STAMFORD

# Dual AVR Unit

## INSTALLATION AND ADJUSTMENTS

Certain installations require the facility for a plant operator to make immediate changeover to a second AVR in the event of an AVR failure, enabling maintenance to be carried out during a convenient shut-down period. The DUAL AVR UNIT incorporating two MX321 AVRs arranged for manual switching between AVRs fulfils this requirement.

## INSTALLATION

The unit is suitable for switchboard mounting. Refer to Drawing on page 4 (back cover) for fixing centres and overall dimensions.

| | |
|---|---|
|   | **The switchboard designer must ensure that this unit is positioned within the switchgear such that access to other LIVE parts is restricted during 'setting-up' and 'maintenance' procedures.** |

A 6 pole panel mounting changeover switch is included with the unit. Refer to drawing for fixing centres. Where it is necessary to maintain commonality with the switchgear design or incorporate remote indication of the operational AVR etc., the switch may be substituted by a changeover switch having the desired number of poles. The contact rating required is 5 amps at 240 volts a.c.

| | |
|---|---|
|   | **This switching arrangement is NOT maintenance safe.** |

Both AVRs are wired within the unit to a terminal block with terminals grouped for ease of connection to the generator, the changeover switch and optional current transformers.

The optional transformers available for use with the DUAL AVR UNIT enable the paralleling (quadrature droop) and current limiting features of the MX321 AVR to be extended to this combined unit.

Current transformer configurations are as follows:-

quadrature droop - one C.T. in 'W' phase

current limiting - three C.T.s - one in each phase

current limiting and droop - three C.T.s - one in each phase

Note the 'W' phase C.T. fulfils both droop and current limit functions.

Refer to diagrams for connections of transformers.

Other features of the MX321 such as 'engine relief', 'overvoltage protection' and over excitation protection are retained in this unit.

If a de-excitation switch is required a 2 pole switch would be needed. Remove both links K1-K2 from the unit terminal board and connect one pole with normally closed contact across each pair of terminals K1-K2.

Remote voltage trimmer potentiometers may be fitted; one potentiometer for each AVR. Remove both links 1-2 and connect one potentiometer between each pair of terminals 1-2. It is not recommended that a single potentiometer be used with switching between AVRs.

## SETTING THE AVRs

## PRE-RUNNING CHECKS

Remove the AVR cover and check that frequency and stability selection links are correctly set for the application. Refer to the generator instruction manual for selection.

## RUNNING CHECKS

| | |
|---|---|
|   | **Initial setting-up and/or adjustment of AVR settings will require access inside the switchboard, and exposure to 'live' parts.**<br><br>**Only personnel qualified to perform electrical service should carry out testing and/or adjustments.** |

Most of the AVR adjustment potentiometers are factory set in positions which will give satisfactory performance during initial tests.

Subsequent adjustments may be required to achieve optimum performance of the set under operating conditions.

Refer to the generator instruction manual for detailed information.

Select No. 1 AVR on the selector switch. Carry out all necessary adjustments and take note of settings and/or performance criteria, e.g. level of 'droop'.

Switch to No. 2 AVR and make adjustments to give settings and performance criteria as close as possible to those noted for No. 1 AVR.

| | |
|---|---|
|   | **Replace all access covers after adjustment. Failure to do so may result in operator injury or death.** |

