2-Channel Smoke Detector

SD - 110

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[SD-110 Overview]

SD-110 is a microprocessor internal 2-channel smoke detector.
SD-110 is an environment-adaptive smoke detector which displays the concentration on the back light LCD by receiving the serial signals from two sensors and by processing them in the digital mode, and performs the variety of local functions in digital process mode.
Also, it can ensure the effective remote control by stably outputting the analog serial signals to external control unit such as PLC/DDC.
As one of big advantages of SD-110, it can be suitably applicable for various purposes by processing the sensible signals detected by ionization sensor by microprocessor stably and accurately.

Because the existing smoke detectors have been mostly applied only for a fire alarm, it is general that they don't ensure an accuracy and safety for a utility of industrial field.

Therefore, SD-110 is designed to ensure a sensibility and safety simultaneously by controlling the sensible ionization sensor with an industrial detector technology.

[Features]

◈ Low Concentrated Smoke Detection : It is suitable to a small quantity smoke detection because it is designed for a purpose of supporting the safety function of industrial automation equipment.

◈ Digital Process : It has the detection and alarm function to maximize the detection effect because various artificial intelligences are provided by microprocessor.

◈ Ionization Sensor : Ionization sensor using the current change when the smoke is combined in the ion created by radial rays can detect very low concentrated smoke.

◈ LCD Display With Back-Light : It can validate the concentration immediately by displaying the detection concentration on LCD in real time, and it can also check the concentration in a dark environment easily because of auto back light function.

◈ Local Alarm : It can set the alarm concentration by microprocessor. When the detection concentration is larger than the alarm concentration, over 80㏈ alarm sound is generated. It informs whether the smoke occurs.

◈ User Selection Menu : It is organized suitably for the purpose of use because various artificial intellectuals are provided by microprocessor. It maximizes the effect of detection function because various functions such as alarm concentration setting, detection range setting, and alarm reset setting are properly used.

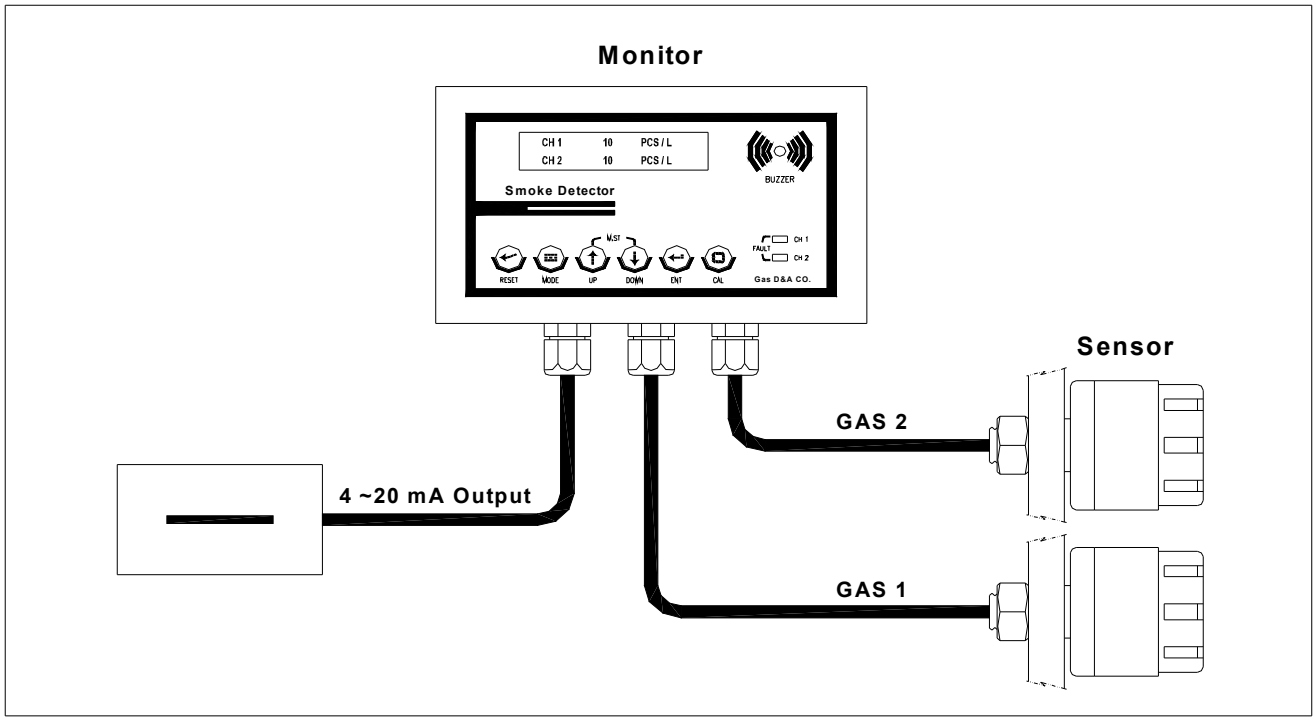
◈ Self-Diagnostic : It automatically checks the output status of sensor by microprocessor. When an error occurs, it automatically detects the error and informs the error through alarm sound and display on LCD.

