1.1 Product Description

The PD/CTX™ is an intelligent current transmitter. It is used in conjunction with a pulse density signalling, PDS(IO), **logic output** from a series 2000 controller, to control a time proportioned Solid State Relay (SSR) or Contactor. The two logic wires which operate the SSR also carry load current and status information back to the controller. This is referred to as **'PDS Mode 2'** operation. Mode 2 provides:

1. Display of true RMS load current
2. High and low current alarm
3. SSR short circuit
4. Heater failure

An alternative capability, referred to as **'PDS Mode 5'**, allows the PD/CTX to monitor **relay or triac output** controllers. The PD/CTX uses the logic inputs of a series 2000 controller to transfer the data to the controller. This version is used with external mechanical or mercury contactors and line voltage SSRs. Mode 5 provides the same features as mode 2 but it can also monitor the PD/CTX for open or short circuit conditions and initiate an alarm in the controller.

The PD/CTX must be supplied for either mode 2 or mode 5 operation. It is not field alterable. Before connecting the PD/CTX to the controller check the product type against the order code given in section 1.9.

1.2 Compatible SSRs

The SSR must have AC output and DC logic drive input. The output drive signal on the flying leads from the PD/CTX has a specification of 5-7Vdc at 7mA maximum. Most SSRs are typically rated at 3-32Vdc but only those with input current requirements of less than 7mA are suitable.

1.3 Load Current Signalling

The PD/CTX measures the AC current (45 to 65Hz) in the AC feed wire passing through the unit. The RMS value of this current is sent to the controller for display. The minimum resolvable current for a single turn through the PD/CTX is 2A. Should you wish to read currents lower than this it is necessary to increase the number of turns through the PD/CTX. Please refer to the relevant controller manuals for further details.

1.4 Mechanical Details

In Mode 2 operation, the PD/CTX is designed to be attached to a low DC control voltage SSR mounted on a suitable heat sink. The bracket on the PD/CTX is intended to be mounted underneath the SSR mounting screw on the high current side of the SSR as indicated in Figure 2. Do not fit the mounting bracket under the SSR itself.

Alternatively, the PD/CTX can be mounted to a flat plate, using the attached bracket. This method of mounting is designed for use with an external contactor or relay.

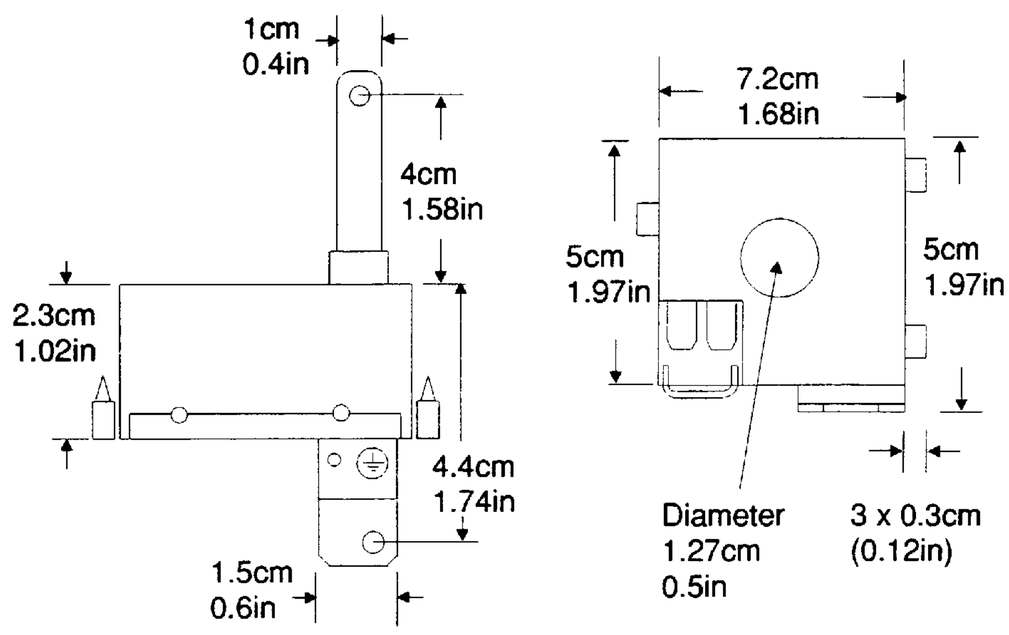


Figure 1: Dimensions

1.5 Example Wiring Diagram (mode 2)

Compatibility – All series 2200e and 2400 controllers
External logic input SSR as defined in 1.2.

