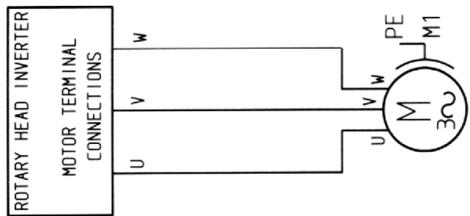
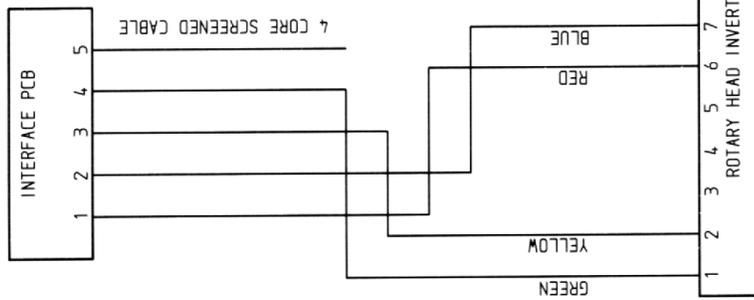
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 LOCATION:- = DFS
 ZONE:- = DFZ
 PREVDWG:- 1
 NEXTDWG:- 3

1/60_2/80 1

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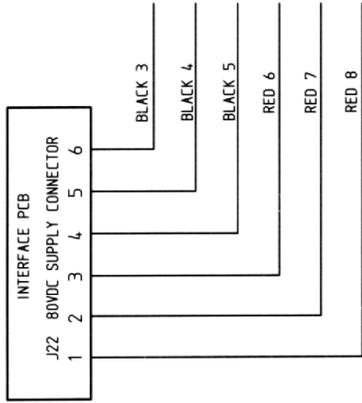
IF IN ANY DOUBT - ASK



ROTARY HEAD MOTOR
CONNECTED IN DELTA

OPTI DRIVE

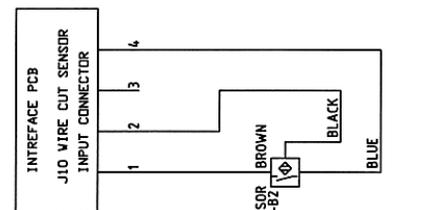
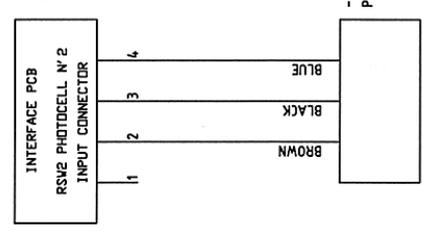
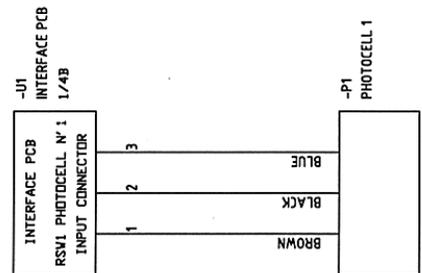
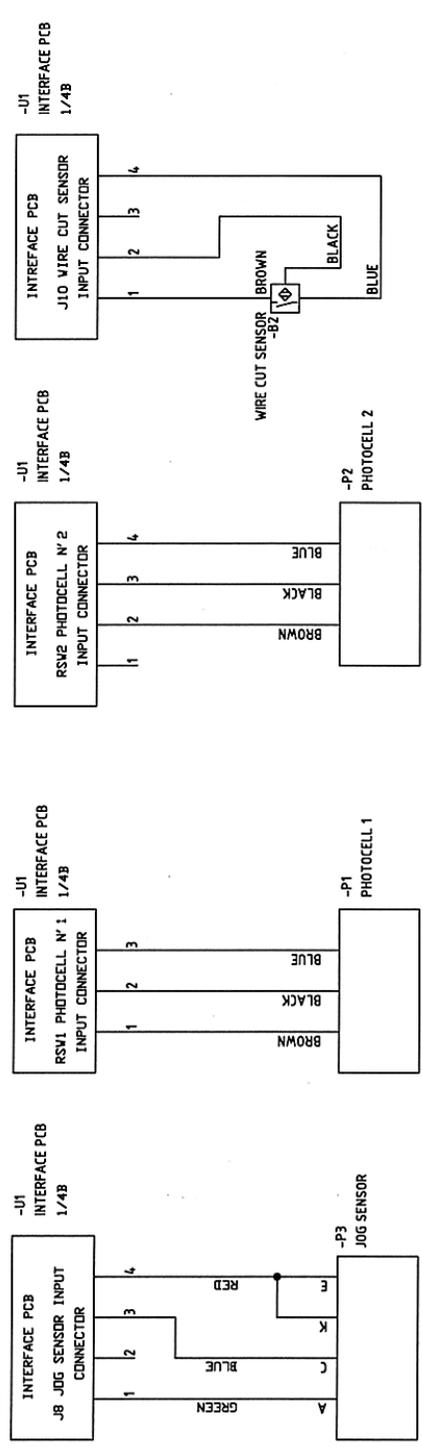
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 MONO EQUIPMENT QUEENSWAY SWANSEA WEST IND PARK SWANSEA, SA5 4EB. TEL: (01792) 561234 FAX: (01792) 561016			TITLE: OMEGA SCHEMATIC 3	
ELECTRICAL SPECIFICATIONS:-			DRAWN: RAC	ELECTRICALLY APPROVED BY:- P.B.
			DATE: 5-2-04 22-11-05	DRAWING NO. M078-25-00044
				REV: --