◈ Two–Channel Detection : It can monitor the maximum 2 ionization sensor at the same time and can extend the detection space.

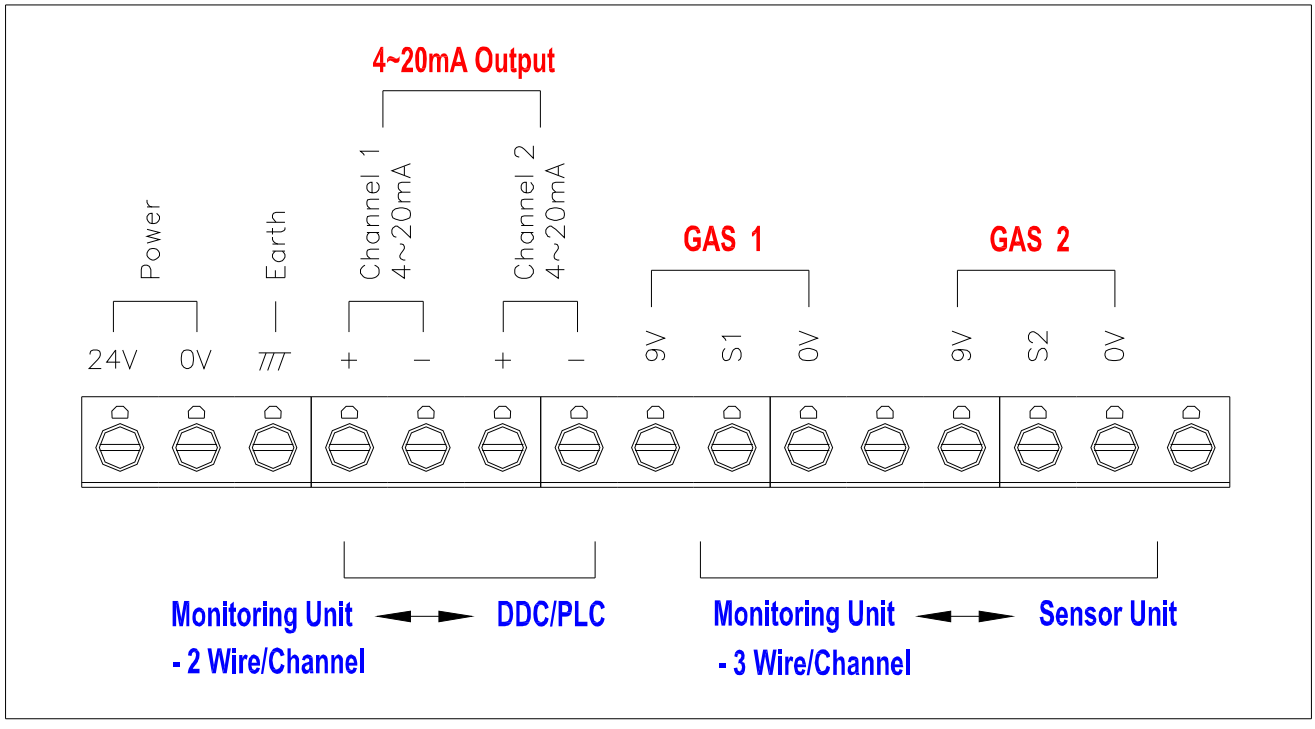
[Specification]