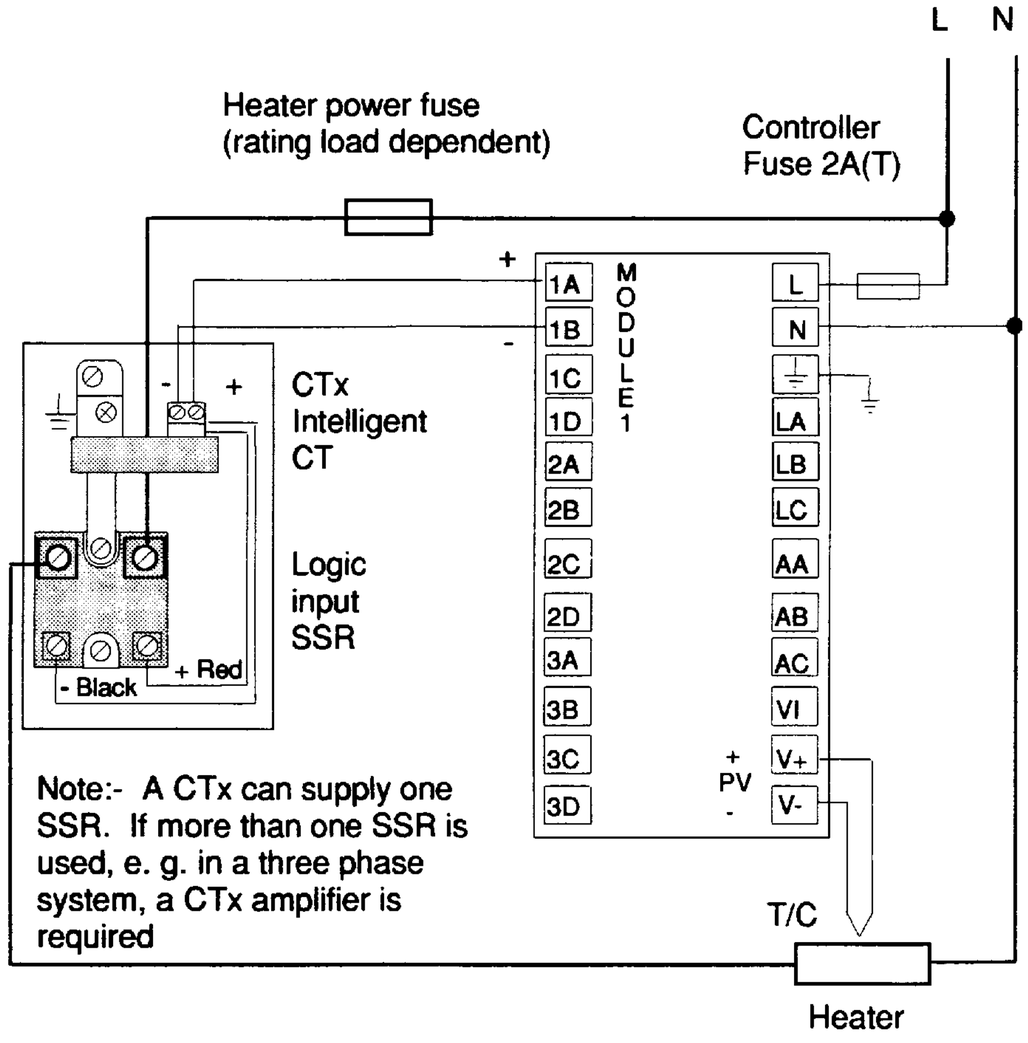
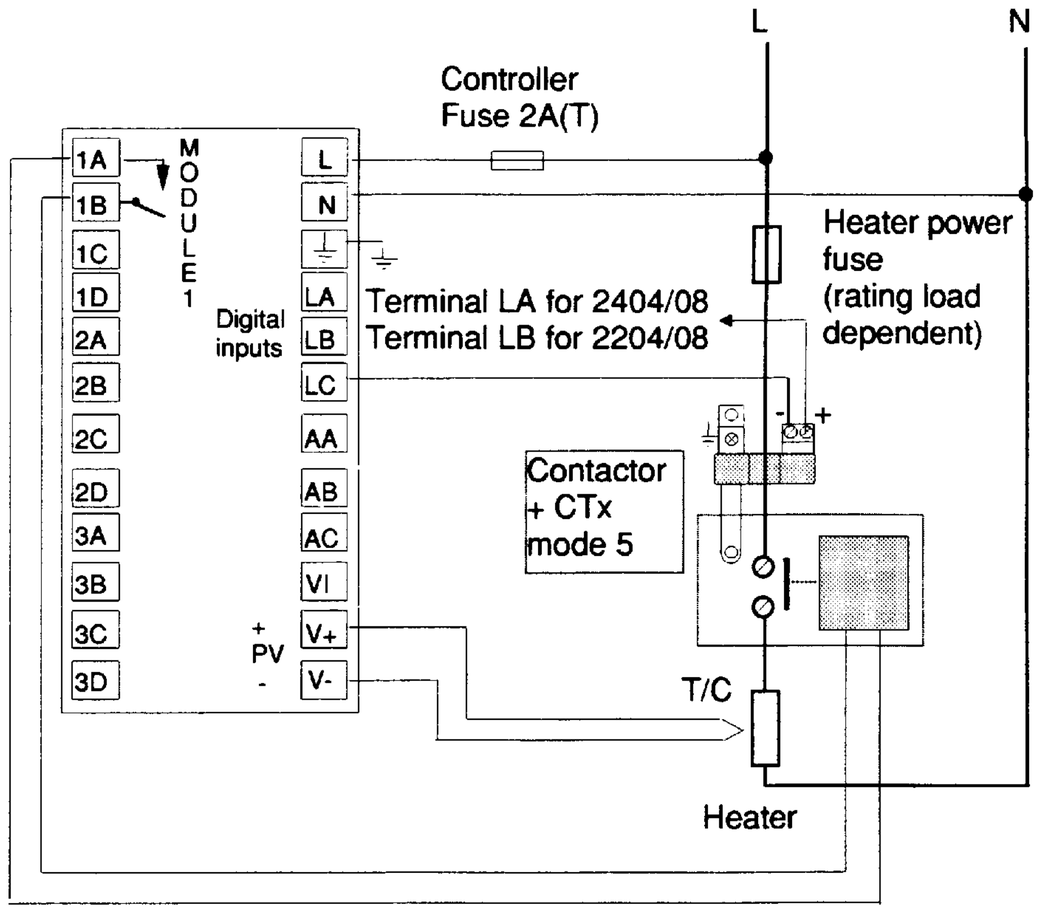