IF IN ANY DOUBT - ASK

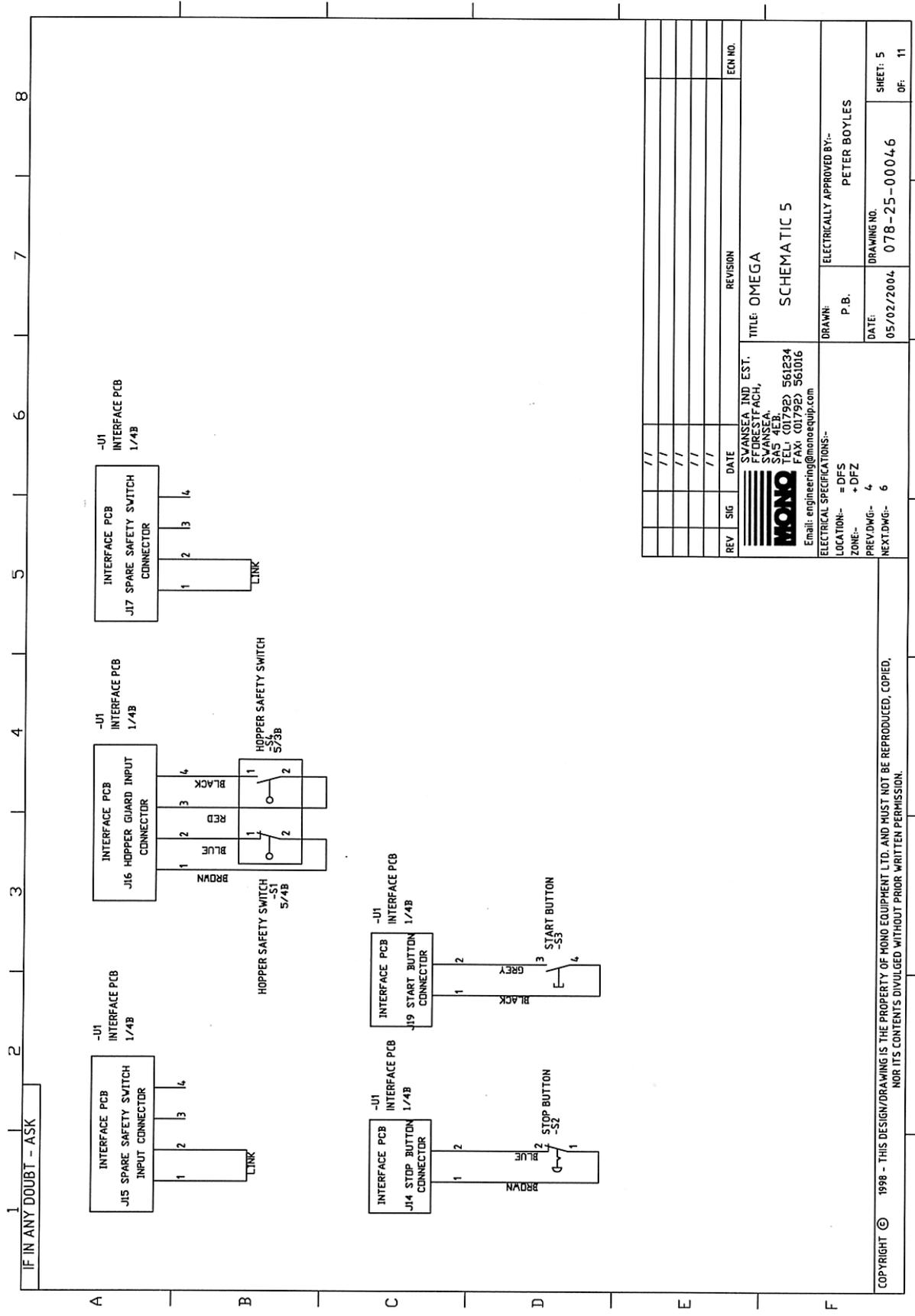


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SVANSEA IND. EST. FFORRESTFACH, SVANSEA. SAS 4EB. TEL: 0017920 561234 FAX: 0017920 561016 Email: engineering@monoequip.com	TITLE: OMEGA SCHEMATIC 4
ELECTRICAL SPECIFICATIONS:- LOCATION:- = DFS ZONE:- + DFZ	DRAWN: P.B. ELECTRICALLY APPROVED BY:- PETER BOYLES
PREVDWG:- 3 NEXTDWG:- 5	DATE: 05/02/2004 DRAWING NO. 078-25-0004.5
SHEET: 4 OF: 11	

