

7 INTERNAL LINKS AND SWITCHES

7.1 REMOVING THE CONTROLLER PROGRAMMER FROM ITS HOUSING



WARNING ! Before removing the instrument from its housing, ensure that all power has been removed from the rear terminals. **Disregard for these instructions may cause injury or death!**

To withdraw the instrument from its housing, simply grip the side edges of the front panel (there is a finger grip on each edge) and pull the instrument forwards. This will release the instrument from its rear connectors in the housing and will give access to the instrument PCBs. Take note of the orientation of the instrument for subsequent replacement into the housing. The positions of the PCBs in the instrument are shown in Figure 7-1.

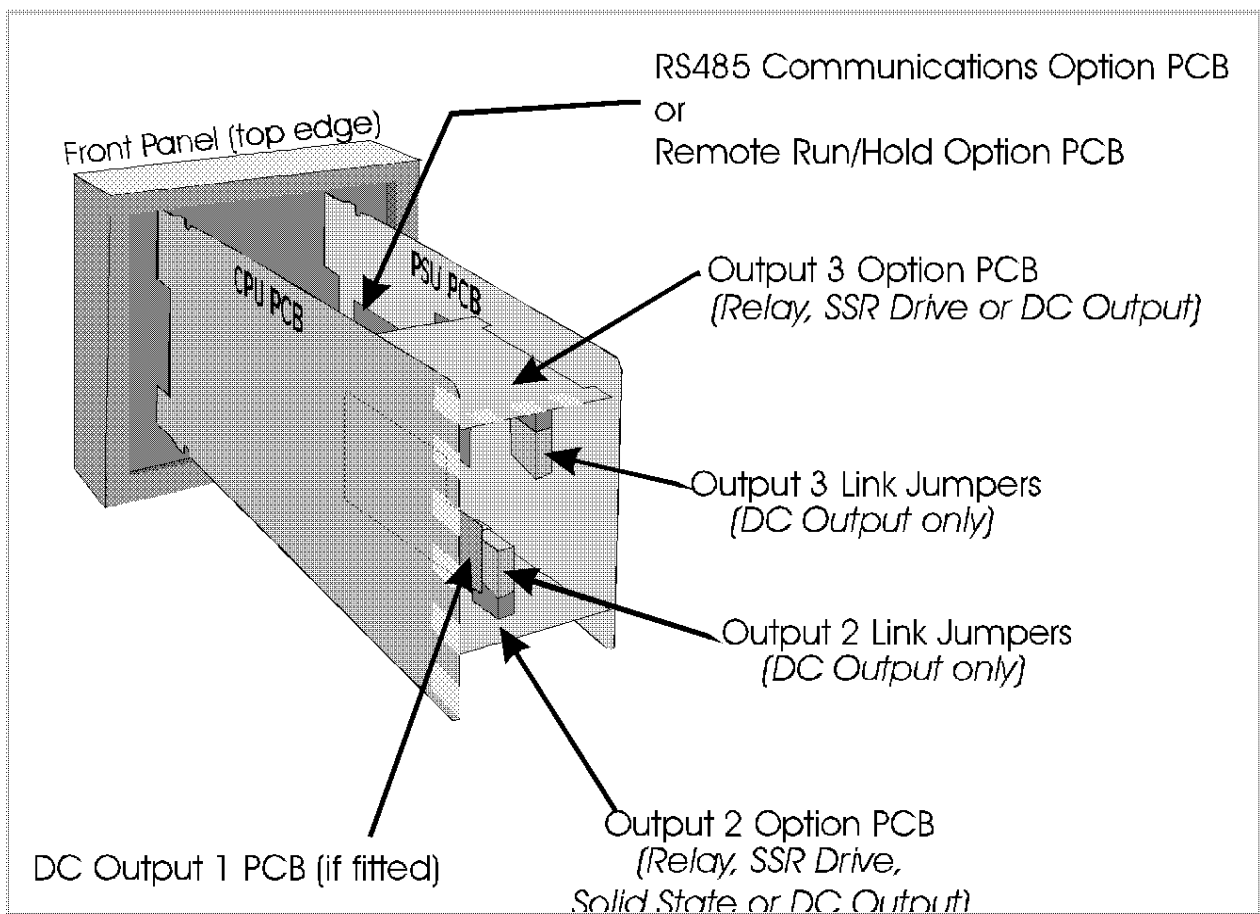


Figure 7-1 PCB Positions

