
DOCUMENT CONTROL NUMBER /

'MINERVA' ANALOGUE ADDRESSABLE FIRE CONTROLLERS

OPERATING INSTRUCTIONS

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1. INTRODUCTION

1.1 STANDARD FEATURES

The instructions given in this document are common to all the 'MINERVA' range of fire controllers, any differences being outlined as appropriate.

This document is written for firmware version 11.0.

The 'MINERVA' fire controller:

- Displays pre-programmed diagnostic event messages on the integral alphanumeric display, with precise identification of detectors.
- Provides computer-controlled output signals [programmable logic control mechanism].
- Provides custom programming [configuration] for inputs and outputs on the two circuits to satisfy the specific requirements of each customer/building.
- Provides monitoring of the addressable circuit for open and short circuit faults.
- Allows selected inputs and outputs to be isolated, for example, for maintenance.
- Provides an event log of significant system events and faults.
- Provides walk-test facilities.
- Allows monitoring of fire doors for correct operation.
- Provides reduced zonal detection sensitivity when the protected premises are occupied.
- Number of devices per loop,
 - MINERVA-8 addresses up to 99 devices.
 - MINERVA-16E/T891 addresses up to 198 devices,
 - MINERVA-80 /T890 addresses up to 990 devices,

The devices being specifically M500 and M600 range of analogue addressable fire detectors and M500 range of ancillary devices.

1.2 OPTIONAL FEATURES

In addition to the standard features described in para 1.1, a 'MINERVA' fire controller can also be:

- Connected to a 'ThornNet' communications system which allows Peer-to-Peer communications between MINERVAs.
 - Connects to 'ThornGraph', a PC based Graphical User Interface [GUI].
- Connected to one or more serial or parallel printers or a monitor.
- Connected to remote repeaters/operator's panel[s], or mimic panels.
- Connected to a pager transmitter.
- Interfaced to a monitoring station either via the Public Switched Telephone Network [PSTN], a direct line or a local [site] line.

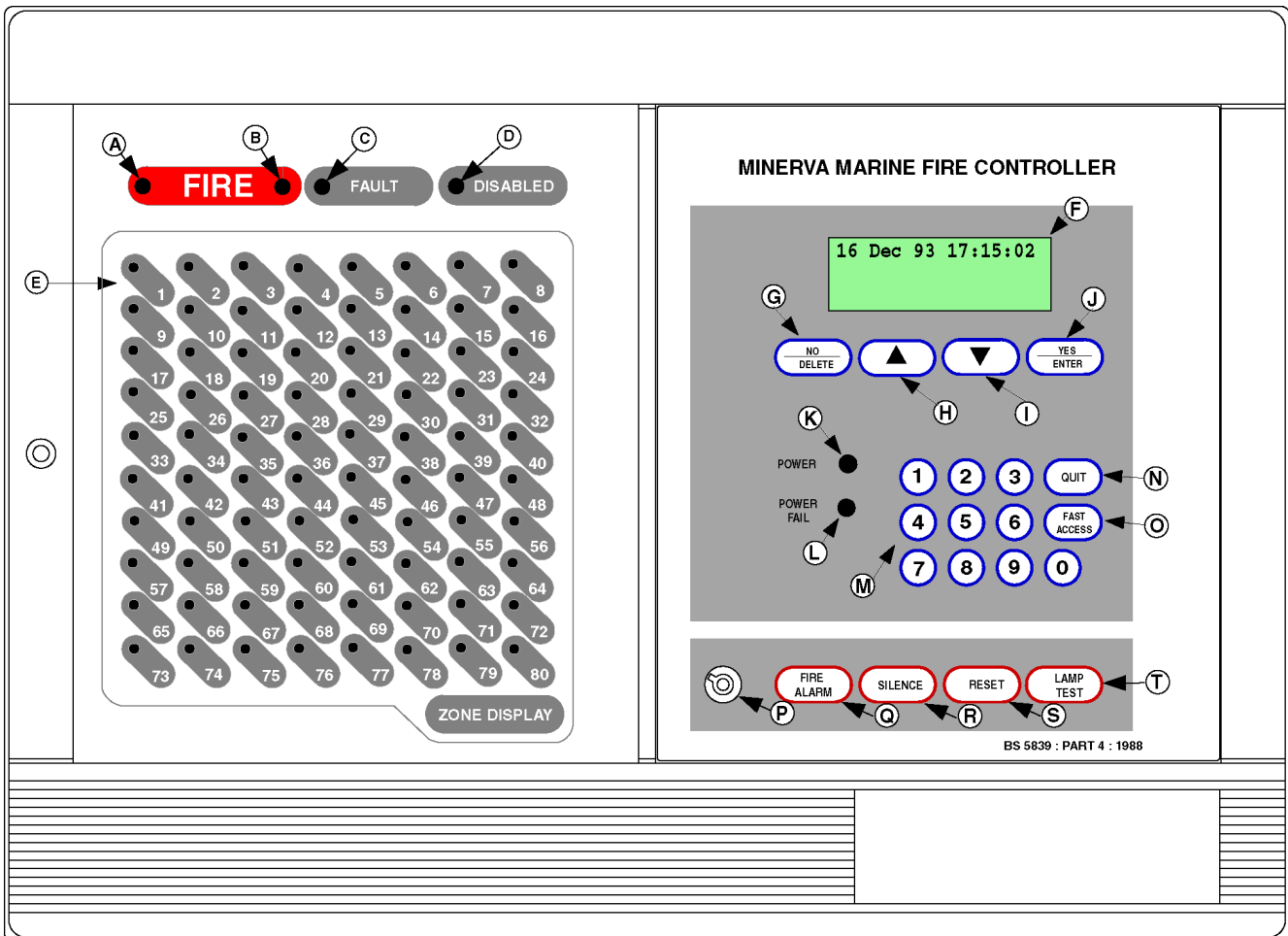


Fig. 1 'MINERVA-T890' Controller - Front Panel Layout

- | | |
|--|---|
| <ul style="list-style-type: none"> A. 'FIRE' LED - RED B. 'FIRE' LED - RED C. 'FAULT' LED - YELLOW D. 'DISABLED' LED - YELLOW E. 'FIRE ZONE' LEDs - RED F. LARGE ALPHANUMERIC DISPLAY G. NO/DELETE KEY H. SCROLL UP ▲ KEY I. SCROLL DOWN ▼ KEY J. YES/ENTER KEY K. 'POWER ON' LED - GREEN | <ul style="list-style-type: none"> L. 'POWER FAIL' LED - YELLOW [T890/T891 ONLY] M. NUMERIC KEYPAD N. QUIT KEY O. FAST ACCESS KEY P. KEYSWITCH Q. FIRE ALARM KEY [EVACUATE MINERVA 8/16E/80] R. SILENCE KEY S. RESET KEY T. LAMP TEST KEY |
|--|---|

2. OPERATING INSTRUCTIONS

The instructions given in this document are common to all the 'MINERVA' range of fire controllers, any differences being outlined as appropriate.

2.1 OPERATOR'S CONTROLS AND INDICATORS

All operating procedures are carried out using the front panel controls of the fire controller.

The front panel of a 'MINERVA-T890' controller is shown in Fig. 1.

The front panel of a 'MINERVA' controller or repeater contains the following controls and indicators:

- A two-position keyswitch, with positions 'normal', and 'enable', used to enable the three fire control keys:
Either;

EVACUATE, **SILENCE** and **RESET**,
[MINERVA 8/16E/80] or:

FIRE ALARM, **SILENCE** and **RESET**,
[T890/T891]

In the 'normal' position the key may be removed.

- In the 'enable' position the key is retained in the switch.

Note: The positions of the keyswitch are not marked on the front panel but are as follows:

- 'normal' - "9-o'clock"
- 'enable' - "12-o'clock"
- **EVACUATE** or **FIRE ALARM** key, used to activate the sounders. [The FIRE ALARM legend is used on T890 and T891 only].
- **SILENCE** key, used to silence the sounders and internal buzzer.
- **RESET** key, used to reset the system after an alarm or event has occurred.
- **LAMP TEST** key, used to test that the front panel indicators and internal buzzer are working correctly.
- **YES/ENTER** key, used in data entry mode to terminate a list of numeric characters and thus enter a command into the controller. Alternatively, used in query mode to provide a 'Yes/positive' response.

