

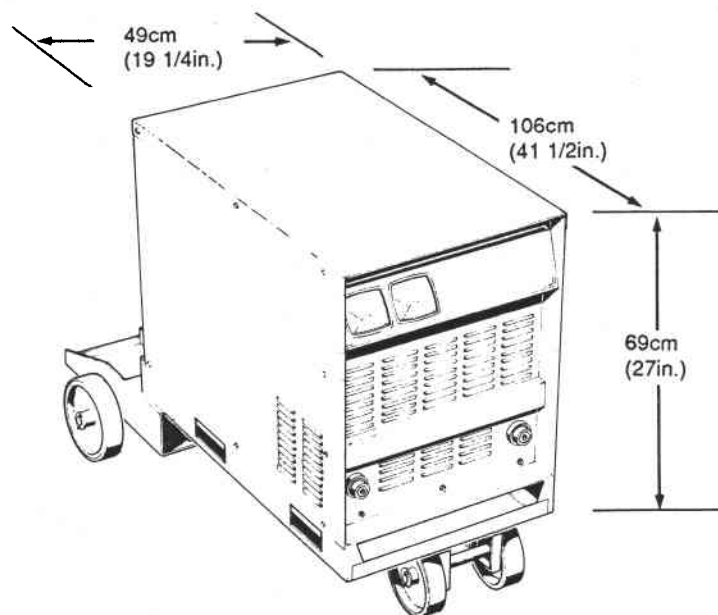


Transmig Synergic 500

Technical Notes

MULTI PROCESS

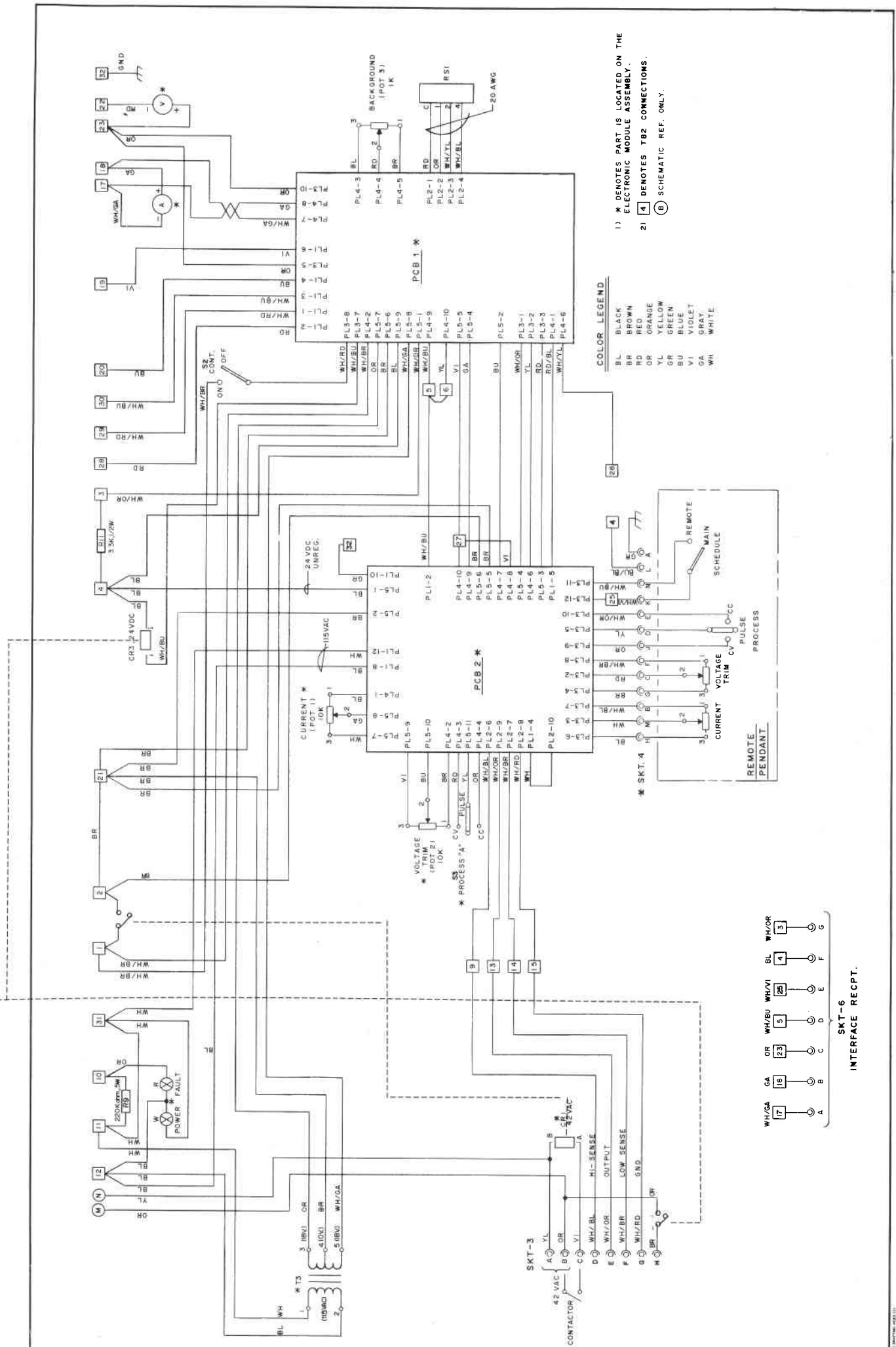
Issue 2



SPECIFICATION

Rated Output	500 Amps @ 40 Volts.
Duty Cycle	60% (10 minute cycle) NEMA spec.
Primary Input	3 Phase
Volts, Frequency	220/380/420V, 50Hz
Primary Input Current	45A @ 420V, Fuse at 60A slow-blown
KW - Input	30
KVA - Input	34
Maximum Open Circuit Volts	78
Insulation Class	H
Auxiliary Power	1A @ 220Vac: 4A @ 42Vac
Weight (Nett)	220Kg (485 lbs.)
Shipping Weight	235Kg (517 lbs.)

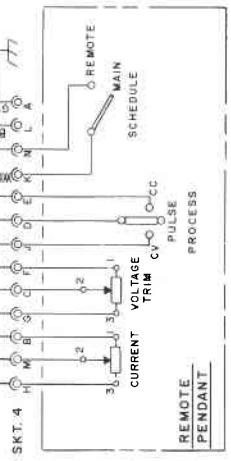
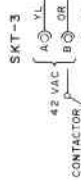
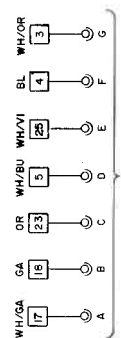
Due to variations which can occur in manufactured products, claimed performance, voltages, ratings, all capacities, measurements, dimensions and weight quoted are approximate only. Achievable capacities and ratings in use and operation will depend upon correct installation, use, applications, maintenance and service.



- 1) * DENOTES PART IS LOCATED ON THE ELECTRONIC MODULE ASSEMBLY.
- 2) [] DENOTES TB2 CONNECTIONS.
- 3) [] DENOTES TB2 CONNECTIONS.
- 4) [] DENOTES TB2 CONNECTIONS.

COLOR LEGEND

BL	BLACK
BR	BROWN
RD	RED
OR	ORANGE
YL	YELLOW
GR	GREEN
BU	BLUE
VI	VIOLET
GA	GRAY
WH	WHITE



INSTALLATION

Installation must only be undertaken by a qualified electrician or suitably qualified person.

