

# INSTALLATION - WIRING CONNECTIONS

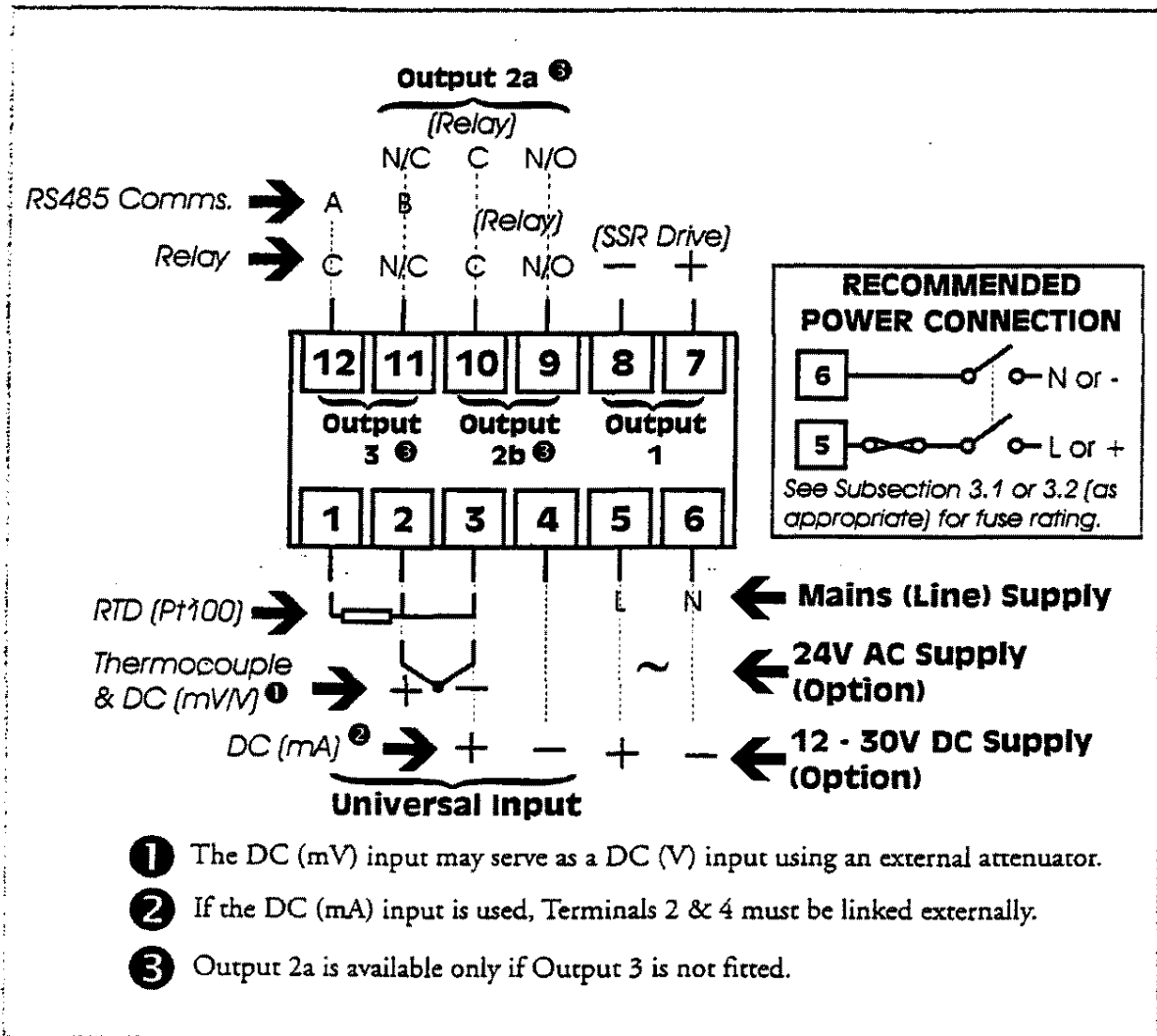


Figure 3-1 Rear Terminal Connections

Table 3-1 Output Usage

Output	Control Output	Alarm 1 Output	Alarm 2 Output	Serial Comms.
Output 1	*	*		
Output 2a	*	*		
Output 2b	*	*		
Output 3			*	*

## **MAINS (LINE) SUPPLY**

This version will operate on a 96 - 264V AC 50/60Hz mains supply. The power consumption is approximately 4W.