- **NO/DELETE** key, used in data entry mode to aid line editing by providing a backspace and delete function. Alternatively, used in response to a displayed query to provide a 'No/negative' response.
- **SCROLL DOWN** ▼ key, used to scroll through a display or log one entry at a time. This key will auto-repeat [i.e. holding the key down will scroll continuously].
- **SCROLL UP** ▲ key, used to scroll through a display or log one entry at a time. This key will auto-repeat.
- **QUIT** key, used to terminate and exit from the current command or display.
- **FAST ACCESS** key, used to access a system option quickly, without needing to use the menus. After pressing this key, a numeric code is entered, corresponding to the option required.
- The numeric keys **0** to **9**, used for entering access codes, general data, etc.
- A four line alphanumeric LCD display, used to provide date/time and system status messages. This is backlit to allow it to be viewed under low-light conditions [the light is only operational when the key is inserted and set to 'Enable'].
- A green LED - 'POWER', used to indicate the presence of system power.
- Two red LEDs - 'FIRE', used to indicate the presence of a Fire condition.
- A yellow LED - 'FAULT', used to indicate the presence of a system, sensor or loop fault.
- A yellow LED - 'DISABLED', used to indicate the disabling of a circuit/detector [e.g. 'ISOLATE'].
- 8 red LEDs - 'FIRE ZONES', used to indicate an alarm in the relevant zone, [MINERVA-8].
- 16 red LEDs - 'FIRE ZONES', used to indicate an alarm in the relevant zone, [MINERVA-16E and T891].
- 80 red LEDs - 'FIRE ZONES', used to indicate an alarm in the relevant zone. [MINERVA-80 and T890].
- A yellow LED - 'POWER FAIL', used to indicate the loss of mains power, [T890 and T891 only].

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2.2 NORMAL OPERATION

2.2.1 INITIAL CONDITION

At initial power-up, the display will show the following:

Minerva 8
initialising . . .

until the power-up sequence is completed.

In normal operating conditions [i.e. when there are no events present in the system], the display will show the date and time. e.g.:

23 Jan 90 22:17:02

Time is shown in the format hour:minute:seconds. The clock has automatic leap-year correction until the year 2040.

2.2.2 EVENT MONITORING

The term 'event' is used to describe a change in system status that must be acknowledged and/or generates an output.

Examples of events include:

- Mains failure
- Detection of a fire condition
- Operation of **EVACUATE** / **FIRE ALARM**

All events trigger a response, the classification of which depends on the event type and will be one of the following:

- Full Alarm [EVACUATE], or [FIRE ALARM]
- ALERT
- FAULT
- PRE-ALARM WARNING
- General event

When an event occurs, it is stored in the event log. The contents of this log may be displayed in two formats:

- Unaccepted events only, and,
- All events in chronological order of occurrence.

The events are stored in chronological order with unaccepted events are marked as outstanding. The event log may hold up to 550 events; in the unlikely occurrence of the log filling up, the lowest priority events will be lost. If the log then fills up with high priority events, the newest events will not be stored until space is made available by the clearing [acceptance] of existing events.

2.2.3 EVENT DISPLAY

The contents of the event log may be displayed either chronologically or by priority. The priority order is as follows:

- 1) First FULL ALARM or ALERT received.
- 2) All other FULL ALARMS or ALERTS received since last reset.
- 3) First FAULT received.
- 4) All other FAULTS received since last reset.
- 5) First WARNING received.
- 6) All other WARNINGS received since last reset.

2.3 OPERATION IN ALARM

2.3.1 SYSTEM RESPONSE.

When a fire condition is detected, the system will respond as follows:

- a) The internal buzzer will sound in a continuous tone.
- b) Both red 'FIRE' LEDs will light.
- c) The appropriate 'FIRE ZONE' LED will flash.
- d) For MINERVA 8, 16, and 80 controllers, the sounders, and any other configured outputs will be activated.
- e) The LCD will display a message in the format;

FIRE ALARM
Main Workshop
Welding Area
Zone 4 A48 001

- f) For 'T890', and 'T891' controllers, the sounders, and any other configured outputs will be activated. If the alarm is not accepted within the programmed delay period by pressing the **SILENCE** key, all other sounders will be activated,
- g) The LCD will display a message in the format:

FIRE ALARM
No 4 Deck
Cabin 4028
Zone 4 A48 001

The message format is as follows:

The top line shows the type of alarm.

The second line shows the zone identification message [defined at configuration].

The third line shows a description of the point in alarm.

The bottom line shows the zone, loop and point number for the device in alarm, followed by the number of outstanding events [including the current one], in this example 001.

*Note: By pressing either the **SCROLL UP** ▲ or **SCROLL DOWN** ▼ keys, the system status may be viewed.*

The message will continue to be displayed as shown until the intervention of an operator.

2.3.2 SOUNDER SILENCING

When a FIRE ALARM is received, investigate the cause of the alarm. Once the cause of the alarm has been determined and all appropriate action has been taken, silence the sounders as follows:

- a) Insert the key into the front panel keyswitch and turn it clockwise to the 'enable' position.
- b) Press **SILENCE**.

WARNING:

WHEN SEARCHING AN AREA FOR THE SOURCE OF A FIRE ALARM SIGNAL, WHERE A FIRE ALARM HAS BEEN INITIATED BY A 'CARBON MONOXIDE' FIRE DETECTOR, IT MUST BE REMEMBERED THAT A CARBON MONOXIDE DETECTOR MAY GENERATE AN ALARM BEFORE OTHER FIRE INDICATORS (SUCH AS SMOKE) ARE PRESENT.

THIS OCCURS MOST NOTABLY IN DEEP SEATED FIRES IN DENSELY PACKED MATERIALS, AREAS WHERE FIRES MAY OCCUR IN CUPBOARDS AND STOREROOMS REMOTE FROM DETECTORS, AND WHERE SMOKE IMPERVIOUS BARRIERS EXIST BETWEEN THE SEAT OF THE FIRE AND THE DETECTOR (SUCH AS WITHIN WALL CAVITIES). THESE FACTORS SHOULD BE CONSIDERED CAREFULLY BEFORE DECLARING SAFE ANY AREA WHERE A CARBON MONOXIDE FIRE DETECTOR HAS RAISED AN ALARM.

The system will respond as follows:

- i) The internal buzzer will change to a intermittent, pulsing tone.
- ii) The appropriate 'FIRE ZONE' LED will light continuously.
- iii) The sounders will be silenced.
- iv) All other outputs will remain activated.
- v) The LCD display will remain showing the type of alarm and the full zone identification.

2.3.3 EVENT ACCEPTANCE

Once the cause of the alarm has been dealt with and the sounders have been silenced, the event[s] should be accepted.

Proceed as follows:

- a) Key in your passcode [see section 3] and press **YES/ENTER**.

The LCD will display:

Do you want to accept events?

- b) Press **YES/ENTER** again.

The LCD will display a message in the format:

**FIRE ALARM
Main Workshop
Zone 4 A48 001
accept (Y/N)?**

or, for 'T890' and 'T891' versions:

**FIRE ALARM
No 4 Deck
Zone 4 A48 001
accept (Y/N)?**

A flashing black square [the cursor] draws attention to the fact that an operator entry is required.

*Note: The top line shows the type of alarm.
The second line shows the zone identification message, which may be a point string if configured.
The third line now shows the zone, loop and point number for the device in alarm, followed by the number of outstanding alarms, as before, but the bottom line changes to a query message which requires an operator response.*

- c) Press **YES/ENTER** to accept the event.

The LCD will display:

event accepted

Note:

- 1) If the event displayed is NOT to be accepted, press **NO/DELETE** and the display will show the next event [if any].
- 2) Pressing **SCROLL UP ▲** or **SCROLL DOWN ▼** will move the display through all the outstanding [unaccepted] events.

- 3) If the displayed event is not accepted within approximately 2 minutes, the LCD reverts to the four-line alarm message originally displayed.

- d) Press **QUIT**. The display will now revert to the date/time reading [unless there are further events to accept].

- e) Turn the key anti-clockwise to the 'normal' position.

2.3.4 RESETTING THE CONTROLLER

Note:

- 1) The controller cannot be reset until the sounders have been silenced.
- 2) The controller should also NOT be reset until the source of the alarm has been determined by the Fire Brigade or the cause otherwise found [and the condition removed].

Once the notes above have been observed, press **RESET**. The system will respond as follows:

- a) The LCD will display:

**Resetting . . .
countdown 30**

- b) The counter will count down to zero [the length of the count is indicated by the number on the LCD and is system-configurable], the controller will reset and the LCD will display:

reset completed

Note: During the reset sequence, any outputs are left in their activated state and only de-activated at the end of the sequence, once all inputs have been proved clear.

