

CONFIGURATION ACCESS



Fig. 1-1 PS200 Series Instrument

In order to change or modify the internal parameters of a PS200 Series instrument it must first be switched to the Configuration Menu Mode. For security reasons this access is protected by the use of a 3-digit code. When entered correctly, a sub-menu appears detailing the various headings and parameters that may be altered by the user. The warm-up sequence assumes the instrument configuration to be in default condition. For optional warm-up features, refer to the PS200 Series User Handbook (User CD-ROM Part No. 64190).

Depending on the setting(s) to be modified, the user will always be required to enter an access code. Follow the instructions in this chapter to enter the protected area, then simply turn to the relevant following section for the function or feature to be changed.

For any other calibration, use only GMI software to ensure safe and proper function of these life-saving instruments.

SWITCH THE INSTRUMENT ON

Press and hold the Right Hand (RH) button  to switch the instrument ON.



Fig. 1-2 Switch Instrument ON

Immediately following the 'PS 200 Series' screen display (Fig. 1-2) and while the instrument identification screen is displayed, as illustrated in Fig. 1-3, press the following buttons in sequence:

Left Hand (LH) button 

Right Hand (RH) button 

Left Hand (LH) button 

Right Hand (RH) button 

The instrument begins its warm-up routine, approximately 30 seconds duration. During the warm-up, a countdown timer appears in the top (RH) corner of the display.

If the correct button sequence is accepted, the countdown timer alternates with 'M' (Menu) symbol.

Note: The display backlight illuminates green and remains ON during warm-up. If a fault develops during warm-up, the backlight changes to red. When warm-up is complete, the screen light automatically switches OFF.

Instrument Identification

During warm-up, the instrument display identifies the serial number, software version, datalogging, battery status and calibration gas type information, as illustrated in Fig.1-3:

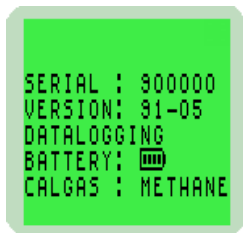


Fig. 1-3 Instrument Identification Screen

Battery Status

This feature provides user with the Battery charge level, as illustrated in Fig. 1-3. This is indicated by a battery symbol with a bar graph showing FULL, 75%, 50% and 25%, which is displayed as illustrated in Fig. 1-3 for approximately 5 seconds during warm up, then displayed on the bottom (LH) corner of the screen during normal operation.

Date and Time

The date and time, from the instrument's built-in clock, is displayed during warm-up, as illustrated in Fig. 1-4.



Fig. 1-4 Date and Time

Datalogging utilises the date and time from this clock. This may be important when viewing the logged data.

Note: CAL DUE is also set from this clock.

Calibration Due Date

The calibration due date is displayed during warm-up.



Fig. 1-5 Calibration Due Date

If the Calibration Due Date has expired, the display backlight illuminates red, the audible and visual alarms activate and the following warning is displayed:

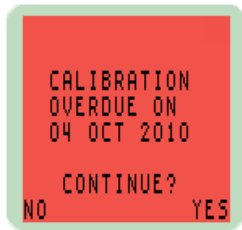


Fig. 1-6 Calibration Overdue

Press the Right Hand (RH) button  once to acknowledge the calibration due date is overdue, cancel the audible / visual alarm, and continue to the next display. Press the Left Hand (LH) button once to abort the warm-up routine and automatically switch OFF the instrument.

Sensor Confirmation Check (4-Gas version)

The diamond symbol ◆ is displayed adjacent to each sensor type to confirm that the sensor has been recognised, is working correctly, and is being zeroed. When each sensor is zeroed correctly, a tick symbol is displayed adjacent to sensor type, as illustrated in Fig.1-7.