**CAUTION:** This equipment is designed for installation in an enclosure which provides adequate protection against electric shock. Local regulations regarding electrical installation should be rigidly observed. Consideration should be given to prevention of access to the power terminations by unauthorised personnel. Power should be connected via a two-pole isolating switch (preferably situated near the Controller) and a 1A fuse, as shown in Figure 3-1.

If the contacts of the relay output(s) are used to carry mains voltage, it is recommended that the relay contacts mains supply should be switched and fused in a similar manner but should be separate from the Controller mains supply.

## **LOW VOLTAGE (24V AC/DC) SUPPLY**

This version operates on 12 - 24V AC 50/60Hz or 12 - 30V DC supply. The power consumption is approximately 4W. Connection should be made via a two-pole isolating switch and a 315mA slow-blow (anti-surge Type T) fuse (see Figure 3-1).

## **THERMOCOUPLE INPUT**

The correct type of thermocouple extension leadwire or compensating cable must be used for the full distance between the Controller and the thermocouple, ensuring that the correct polarity is observed throughout. Joints in the cable should be avoided, if possible.

**NOTE:** Do not run thermocouple cables adjacent to power-carrying conductors. If the wiring is run in a conduit, use a separate conduit for the thermocouple wiring. If the thermocouple is grounded, this must be done at one point only. If the thermocouple extension lead is shielded, the shield must be grounded at one point only.

## **RTD INPUTS**

The compensating lead should be connected to Terminal 3. For two-wire RTD inputs, Terminals 2 and 3 should be linked. The extension leads should be of copper and the resistance of the wires connecting the resistance element should not exceed 5 ohms per lead (the leads should be of equal length).

## DC INPUTS

DC (mV) inputs are connected to Terminals 2 and 3 in the polarity shown in Figure 3-1; DC (V) inputs are connected to the same terminals with the same polarity but require an external attenuator. DC (mA) inputs are connected to Terminals 3 and 4 in the polarity shown in Figure 3-1 with Terminals 2 and 4 linked externally.

## RELAY OUTPUTS (OUTPUTS 2 & 3)

The contacts are rated at 2A resistive at 120/240V AC.

## SSR DRIVE OUTPUT (OUTPUT 1)

This output produces a time-proportioned non-isolated DC signal (0 - 10V nominal, into 500 $\Omega$  minimum).

## RS485 COMMUNICATIONS

The "A" terminal (Terminal 12) on the Controller should be connected to the "A" terminal on the master device; the "B" terminal (Terminal 11) on the Controller should be connected to the "B" terminal on the master device. This instrument uses standard RS485 devices, isolated from all other inputs and outputs. The devices present a  $\frac{1}{4}$ -unit load to the RS485 line. Generally, termination will not be required but may be necessary for line lengths greater than 100 metres. Where termination is necessary, it is recommended that a 120 $\Omega$  resistance in series with a 0.1 $\mu$ F capacitor be used at each end of the line (see Figure 3-2).

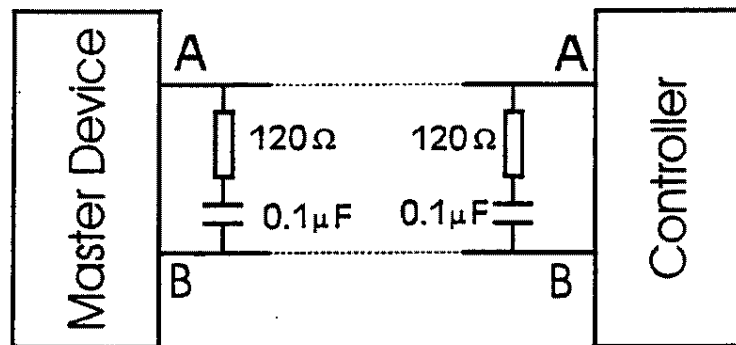


Figure 3-2 RS485 Line Termination