

MAINTAINING PRODUCT SAFETY

Misuse of equipment

If the equipment is used in a manner not specified in this handbook the protection provided by the equipment may be impaired.

Service & repairs

This unit has no user-serviceable parts. The Manufacturer's nearest agent should be contacted for advice on repair services.

Cleaning instructions

A suitable vacuum cleaner may be used to keep the unit and all associated air inlets/outlets clear of dust buildup. The front panel can be wiped with a damp cloth to keep it clean. Mild detergents may be used to remove grease, but abrasive cleaners and aggressive organic solvents must not be used as they can remove the legends and/or damage the plastic labels.

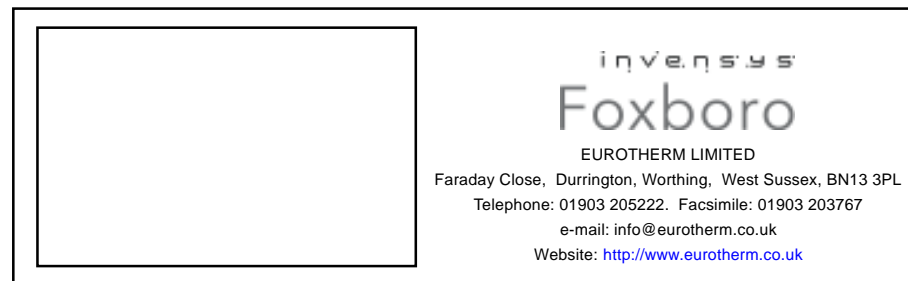
Safe usage of nickel-metal hydride batteries

The battery used for data retention must be stored in a suitable manner, handled and used correctly, and disposed of safely when spent. For further information, the COSHH statement (included in the product manual) should be referred to.

MAINTAINING PERFORMANCE

In order to maintain the optimum performance of the unit, it is recommended that periodic preventive maintenance be carried out. See Chapter 8 (Service) of the Handbook for further details.

A kit of service consumables is available from the manufacturer, under part number LA028325.



Important information Model T940X Process Supervisor

Note: The model T940X is not compatible with the Model T940 for redundant (duplex) operation.

UNPACKING THE UNIT

The instrument and any accessories should be unpacked carefully and inspected for damage. The original packing materials should be retained in case re-shipment is required. If there is evidence of shipping damage, please notify the manufacturer or the carrier within 72 hours and retain the packaging for inspection by the manufacturer's and/or carrier's representative.

PACKAGE CONTENTS

The package contents should be checked against the order codes, using the labels on the components. Product labelling includes:

- a. Outer packaging label. Shows the full instrument order code, instrument serial number (including status level).
- b. Module labels. One on each module showing serial number and model number/order code.
- e. Memory module label. One label showing software version.

MANUALS REQUIRED

The Process Supervisor Handbook (HA028225) and the Modbus/Profibus communications manual (HA028014).

For help with the creation of control strategies and sequences using the LINTools package the LIN Product manual (HA082375U999), and the T500\550LINTools Product manual (HA082377U999) are required.

For advice on creating a successful Profibus network, reference should be made to Installation Guidelines for Profibus Networks (HA261788).

INSTALLATION & SAFETY REQUIREMENTS

Please read the following sections before installing the processor.

Note: This unit meets the requirements of the European Directives on Safety and EMC. It is the responsibility of the installer to ensure the safety and EMC compliance of any particular installation.

This product has been designed to conform to BS EN61010 pollution degree 2. This is defined as follows:

Pollution degree 2

Normally, only non-conductive pollution occurs. Occasionally, however, a temporary conductivity caused by condensation shall be expected.

Installation requirements for EMC and for safety.

This unit conforms with the essential protection requirements of the EMC Directive 89/336/EEC, amended by 93/68/EEC and with the European Low Voltage Directive 73/23/EEC, by the application of the safety standard EN61010-1:1993/A2:1995.

This unit satisfies the emissions and immunity standards for industrial environments.

To ensure compliance with the European EMC directive certain installation precautions are necessary as follows:

Personnel

Installation must be carried out only by competent personnel, according to the instructions given in the product manual applying to the instrument. The installation must comply with any relevant national and local regulations in force.

- General guidance. For general guidance refer to the Manufacturer's *EMC Installation Guide* (Part No. HG083635U001).
- Relay outputs. When using the relay outputs it may be necessary to fit a filter suitable for suppressing conducted emissions. The filter requirements depend on the type of load.
- Protective Earth. Before any other power input connection is made, the protective earth terminal (see safety symbols section on page 4) shall be connected to an external protective earthing system.

Whenever it is likely that protection has been impaired, the unit shall be made inoperative and advice should be sought from the nearest manufacturer's service centre.

Mains supply wiring to the 24V power supply units must be terminated in such a way that, should it slip in the cable clamp, the earth wire is the last wire to become disconnected.

WARNING!

Any interruption of the protective earthing system, or disconnection of the protective earth terminal, is likely to make the unit dangerous under some fault conditions. Intentional interruption is prohibited.

INSTALLATION & SAFETY REQUIREMENTS (CONT.)**Wiring**

It is important to connect the unit in accordance with the wiring data given in the product manual. Wiring installations must comply with all local wiring regulations. Any wiring that is 'Hazardous Live' (as defined in EN61010) must be adequately anchored. To minimise the pickup of electrical noise, low voltage DC connections and sensor input wiring must be routed away from high-current power cables. Where it is impractical to do this, suitably grounded shielded cables should be used for signal wiring.

Disconnecting device

In order to comply with the requirements of safety standard EN61010, the mains supply to the 24V supply shall have one of the following as a disconnecting device, fitted within easy reach of the operator, and labelled as the disconnecting device for the equipment:

- A switch or circuit breaker complying with the requirements of IEC947-1 and IEC947-3
- A separable coupler that can be disconnected without the use of a tool
- A separable plug, without a locking device, to mate with a socket outlet in the building.

Overcurrent protection

To protect the unit against excessive currents, the power supply to the unit and power outputs must be wired through independent external fuses or circuit breakers. A minimum of 0.2 mm² (20awg) wire is recommended. Independent fuses should be used for the instrument supply and for each relay output. Suitable fuses are T type, (IEC 127 time-lag type) as follows:

- Instrument supply (24Vdc nom. (18 to 36Vdc)). A 3 Amp Type T fuse must be fitted in **each positive** supply line.
- External battery back-up (4V nom.) A 500mA Type T fuse must be fitted in **each positive** supply line.
- Relay outputs: 0.5A (T).

Conductive pollution

Electrically conductive pollution (e.g. carbon dust, water condensation) must be excluded from any cabinet in which the unit is mounted. To ensure the atmosphere is suitable, an air filter should be supplied in the air intake of the cabinet. Where condensation is likely, for example at low temperatures, a thermostatically controlled heater should be installed in the cabinet.

Ventilation

It should be ensured that any enclosure which houses the unit provides the ventilation/heating required to maintain the operating temperature of the unit and the humidity level of its operating environment within its specified limits.

Safety symbols marked on the unit

Various safety/warning symbols are marked on the unit. These have the following meanings:



Protective earth
terminal



For use with Direct Current
(dc) supplies only