1 Introduction

1.1 Functional Overview

The recorder features the following functionality:

- 8 Software Recording Channels as standard, divided into 2 Process Groups, each with 4 Software Recording Channels.
- 4 Alarms and 2 Totalizers are assigned to each Recording Channel.
- Signal sources derived from universal analog inputs, Modbus communications, digital inputs or internal analog and digital signals.
- Any source can be assigned to any recording channel.
- Data from assigned sources can be displayed in:
  - Vertical or Horizontal Chart view format
  - Indicator view format with optional integrated Bargraph view
- Three logs record alarm events, totalizer values and system/configuration changes.
- Modbus TCP – communicate with Modbus master and slave devices over an ethernet LAN.
- Screen Capture facility – saves an image of the operator views to external archive media providing external archive media with sufficient free space is inserted in the recorder. It is not necessary for Logging to be 'online'.
- Internal flash memory for the storage of recorded data.
- The ability to archive data to external archive media in either text (*.csv) or binary formats.
- Integrated web server and file transfer protocol (ftp) support for remote monitoring and data acquisition.

2.4 Analog/Digital Inputs

2.4.1 Thermocouple

Use the correct compensating cable between the thermocouple and the terminals – see Table 2.1, page 19.

Automatic cold junction compensation (ACJC) is incorporated but an independent cold (reference) junction may be used.

2.4.2 Resistance Thermometer (RTD)

On applications requiring long leads it is preferable to use a 3-lead resistance thermometer.

If 2-lead resistance thermometers are used, each input must be calibrated to take account of the lead resistance.

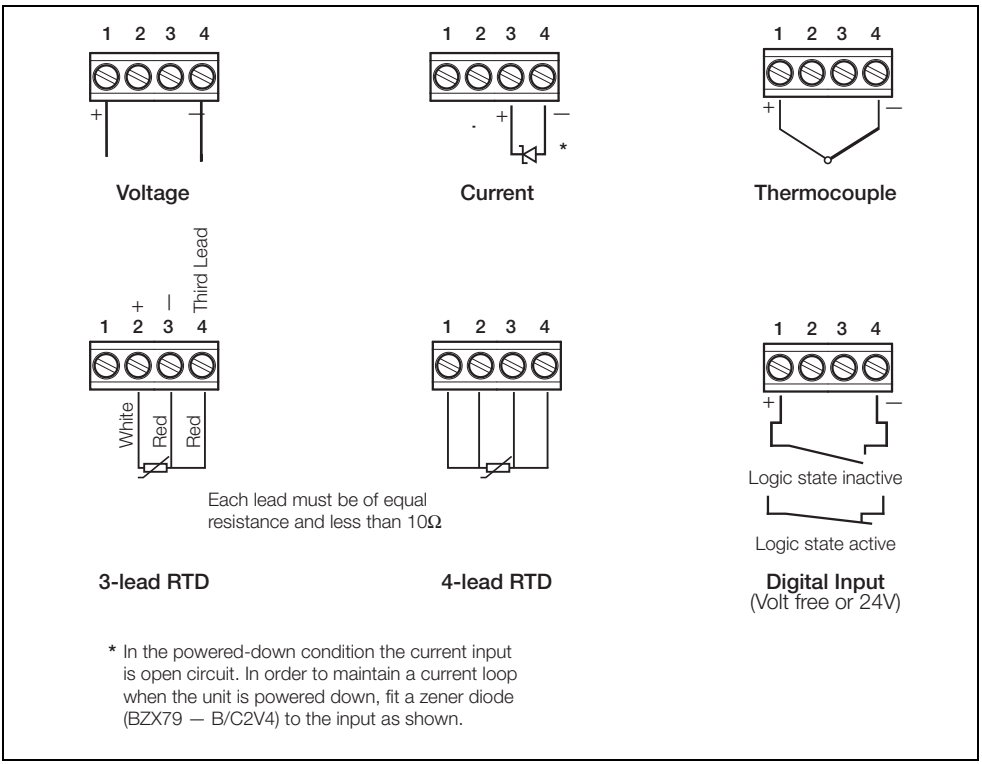

Fig. 2.9 Analog/Digital Input Connections

Note. Analog/digital input terminal screws must be tightened to a torque of 0.5 Nm (4.5 lbf.in).