- c) If there are no faults or other events present in the system, the LCD will revert to the date/time display.

Note:

- 1) If there had originally been a fault present [which would have been overridden by the alarm], the controller will now respond as in a fault condition, [see section 2.4].
- 2) Fault indications may occur up to 1 minute after a reset.

2.3.5 MULTIPLE EVENTS

In the 'MINERVA' controller, alarms have priority over faults. If a fault is present in the system when a Fire alarm is received, the system will respond as follows:

- a) The 'FAULT' LED will go out.
- b) The system will then respond to the alarm as described in section 2.3.

Once the alarm has been cleared, as described above, the system will respond to the fault.

If, when in alarm condition, a fault is received, the system will not respond to it until the alarm has been cleared.

If, when in alarm condition, a second alarm is received, the system response is dependent on the nature and source of the second alarm as follows:

- a) If the sounders have NOT been silenced, the following will occur:
 - i) The appropriate 'FIRE ZONE' LED will flash.
 - ii) The internal buzzer will continue to sound without interruption.
 - iii) The LCD will continue to display the alarm message for the FIRST alarm.
 - iv) The "outstanding events" count will be incremented.
- b) If the sounders HAVE been silenced and the alarm is in the SAME zone as the first alarm, the following will occur,
 - i) The "outstanding events" count will be incremented.
 - ii) The sounders will NOT be re-operated.

Note: If the second alarm is an 'EVACUATE' or 'FIRE ALARM', the sounders and internal buzzer will be re-operated and the appropriate 'FIRE ZONE' LED will flash.

- c) If the sounders HAVE been silenced, and the alarm is in a DIFFERENT zone to the first alarm, the following will occur.
 - i) The appropriate 'FIRE ZONE' LED will flash.
 - ii) The internal buzzer will sound continuously.
 - iii) The sounders will be re-operated.
 - iv) The "outstanding events" count will be incremented.

2.3.6 PRE-ALARM WARNINGS

If the LCD shows a message including a "warning" indication, a pre-alarm condition has been detected by the controller. This may be indicated for example, if a detector identifies a build-up of smoke or heat that might result from a fire, but the alarm threshold has not yet been reached. The internal buzzer will sound but the sounders and visual fire indicators will remain inactive at this stage. Proceed as follows:

- a) Accept the event, as described in section 2.3.3, noting the location of the event.
- b) Initiate action to deal with the condition indicated, taking care to determine if the warning was initiated by a fire condition or by a system fault.

If the detector subsequently shows an alarm condition, an alarm will be generated, regardless of whether the pre-alarm warning was accepted.

2.4 OPERATION IN FAULT CONDITION

2.4.1 SYSTEM RESPONSE

When a Fault condition is detected, the system will respond as follows:

- a) The internal buzzer will sound in a continuous tone.
- b) The yellow 'FAULT' LED will light.
- c) The LCD will display a message in the following format:

NO RESPONSE
Main Workshop
Welding Area
Zone 6 A 98 001

The message format is as follows:

The top line will indicate the type of fault. The second line will show the zone identification message.

The third line shows a descriptive message relevant to the point in fault.

The bottom line shows the zone and point number of the device in fault, followed by the number of outstanding events.

*Note: By pressing either the **SCROLL UP** ▲ or **SCROLL DOWN** ▼ keys, the system statuses may be viewed.*

The message will continue to be displayed as shown until the intervention of an operator.

2.4.2 OPERATOR ACTION

Note:

When a Fault condition occurs, proceed as follows:

- a) Turn the key in the keyswitch clockwise to the 'enable' position.
- b) Press **SILENCE**.
The internal buzzer will now be silenced but the LED and LCD display will continue to operate as described above.
- c) Investigate and cure the source of the fault.

Note: If the fault cannot be cured, contact your supplier and arrange for a service visit.

Once the fault has been cured, proceed as follows:

- d) Key in your passcode [see section 3] and press **YES/ENTER**.
The LCD will display:
Do you want to accept events?
- e) Press **YES/ENTER** again.

The LCD will display a message in the format:

NO RESPONSE
Main Workshop
Zone 4 A48 001
accept (Y/N)?

A flashing cursor draws attention to the fact that an operator input is required.

Note: The top line shows the type of fault. The second line shows the zone identification message. The third line shows the zone, loop, and point number for the device in fault, followed by the number of outstanding events, as before, but the bottom line shows query message which requires an operator response.

- f) Press **YES/ENTER** to accept the event.
The LCD will display:
Event accepted

- g) Press **QUIT**. The display will now revert to the date/time reading [unless there are further events to accept].

- 1) If the event displayed is NOT to be accepted, press **NO/DELETE** and the display will show the next event [if any].
- 2) Pressing **SCROLL UP ▲** or **SCROLL DOWN ▼** will move the display through all the outstanding [unaccepted] events.
- 3) If the event is not accepted within approximately 2 minutes, the display reverts to that in section 2.4.1.
- h) Turn the key anti-clockwise to the 'normal' position.

2.5 FIRE CONTROL KEYS

2.5.1 GENERAL

There are four fire control keys on the front panel of the 'MINERVA', namely:

- **EVACUATE**, or **FIRE ALARM**
- **SILENCE**,
- **RESET**, and,
- **TEST**.

Note: The first three of these keys are only active when the keyswitch is in the 'enable' position.

The functions of **SILENCE** and **RESET** have already been described. The functions of **EVACUATE** and **TEST** are described in the following paragraphs.

2.5.2 EVACUATE or FIRE ALARM

Once enabled by the keyswitch, pressing **EVACUATE** or **FIRE ALARM** will cause the following:

- a) The internal buzzer will sound continuously.
- b) The red 'FIRE' LEDs will light.
- c) The sounders and any other configured outputs will be activated.
- d) The LCD will display the following message:

FIRE EVACUATE
System Zone 0
Non-Addressable Point
LB0 S1 001

Note:

- 1) The bottom line shows the absolute system address of the **EVACUATE** key or **FIRE ALARM**, key followed by the number of outstanding events.

- 2) The default Evacuate button message is shown. The text of this may be changed during system configuration.
- 3) By pressing either the **SCROLL UP** ▲ or **SCROLL DOWN** ▼ keys, the system status may be viewed.

will be shown on the displays of all other panels on the system and access is denied to any other operator, except to view events. A brief description of the function being performed at the controller in use is also displayed on the others.

The message will be displayed and the outputs continue to operate until the system is silenced and reset as described in sections 2.3.2 to 2.3.4.

2.5.3 TEST

Pressing **TEST** causes all the LEDs and the internal buzzer to be operated for a few seconds. If the system includes repeater panels, only the panel containing the **TEST** key operated is activated.

Note:

- 1) This key is always active, irrespective of the position of the keyswitch.
- 2) Multiple presses of this key will cause the test to be carried out repeatedly.

2.6 AUXILIARY DISPLAY DEVICES

2.6.1 GENERAL

Depending on the configuration of the system, there may be one or more auxiliary display devices fitted. These devices may be of the following types:

- Repeaters
- Printers/monitors
- Remote LCD repeaters

The functions of and operating instructions for these devices are given in the following paragraphs.

2.6.2 REPEATERS

A repeater allows the controller to be operated from a remote location and provides remote indications of the state of the controller. The front panel of the repeater is identical to that of the controller [see Fig. 1] and all controller operations may be performed at the repeater panel.

Note: If an operator has gained access to the controller functions by entering a passcode at either the controller or a repeater, the message:

Remote Lock

2.6.3 PRINTERS/MONITORS

Refer to the manual supplied with the printer or monitor for operating instructions.

2.6.4 REMOTE LCD REPEATERS

Refer to the Remote LCD Repeater documentation [Publication 08A-03-O1].

2.7 SECTOR DISABLE [Marine Only]

2.7.1 TM520 TIMER MODULE

A TM520 Timer Module allows selected detectors to be disabled for a predetermined time e.g. ferry car decks/loading bays whilst loading/unloading is in progress.

2.7.2 NORMAL OPERATION

To operate the TM520, insert the key [see Fig. 2] and turn clockwise. The yellow TIMING LED will flash 1 second ON 1 second OFF. At the end of the deactivation period, a safety timeout period of 5 minutes is initiated. The red TIMEOUT LED will light, the yellow TIMING LED will continue to flash and an internal buzzer will sound synchronously with the TIMING LED. At the end of the safety timeout period the TM520 will reset.