Classification	SD - 110
General Type	1 or, 2 Channel Monitoring
Product Type	Wall type
Detection Principle	Ionizations Smoke Chamber
Detection Type	Diffusion Type
Response Time	Less 5 sec.
Detection Range	0 ~ 500 Pcs/L
External Output	4 ~ 20㎃
Power Source	DC 24V
Alarm Type	High / Low 2 Step Alarm – User setting
Alarm Reset	Manual or automatic – User selection
Signal Wire	CVVS & CVVSB 1.25sq x 3 Wire - Shield Type
Available Current	500㎃. Maximum
System Initialization Time	Less 50 sec.
External Structure	Monitoring Unit - Metal, Sensor Unit - Aluminum
Temperature/Humidity	-20℃~ 50℃ / 0 ~ 95% RH (Non-Condensing)
Process	Digital Process

[System Diagram]

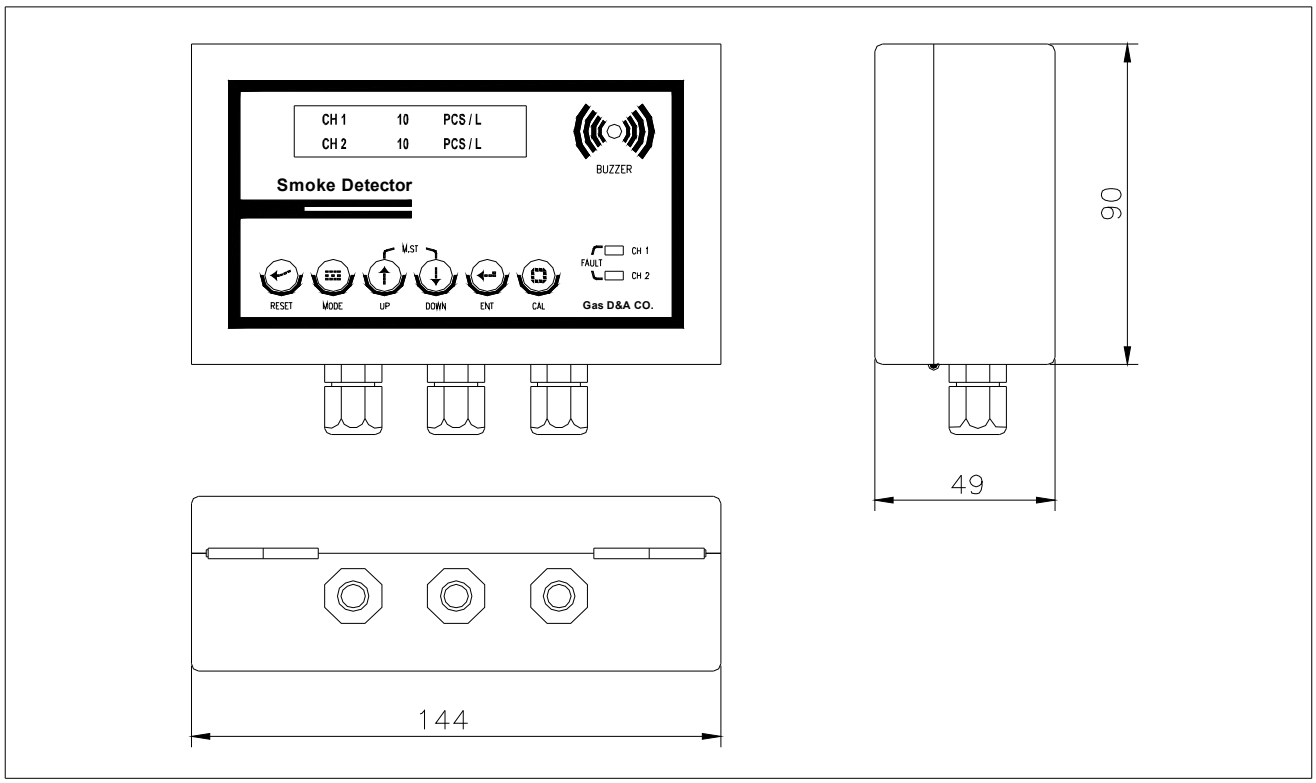


[Connection Diagram]