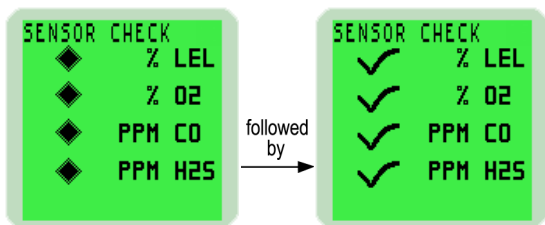


Fig. 1-7 Sensor Check

Note: If a sensor fault or sensor calibration error is detected, the screen illustrated in Fig. 1-8 is displayed.

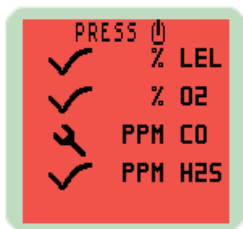


Fig. 1-8 Sensor Fault

Press the Right Hand (RH) button  to display the Configuration Menu Screen.

Configuration Menu Screen

When warm-up is completed successfully, the screen light switches off and instrument automatically displays the configuration menu screen illustrated in Fig. 1-9. The alphanumeric screen acts as a prompt to assist you through the set-up process.



Fig. 1-9 Configuration Menu

Using the left hand (LH)  button, select the appropriate parameter you wish to change, then refer to the appropriate chapter from the following list:

Chapter 2 - Field Calibration (CALIBRATE)

Chapter 3 - Alarm Configuration (ALARMS)

Chapter 4 - Setup Options (SETUP)

Chapter 5 - Set Defaults (DEFAULT)

Chapter 6 - Clock Configuration (CLOCK)

Chapter 7 - Bump Test Options (BUMP)

Chapter 8 - User Names (USER NAMES)



Fig. 3-1 Select 'ALARMS'

With 'ALARMS' highlighted, press the Right Hand (RH) button . The display, illustrated in Fig. 3-2, prompts the user to enter the alarms code.



Fig. 3-2 Enter Alarm Code

The factory-set default Alarm code is 123.

To enter the Alarm code, 123 (default), press the Left Hand (LH) button  to edit the first 'flashing' (0) character. Each button press increases the numerical value.

When a numerical value of 1 is displayed, as illustrated in Fig. 3-3, press the Right Hand (RH) button  to accept.



Fig. 3-3 Enter Alarm Code

Once accepted, the second (0) character will flash. Press the Left Hand (LH) button  to edit as before. Once the numerical value of 2 is displayed, as illustrated in Fig. 3-4, press the Right Hand (RH) button  to accept.



Fig. 3-4 Enter Alarm Code

Once accepted, the third (0) character will flash. Press the Left Hand (LH) button  to edit as before. Once the numerical value of 2 is displayed, as illustrated in Fig. 3-5, press the Right Hand (RH) button  to accept and enter the Alarm Setup menu.



Fig. 3-5 Enter Alarm Code

ALARM SETUP

Once the correct alarm code has been entered, the Alarm Setup menu is displayed, as illustrated in Fig. 3-6:



Fig. 3-6 Alarm Setup Menu

There are three available options in the alarm setup menu, Levels, Latching and Mute:

1) LEVELS

In this function, individual alarm setpoints can be adjusted or disabled. If an alarm is disabled it will appear in the 'Latching menu' and 'Mute menu' as disabled and cannot be changed unless an active setpoint is programmed in this section.

2) LATCHING

In this function, individual alarms can be selected to be 'LATCH' or 'NONLATCH'. If 'Disabled' is set in the Levels menu it cannot be changed in this menu.

Latch means when a gas alarm setpoint is exceeded, the audible and visual alarm will stay active until the gas value returns within the gas alarm setpoint and requires the user to PRESS and HOLD the Right Hand

(RH) button  for approx. 1 second to clear.

Non-latch means that when a gas alarm setpoint is exceeded, the audible and visual alarm will reset automatically when the gas value returns within the gas alarm setpoint.