2.7.3 RESET

The TM520 may be reset at any time during operation by turning the TIMER OFF key to the OFF position.

2.7.4 EXTENDING OPERATION

The time period may be extended by turning the RESET key to the OFF position and then to the ON position within 3 seconds. The original time period will then start again.

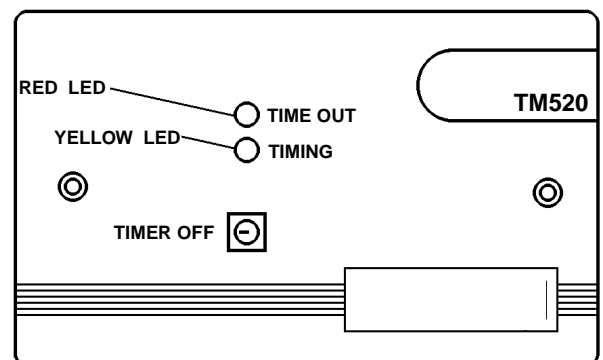


Fig. 2 TM520 Timer Module - Front Cover

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3. CONTROLLER FUNCTIONS

3.1 GENERAL

The 'MINERVA' fire controller has a large number of built-in functions. These functions allow system parameters to be viewed and changed.

As the functions allow access to system parameters, it is necessary to restrict the use of these functions to authorised staff. This is achieved by the use of passcodes. Each controller may have up to 27 passcodes which afford access to particular functions. In order to gain access to the controller functions, the appropriate passcode must be entered via the front panel keypad. The function is then selected from the sequence of menus presented.

Note:

- 1) Pressing **QUIT** at any time will return to the immediately preceding menu step or function.
- 2) If a menu option does not appear on your display, then you have an earlier version of firmware.

3.2 ACCESS LEVELS

3.2.1 GENERAL

The access levels available are as follows:

- Customer Operator
- Customer Manager

These access levels are described in the following paragraphs. The functions are described in section 3.3.

3.2.2 CUSTOMER OPERATOR

Number per system: 25
Passcode length: 4 digits
Functions available: Accept events
View system statuses
View unrestored events

3.2.3 CUSTOMER MANAGER

Number per system: 2
Passcode length: 4 digits
Functions available: All of Customer Operator
View the log
Set the clock
Test system
Walk test zone
Walk test sounders

Isolate/de-isolate points
Isolate/de-isolate zone
[sensors only]
Isolate/de-isolate point
[address loop only]
Open VFP
Print data
Walk test multi input point

3.2.4 ENTERING A PASSCODE

To enter a passcode proceed as follows:

- a) Check the LCD is displaying the date and time.
- b) Enter your 4-digit passcode.
[The display changes from date and time to: **Passcode :** and an asterisk [*] is displayed as each digit is entered].
- c) Press **YES/ENTER** and the Main Menu is displayed. To access the menu options refer to section 3.4.

3.3 FAST ACCESS CODES

The controller's built-in functions may be accessed by entering Fast Access Codes.

Table 1 lists the all Fast Access Codes for a Minerva fire controller. The codes for each function are listed in the appropriate paragraphs.

3.3.1 ENTERING FAST ACCESS CODES

In order to avoid repetition, however, the general procedure for entering a Fast Access Code is described as follows:

- a) Enter your passcode.
- b) Press **YES/ENTER**.
- c) Press **FAST ACCESS**.
- d) Enter the appropriate 4-digit number and press **YES/ENTER**, (access will now be afforded to the function requested).
- e) Press **YES/ENTER** to confirm selection.

Note: Pressing **QUIT** at any time will return to the next function [or menu step] backwards in the system hierarchy.

MENU	FAST ACCESS CODE	CUSTOMER OPERATOR	CUSTOMER MANAGER
Do you want to accept events?	0001	✓	✓
View unrestored Events?	0009	✓	✓
Do you want to view the log?	0010		✓
Oldest event first?	0011		✓
Newest event first?	0012		✓
Highest priority event first?	0013		✓
Do you want to set the clock?	0020		✓
Do you want to set the time?	0021		✓
Do you want to set the date?	0022		✓
Do you want to test system?	0030		✓
Do you want to walk test zone?	0035		✓
Walk test sounders? (Not Marine)	0036		✓
Do you want to isolate points?	0040		✓
Isolate zone? (SENSORS ONLY)	0041		✓
Isolate point? (ADDRESS LOOP ONLY)	0043		✓
Do you want to de-isolate points?	0050		✓
De-isolate zone? (SENSORS ONLY)	0051		✓
De-isolate point? (ADDRESS LOOP ONLY)	0053		✓
Open VFP?	0070		✓
Do you want to print data?	0080		✓
Print points untested/failed?	0083		✓
Print event log backtrack?	0085		✓
View system statuses?	0100	✓	✓
View system zones alarm status?	0101	✓	✓
View system zones fault status?	0102	✓	✓
View system zones isolated status?	0103	✓	✓
View system common alarm status?	0104	✓	✓
View system common fault status?	0105	✓	✓
View system common disabled status?	0106	✓	✓
Do you want to walk test multi input point?	1030		✓

Table. 1 Access Levels, Fast Access Codes and Menu Options

3.4 MAIN MENU

When the system is in quiescent mode [i.e. displaying the date and time], entering a passcode affords the user access to the Main Menu. The menu structure is shown diagrammatically in Fig. 3.

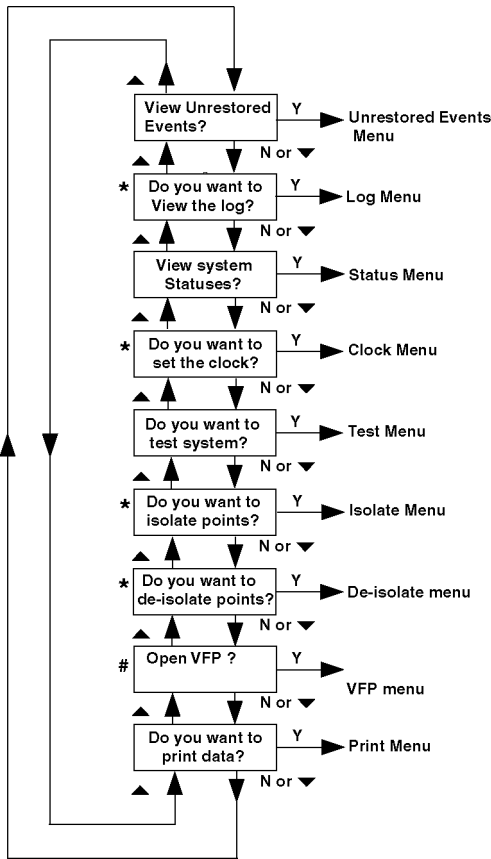


Fig. 3 'MINERVA' Controller Main Menu

*Note: Menu options marked * are only available at Customer Manager access level and are not seen at Customer Operator access level. Menu option marked # is available with networked version only.*

Each of these options leads to further menus which are described in the following paragraphs.

Note: If there are any unaccepted events [i.e. alarms or faults] present in the system, these should be accepted before the Main Menus accessed. It is possible, however, to access any menu step directly by means of the Fast Access Codes. However, the user will always be drawn to the "Accept Events" menu step if he attempts to quit while there are still unaccepted events outstanding.

3.4.1 SELECTION OF MAIN MENU OPTIONS

To select the option required, either:

- 1) Move through the menu using the **SCROLL UP ▲**, **SCROLL DOWN ▼** or **NO/DELETE** keys. Press **YES/ENTER** when the required option is displayed, or.
- 2) enter the Fast Access Code for the required option [see Table 1], using the procedure described in section 3.3.1.

3.5 VIEW UNRESTORED EVENTS

An unrestored event is an event logged when the system, or a device in the system, is not in its normal state.

If this abnormal state has not been corrected, [superseded by a normal event] then the event is said to be "Unrestored", and will be displayed in the unrestored events log. An unrestored event may, or may not, have been accepted.

When selected, this option will display any Unrestored events present in the system in chronological order of their occurrence.

3.5.1 SELECTION OF UNRESTORED EVENTS

- 1) Either select the 'View Log' option from the Main Menu, or enter Fast Access Code 0009.
- 2) An Unrestored event is displayed in the following format:

PRINTER OFFLINE
System Zone
12:00:16 28 Jan
Zn 0400 LB00 RO4

- 3) Press **SCROLL DOWN ▼** to move through the log forwards.
- 4) Press **SCROLL UP ▲** to move through the log backwards. When either the beginning OR end of the log is reached, the display will show:

End of log!

and the internal buzzer will beep twice.