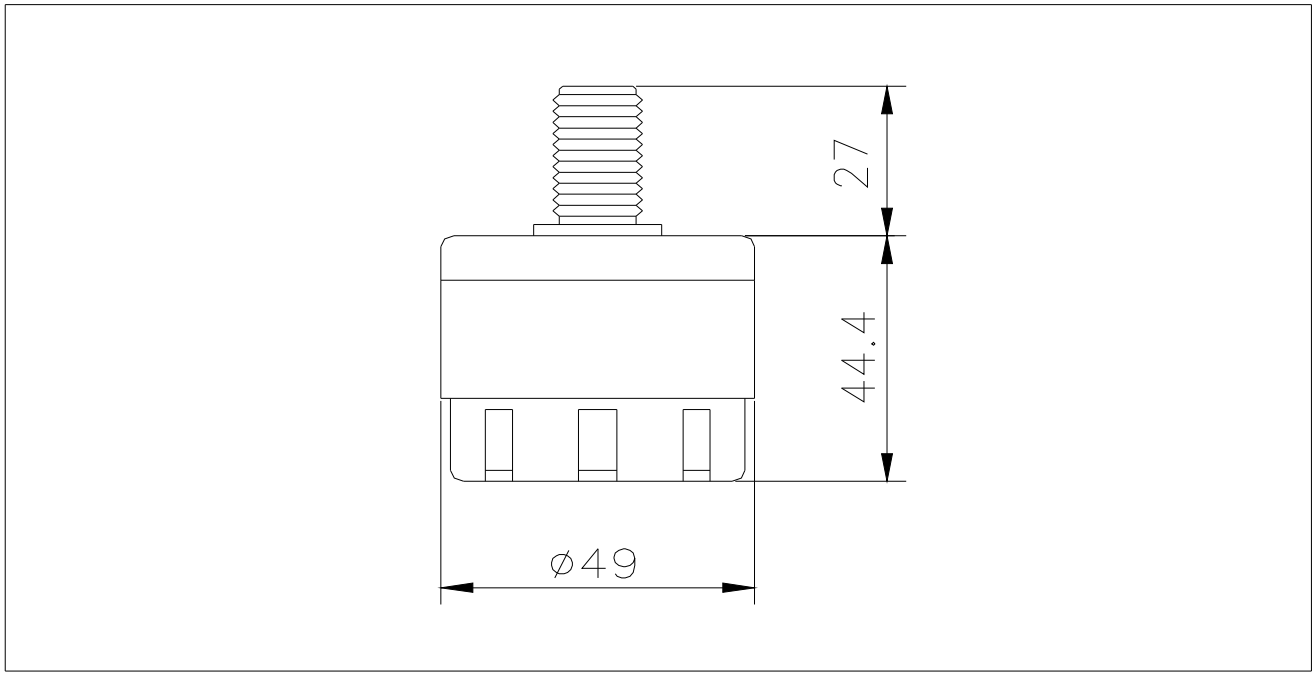


[Dimensions]