## Replacement of a defective AVR

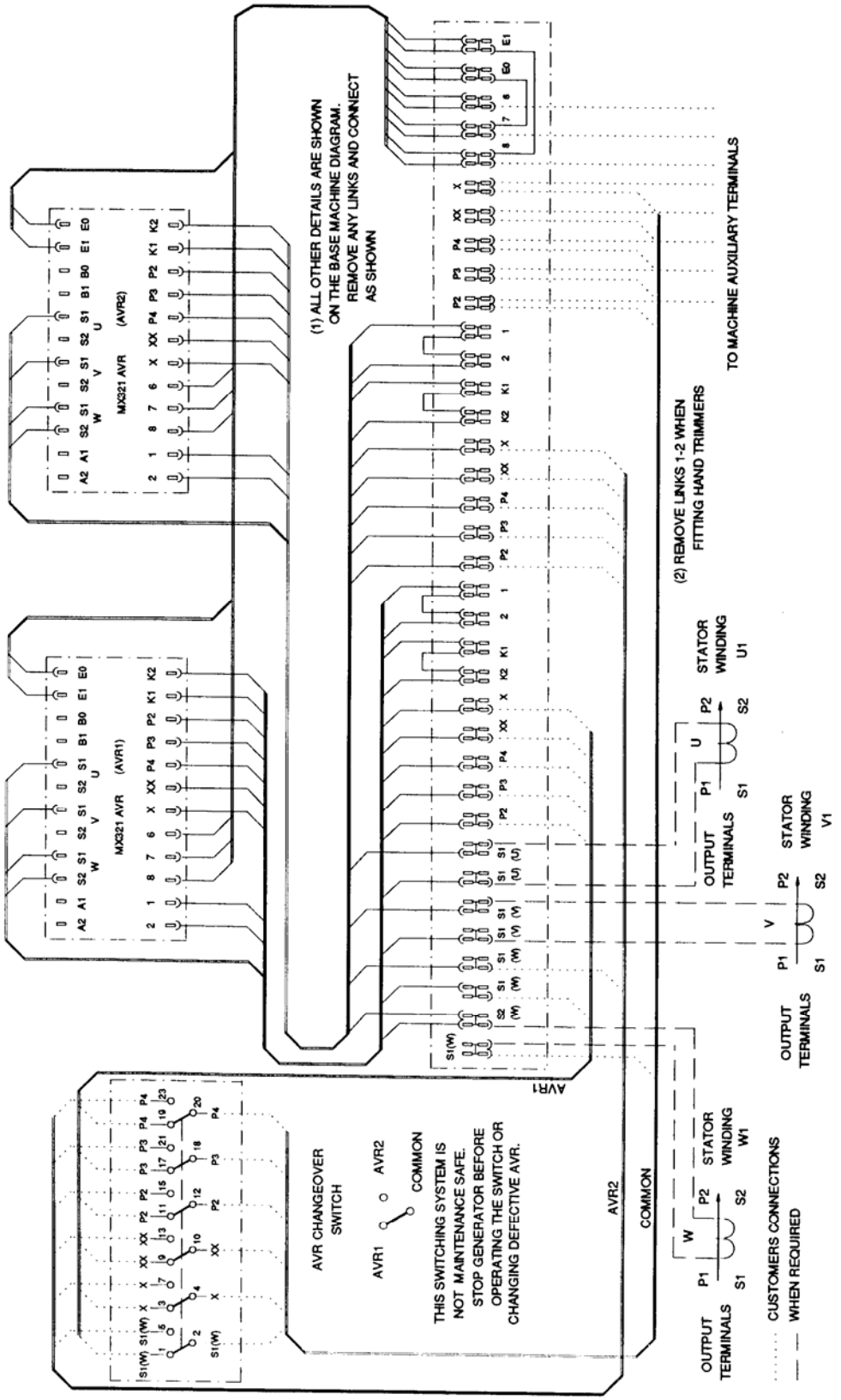
| | |
|---|---|
|   | **The generating set MUST be out of service and starting circuits disabled before replacing a defective AVR.**<br>**If the set is to be run with only one AVR in circuit, the unconnected leads must be suitably insulated to prevent accidental shorting between leads and/or to earth.** |

Remove access cover and defective AVR.