3) MUTE

This function allows certain alarms to be programmed, allowing the user to acknowledge a gas alarm and silence the AUDIBLE alarm for a period of 60 seconds. During this period the VISUAL alarm stays active during the presence of gas. After the 60 seconds has elapsed, the AUDIBLE alarm will sound again to alert the user the gas hazard still exists. If during the 'MUTE' period a different alarm occurs, the instrument will respond as normal, depending on the alarm configuration.

If 'Disabled' is set in the Levels menu, it cannot be changed in this menu.

Note: The following procedure and alarms tables show the GMI factory default settings. The instrument displays the current default settings. These settings can be altered as detailed in the following procedure.

GAS	LTEL	STEL	TYPICAL INSTANTANEOUS				
			LoLo	Lo	Hi	Hi Hi	Maximum Adjustment
0 to 100% Flammable LEL	None	None	None	None	Disabled	20	60
0 to 25% Oxygen (O ₂)	None	None	19	Disabled	None	23	25
0 to 100 ppm Hydrogen Sulphide (H ₂ S)	5	10	None	None	Disabled	15	100
0 to 1000 ppm Carbon Monoxide (CO)	30	200	None	None	Disabled	300	500

PS200 Series (Default) Gas Alarm Levels

ALARM CONFIGURATION

ALARM TYPE	LATCHING	MUTE	AUDIBLE	VIBRATING	VISUAL (RED LED)
LEL (Hi)	Disabled	Disabled	Siren	N / A	Slow Flashing
LEL (Hi Hi)	Yes	Disabled	Siren	Yes	Flashing
O ₂ (Hi Hi)	Yes	Disabled	Siren	Yes	Flashing
O ₂ (Lo)	Disabled	Disabled	Siren	N / A	Slow Flashing
O ₂ (Lo Lo)	Yes	Disabled	Siren	N / A	Flashing
Toxic 1 (Hi)	Disabled	Disabled	Siren	N / A	Slow Flashing
Toxic 2 (Hi Hi)	Yes	Disabled	Siren	Yes	Flashing
Toxic 3 (STEL)	Yes	Disabled	Siren	Yes	Flashing
Toxic 4 (LTEL / TWA)	Yes	Disabled	Siren	Yes	Flashing
Low Battery Fault	N / A	N / A	Regular Beep	N / A	Slow Flashing
Zero Fault	N / A	N / A	Regular Beep	N / A	Slow Flashing
Sensor Fault	N / A	N / A	Regular Beep	N / A	Slow Flashing
Low Flow (Pumped Instr. Only)	N / A	N / A	Regular Beep	N / A	Slow Flashing
Flow Fault (Pumped Instr. Only)	N / A	N / A	Regular Beep	N / A	Flashing
Calibration Required	N / A	N / A	Regular Beep	N / A	Slow Flashing
Calibration Expired	N / A	N / A	Regular Beep	N / A	Slow Flashing
Over Range (LEL)	Yes	N / A	Siren	Yes	Flashing

N / A = Not Applicable

PS200 Series (Default) Alarm Indications

LEVELS

With 'LEVELS' option highlighted, as illustrated in Fig. 3-7, press the Right Hand (RH) button  to display the alarm level for the first gas sensor.



Fig. 3-7 'LEVELS' Option

Note: If 'LEVELS' is not highlighted in the display, press the Left Hand (LH) button , repeatedly if necessary, to scroll through options until 'LEVELS' is highlighted then press the Right Hand (RH) button  to display the alarm level for the first gas sensor..

The alarm levels, for each sensor, are displayed similar to the layout of the sensors located in the instrument, i.e. in a clockwise direction from top centre position (behind filter cover).

This example details a common 4-gas configuration, using Flammable LEL, Oxygen, dual Carbon Monoxide / Hydrogen Sulphide sensors.

LEL Alarms

The LEL sensor alarm setpoints are displayed as illustrated in Fig. 3-8:



Fig. 3-8 LEL Alarms

The highlighted 'HiHi' alarm setpoint can be edited by a press of the Left Hand (LH) button .