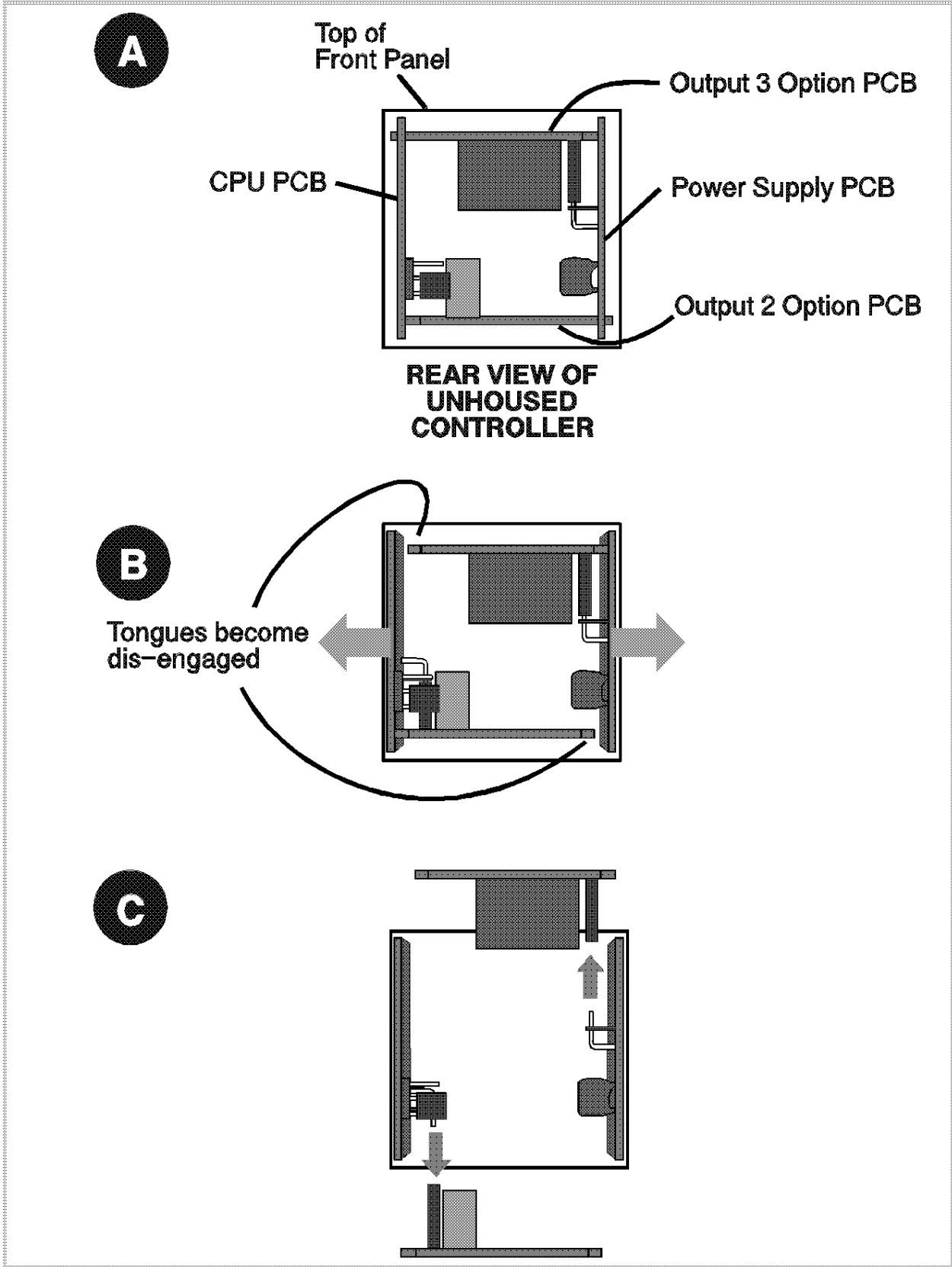


Figure 7-2 Removing the Output 2/Output 3 Option PCBs

7.2 REMOVING/REPLACING THE OUTPUT 2/OUTPUT 3 OPTION PCBs

With the instrument removed from its housing:

1. Gently push the rear ends of the CPU PCB and Power Supply PCB apart slightly, until the two tongues on each of the Output 2/Output 3 Option PCBs become dis-engaged - see Figure 7-2B; The Output 2 Option PCB tongues engage in holes in the Power Supply PCB and the Output 3 Option PCB tongues engage in holes on the CPU PCB.
2. Carefully pull the required Option PCB (Output 2 or Output 3) from its connector (Output 2 Option PCB is connected to the CPU PCB and Output 3 Option PCB is connected to the Power Supply PCB) - see Figure 7-2C. Note the orientation of the PCB in preparation for its replacement.