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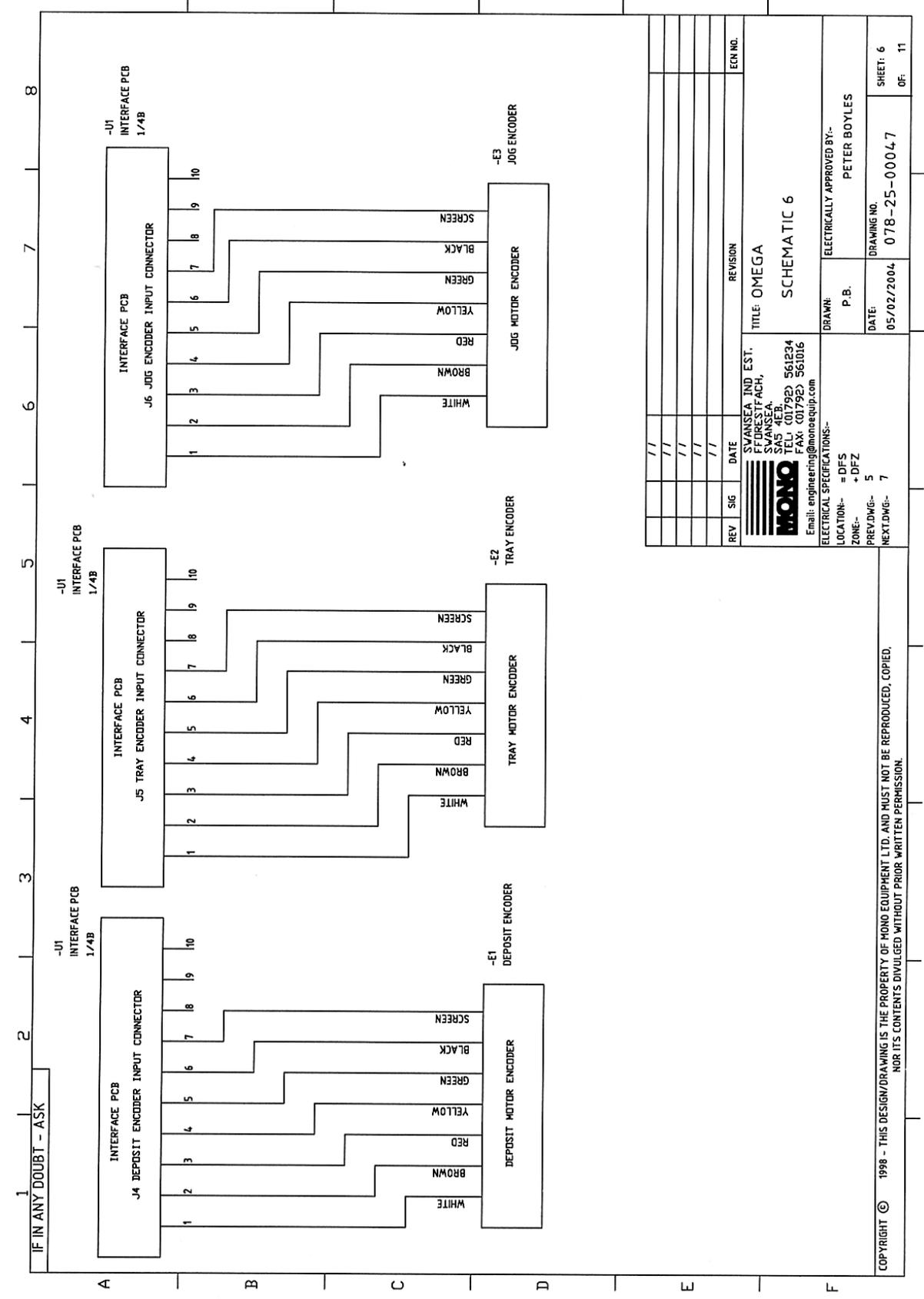




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SVANSEA IND EST. ELECTRICITY ACH, SWANSEA, SA5 4EB. TEL: (01792) 561234 FAX: (01792) 561016 Email: engineering@monoequip.com	TITLE: OMEGA SCHEMATIC 5
ELECTRICAL SPECIFICATIONS:- LOCATION:- = DFS ZONE:- + DIFZ	DRAWN: P.B. DATE: 05/02/2004 DRAWING NO. 078-25-00046
ELECTRICALLY APPROVED BY:- PETER BOYLES	SHEET: 5 OF: 11

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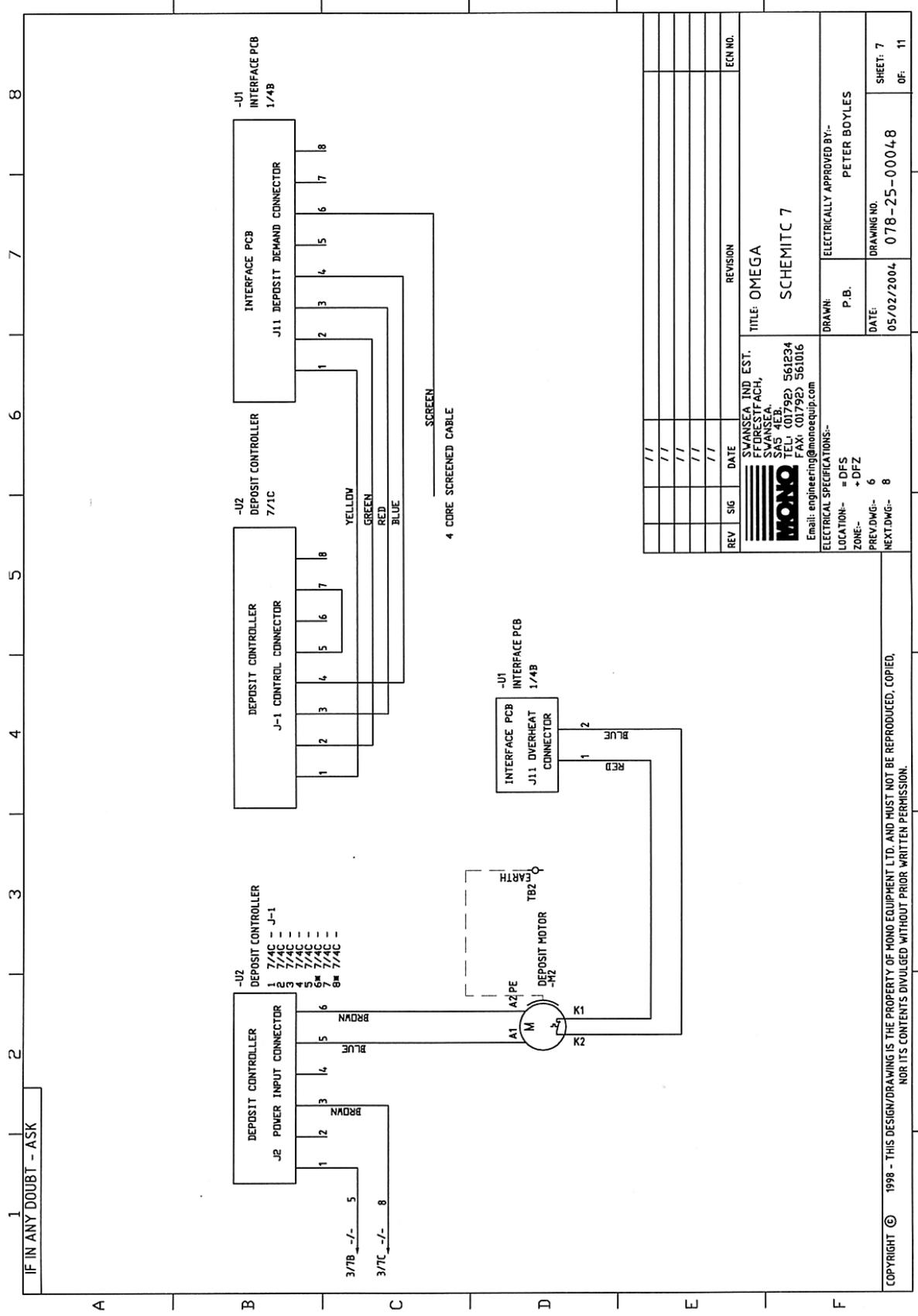
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SVANSEA IND EST: FFROSTFACH, SVANSEA, SAS 4EB, TEL: (01792) 561234 FAX: (01792) 561016 Email: engineering@monoequip.com		TITLE: OMEGA SCHEMATIC 6	
ELECTRICAL SPECIFICATIONS:- LOCATION:- = DFS ZONE:- = DFZ		DRAWN: P.B. ELECTRICALLY APPROVED BY:- PETER BOYLES	
PREVDWG:- 5 NEXTDWG:- 7		DATE: 05/02/2004 DRAWING NO. 078-25-00047	

