

Remote Alarm and Shutdown Panel Installation and Maintenance Instructions

1. General safety information

Your attention is drawn to the Safety Information leaflet, IM-GCM-10, as well as to any National or local regulations.

Safe operation of the product depends on it being properly installed, commissioned and maintained by a qualified person in compliance with the operating instructions.

It is essential to comply with general installation and safety instructions, as well as to make proper use of tools and safety equipment.

The product is designed and constructed to withstand the forces encountered during normal use. Use of the product for any other purpose, or failure to install the product in accordance with these Installation and Maintenance Instructions, could cause damage to the product, and may cause injury or fatality to personnel.

2. General product information

2.1 Description

A typical system consists of a remote alarm and shutdown panel for one or more boilers installed at a permanently manned location such as a reception area or security point.

The remote panel is powered from the boiler panel at 48 Vac.

2.2 Kit of parts

A kit of parts is available for installing in each boiler panel. One kit is required per boiler and is available for either 115 V or 230 V boiler panels.

A kit consists of:

- 1 off Transformer 20 VA, 230/115 V to 48 V
- 1 off Key operated remote/local switch with two normally open contact blocks
- 1 off 'Remote/local' switch label
- 1 off Boiler shutdown relay and base 48 Vac coil
- 3 off Alarm relays and bases
230 or 115 Vac coils
- 1 off Off delay (constant supply) 48 Vac timer
- 1 off Length of DIN rail (150 mm)

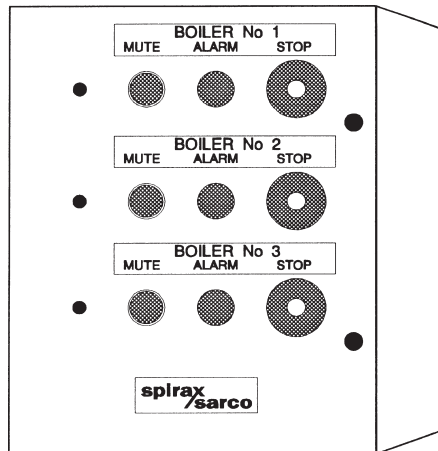


Fig.1 Remote alarm and shutdown panel

3. Installation

Refer to Figure 2, wiring diagram, noting the following points:-

Transformer

The transformer must be installed inside the boiler control panel or other suitable enclosure. The transformer has two primary windings. Connect in series for 230 V operation. Connect in parallel for 115 V operation. Note that in a standard boiler panel the control circuit is powered directly from one phase and neutral giving a 230 V control voltage in the UK. Connect the two 24 V secondaries in series to give 48 V.

Remote/local switch

Normally fitted on the boiler panel, but can be fitted in a central location in the boiler house.

Shutdown relay

This is energised by the 48 V supply in order to keep the boiler running. It would normally be wired so that it removes all power from the control circuits to ensure that the fuel valves close and the boiler shuts down.

Alarm relays and timer

The alarm relays and timer are shown installed so that the remote alarm is activated in the case of 1st low, 2nd low, or high water level alarms. Any other alarms such as lock-out can, of course, be signalled. To avoid nuisance alarms, the delay timer only signals an alarm at the remote panel after the boiler alarm has been activated for a predetermined time. The delay time should be chosen to suit individual requirements, but could range from a few seconds to a few minutes.

Cable run

Four cores per boiler are required. PVC insulated, PVC sheathed unscreened multi-core cable can be used. Cable lengths up to 1 000 m (3 280 ft) are possible using cable size 0.5 mm² per core. Longer lengths require larger cable.

Remote alarm panel

Mount the panel on the wall in an indoor location where the alarm lamp will be seen and the alarm buzzer heard in the case of a boiler alarm whenever the boilers are operating. This usually means a location which is manned 24 hours per day. The panel needs no local power supply since it is powered from each boiler panel at 48 Vac. It can, however, be locally earthed if required.

