



## Safety Notes

### WARNING

Any interruption of the protective conductor inside or outside the apparatus, or disconnection of the protective earth terminal is likely to make the apparatus dangerous under some fault conditions. Intentional interruption is prohibited.

Safety requirements for permanently connected equipment state:

- A switch or circuit breaker shall be included in the building installation
  - It shall be in close proximity to the equipment and within easy reach of the operator
  - It shall be marked as the disconnecting device for the equipment.
  - Recommended external fuse ratings: For 100–230V ac, fuse type: T rated 2A 250V
1. Before any other connection is made, the protective earth terminal shall be connected to a protective conductor. The mains (supply voltage) wiring must be terminated in such a way that, should it slip, the earth wire would be the last wire to become disconnected.
  2. Whenever it is likely that protection has been impaired, the unit shall be made inoperative, and secured against accidental operation. The manufacturer's nearest service centre should be contacted for advice.
  3. Where conductive pollution (e.g. condensation, carbon dust) is likely, adequate air conditioning/filtering/ sealing etc. must be installed in the enclosure.
  4. Signal and supply voltage wiring should be kept separate from one another. Where this is impractical, shielded cables should be used for the signal wiring.
  5. If the unit is used in a manner not specified by the manufacturer, the protection provided by the equipment might be impaired.
  6. Installation must only be carried out by suitably qualified personnel.
  7. To prevent hands or metal tools touching parts that may be electrically live, the unit must be installed in an enclosure.
  8. The designer of any control scheme must consider the potential failure modes of control paths and, for certain critical control functions, provide a means to achieve a safe state during and after a path failure.
  9. Separate or redundant control paths must be provided for critical control functions.
  10. System control paths may include communication links. Consideration must be given to the implications of unanticipated transmission delays or failures of the link.
  11. Each implementation of this equipment must be individually and thoroughly tested for proper operation before being placed into service.
  12. The maximum continuous voltage applied between any of the following terminals must not exceed 240V ac:
    - relay output to logic, dc or sensor connections;
    - any connection to ground.
 The unit must not be wired to a three phase supply with an unearthed star connection. Under fault conditions such a supply could rise above 240V ac with respect to ground and the product would not be safe.
  13. Grounding of the temperature sensor shield. In some installations it is common practice to replace the temperature sensor while the unit is still powered up. Under these conditions, as additional protection against electric shock, we recommend that the shield of the temperature sensor is grounded. Do not rely on grounding through the framework of the machine.
  14. Over Temperature Protection. To prevent overheating of the process under fault conditions, a separate over-temperature protection unit should be fitted which will isolate the heating circuit. This must have an independent temperature sensor. Alarm relays within the unit will not give protection under all failure conditions.
  15. Isopropyl alcohol, water or water based products may be used to clean labels. A mild soap solution may be used to clean other exterior surfaces.
  16. Before removing a unit from its sleeve, disconnect the supply and wait at least two minutes to allow capacitors to discharge. Avoid touching the exposed electronics of a unit when withdrawing it from the sleeve.
  17. This unit is intended for industrial temperature and process control applications within the requirements of the European Directives on Safety and EMC..

### CAUTION

**Live sensors.** The unit is designed to operate if the temperature sensor is connected directly to an electrical heating element. However, you must ensure that service personnel do not touch connections to these inputs while they are live. With a live sensor, all cables, connectors and switches for connecting the sensor must be mains rated for use in 240V ac CATII.

**Wiring:** It is important to connect the unit in accordance with the data in this sheet ensuring that the protective earth connection is ALWAYS fitted first and disconnected last. Wiring must comply with all local wiring regulations, i.e. UK, the latest IEE wiring regulations, (BS7671), and USA, NEC Class 1 wiring methods. Do not connect ac supply to low voltage sensor input or low level inputs and outputs.

### USB Device Precautions

#### NOTICE

The use of U3 USB Flash drives is not recommended.

1. Precautions against electrostatic discharge should be taken when the unit terminals are being accessed. The USB and Ethernet connections are particularly vulnerable.
2. Ideally, the USB device should be plugged directly into the unit, as the use of extension leads may compromise the unit's ESD compliance.
3. When using a USB extension cable, a high quality screened cable must be used with a maximum length of 3 metres (10 ft.).