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SVANSEA,
SAS 4EB, 561234
TEL: (01792) 561016
FAX: (01792) 561016
Email: engineering@monoequip.com

MONO

ELECTRICAL SPECIFICATIONS:-
LOCATION:- = DFS
ZONE:- = DFZ
PREV.DWG:- 6
NEXT.DWG:- 8

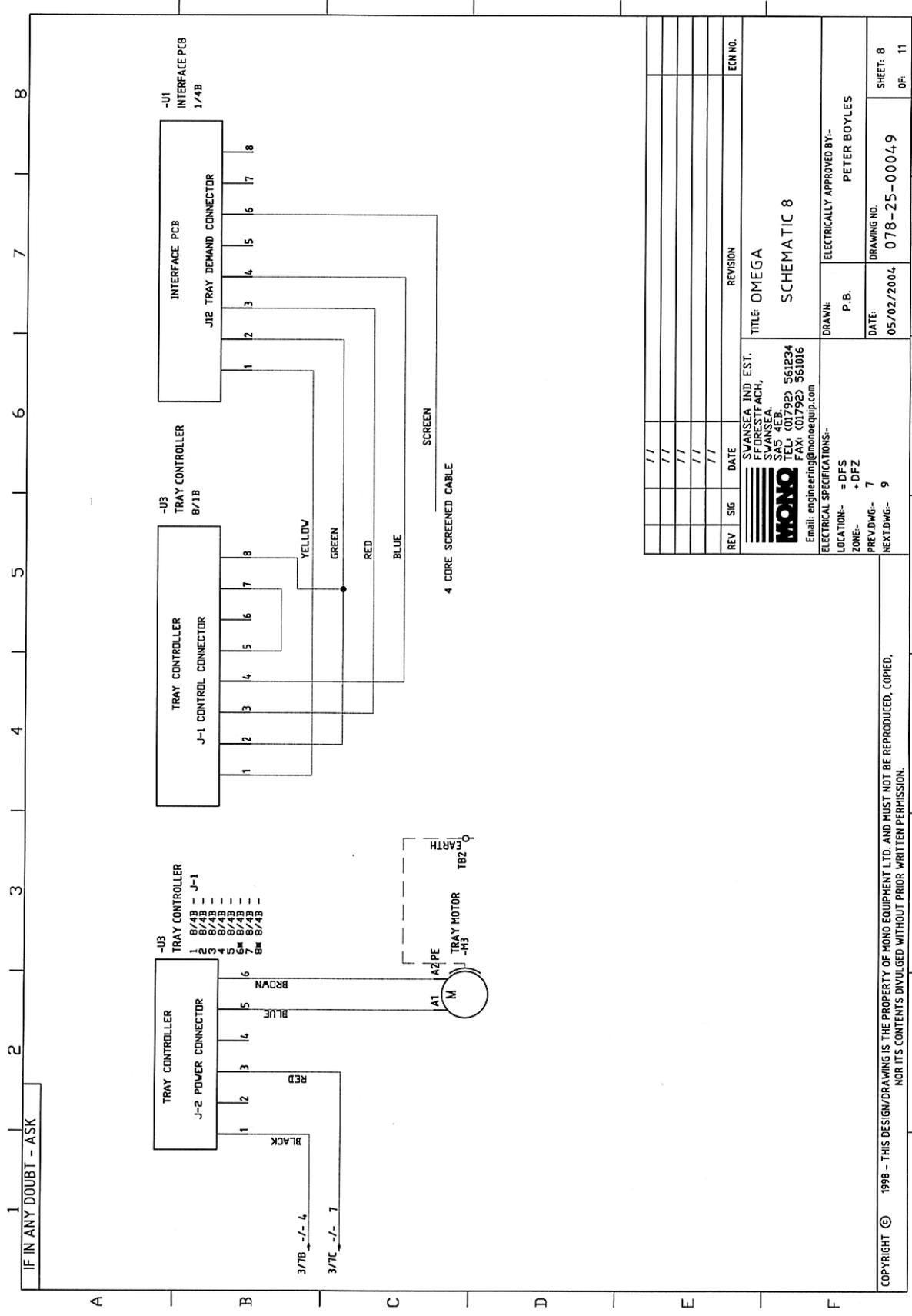
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SCHEMATIC 7