If there are no Unrestored events in the log the display will show:

No Events in log!

3.6 VIEW LOG MENU

3.6.1 SELECTION OF MENU

- 1) Either select the 'View Log' option from the Main Menu. The menu shown in Fig. 4 will be displayed. The menu options are selected as described in section 3.4.1. or,
- 2) enter Fast Access Code 0010. Entry of Fast Access Codes is described in section 3.3.1.

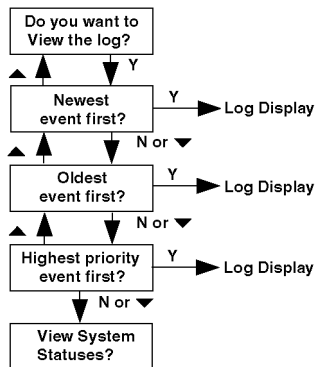


Fig. 4 'MINERVA' Controller - View Log Menu

3.6.2 NEWEST EVENT FIRST

When this option is selected, the contents of the Event Log will be displayed in reverse chronological order of the occurrence of the events.

- 1) Either select the option from the View Log menu, or enter Fast Access Code 0012.

The events are displayed in the following format:

SYSTEM RESTART
Logical Zone 0
12:00:16 28 Jan
SUP LB0 S2

Note: The bottom line of the display shows the absolute system address of the source of the event.

- 2) Press **SCROLL DOWN** \blacktriangledown to move through the log forwards.
- 3) Press **SCROLL UP** \blacktriangle to move through the log backwards. When either the beginning OR end of the log is reached, the controller will respond as in section 3.5.1.
- 4) Press **QUIT** to exit the function.

3.6.3 OLDEST EVENT FIRST

When this option is selected, the contents of the Event Log will be displayed in chronological order of the occurrence of the events.

- 1) Either select the option from the View Log menu, or enter Fast Access Code 0011.

The events are displayed as described in section 3.6.2.

- 2) Press **SCROLL DOWN** \blacktriangledown to move through the log forwards.
- 3) Press **SCROLL UP** \blacktriangle to move through the log backwards.

When either the beginning OR end of the log is reached, the display will show:

End of log !

and the internal buzzer will beep twice.

- 4) Press **QUIT** to exit the function.

3.6.4 HIGHEST PRIORITY EVENT FIRST

When this option is selected, the contents of the event log will be displayed in priority order as follows:

- FIRE [EVACUATE]
- FIRE [ALERT]
- WARNINGS
- FAULTS [SYSTEM]
- FAULTS [ADDRESSABLE POINTS]
- FAULTS [CLEAR]
- RESET/SILENCE
- PRINTER OFF LINE

To enter the Highest Priority Event First option:

- 1) Either select the option from the View Log menu, or enter Fast Access Code 0013.

The events are displayed as described in section 3.6.2.

- 2) Press **SCROLL DOWN** \blacktriangledown to move through the log forwards.
- 3) Press **SCROLL UP** \blacktriangle to move through the log backwards.

When either the beginning OR end of the log is reached, the controller will respond as in section 3.5.1.

- 4) Press **QUIT** to exit the function.

3.7 VIEW SYSTEM STATUSES MENU

3.7.1 SELECTION OF MENU

- 1) Either select the 'View System Statuses' option from the Main Menu. The menu shown in Fig. 5 will be displayed. The menu options are selected as described in section 3.4.1, or,
- 2) enter Fast Access Code 0100. Entry of Fast Access Codes is described in section 3.3.1.

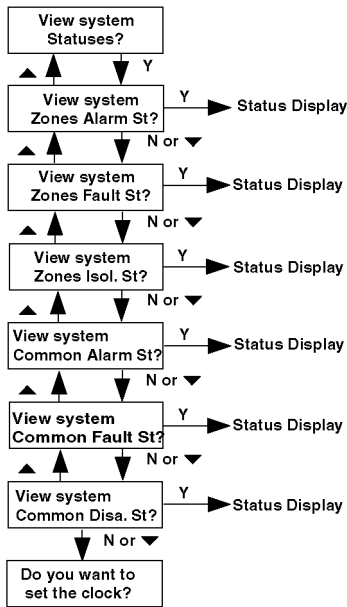


Fig. 5 'MINERVA' Controller - View System Statuses Menu

Note:

- 1) The Zonal Fault and Zonal Isolate displays are likely to be the most useful. The other displays are described here for completeness.
- 2) The statuses may also be checked when the controller is in the quiescent state [i.e. displaying date and time] by using the scroll up / down keys.

3.7.2 VIEW ZONES ALARM STATUS

When this option is selected, the Alarm/Clear status of each zone may be viewed.

Either select the option from the View System Statuses menu, or enter Fast Access Code 0101.

The display for an 8-zone controller is in the following format:

Zones Alarm St.
1- 8 0100 0000

The display for a 16-zone controller is in the following format:

Zones Alarm St.
1- 8 0100 0000
9- 16 0000 0000

The display for an 80-zone controller is in the same format as that for a 16-zone. Pressing **SCROLL DOWN** ▼ will bring up the display for the next sixteen zones as follows:

Zones Alarm St.
17-24 0000 0000
25- 32 0000 0000

Use **SCROLL UP** ▲ or **SCROLL DOWN** ▼ to select the displays for the remaining zones.

For each display a '1' indicates that a zone IS in alarm, a '0' indicates that it is not. Thus, for the example given, zone 2 is in alarm.

Pressing **QUIT** moves to the option described in section 3.7.3.

3.7.3 VIEW ZONES FAULT STATUS

When this option is selected, the Fault/Clear status of each zone may be viewed.

Either select the option from the View System Statuses menu, or enter Fast Access Code 0102.

The display is in the following format:

Zones Fault St.
1- 8 0000 1000

A '1' indicates that a zone IS in fault, a '0' indicates that it is not. Thus, for the example given, zone 5 is in fault.

Pressing **QUIT** moves on to the option described in section 3.7.4.

3.7.4 VIEW ZONES ISOLATE STATUS

When this option is selected, the Isolated/De-isolated status of each of the zones may be viewed.

Either select the option from the View System Statuses menu, or enter Fast Access Code 0103.

The display for an 8-zone controller is in the following format:

Zones Isol. St.
1- 8 1000 0000

The displays for a 16-zone, or 80-zone controller is in a format similar to those shown for View Zones Alarm Status [see para. 3.7.2] and are accessed in the same manner.

For each display a '1' indicates that a zone [or a point in the zone] IS isolated, a '0' indicates that it is not. Thus, for the example given, all [or part] of zone 1 is isolated.

Pressing **QUIT** will move on to the option described in section 3.7.5.

3.7.5 VIEW COMMON ALARM STATUS

When this option is selected, the Common Alarm status of the system may be viewed.

Either select the option from the View System Statuses menu, or enter Fast Access Code 0104.

The display is in the following format:

Common Alarm St.
0

A '1' indicates that a Common Alarm exists, a '0' indicates that it does not.

Pressing **QUIT** will move on to the option described in section 3.7.6.

3.7.6 VIEW COMMON FAULT STATUS

When this option is selected, the Common Fault status of the system may be viewed.

Either select the option from the View System Statuses menu, or enter Fast Access Code 0105.

The display is in the following format:

Common Fault St.
0

A '1' indicates that a Common Fault exists, a '0' indicates that it does not.

Pressing **QUIT** will move on to the option described in section 3.7.7.

3.7.7 VIEW COMMON DISABLED STATUS

When this option is selected, the Common Disabled status of the system may be viewed.

Either select the option from the View System Statuses menu, or enter Fast Access Code 0106.

The display is in the following format:

Common Disa. St.
0

A '1' indicates that a Common Disabled condition exists [i.e. a point is isolated or a function is disabled], a '0' indicates that it does not.

Pressing **QUIT** will move on to the option described in:

section 3.8 if Customer Manager,
or section 3.9 if Customer Operator

3.8 SET CLOCK MENU

3.8.1 SELECTION OF MENU

- 1) Either select the 'Set Clock' option from the Main Menu. The menu shown in Fig. 6 will be displayed. The menu options are selected as described in section 3.4.1, or,
- 2) enter Fast Access Code 0020. Entry of Fast Access Codes is described in section 3.3.1.