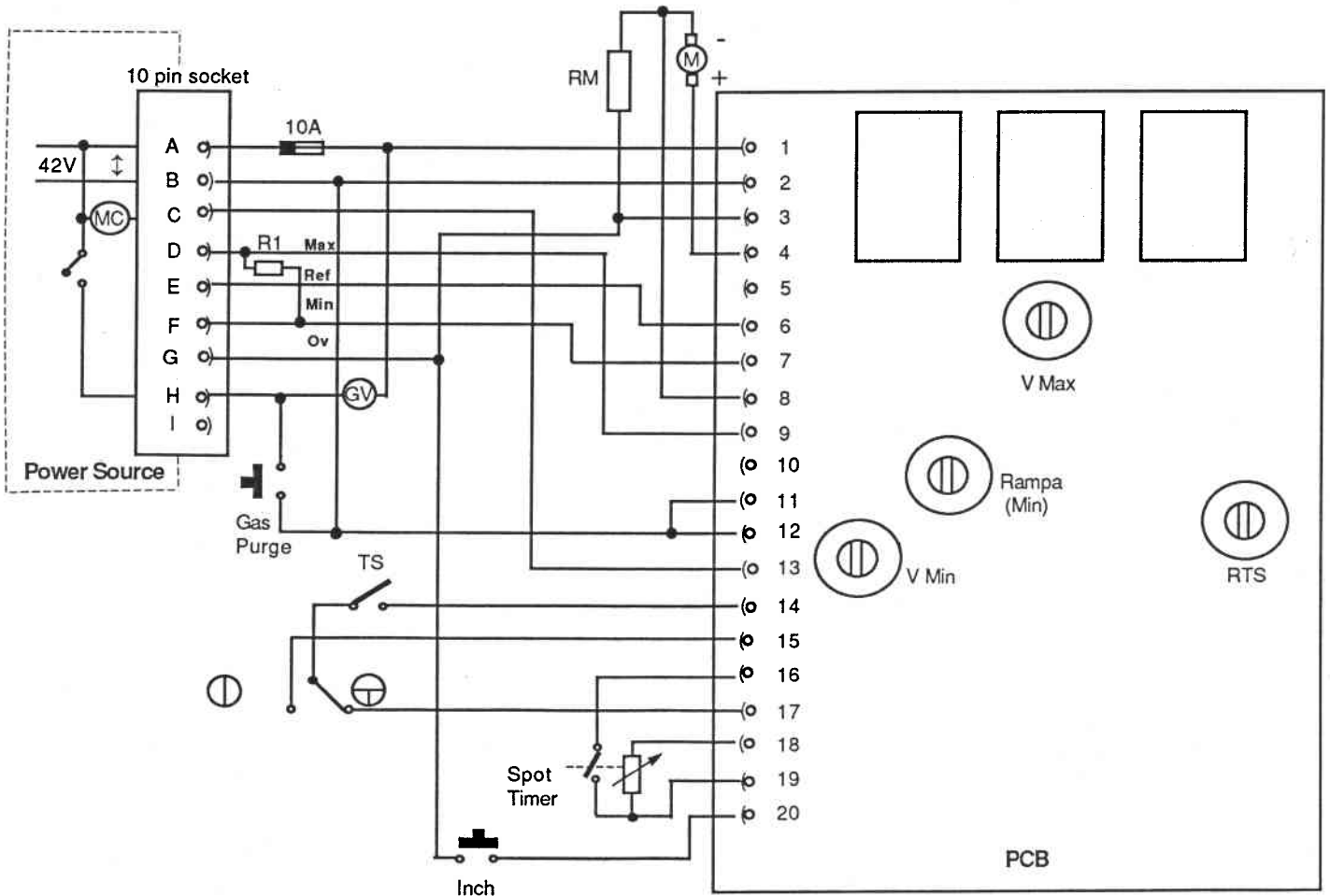
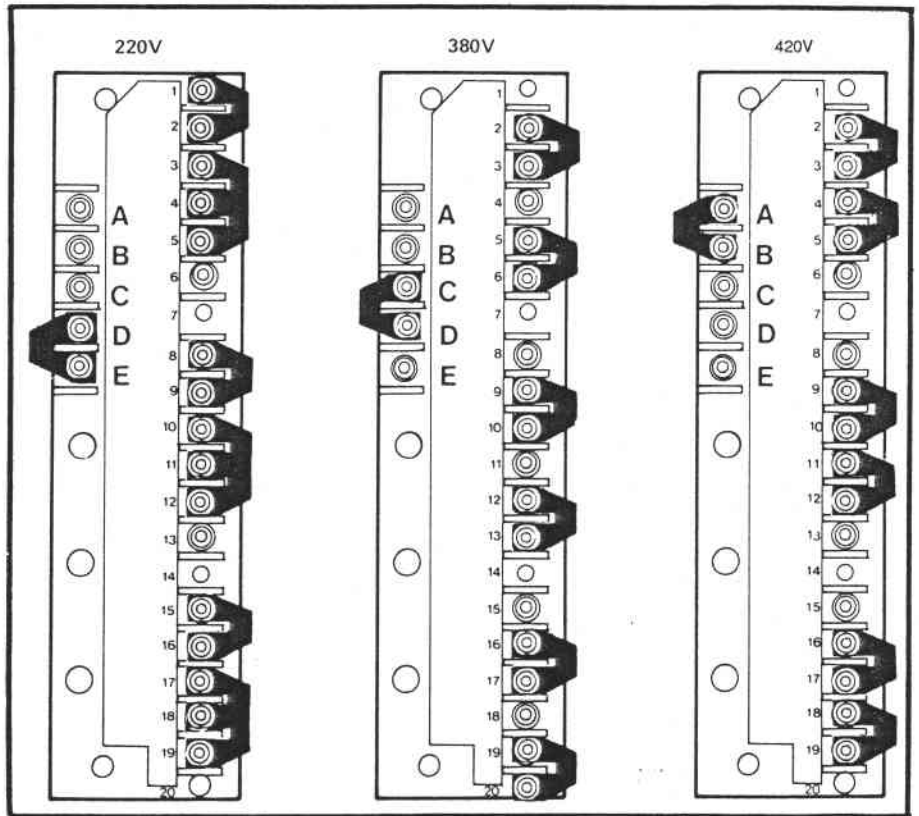
See also Page 4 of Operating Manual