DRAWN: P.B.
ELECTRICALLY APPROVED BY:- PETER BOYLES

DATE: 05/02/2004
DRAWING NO. 078-25-00048

SHEET: 7 OF: 11

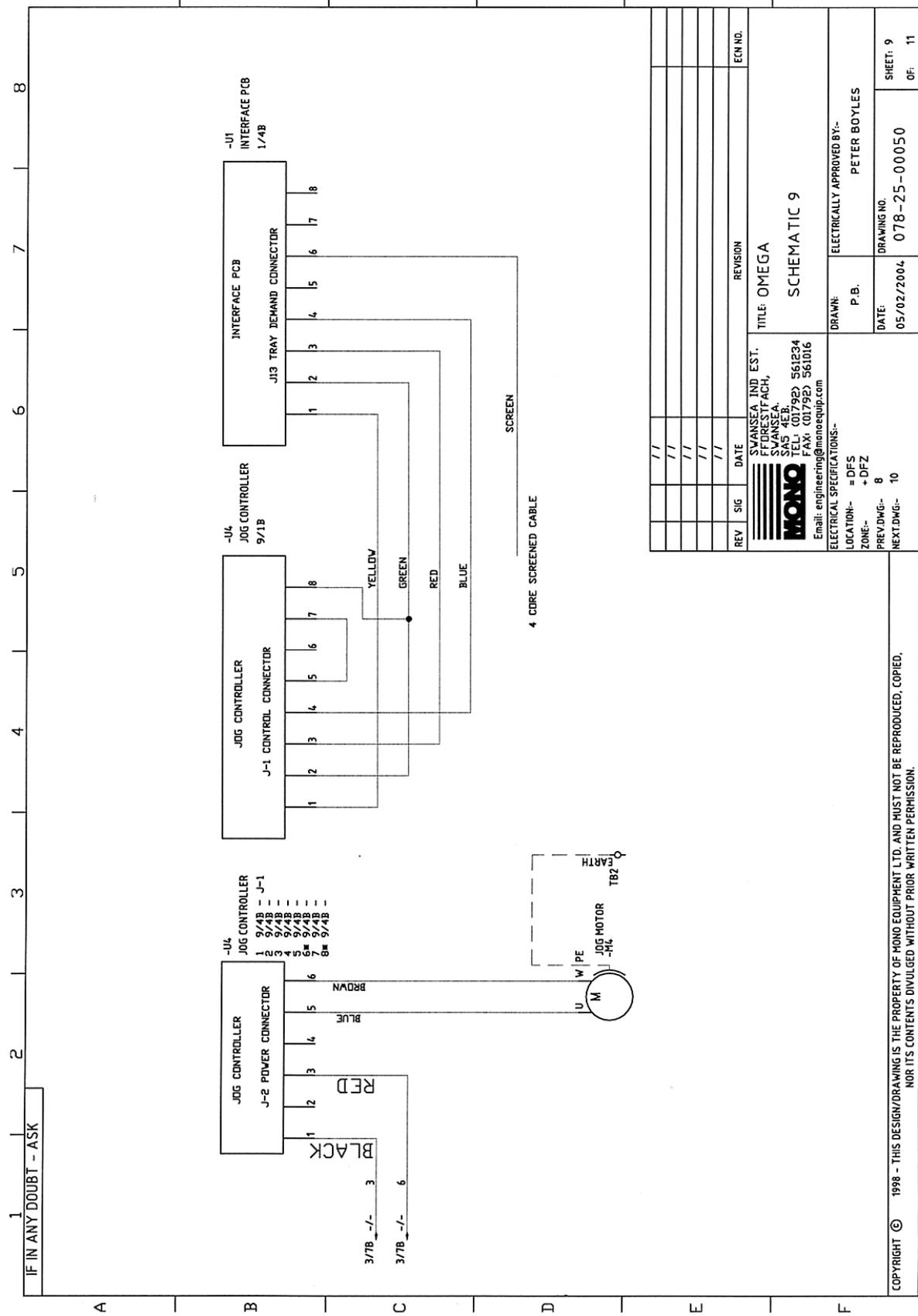
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SWANSEA, IND. EST. FFORSTFACH, SWANSEA, SAS 4EB, TEL: (01792) 561234 FAX: (01792) 561016 Email: engineering@monoequip.com		TITLE: OMEGA SCHEMATIC 8	
ELECTRICAL SPECIFICATIONS:- LOCATION:- = DFS ZONE:- + DFZ		DRAWN: P.B. ELECTRICALLY APPROVED BY:- PETER BOYLES	
PREV.DWG:- 7 NEXT.DWG:- 9		DATE: 05/02/2004 DRAWING NO. 078-25-00049	
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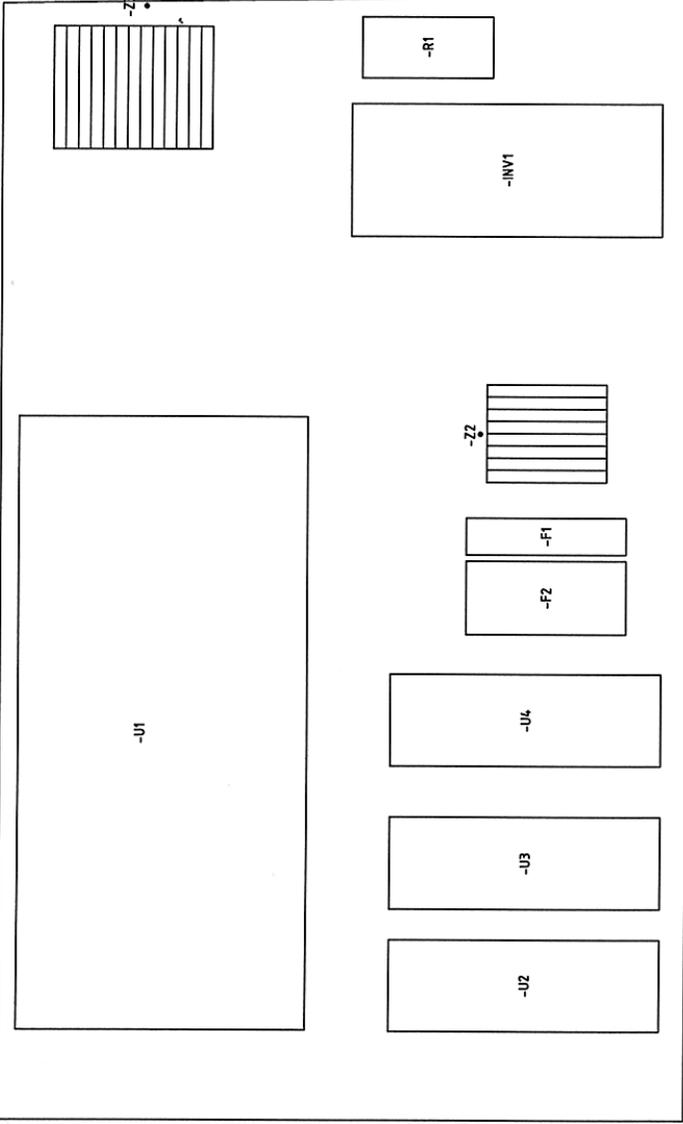
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SVANSEA IND. EST. F.FORESTFACH, SVANSEA, SAS 4EB, TEL: (01792) 561234 FAX: (01792) 561016 Email: engineering@monoequip.com		TITLE: OMEGA SCHEMATIC 9	
ELECTRICAL SPECIFICATIONS:- LOCATION:- = DFS ZONE:- + DFZ PREVDWG:- 8 NEXTDWG:- 10		DRAWN: P.B. ELECTRICALLY APPROVED BY:- PETER BOYLES	
DATE: 05/02/2004		DRAWING NO. 078-25-00050	
SHEET: 9		OF: 11	