Each single press of the button will increase the alarm value in steps of 1%. Pressing and holding the button will increase the reading rapidly.

When the required alarm setpoint for the highlighted alarm is shown on the display, a short press the Right Hand (RH) button  will accept the alarm setpoint and step to the next LEL alarm.

The display will now highlight the 'Hi' alarm setpoint. In the example illustrated, the 'Hi' alarm is disabled. The alarm can be edited by a press of the Left Hand (LH) button . As before, each single press of the button will increase the alarm value in steps of 1%. Pressing and holding the button will increase the reading rapidly.

When complete, or at any time during this procedure, press and hold the Right Hand (RH) button  to accept the (LEL) alarm setpoints then step to the next sensor.

Oxygen Alarms

The Oxygen (O_2) sensor alarm setpoints are displayed as illustrated in Fig. 3-9:



Fig. 3-9 Oxygen Alarms

The highlighted 'HiHi' alarm setpoint can be edited by a press of the Left Hand (LH) button .

Each single press of the button will increase the alarm value in steps of 0.1%. Pressing and holding the button will increase the reading rapidly.

When the required alarm setpoint for the highlighted alarm is shown on the display, a short press of the Right Hand (RH) button  will accept the alarm setpoint and step to the next oxygen alarm.

The display will now highlight the 'Lo' alarm set point. If required, the 'Lo' alarm setpoint can be altered using the same procedure as before.

The 'LoLo' alarm is then highlighted and can also be edited using the same procedure as before.

When complete, or at any time during editing procedure, press and hold the Right Hand (RH) button  to accept the (O_2) alarm setpoints then step to the next sensor.

Toxic Gas Alarms

The Carbon Monoxide (CO) sensor alarm setpoints are displayed as illustrated in Fig. 3-10:



Fig. 3-10 Carbon Monoxide Alarms

The highlighted 'HiHi' alarm setpoint can be edited by a press of the Left Hand (LH) button .

Each single press of the button will increase the alarm value in steps of 1ppm. Pressing and holding the button will increase the reading rapidly.

When the required alarm setpoint for the highlighted alarm is shown on the display, press the Right Hand (RH) button  to accept the alarm setpoint.

The display will now highlight the 'Hi' alarm setpoint. If required, the 'Hi' alarm setpoint can be edited using the same procedure as before.

The 'STEL' alarm is then highlighted and can also be edited using the same procedure as before.

The 'LTEL' alarm is then highlighted and can also be edited using the same procedure as before.

When complete, or at any time during editing procedure, press and hold the Right Hand (RH) button  to accept the (CO) alarm setpoints then step to the next sensor.

The Hydrogen Sulphide (H_2S) sensor alarm setpoints are displayed as illustrated in Fig. 3-11:



Fig. 3-11 Hydrogen Sulphide Alarms

The highlighted 'HiHi' alarm setpoint can be edited by a press of the Left Hand (LH) button .

Each single press of the button will increase the alarm value in steps of 1ppm. Pressing and holding the button will cause the reading to increase rapidly.

When the required alarm setpoint for the highlighted alarm is shown on the display, a short press of the Right Hand (RH) button  will accept the alarm setpoint and step to the next H_2S alarm.

The display will now highlight the 'Hi' alarm setpoint. If required, the 'Hi' alarm set point can be altered using the same procedure as before.

The 'STEL' alarm is then highlighted and can also be edited using the same procedure as before.

The 'LTEL' alarm is then highlighted and can also be edited using the same procedure as before.

When complete, or at any time during editing procedure, press and hold the Right Hand (RH) button  to accept the (H_2S) alarm setpoints and return to the alarm setup menu.