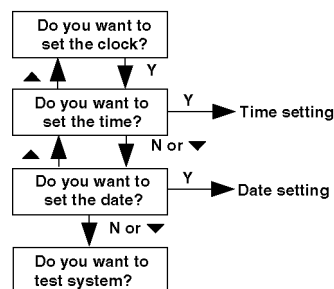


Fig. 6 'MINERVA' Controller - Set Clock Menu

3.8.2 SET TIME

When this option is selected, the system time may be set.

- 1) Either select the option from the 'Set Clock' menu, or enter Fast Access Code 0021.

The display will show:

**Enter time as:-
HHMMSS**

where:

HH = Hours [00 to 24]

MM = Minutes

SS = Seconds

followed by a flashing cursor to indicate that an operator entry is required.

- 2) Enter a time a few seconds in advance of the correct time [using leading zeros where necessary].
- 3) When the actual time corresponds with the entered time, press **YES/ENTER**.

*Note: If an error is made, pressing **QUIT** will allow the option to be exited and restarted. Take care not to rest fingers on keys, as characters will be generated repetitively.*

The system will now move to the 'Set Date' option.

3.8.3 SET DATE

When this option is selected, the system date may be set.

- 1) Either select the option from the 'Set Clock' menu, or enter Fast Access Code 0022.

The display will show:

**Enter date as:-
DDMMYY**

where:

DD = Day

MM = Month

YY = Year

- 2) Enter the date in the format required, using leading zeros where necessary, and press **YES/ENTER**.

The display will show:

Sun=1 . . . Sat=7

Enter day:

- 3) Enter the number corresponding to the required day from the following table and press **YES/ENTER**.

Day	Number
Sunday	1
Monday	2
Tuesday	3
Wednesday	4
Thursday	5
Friday	6
Saturday	7

*Note: If an error is made, pressing **QUIT** will allow the option to be exited and restarted. Take care not to rest fingers on keys, as characters will be generated repetitively.*

3.9 TEST SYSTEM MENU

3.9.1 SELECTION OF MENU

When selected, the options in this menu allows devices to be tested without raising a full alarm.

- 1) Select the 'Test System' option from the main menu. The menu shown in Fig. 7 will be displayed. The menu options are selected as described in section 3.4.1, or
- 2) enter the Fast Access Code 0030. Entry of Fast Access Codes is described in section 3.3.1.

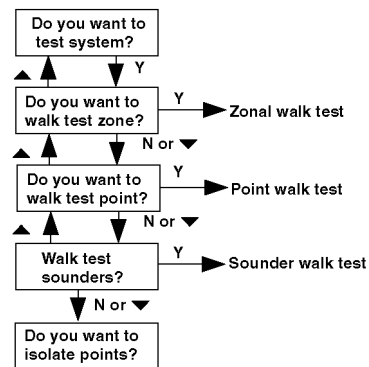


Fig. 7 'MINERVA' Controller - Test System Menu

3.9.2 WALK TEST ZONE

When selected, this option allows the detectors and callpoints in a zone to be checked for correct operation WITHOUT raising an alarm.

WARNING:

**THIS FUNCTION WILL DISABLE THE ZONE[S]
UNDER TEST.**

Proceed as follows:

- 1) Select the 'Walk Test Zone' option from the test system menu, or enter Fast Access Code 0035.

The display will show:

Zone no. :
(Quit to exit)

A flashing cursor indicates that an operator entry is required.

- 2) Enter the number of the required zone.

The display will show:

< zone name >
Zone no. :
(Y / N / UP/DOWN) ?

- 3) Press **YES/ENTER** to confirm the selection [or use **SCROLL UP** ▲ or **SCROLL DOWN** ▼ to correct the entry, then press **YES/ENTER**].

The display will show:

walk test active
000 pnts tested

exit with quit

- 4) Walk round the zone in any order, setting detectors, callpoints, etc. into alarm.
- 5) The LEDs on the last five devices tested should always be lit and the 'points tested' count on the LCD should increment each time a point is tested.

Note: If a printer is attached [and on-line], details of the points will be printed out as they are tested. For a description of the print-out, together with how to print details of faulty and missed points [see below], refer to section 3.13.2.

- 6) Once all devices have been tested, press **QUIT**.

The display will show a summary in the format:

000 points untested
001 points in Alarm
print data?

If it is required to print details of missed and faulty points, press **YES/ENTER**, then refer to section 3.13.2. If a printout is selected, the LCD displays:

print initiated

Note:

- 1) *The walk test function will be automatically terminated one hour after the last device is tested, if not terminated manually.*
- 2) *If the walk test function is exited whilst devices are still in alarm [i.e. the key has not been removed from a callpoint or detectors still contain smoke], the controller will immediately signal an alarm. Always wait five minutes after testing the last device to allow any smoke to clear from the detectors. Alternatively, wait until the Points in alarm counter on the LCD reaches zero [the counter is only updated by clearing it, then re-selecting the display, using **NO** and **QUIT** respectively].*

3.9.3 WALK TEST POINTS

When selected, this option allows the multiple contact detectors [ie DMs], and callpoints in a loop to be checked individually for correct operation WITHOUT raising an alarm.

WARNING:

**THIS FUNCTION WILL DISABLE THE
ZONE[S] UNDER TEST.**

Proceed as follows:

- 1) Select the 'Walk Test Points' option from the test system menu, or enter Fast Access Code 1030.

The display will show:

Loop : A
(Y/N)?
(Quit to exit)

MINERVA

15A-02-O1

04 11/99

<http://www.firealarmengineers.com>

A flashing cursor indicates that an operator entry is required.

Note: Entering zone '0' will cause only the common sounders to be tested.

- 2) Enter the letter for the required loop.
The display will show:

Point no. :
(Quit to exit)

- 3) Select the number of the required point, by pressing the relevant numeric keys and press **YES/ENTER**.

The display will show:

< point name >
Point no. :
(Y / N / UP/DOWN) ?

- 4) Press **YES/ENTER** to confirm the selection [or use **SCROLL UP** ▲ or **SCROLL DOWN** ▼ to correct the entry, then press **YES/ENTER**].

The display will show:

Walk test active
000 activations

exit with quit

- 5) Set point into alarm.
- 6) Check the LED on device lights after it has been tested.
- 7) Once point has been tested, press **QUIT**.

3.9.4 WALK TEST SOUNDERS

When selected, this function allows sounders to be tested without first raising an alarm. It is possible to test either ALL the sounders or the sounders in ONE zone only.

Note: The Walk Test Sounders facility is available in marine applications, however it is not used, as the sounders are not pulsed but sound continuously.

Proceed as follows:

- 1) Select the 'Walk Test Sounders' option from the Test System menu, or enter the Fast Access Code 0036.

The display will show:

Zone no. :
(Yes = all)

A flashing cursor indicates that an operator input is required,

- 2) Enter the number of the required zone and press **YES/ENTER**.
The display will show:

< zone name >
Zone no. :
(Y / N / UP/DOWN) ?

- 3) Press **YES/ENTER** to confirm the selection [or use **SCROLL UP** ▲ or **SCROLL DOWN** ▼ to correct the entry, then press **YES/ENTER**].

The display will show:

Sounders in
walk test
exit with quit

All sounders [in the selected zone] will operate for approximately 2 seconds every 30 seconds.

- 4) Walk round the site, checking for correct operation of the sounders.
- 5) When all the sounders have been proved, press **QUIT**.
- 6) The display will show:

Walk test
terminated

Note:

- 1) The function will automatically terminate after one hour.
- 2) If an alarm occurs during the walk test, the function will be automatically terminated and the controller will respond as described in section 2.3.1.

3.10 ISOLATE MENU

3.10.1 SELECTION OF MENU

When selected, the options in this menu allow devices to be isolated [i.e. not respond to an alarm]. This must NOT be used when work is physically being carried out on the system - in this instance, the system must be powered down.

Proceed as follows:

- 1) Select the 'Isolate' option from the Main Menu. The menu shown in Fig. 8 will be displayed. The menu options are selected as described in section 3.4.1, or
- 2) enter the Fast Access Code 0040.