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1 2 3 4 5 6 7 8



A B C D E F

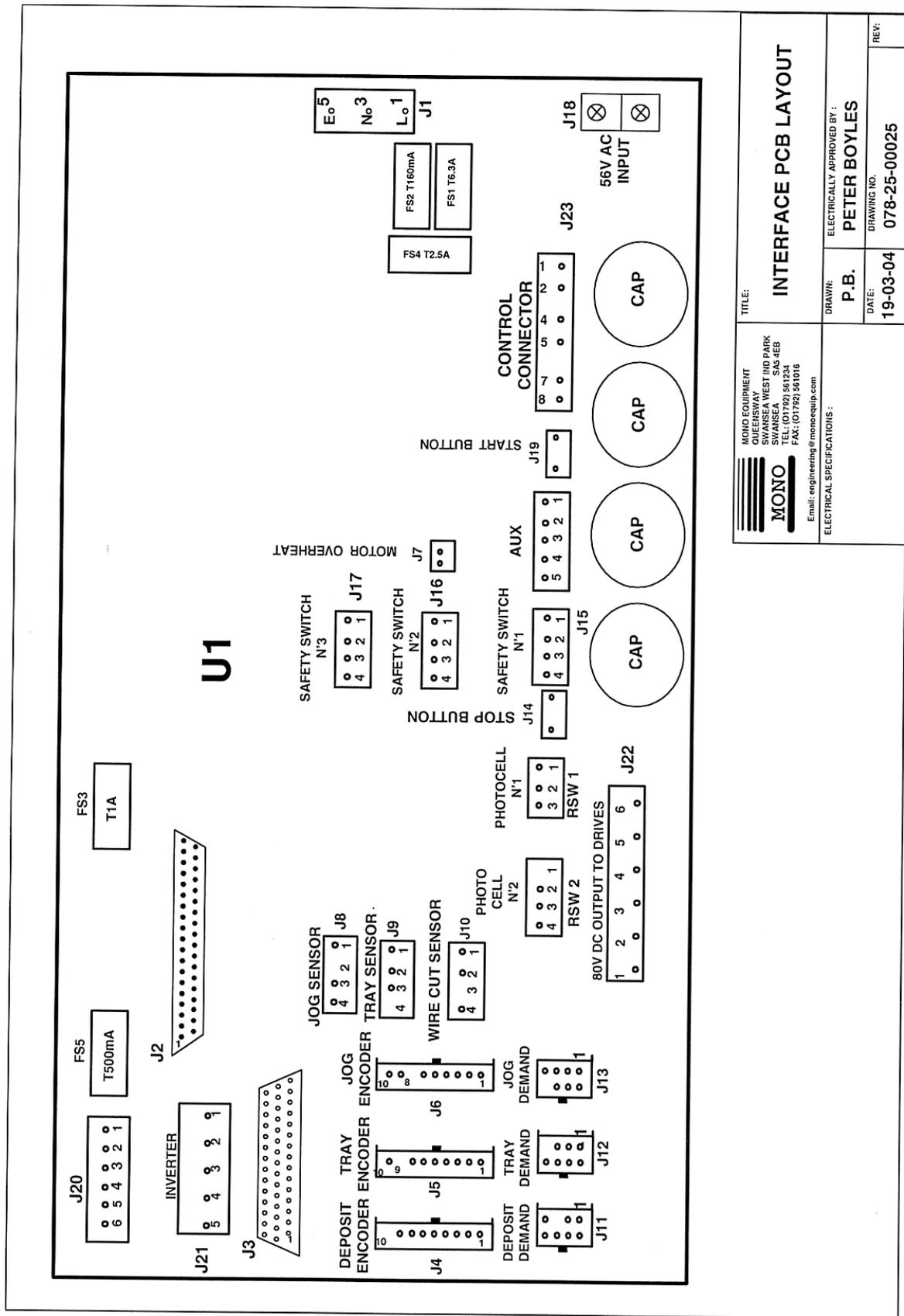
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/	/	/	/	/

 SVANSEA IND EST. FFDESTFACH, SVANSEA, SAS 4EB, TEL: (01792) 561234 FAX: (01792) 561016 Email: engineering@monoequip.com		TITLE: OMEGA MAIN MOUNTING PLATE LAYOUT
ELECTRICAL SPECIFICATIONS:- LOCATION:- = DFS ZONE:- + DFZ PREV.DWG:- 10 NEXT.DWG:-	DRAWN: P.B. ELECTRICALLY APPROVED BY:- PETER BOYLES	DATE: 05/02/2004 DRAWING NO. 078-25-00024