Mains Input Selection

Before connecting the unit to the mains supply, set the mains selection links to their appropriate positions as shown.

Note: Store the 'unused' links by placing them in parallel with the selection links. Do not place them on 'spare' terminals.

The mains selection terminal block is located behind the lift-up panel on the left hand side of the unit.



TRANSMATIC 244M

The TM 244 has been specially adapted for use with the TM 500 Synergic. Refer also to standard TM 244 instruction manual supplied with the unit.

SYNERGIC 500 (New type identified by Slow Wire Run in Switch)

SEQUENCE OF OPERATION: - PULSE MODE

TORCH SWITCH CLOSED:

Relay CR1 is energised

A contact on relay CR1 now grounds PCB connection PL4-2 energising transistor Q13. This grounds PL3-7 energising relay CR3.

This same contact also de-energises relay SSR1.

Contacts on relay CR3 now energise the contactor and gas valve.

The burn back control on the feed unit PCB holds the gas valve in and the power on as in normal machines after the T.S. is released.

The drop out of the contactor (approx 2 seconds) after the T.S. release is achieved by the action of capacitor C54.

With the machine at open circuit voltage state, ie. T.S. closed but no arc strike:

1. Pilot current is not available, relay CR4 is energised via a normally closed contact on relay CR5, therefore the normally closed contacts on CR4 are open.

Note:

Relay contacts on SSR1 in parallel with the normally closed contacts on CR5 are used to provide pilot current in the MMA mode.

2. The machine is held in CV mode - this to improve striking/starting performance.

Relay CR3 is now energised closing its normally open contacts in series with the normally closed contacts on CR5 which is not energised. Therefore PCB connections PL3-1 & 2 are connected together, ie same as switching to dip spray mode.

3. Wire feed is at creep speed, there is no voltage drop across the shunt, therefore transistor Q10 is on pulling down the wire speed ref via D26/VR7.
4. The power source provides maximum output current approx 500 amps, this again is controlled by a signal from the shunt.