Note: A Time Weighted Average (TWA) value is the mean average gas level over a specific period. The Short Term Exposure Limit (STEL) is 15 minutes and Long Term Exposure Limit (LTE) is 8 hours. In accordance with UK legislation, this requires the time weighted averages to be averaged over a full 24 hour period whether the instrument is On or Off. Such averaging essentially makes the instrument 'Single User' application. *The option is available to restart the averaging after each instrument switch-off, thus allowing for 'Multiple User' application.*

LATCHING

Latch means that when a gas alarm setpoint is exceeded, the audible and visual alarm will stay active until the gas value returns within the gas alarm setpoint and also requires a press and hold (for approx. 1 second) of the Right Hand (RH) button .

Non-latch means that when a gas alarm limit is exceeded, the audible and visual alarm will reset automatically when the gas value returns within the gas alarm limit.

With 'LATCHING' option highlighted, as illustrated in Fig. 3-12, press the Right Hand (RH) button  to display the latching options for the first gas sensor.

Note: If 'LATCHING' is not highlighted in the display, press the Left Hand (LH) button  repeatedly to scroll through options until 'LATCHING' is highlighted then press the Right Hand (RH) button  to display the latching options for the first gas sensor.



Fig. 3-12 'LATCHING' Option

The latching options, for each sensor, are displayed similar to the layout of the sensors located in the instrument, i.e. in a clockwise direction from top centre position (behind filter cover).

This example details a common 4-gas configuration, using Flammable LEL, Oxygen, dual Hydrogen Sulphide / Carbon Monoxide sensors.

LEL Latching Alarms

The LEL Latching options, for each alarm type, are displayed as illustrated in Fig. 3-13:



Fig. 3-13 LEL 'LATCHING' Alarm Option

Note: When an alarm type is set to DISABLED the latching setting is not applicable, therefore the display shows alarm type followed by DISABLED. This can only be edited in the alarm levels menu.

To accept the highlighted setting then move to the next alarm type, press the Right Hand (RH) button .

To change the highlighted setting, press the Left Hand (LH) button .

Once the required settings are displayed, for all (LEL) alarm types, press and hold the Right Hand (RH) button  to accept the settings then step to the next sensor.

Oxygen Latching Alarms

The Oxygen (O₂) Latching options, for each alarm type, are displayed as illustrated in Fig. 3-14:



Fig. 3-14 Oxygen 'LATCHING' Alarm Option

Note: When an alarm type is set to DISABLED the latching setting is not applicable, therefore the display shows alarm type followed by DISABLED. This can only be edited in the alarm levels menu.

To accept the highlighted setting then move to the next alarm type, press the Right Hand (RH) button .

To change the highlighted setting, press the Left Hand (LH) button .

Once the required settings are displayed, for all (O₂) alarm types, press and hold the Right Hand (RH) button  to accept the settings then step to the next sensor.

Carbon Monoxide Latching Alarms

The Carbon Monoxide (CO) Latching options, for each alarm type, are displayed as illustrated in Fig. 3-15:



Fig. 3-15 Carbon Monoxide 'LATCHING' Alarm Option

Note: When an alarm type is set to DISABLED the latching setting is not applicable, therefore the display shows alarm type followed by DISABLED as shown in example. This can only be edited in the alarm levels menu.

To accept the highlighted setting then move to the next alarm type, press the Right Hand (RH) button .

To change the highlighted setting, press the Left Hand (LH) button .

Once the required settings are displayed, for all (CO) alarm types, press and hold the Right Hand (RH) button  to accept the settings then step to the next sensor.

Hydrogen Sulphide Latching Alarms

The Hydrogen Sulphide (H_2S) Latching options, for each alarm type, are displayed as illustrated in Fig. 3-16:



Fig. 3-16 Hydrogen Sulphide 'LATCHING' Alarm Option

Note: When an alarm type is set to DISABLED the latching setting is not applicable, therefore the display shows alarm type followed by DISABLED as shown in example. This can only be edited in the alarm levels menu.

To accept the highlighted setting then move to the next alarm type, press the Right Hand (RH) button .

To change the highlighted setting, press the Left Hand (LH) button .