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SHEET: 11
OF: 11



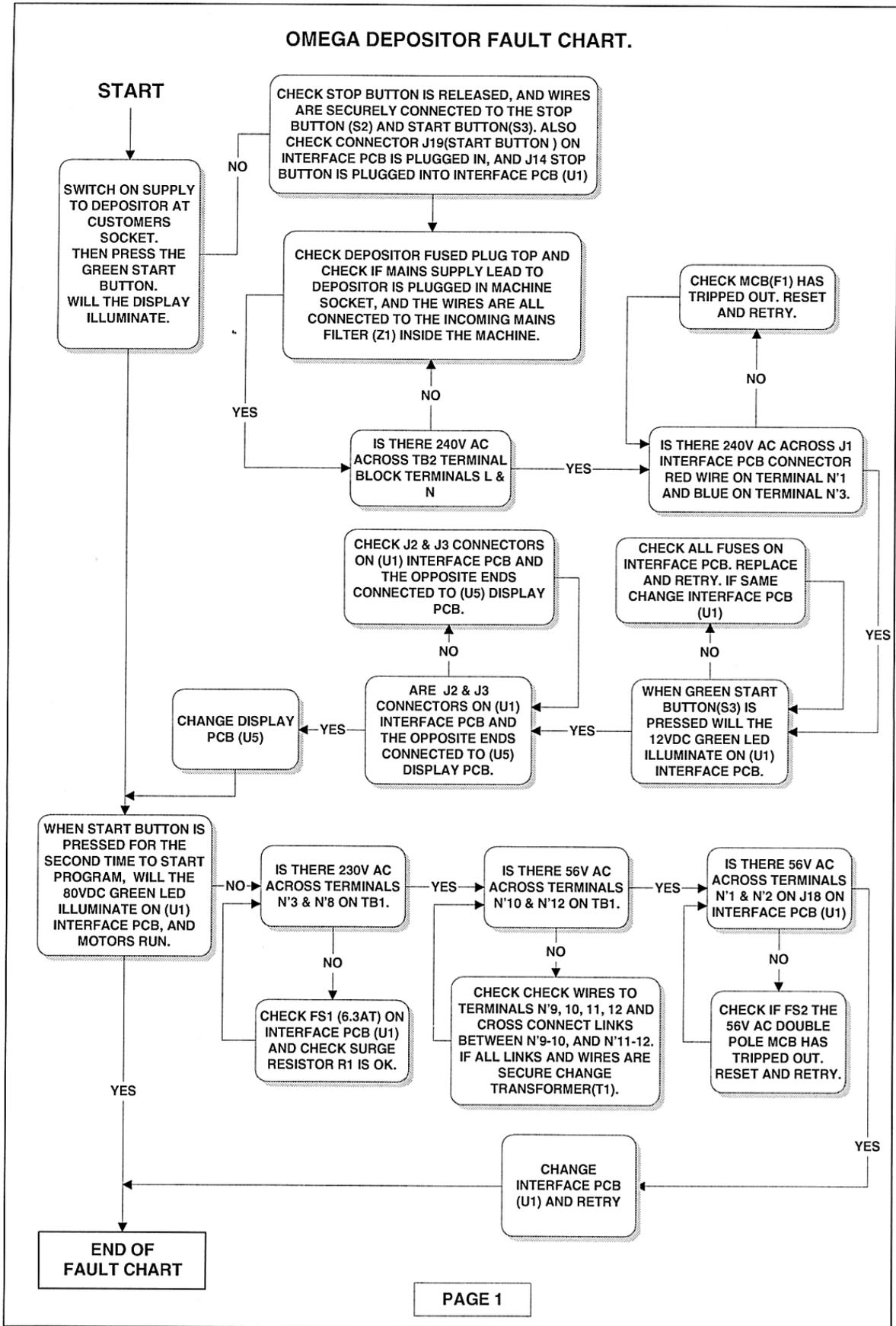


<p>MONO EQUIPMENT QUEENSWAY WEST HUB PARK SWANSEA SAU 4EB TEL: (01792) 561234 FAX: (01792) 561016 Email: engineering@monoequip.com</p>		<p>TITLE: INTERFACE PCB LAYOUT</p>	
<p>ELECTRICAL SPECIFICATIONS :</p>		<p>DRAWN: P.B.</p>	<p>ELECTRICALLY APPROVED BY : PETER BOYLES</p>
		<p>DATE: 19-03-04</p>	<p>DRAWING NO.: 078-25-00025</p>
		<p>REV:</p>	