Adjustments may now be made to the link jumpers on the CPU PCB, the Output 2/Output 3 Option PCBs (if DC output) and (if fitted) the DC Output 1 PCB. The replacement procedure is a simple reversal of the removal procedure.

7.3 REMOVING/REPLACING THE RS485 COMMUNICATIONS OPTION PCB OR REMOTE RUN/HOLD OPTION PCB

The RS485 Communications Option PCB or Remote Run/Hold Option PCB is mounted on the inner surface of the Power Supply PCB and can be removed when the instrument is removed from its housing (see Subsection 7.1) Figure 7-3 illustrates the removal/replacement procedure. *It is not necessary to remove the Output 2/Output 3 Option PCBs to perform this procedure.*

7.4 REPLACING THE INSTRUMENT IN ITS HOUSING

To replace the instrument, simply align the CPU PCB and Power Supply PCB with their guides and connectors in the housing and slowly but firmly push the instrument into position.



CAUTION: Ensure that the instrument is correctly orientated. A stop will operate if an attempt is made to insert the instrument in the wrong orientation (e.g. upside-down). *This stop must not be over-ridden.*

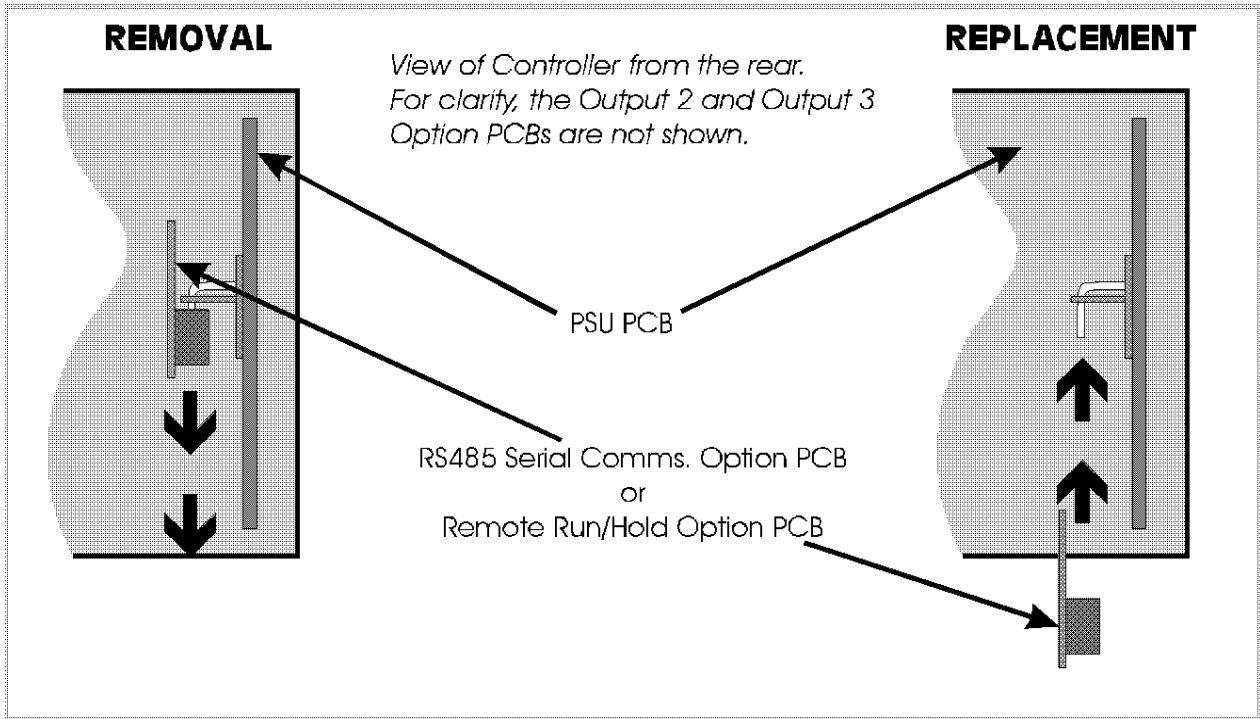


Figure 7-3 Removing the RS485 Communications Option PCB or the Remote Run/Hold Option PCB

7.5 SELECTION OF INPUT TYPE AND OUTPUT 1 TYPE

The selection of input type and Output 1 type is accomplished on link jumpers on the CPU PCB. The CPU PCB may be either of two forms: (a) for a relay, solid state or SSR drive Output 1 (see Figure 7-4) or for a DC Output 1 (see Figure 7-5).