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# E+PLC<sup>100</sup>

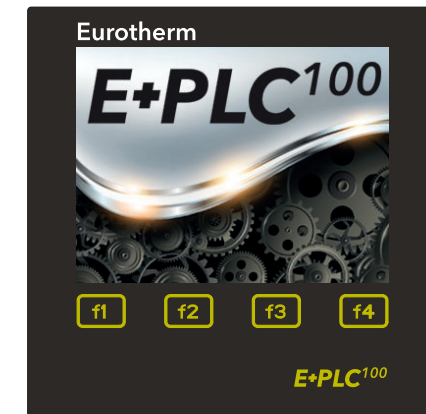
## Installation Guide

GB

E+PLC100 is a ¼ DIN instrument that combines a PLC with precise control, recording and archiving strategies that aids compliance with industry standards. It has the following features:

- Modbus TCP master/slave
- Programmer
- Control loops with autotune
- Zirconia probe support (optional)
- Recording
- Batch
- Archiving
- Webserver (optional)

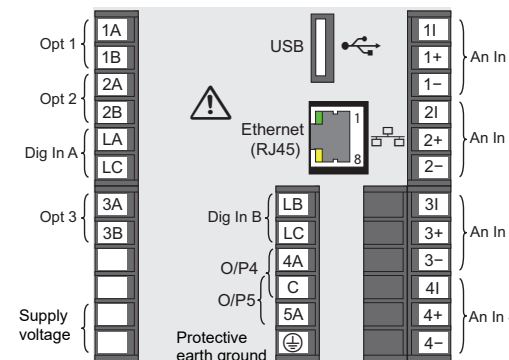
Further information is available in the *E+PLC100 User Manual*, part number HA032001, which may be downloaded from [www.eurotherm.co.uk](http://www.eurotherm.co.uk).



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## Rear Terminals



## Communications

### Ethernet (10/100 BASE-T)

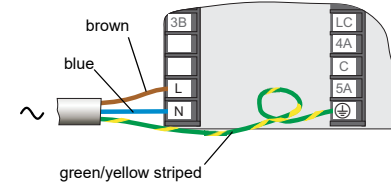
Pin	Function
1	Tx+
2	Tx-
3	Rx+
4	not connected
5	not connected
6	Rx-
7	not connected
8	not connected

**LEDs:**  
Green= link connected  
Amber= network activity

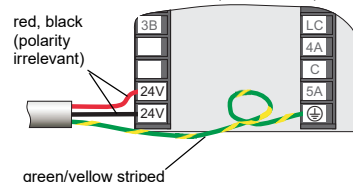
## Power supply

The power supply input is not fuse protected: this must be provided externally. Use copper conductors only.

**Mains (Line) voltage supply wiring**  
100 to 230Vac ±15%, 48 to 62Hz

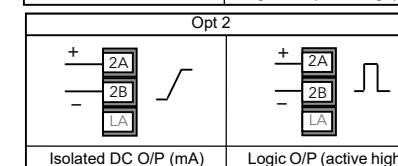
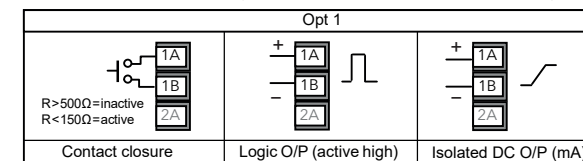


**Low voltage option supply wiring**  
24 Vac (-15%, +10%), 48 to 62Hz  
or 24Vdc (-15%, +20%)



## Termination Details

The screw terminals accept wire sizes in the range: Single wire 0.205 to 2.08 mm<sup>2</sup> (14 to 24 AWG). Two wires 0.205 to 1.31 mm<sup>2</sup> (16 to 24 AWG) inclusive. Screw terminals should be tightened to a torque between 0.4 N·m (3.54 lb-in) and 0.5 N·m (4.43 lb-in).



Each wire connected to LA, LB and LC must be less than 10 metres in length.

