Chapter 4 – DSU Hardware Description

DSU Control Unit

The figure below shows the control unit connections.

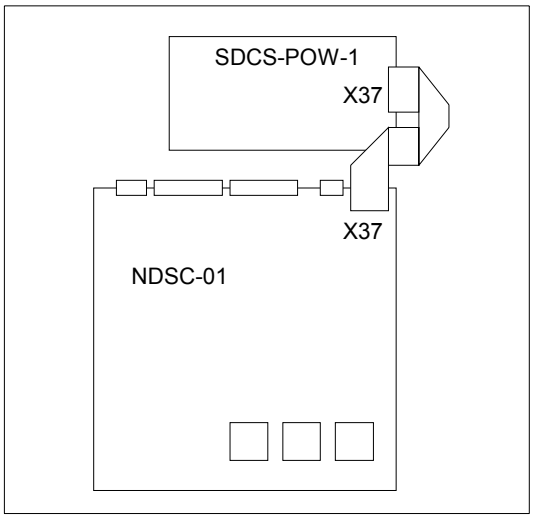

Figure 4-1 Control unit connections for DSU

Power Supply Board SDCS-POW-1

The SDCS-POW-1 is a power supply board for the DSU control unit. It provides all necessary DC voltages for the NDSC-01 board. The input voltage can be selected either to 230 VAC or 115 VAC (or to 190 ... 350 VDC). The figure below shows the instructions for the selection of the AC input voltage.

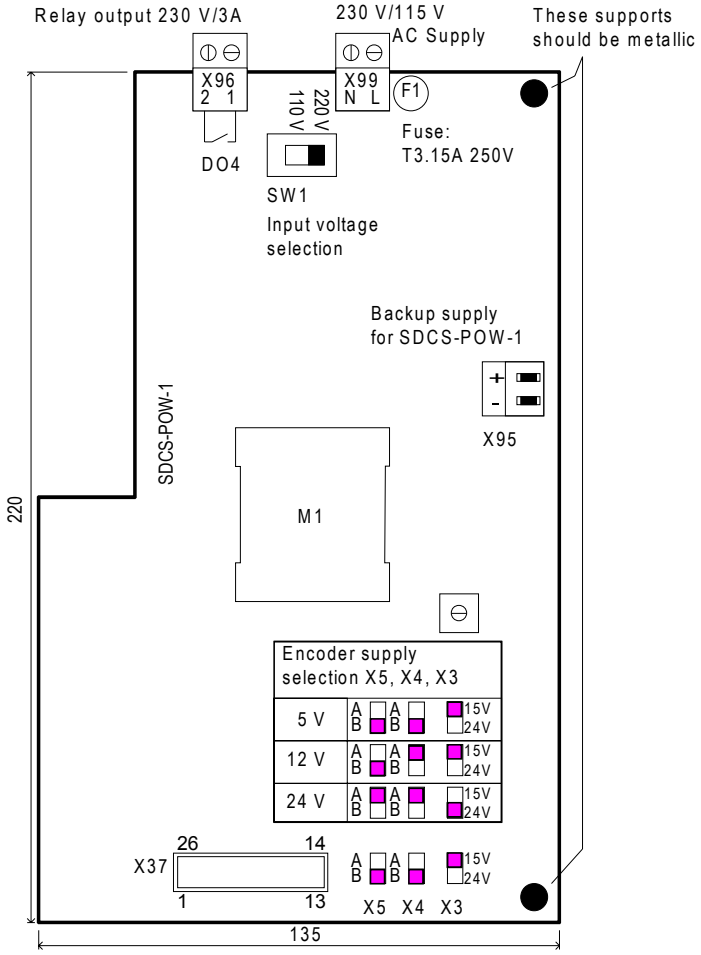

Figure 4-1 Layout of the power supply board SDCS-POW-1 (revision B or later) and jumper coding instructions

Control Board NDSC-01 The control board NDSC-01 comprises:

- 3 digital inputs (LED indication)
- 3 + 1 digital outputs (LED indication)
- DDCS communication link (LED indication)
- +24 VDC (500 mA) to supply auxiliary equipment (LED indication)
- isolated firing pulses
- voltage measurements; Uc (DC busbar voltage), Uac (supply voltage), synchronisation
- heatsink temperature measurement
- current measurement
- earth fault current measurement
- 7-segment display
- two 8-way DIP switches for application specific configuration