4. Operation

During normal operation the local/remote switches must be in the 'remote' position. The boiler alarm relay in each boiler panel is normally energised which keeps the alarm relays in the remote panel energised and no lights show. In the case of a boiler alarm, the relays are de-energised after the time delay, the boiler alarm lamp in the remote panel lights (and flashes where a flasher timer is fitted) and the buzzer sounds. The operator should then press the 'stop' button and may mute the buzzer. The alarm lamp stays lit (but does not flash) whilst there is an alarm. The boiler attendant should switch to 'local', rectify any faults on the boiler and set it running. The remote stop button must then be reset with its key, and the switch in the boiler house returned to 'remote'. If a boiler panel is switched off all power is removed from that section of the remote alarm panel so no boiler alarm is signalled. Similarly when a boiler is switched to 'local' the alarm lamp and buzzer in the remote panel will not operate. In the case of a break in the cable the boilers will be shut down immediately but could be restarted by switching to 'local' in the boiler house.

5. Testing

All alarm systems should be tested regularly. In the case of high integrity self-monitoring low boiler water level alarms, we recommended that the remote panel should be tested during the regular weekly test of the low level alarms.

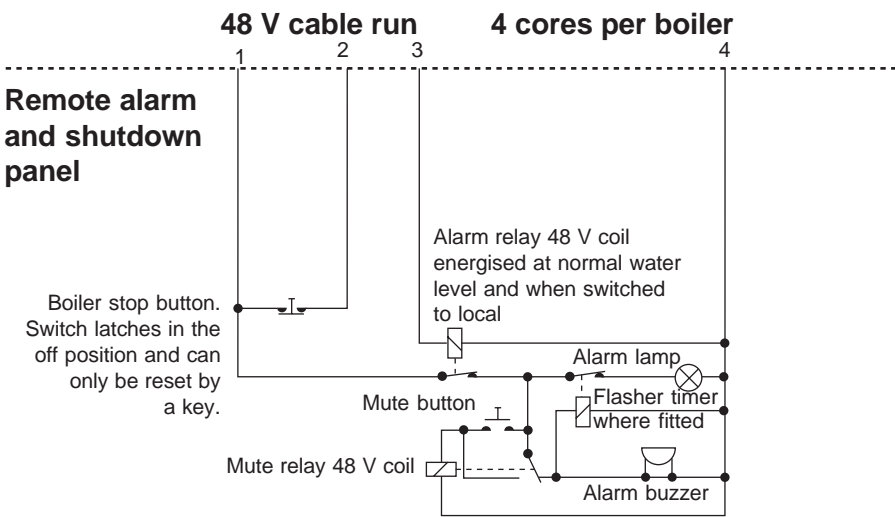
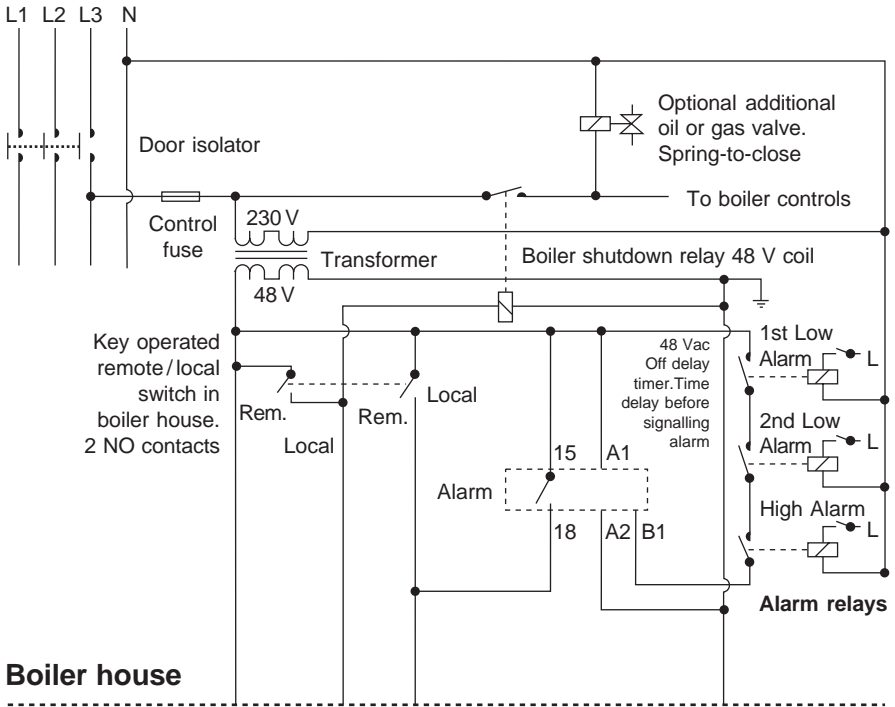


Fig. 2 Wiring diagram