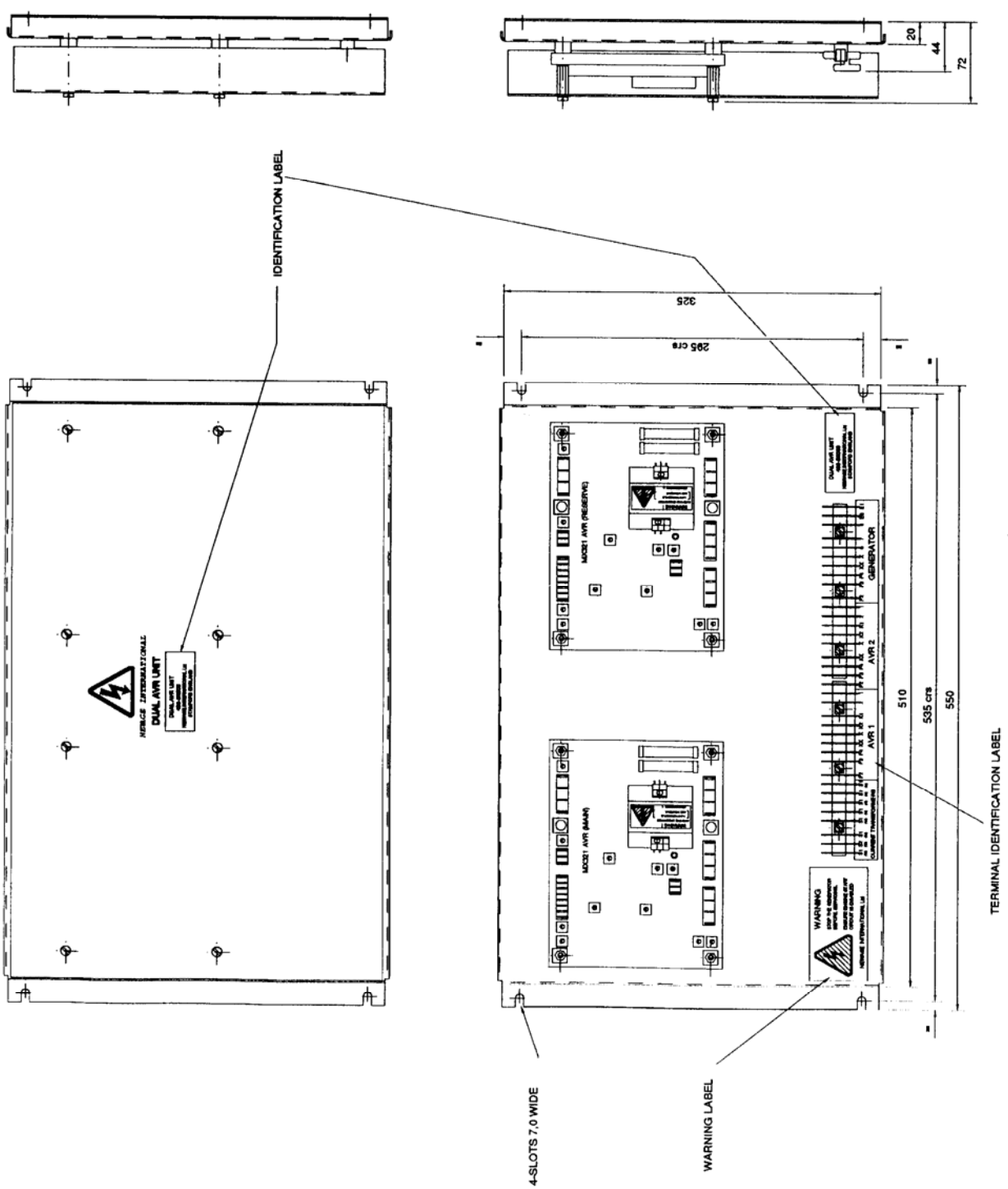
Ensure frequency and stability selection link positioning on replacement AVR are consistent with the failed unit.

Carry out running checks as indicated above.

# DUAL AVR UNIT (MANUAL SWITCHING)



# DUAL AVR UNIT (CHASSIS MOUNTING)




STAMFORD

Barnack Road • Stamford • Lincolnshire • PE9 2NB
Tel: 00 44 (0)1780 484000 • Fax: 00 44 (0)1780 484100