Once the required settings are displayed, for all (H₂S) alarm types, press and hold the Right Hand (RH) button  to accept the settings and return to the alarm setup menu.

MUTE

This function allows individual alarms to be programmed, allowing the user to acknowledge a gas alarm and silence the AUDIBLE alarm for a period of 60 seconds. During this period, the VISUAL alarm stays active during the presence of gas. After the 60 second period has elapsed, the AUDIBLE alarm will sound again to alert the user that the gas hazard still exists.

With 'MUTE' option highlighted, as illustrated in Fig. 3-17, press the Right Hand (RH) button  to display the muting options for the first gas sensor.



Fig. 3-17 Select 'MUTE' Option

Note: If 'MUTE' is not highlighted in the display, press the Left Hand (LH) button  repeatedly to scroll through options until 'MUTE' is highlighted then press the Right Hand (RH) button  to display the muting options for the first gas sensor.

The muting options, for each sensor, are displayed similar to the layout of the sensors located in the instrument, i.e. in a clockwise direction from top centre position (behind filter cover).

This procedure details a common 4-gas configuration, using Flammable LEL, Oxygen, dual Carbon Monoxide / Hydrogen Sulphide sensors.

LEL Mute Alarms

The LEL mute options, for each alarm type, are displayed in Fig. 3-18:



Fig. 3-18 LEL 'MUTE'

To accept the highlighted setting then move to the next alarm type, press the Right Hand (RH) button

To change the highlighted setting, press the Left Hand (LH) button

Note: When an alarm setpoint is DISABLED in the alarm levels menu, the mute setting cannot be altered.

Once the required settings are displayed, for both (LEL) alarm types, press and hold the Right Hand (RH) button

Oxygen Mute Alarms

The Oxygen (O₂) mute options, for each alarm type, are displayed as illustrated in Fig. 3-19:



Fig. 3-19 Oxygen 'MUTE'

To accept the highlighted setting then move to the next alarm type, press the Right Hand (RH) button .

To change the highlighted setting, press the Left Hand (LH) button .

Note: When an alarm setpoint is DISABLED in the alarm levels menu, the mute setting cannot be altered.

Once the required settings are displayed, for all (O₂) alarm types, press and hold the Right Hand (RH) button  to accept the settings then step to the next sensor.

Carbon Monoxide Mute Alarms

The Carbon Monoxide (CO) mute options, for each alarm type, are displayed as illustrated in Fig. 3-20:



Fig. 3-20 Carbon Monoxide ‘MUTE’

To accept the highlighted setting then move to the next alarm type, press the Right Hand (RH) button .

To change the highlighted setting, press the Left Hand (LH) button .

Note: When an alarm setpoint is DISABLED in the alarm levels menu, the mute setting cannot be altered.

Once the required settings are displayed for all (CO) alarm types, press and hold the Right Hand (RH) button  to accept the settings then step to the next sensor.

Hydrogen Sulphide Mute Alarms

The Hydrogen Sulphide (H_2S) mute options, for each alarm type, are displayed as illustrated in Fig. 3-21:



Fig. 3-21 Hydrogen Sulphide 'MUTE'

To accept the highlighted setting then move to the next alarm type, press the Right Hand (RH) button

To change the highlighted setting, press the Left Hand (LH) button

Note: When an alarm setpoint is DISABLED in the alarm levels menu, the mute setting cannot be altered.

Once the required settings are displayed for all (H_2S) alarm types, press and hold the Right Hand (RH) button to accept the settings and return to the alarm setup menu, as illustrated in Fig. 3-22:



Fig. 3-22 Alarm Setup Menu

Press the Right Hand (RH) button  again to return to the configuration menu, as illustrated in Fig. 3-23:



Fig. 3-23 Configuration Menu

Return Instrument To Normal Operation

With 'NORMAL' highlighted in the display, as illustrated in Fig. 3-23, press and hold the Right Hand (RH) button  to return the instrument to normal operation.