	Compensating Cable											
	BS1843			ANSI MC 96.1			DIN 43714			BS4937 Part No.30		
Thermocouple Type	**+**	**–**	**Case**	**+**	**–**	**Case**	**+**	**–**	**Case**	**+**	**–**	**Case**
Ni-Cr/Ni-Al (K)	Brown	Blue	Red	Yellow	Red	Yellow	Red	Green	Green	Green	White	Green *
Ni-Cr/Cu-Ni (E)	–			–			–			Violet	White	Violet *
Nicrisil/Nisil (N)	Orange	Blue	Orange	Orange	Red	Orange	–			Pink	White	Pink *
Pt/Pt-Rh (R and S)	White	Blue	Green	Black	Red	Green	Red	White	White	Orange	White	Orange *
Pt-Rh/Pt-Rh (B)	–			–			–			Grey	White	Grey *
Cu/Cu-Ni (T)	White	Blue	Blue	Blue	Red	Blue	Red	Brown	Brown	Brown	White	Brown *
Fe/Con (J)	Yellow	Blue	Black	White	Red	Black	Red	Blue	Blue	Black	White	Black *
* Case Blue for intrinsically safe circuits												
Fe/Con (DIN 43710)	–			–			**DIN 43710**			–		
							Blue/red	Blue	Blue			

Table 2.1 Thermocouple Compensating Cable

2.5 Power Supply Connections

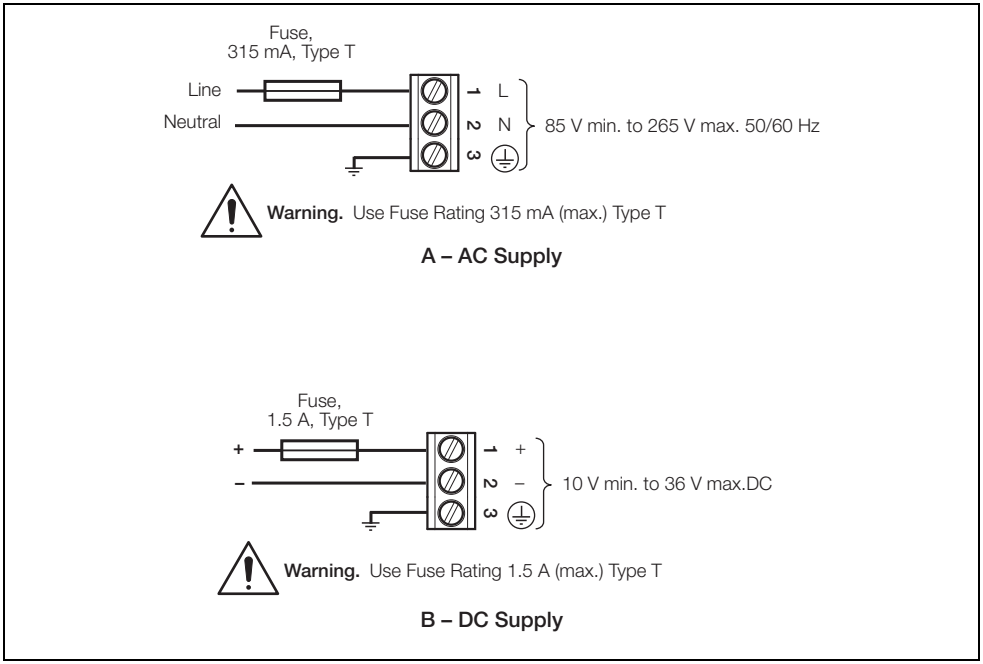

Fig. 2.10 Power Supply Connections

Note. Power supply terminal screws must be tightened to a torque of 0.8 Nm (7 lbf.in).