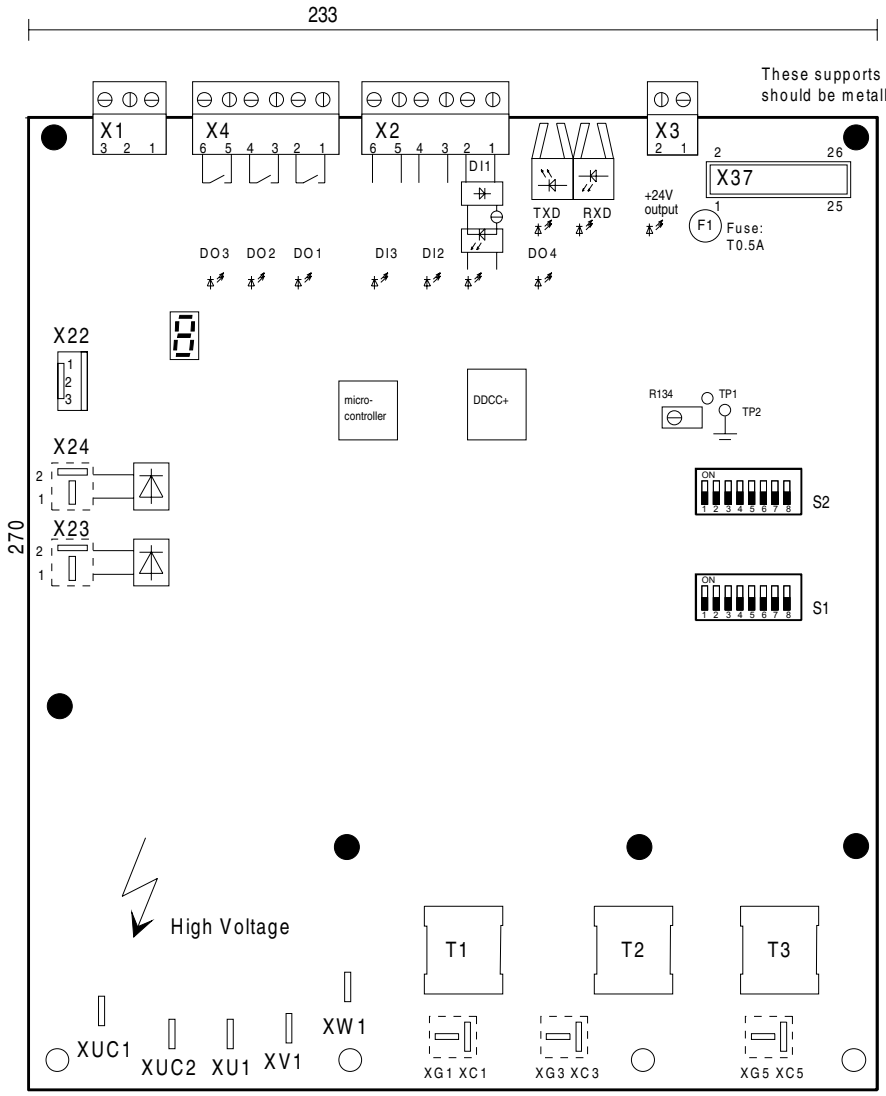

Figure 4-1 Layout of the control board NDSC-01

Digital Inputs and Outputs

The control board contains three digital inputs which are self-adaptive for voltage range 24 VDC ... 230 VAC. The channels are galvanically isolated from each other and the rest of the board. The filtering time constant for digital inputs is 10 ms. The status of each channel is indicated by LED's. The digital outputs are relays. The test voltage between the channels is 1500 VAC. The starting sequence through digital inputs/outputs is described in the *Chapter 5 – Software Description* see *Control Logic and Status*.

Connector X3 is an output of 24 VDC voltage (500 mA), which can be used for digital inputs or power supply for AMC or APC2 boards. This voltage is fuse protected and the status of the fuse is indicated by a LED.