▣ MONITORING UNIT

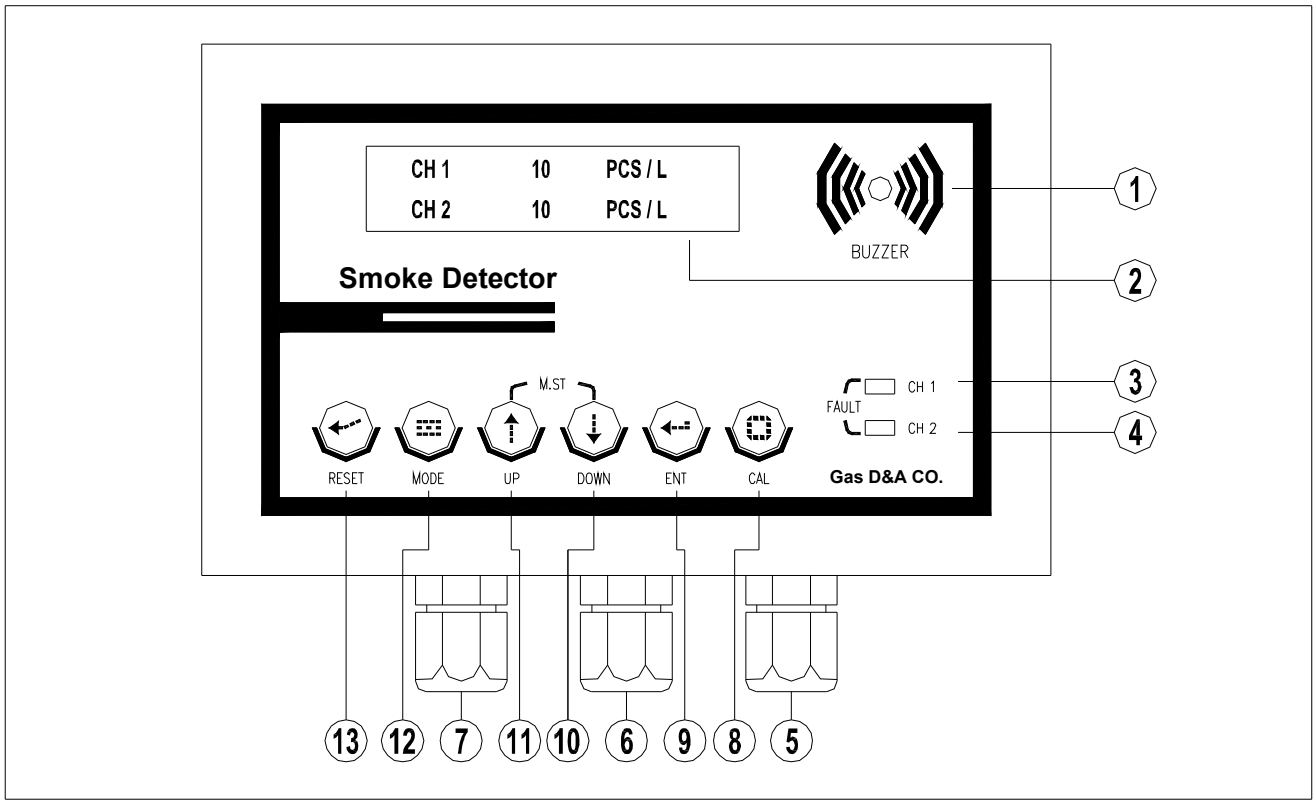


▣ SENSOR UNIT



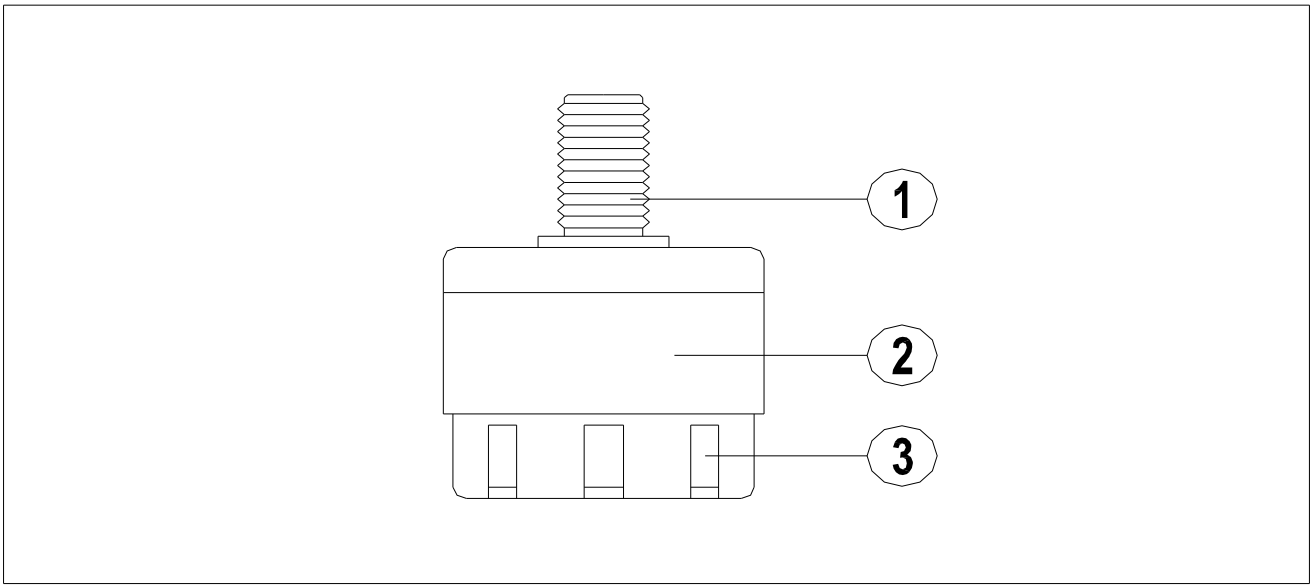
[Name and Functions of Parts]