Figure 2: Connections for Mode 2

1.6 Example Wiring Diagram (mode 5)

Compatibility - Models 2204e, 2208e, 2404 and 2408 controllers
External mechanical or mercury contactor
External line voltage SSR



The controller will have the order code M5 in the Logic Input position.

Figure 3: Example Wiring Connections for Mode 5

1.7 Connections

The PD/CTX input terminals are provided with a polarised plug-in connector.
There is internal protection against reverse connection.

1.8 Technical Specification

Range	2 - 100A (using single primary turn)
Accuracy	2% (typically at reference conditions)
Temperature	Operating 0 to 55°C (32 to 131°F) Storage -10 to 70°C (14 to 158°F)
RH	5 to 90% non-condensing
Minimum working current	2A (0.5A when using multiple turns)
Dimensions	49mm wide 46mm high without connector and mounting bracket 94mm with connector and mounting bracket 41mm deep with mounting bracket
Maximum conductor sheath diameter	13mm
Mode 2 SSR drive level	5V, 7mA (max) – flying leads Note: The SSR must be able to switch on from the PD/CTX 5V drive signal and draw a maximum of 7mA

1.9 Product Coding

Basic Product	PDS Mode	Mounting	Manual
PD/CTX	1	2 C5	3

1	PDSIO Mode
M2	PDSIO mode 2
M5	PDSIO mode 5

2	Mounting
C5	Standard

3	Language
XXX	No manual
ENG	English

Example

PD/CTX/M5/C5/ENG