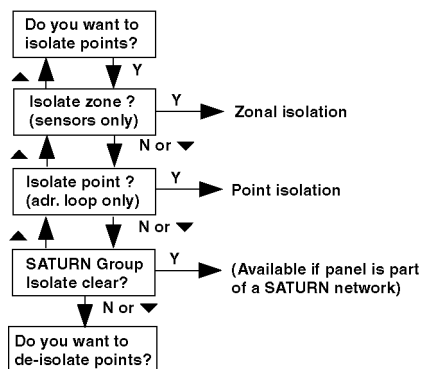


Fig. 8 'MINERVA' Controller - Isolate Menu

3.10.2 ISOLATE ZONE [SENSORS ONLY]

When this option is selected, all sensors [detectors] may be isolated in a selected zone. This must NOT be used if work is physically being carried out on the system - in this instance, the system must be powered down.

Proceed as follows:

- 1) Select the 'Isolate Zone' option from the above menu, or enter Fast Access Code 0041.

The display will show:

Zone no. :
(Yes = all)

Flashing cursor indicates that an operator input is required.

- 2) To isolate all zones press **YES/ENTER**.
The controller will pause briefly and then display:

Isolate
successful

- 3) To isolate a specific zone, enter the number of the required zone and press **YES/ENTER**.
The display will show:

< zone name >
Zone no. :
(Y / N / UP/DOWN) ?

- 4) Press **YES/ENTER** to confirm the selection [or use **SCROLL UP** ▲ or **SCROLL DOWN** ▼ to correct the entry, then press **YES/ENTER**].

The controller will pause briefly and then display:

Isolate
successful

- 5) The 'DISABLED' LED will light and the internal buzzer will sound intermittently. The display then returns to the "Isolate zone [sensor only]" display, allowing a further zone to be isolated.

Note:

- 1) If a non-existent zone number is entered, the display will show:

Point(s)
not found

- 2) If an attempt is made to isolate a zone which is already isolated, the display will show:

Point(s) already
isolated

The 'DISABLED' LED and the buzzer will continue to operate as a warning that the zone is isolated.

- 3) If a printer is connected and on-line, each zone disabled will be logged in the format shown in Fig. 9. In this example, Zone 1 [all points] has been isolated.

3.10.3 ISOLATE POINT [ADDRESSABLE LOOPS ONLY]

When this option is selected, individual devices may be isolated using their addresses:

Proceed as follows:

- 1) Select the 'Isolate Point' option from the "Isolate" menu, or enter Fast Access Code 0043.

The display will show:

Loop : A
(Y/N)?

- 2) If the device to be isolated is on loop A, press **YES/ENTER** and proceed.

- 3) Pressing **NO/DELETE** has no effect.

- 4) Once the correct loop has been chosen, the display will show:

Point no. :
(Yes = all)

5) Enter the address of the required device and press **YES/ENTER**.

The display will show:

< *point name* >
Point no. :
(**Y / N / UP/DOWN**) ?

Note:

1) *If a non-existent address is entered, the display will show:*

**Point(s)
not found**

6) Press **YES/ENTER** to confirm the selection [or use **SCROLL UP** ▲ or **SCROLL DOWN** ▼ to correct the entry, then press **YES/ENTER**].

The controller will pause briefly and then display:

**Isolate
successful**

2) *If an attempt is made to isolate a device which is already isolated, the display will show:*

**Point(s) already
isolated**

The 'DISABLED' LED and the buzzer will continue to operate as a warning that the zone is isolated.

The 'DISABLED' LED will light and the internal buzzer will sound intermittently. The LCD will return to the "isolate point? [addr. loop only]" display, allowing a further point to be isolated.

3) *If a printer is connected and on-line, each point disabled will be logged in the format shown in Fig. 10. In this example, Points A2 and A3 in Zone 1 have been isolated.*

ISOLATE	WARNING	Zone One	02:24:22	01 Jan 93
			Zone 01	A 1
ISOLATE	WARNING	Zone One	02:24:22	01 Jan 93
			Zone 01	A 4
POINT	ISOLATED	Zone One	02:24:22	01 Jan 93
		Non Addressable Pnt.	A	

**Fig. 9 'Isolate Zone' Option - Example Printout
[Zone 1 (all points) Isolated]**

POINT	ISOLATED	All Zones	02:24:22	01 Jan 93
				A 2
SYSTEM	ISOLATE	All Zones	02:24:22	01 Jan 93
		Non Addressable Pnt.		
ISOLATE	WARNING	Zone One	02:24:22	01 Jan 93
			Zone 01	A 3
POINT	ISOLATED	All Zones	02:24:22	01 Jan 93
				A 3

**Fig. 10 'Isolate Point' Option - Example Printout
[Points A2 and A3 in Zone 1 Isolated]**

3.11 DE-ISOLATE MENU

3.11.1 SELECTION OF MENU

When selected, the options in this menu allow devices to be de-isolated [i.e. respond to an alarm].

- 1) Select the 'De-isolate' option from the Main Menu. The menu shown in Fig. 11 will be displayed. The menu options are selected as described in section 3.4.1, or
- 2) enter Fast Access Code 0050. Entry of fast Access codes is described in section 3.3.1.

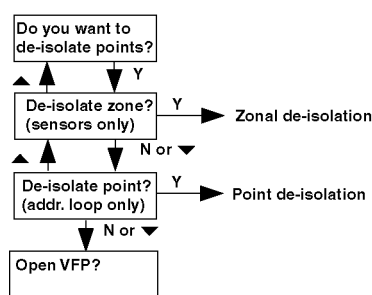


Fig. 11 'MINERVA' Controller - De-isolate Menu

3.11.2 DE-ISOLATE ZONE [SENSORS ONLY]

When this option is selected, previously isolated sensors [detectors] in a selected zone may be de-isolated.

Proceed as follows:

- 1) Select the 'De-isolate Zone' option from the above menu, or enter Fast Access Code 0051.

The display will show:

Zone no. :
(Yes = all)

- 2) Enter the number of the required zone and press **YES/ENTER**.

The display will show:

< zone name >
Zone no. :
(Y / N / UP/DOWN) ?

- 3) Press **YES/ENTER** to confirm the selection [or use **SCROLL UP** ▲ or **SCROLL DOWN** ▼ to correct the entry, then press **YES/ENTER**].

The controller will pause briefly and then display:

**De-isolate
successful**

- 4) The 'DISABLED' LED will go out and the internal buzzer will cease sounding, if no further zones are isolated. The LCD will return to the "de-isolate zone [sensors only]" display, allowing a further zone to be enabled.

Note:

- 1) If a non-existent zone number is entered, the display will show:

**Point(s)
not found**

- 2) If an attempt is made to de-isolate a zone which is already de-isolated, the display will show the following:

**Point(s) already
de-isolated**

- 3) If a printer is connected and on-line, each zone enabled will be logged in the format shown in Fig. 12. In this example, Zone 1 [all points] have been enabled.

3.11.3 DE-ISOLATE POINT [ADDRESSABLE LOOPS ONLY]

When this option is selected, previously isolated individual devices specified by displayed addresses may be de-isolated.

Proceed as follows:

- 1) Select the 'De-isolate Point' option from the above menu, or enter Fast Access Code 0053.

The display will show:

**Loop : A
(Y/N)?**

- 2) If the device to be de-isolated is on loop A, press **YES/ENTER** and proceed from para [d].

- 3) Pressing **NO/DELETE** has no effect,

- 4) Once the correct loop has been chosen, the display will show:

Point no. :
(Yes = all)

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5) Enter the address of the required device and press **YES/ENTER**.

The display will show:

< point name >

Point no. :

(Y / N / UP/DOWN) ?

6) Press **YES/ENTER** to confirm the selection [or use **SCROLL UP** ▲ or **SCROLL DOWN** ▼ to correct the entry, then press **YES/ENTER**].

The controller will pause briefly and then display:

De-isolate

successful

Note:

1) If a non-existent address is entered, the display will show:

Point(s)

not found

2) If an attempt is made to de-isolate a device which is already de-isolated, the display will show the following:

Point(s) already

de-isolated

3) If a printer is connected and on-line, each point de-isolated will be logged in the format shown in Fig. 13. In this example, Points A2 and A3 in Zone 1 have been de-isolated.

System De-isolate is only printed when the last isolated point is de-isolated.

The 'DISABLED' LED will go out and the internal buzzer will cease sounding, if no further points are isolated. The LCD will return to the "de-isolate point [addr. loop only]" display, allowing a further point to be de-isolated.

