

CUSTOMER CALIBRATION PROCEDURE

February 1994

NOTE

Calibration should be attempted only on Controllers on which calibration errors have been encountered (see CALIBRATION CHECK).

EQUIPMENT REQUIRED

1. Input source with an accuracy better than $\pm 0.05\%$ of reading:
 - (a) Thermocouple inputs - complete with 0°C reference facility, appropriate thermocouple functions and compensating leads (or equivalent).
 - (b) DC linear inputs - 0 - 5V and 0 - 20mA.
 - (c) RTD inputs - decade resistance box with connections for three-wire input (or equivalent)
2. 6000 Series case assembly wired for appropriate input supply (90 - 264V AC 50Hz).

PROCEDURE

1. Ensure that the Controller is powered-off and that the mains (line) lead is disconnected. On the CPU PCB (Type 530), fit the appropriate link jumpers (see Table 1 and Figure 1 or Figure 2, as appropriate). Connect the appropriate input lead (see Figure 3).

Table 1 Calibration Input Selection

Calibration Input No.	Input Type	Calibration Input	Link Jumper Settings		
			LJ1	LJ2	LJ3
1	DC - 0 - 50mV	50mV DC	Parked	Parked	Parked
2	DC 0 - 10V	10V DC	Fitted	Parked	Parked
3	DC 0 - 20mA	20mA DC	Parked	Fitted	Parked
4	RTD Three-wire	200 Ω	Parked	Parked	Parked
5	Thermocouple	0°C "K"	Parked	Parked	Fitted

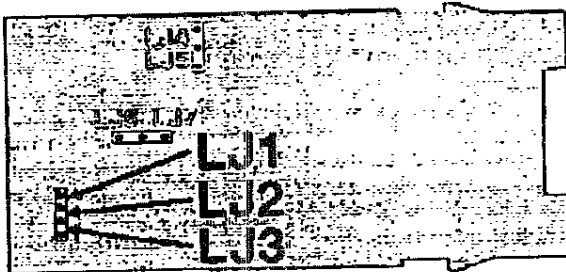


Figure 1 CPU PCB Link Jumpers (Relay/SSR Output 1)

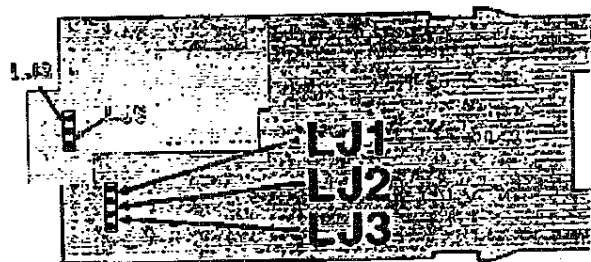


Figure 2 CPU PCB Link Jumpers (DC Output 1)

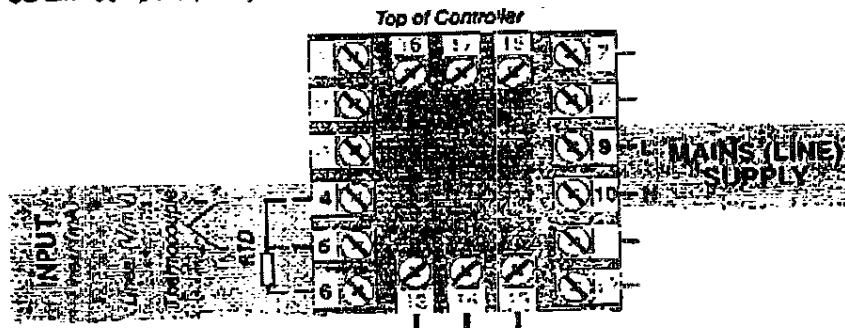


Figure 3 6100 Controller - Rear Terminal Connections

2. Connect the mains (line) lead to the 6100 Controller. Power-up the Controller and leave switched on for five minutes (for RTD and DC Linear inputs) or 30 minutes (for thermocouple inputs), then power-down.

Set up

3. Put the 6100 Controller in Calibration Mode by powering-up the Controller and, within 30 seconds of power-up, hold down the Lower and F keys simultaneously for approximately five seconds. The upper display will then show Input Type Number, in the form:



and the lower display will show:



Using the Raise/Lower keys, change the input type number as required (see Table 1).

NOTE

If required, only one input type may be calibrated. Exception: If it is required to calibrate the thermocouple input (Input Type 5), it is necessary first to calibrate the DC 0 - 50mV input (Input Type 1).

4. Press the Auto/Manual key to change the upper display to show:



After a few seconds, the upper display will either (a) return to the Initial Input Type Number display if calibration was successful, or (b) display:



In the latter case, the link jumpers and wiring should be checked.

5. To calibrate all inputs, repeat Steps 1 to 4 for each of the other Input types (see Table 1) until all five input types have been successfully calibrated.

NOTE

Input Type 5 should be calibrated using the appropriate Type K compensating lead (between Terminals 4 & 5). The Controller should be powered-up and remain powered up for at least 30 minutes with this lead connected before the input is calibrated.

The calibration procedure is now complete.

CALIBRATION CHECK

1. Set the Controller to the required configuration (using link jumpers and front panel entry) as described in the 6100 Controller Site Manual (SM-0054-xx).
3. Power-up the Controller and leave it powered-up for at least five minutes (for RTD and DC linear inputs) or at least 30 minutes (for thermocouple inputs).
2. After the appropriate delay for stabilisation has elapsed, check the calibration by connecting the appropriate input source and checking a number of cardinal points.