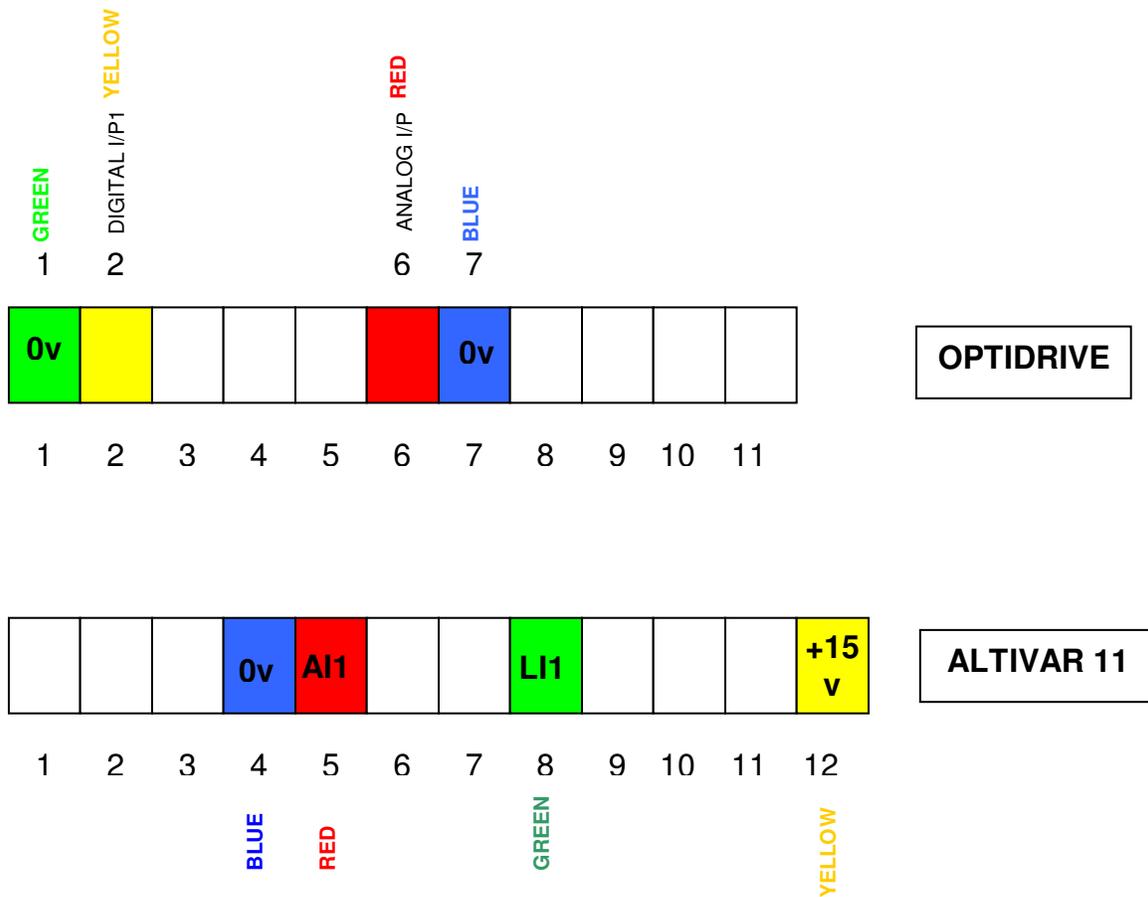


20.0 Fault Analysis Chart

OMEGA DEPOSITOR FAULT CHART.



CONVERSION FROM OPTIDRIVE TO ALTIVAR 11 INVERTER ON OMEGA AND ALPHA DEPOSITORS

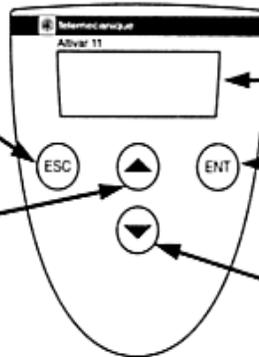


ALTIVAR 11 SETTINGS

bfr	-	50Hz	
Acc	-	0.1s	ACCEL RAMP TIME
dec	-	0.1s	DECEL RAMP TIME
LSP	-	0HZ	LOW SPEED
lth	-	2.1amp	MOTOR CURRENT
Alt	-	Act - 10v -	ANALOG INPUT SCALE
drC	-	FLG - 95%	FREQUENCY LOOP GAIN
Fun	-	tcc - Act- 2C -	APPLICATION FUNCTION MENU
		tct - Le1 -	TYPE OF CONTROL (2 WIRE)
Adc	-	Act - YES -	DC INJECTION
		tdc -	1.0s - INJECTION TIME

Functions of the display and the keys

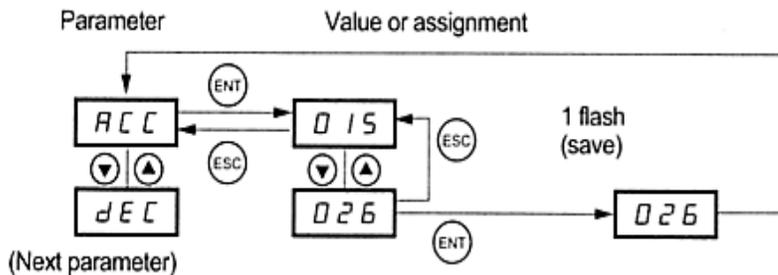
- Exits a menu or parameter, or aborts the displayed value to return to the previous value in the memory
- Returns to the previous menu or parameter, or increases the displayed value
- 3 "7-segment" displays
- Enters a menu or a parameter, or saves the displayed parameter or value
- Goes to the next menu or parameter, or decreases the displayed value



Pressing  or  does not store the selection.

Save the selection : 

Example:

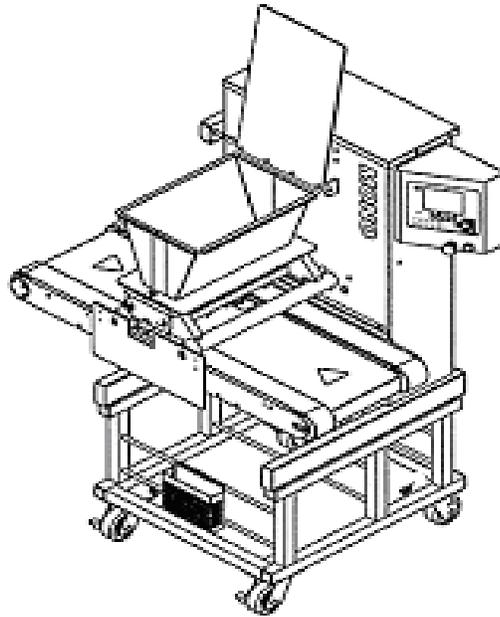


The display flashes when a value is stored.

Normal display, with no fault present and no startup:

- rdY: Drive ready
- 43.0: Display of the parameter selected in the SUP menu (default selection: frequency reference).
- dcb: DC injection braking in progress
- nSt: Freewheel stop

If there is a fault, it is shown with a flashing display.



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As it is our policy to improve our machines continuously, we reserve the right to change specifications without prior notice

The equipment mentioned in this manual has CE accreditation.