POINT	ENABLED	3rd Floor	12:44:22	23 Jan 93
		Non Addressable Pnt.Zone 01	All	001

Fig. 12 De isolate Zone [Sensors Only] Option - Example Printout [Zone 1 (all points) Enabled]

POINT	ENABLED	All Zones	02:24:22	01 Jan 93
				A 2
POINT	ENABLED	All Zones	02:24:22	01 Jan 93
				A 3
SYSTEM	DE-ISOLATE	All Zones	02:24:22	01 Jan 93
		Non Addressable Pnt.		

Fig. 13 'De-isolate Point' Option - Example Printout

3.12 VIRTUAL FRONT PANEL [VFP]

This option [available on network systems only] allows access to the front panel controls of any controller from another on the ThornNet network. Thus the front panel of one controller becomes the Virtual Front Panel of the other. When selected, all the functions of the Main Menu can be accessed remotely.

3.12.1 SELECTING THE 'VFP' OPTION

To select the 'VFP' option and access another controller proceed as follows:

- 1) Either select the 'Open VFP' option from the Main Menu or enter Fast Access Code 0070.

The display will show:

VFP into Panel :

A flashing cursor draws attention to the fact that an operator entry is required.

- 2) Enter the Node address [between 1 and 30] of the controller you want to view and press **YES/ENTER**.

The display scrolls through the following two messages:

Requesting VFP into panel

VFP Session Opened

the LCD will show the Date / Time message and then:

VFP open to Panel :

- 3) Enter passcode for the controller selected.
- 4) Press **YES/ENTER** and all the Main Menu options as described in para 3.3.1. are available.
- 5) Press **QUIT** to exit the current option displayed.
- 6) Press **QUIT** again, the display will show:

VFP open to Panel :

- 7) Press **QUIT** again, the display will show:

Quitting VFP ...

then:

VFP into panel :

- 8) Press **QUIT** again, the display will show:

Open VFP :

- 9) Press **QUIT** again, to exit the VFP option and restore the front panel displays to their normal mode.

3.13 PRINT DATA MENU

3.13.1 SELECTION OF MENU

When selected, the options in this menu allow the contents of the Event Log or the results of a walk test to be printed.

- 1) Either select the 'Print Data' option from the Main Menu. The following menu will be displayed. The menu options are selected as described in section 3.4.1, or
- 2) enter the Fast Access Code 0080. Entry of Fast Access Codes is described in section 3.3.1.

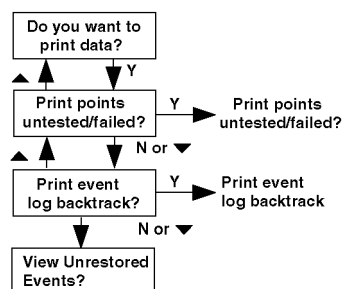


Fig. 14 'MINERVA' Controller - Print Data Menu

3.13.2 PRINT WALK TEST POINTS NOT TESTED/FAILED

When this option is selected, a printout may be obtained of all points missed during a walk test, or which failed to respond correctly.

Proceed as follows:

- 1) Either select the 'Print Points untested/failed' option from the Print Data menu, or enter Fast Access Code 0083. The display will show:

Zone no. :
(Yes = all)

- 2) Enter the number of the required zone and press **YES/ENTER**.

The display will show:

Zone no. :
< zone name >
(Y / N / UP/DOWN) ?

- 3) Press **YES/ENTER** to confirm the selection [or use **SCROLL UP** ▲ or **SCROLL DOWN** ▼ to correct the entry, then press **YES/ENTER**].

The printer will produce a list of all points for which no response was detected during the previous walk test of the selected zone[s] or were found to be faulty, together with any available parameters.

The controller LCD will show:

Print initiated

3.13.3 PRINT EVENT LOG BACKTRACK

When this option is selected, a printout of all [or part] of the Event Log may be obtained. The selection may also be made by the type of event [All, Alarm or Fault].

Proceed as follows:

- 1) Either select the 'Print Event Log Backtrack' option from the Print Data menu, or enter Fast Access Code 0085.

The display will show:

Event Type ?
All

Use the **SCROLL UP** ▲ or **SCROLL DOWN** ▼ or **NO/DELETE** to move through the event types. When the required event type is shown, press **YES/ENTER**.

The display will show

Enter No. events

- 2) Enter the number of events required for printing [e.g. 20], and press **YES/ENTER**.

The display will show:

Print initiated

- 3) The controller will print out the [20] most recent events in the log in the form shown in Fig. 16.

For addressable points, the information logged is:

Event message, location, time and date, point description, zone no., loop no., point no.

For non-addressable points, the information logged is:

Event message, zone no, time & date, location, point/type no.

Note:

- 1) *The MAXIMUM number of events that the log can hold is 550. Asking for more than this number will cause the controller to display:*

invalid, try again

- 2) *The printout will only contain events appropriate to the access level of the user.*
- 3) *If there are less events in the log than the number requested, the controller will print out the entire log [but see Note 2].*
- 4) *Events followed by the letter 'R' have been recycled following an event log overflow.*

```

-----
TEST      STARTED   Zone 4           13:55:07   30 Jan 90
                Non Addressable Pnt.   Zone 4
POINT     TESTED    Zone 4           Zone 04     30 Jan 90
TEST      FINISHED  All Zones        14:34:09   30 Jan 90
                Non Addressable Pnt.
  
```

```

-----
                        Zone A Points Untested/Failed
Address          Dev.   Con.   Id.   LT.Av   Inst.   Cnfm.   Status
Zone 4 A6        34     7.6   11.2  7.1mA  Norm    Norm
                etc.....
-----
  
```

Fig. 15 'Print Points Untested Failed' Option - Example Printout

Events will be printed in the format shown in Fig. 15.

The first three entries above will be produced when the walk test is initiated, when each point is tested and when the walk test is concluded, respectively. These entries will therefore already be on the printer before the print option is selected. The entries in the summary table contain the following parameters:

- Address - the zone, loop and point number
- Dev - the device type code number
- Con - the current condition in mA
- Id - the identity current in mA
- LT. Av. - the long term average current in mA
- Inst - the instantaneous point status, i.e. Norm, Fault, Alarm, etc.
- Cnfm. - the confirmed point status.

```

-----
Event log backtrack
FIRE      EVACUATE   Factory           11:57:01:30  30 Jan 90
                Ceiling Rose      Zone 08        A1
SYSTEM    SILENCE    System Zone       11:57:24:00  30 Jan 90
                Non Addressable Pnt.   LBO S2
SYSTEM    RESET      All Zones         11:57:48:32  30 Jan 90
                Non Addressable Pnt.   MP
-----
  
```

Fig. 16 'Event Log Backtrack' Option - Example Printout

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4. ROUTINE CHECKS

4.1 GENERAL

In order to comply with the requirements of British Standard BS 5839 Part 1 [1988], the installation must be checked on a regular basis by a responsible member of staff to confirm that the controller and all ancillary devices are operating correctly. The required routine checks are described in the following paragraphs.

For marine systems carry out routine checks in accordance with the customer's own procedures.

4.2 DAILY CHECKS

Proceed as follows:

- a) Ensure the front panel of the controller is indicating a normal condition [ie, no alarm or fault LEDs are lit and the LCD is displaying the date and time].

Note: If the panel is not indicating a normal condition record the condition in the log book and take any necessary action.

- b) Check that any fault recorded on the previous day has received attention.

4.3 WEEKLY CHECKS

These checks would normally be carried out by a responsible member of the customer's staff

- The two red 'FIRE' LEDs on the controller front panel light.
- The appropriate red 'FIRE ZONAL' LED flashes (if configured). Normally a remote function.
- The general and zonal sounders operate.
- The alphanumeric display gives the location of the alarm.

- d) Record the device used to initiate the test in the site log book and reset the controller.
- e) Check the condition of the printout on any printers attached to the system and replace the ribbon if it is becoming feint.
- f) Ensure that each printer has an adequate supply of paper.

5. RECOMMENDED SPARES

The following is a recommended spare for a 'MINERVA' fire controller system:

Callpoint Glasses Clear (pack of 5): 515.001.025

JM/jm

22nd November 1999

WARNING:

**WARN ALL PERSONNEL THAT THE
SOUNDERS ARE ABOUT TO BE TESTED.**

Proceed as follows:

- a) If necessary, clean the front panel of the controller with a suitable cleansing agent.
- b) Using the walk test function (see sections X.X.X and X.X.X), check the operation of at least one zone. If a printer is available, print out the results of the walk test (see section 3.18.4).
- c) Set one device (either a callpoint or detector) from one zone into alarm and check that the system responds as follows:
 - The controller's internal buzzer sounds in a continuous tone.