7.5.1 Input Type

The required input type is selected on link jumpers LJ1/LJ2/LJ3 on the CPU PCB (see Figure 7-4 or 7-5, as appropriate, and Table 7-1).

Table 7-1 Selection of Input Type

Input Type	Link Jumpers Fitted
RTD or DC (mV)	None (Parked)
Thermocouple	LJ3
DC (mA)	LJ2
DC (V)	LJ1

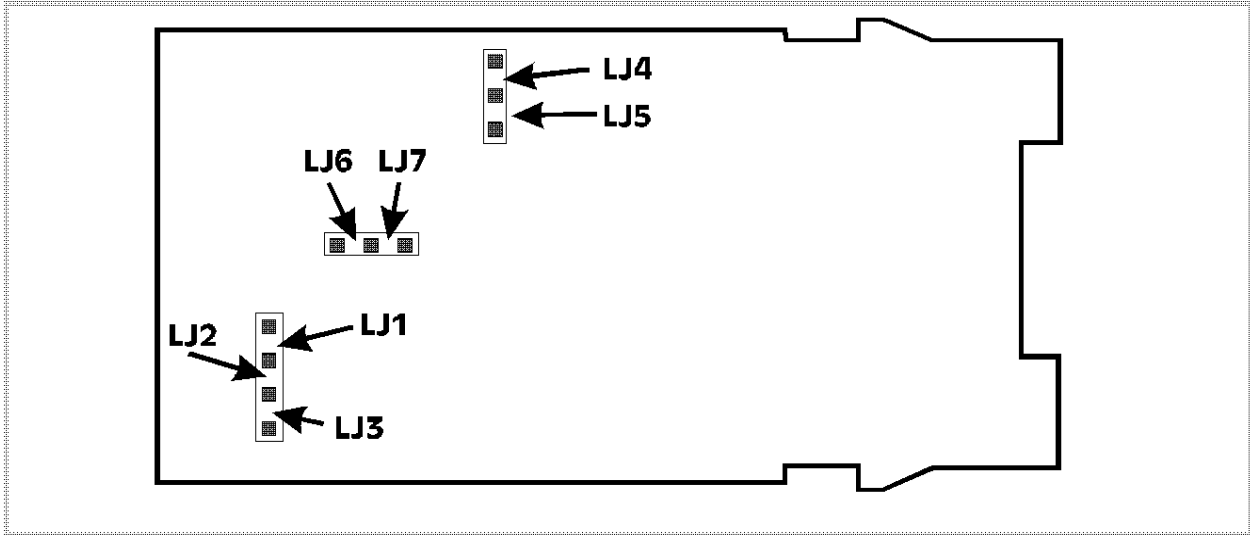


Figure 7-4 CPU PCB (Relay/SSR Drive/Solid State Output 1)