▣ MONITORING UNIT



① Buzzer: Over 80dB alarm sound is generated.
② LCD: the smoke concentration is displayed. (2 LINE-16 CHARACTER)
③ CH1-FAULT LED: Light is turned on at Channel 1 sensor's disconnection.
④ CH2-FAULT LED: Light is turned on at Channel 2 sensor's disconnection.
⑤⑥⑦: Cable Glands
⑧ CAL KEY: Sensor Automatic Calibration Button.
⑨ ENTER KEY: This ENTER KEY is pressed to save the selected menu.
⑩ DOWN KEY: Down value is inputted.
⑪ UP KEY: Up value is inputted.
⑫ MODE KEY: This MODE KEY is pressed to change the program menu.
⑬ RESET KEY: Alarm sound is manually stored.

▣ SENSOR UNIT



① Screw: a screw to be connected with Bracket.

② Sensor Housing: an aluminum case designed to prevent the ionization sensor from the noise interruption.

③ Sensor: an ionization sensor

[Program Menu]

▣ Description of Program Menu

Menu	Description
CH1-FROM	Sets the low range of Channel 1 Sensor (4㎃).
CH1-TO	Sets the high range of Channel 1 Sensor (20mA).
CH2-FROM	Sets the low range of Channel 2 Sensor. (4㎃).
CH2-TO	Sets the high range of Channel 2 Sensor. (20mA).
CH1 LOW-ALARM	Sets the low alarm of Channel 1 Sensor.
CH1 HIGH-ALARM	Sets the high alarm of Channel 1 Sensor.
CH2 LOW-ALARM	Sets the low alarm of Channel 2 Sensor.
CH2 HIGH-ALARM	Sets the high alarm of Channel 2 Sensor.
AUTO-RESET	Alarm Reset Selection Menu – Manual/Auto Reset Selection
	1) O N – Auto Reset
	2) OFF – Manual Reset

▣ Program Menu Setting

No.	Menu	Select / Pass	Menu Setting	Save
* MANU MODE Conversion : When (UP) Key and (DOWN) Key is pressed simultaneously, it is converted into the menu mode and the first menu CHI-FROM appears. Menu appears in the following orders.				
1	**CH1-FROM**	(ENT)/(MODE)	Sets the menu with (UP) or (DOWN) Key.	(ENT)
2	**CH1-TO**	(ENT)/(MODE)	Sets the menu with (UP) or (DOWN) Key.	(ENT)
3	**CH2-FROM**	(ENT)/(MODE)	Sets the menu with (UP) or (DOWN) Key.	(ENT)
4	**CH2-TO**	(ENT)/(MODE)	Sets the menu with (UP) or (DOWN) Key.	(ENT)
5	**CH1 LOW-LARM**	(ENT)/(MODE)	Sets the menu with (UP) or (DOWN) Key.	(ENT)
6	**CH1 HIGH-LARM**	(ENT)/(MODE)	Sets the menu with (UP) or (DOWN) Key.	(ENT)
7	**CH2 LOW-LARM**	(ENT)/(MODE)	Sets the menu with (UP) or (DOWN) Key.	(ENT)
8	**CH2 HIGH-LARM**	(ENT)/(MODE)	Sets the menu with (UP) or (DOWN) Key.	(ENT)
9	**AUTO-RESET**	(ENT)/(MODE)	(UP) Key: ON, (DOWN) Key: OFF.	(ENT)
10	**Exit**	When the above menu is all finished in orders, it is automatically converted into the normal mode.		
※ Press (MODE) Key to go to the next menu without the value setting.				
※ When one menu is selected and saved, it goes to the next menu. Menu mode is converted into the normal mode only when the above menu is all finished in orders.				
※ EX.) CH1 LOW-ALARM Setting Method				
1) When (UP) Key and (DOWN) Key is pressed simultaneously, it is converted into the menu mode and CHI-FROM appears.				
2) After that, when (MODE) Key is repeated four times, CH1 LOW-ALARM is selected. Press (ENT) Key and then input the value with (UP) & (DOWN) Key.				
3) Press (ENT) Key to save the inputted value. It is automatically converted to the next menu CH1 HIGH-ALARM.				
4) Exit the menu mode by pressing the (MODE) Key repetitively.				