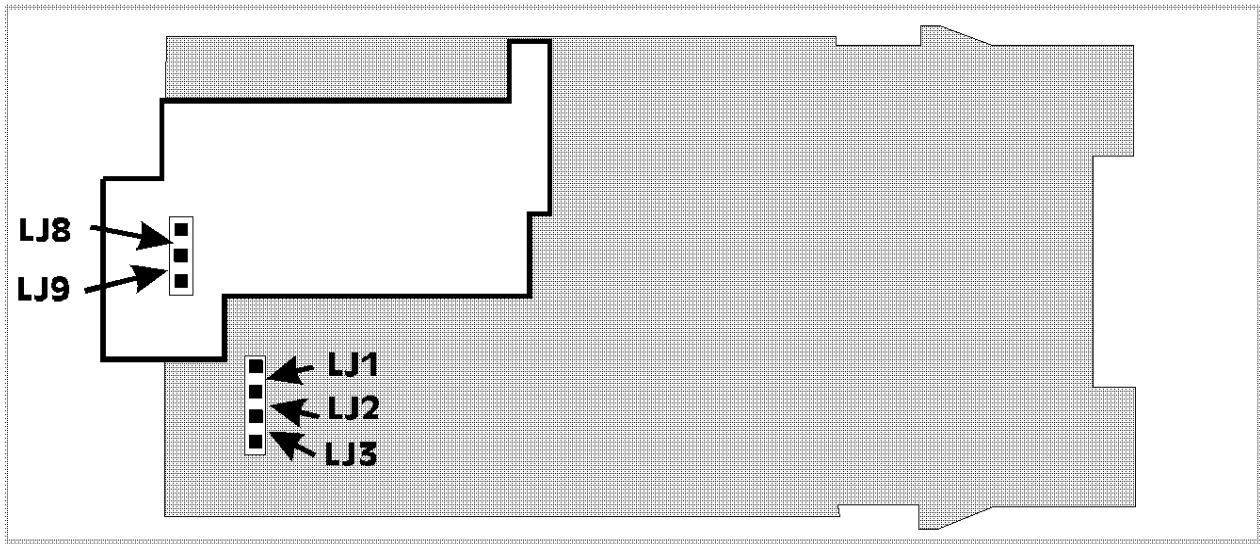


Figure 7-5 CPU PCB (DC Output 1)

7.5.2 Primary Output (Output 1) Type

The required type of Output 1 is selected by Link Jumpers LJ4, LJ5, LJ6 and LJ7 on the Relay/SSR Drive/Solid State Output 1 CPU PCB (see Figure 7-4 and Table 7-2) or, on the DC Output 1 CPU PCB, Link Jumpers LJ8 and LJ9 (see Figure 7-5 and Table 7-2).

Table 7-2 Selection of Output 1 Type

Output 1 Type	Link Jumpers Fitted
Relay or Solid State	LJ5 & LJ6
SSR Drive	LJ4 & LJ7
DC (0 - 10V)	LJ8
DC (0 - 20mA)	LJ9
DC (0 - 5V)	LJ8
DC (4 - 20mA)	LJ9

7.6 OUTPUT 2 TYPE/OUTPUT 3 TYPE

The type of output for Output 2 and Output 3 is determined by the Option PCB fitted in the appropriate position (see Figure 7-1) and, in the case of the DC Output Option PCB being fitted, the setting of Link Jumpers LJ8 and LJ9 on that Option PCB (see Figure 7-6 and Table 7-3). There are four types of option PCB which may be used for Output 2 and Output 3:

1. Relay Output Option PCB (no link jumpers)
2. SSR Drive Output Option PCB (no link jumpers)
3. Solid State Output Option PCB (no link jumpers) - Output 2 only
4. Analog DC Output Option PCB (link jumpers as shown in Figure 7-6)

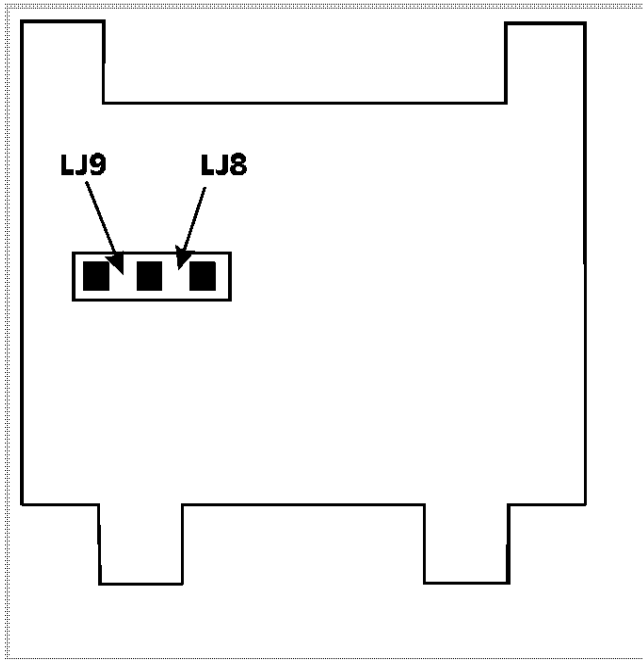


Figure 7-6 DC Output Option PCB (Output 2/Output 3)

Table 7-3 Selection of Output 2 & Output 3 Type (DC)

DC Output Range	Link Jumpers Fitted
DC (0 - 10V)	LJ8
DC (0 - 20mA)	LJ9
DC (0 - 5V)	LJ8
DC (4 - 20mA)	LJ9