GST

GstDef-M2.2
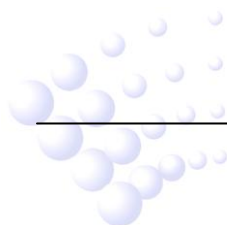# Defining Tool

User's Manual

CONTENTS

1   Overview

The newly developed GST Intelligent Fire Alarm System Defining Tool software is used for system commissioning. It is designed with friendly user interface and powerful functions. The fire alarm control panel (FACP) that can use this software include GST-M200 series The main features of this highly intelligent package are:

✧   By dividing control panels into logical zones and with descriptions of each zone, the control functions of the panels are made clearer:

✧   Providing the network definition of up to 32 FACPs of any model of GST-M200 series.

✧   Communicating with FACP through RS232 interface at a rate of 2400bps.

✧   Devices are distinguished with different icons.

✧   Zones are easily distinguished with different colors.

✧   Dropdown lists are used to save time. Manual input is also available with memory ability from the software that makes it simpler for similar inputs. Definitions can be edited in dialogue boxes.

✧   C&E equation definition with clear relationship, easily selecting exact device or group devices by fuzzy logic.

✧   In addition to normal text display, the system also supports upload or download of bi-direction text (a mixture of left-to-right and right-to-left horizontal text) for some special languages, and the screen displays accordingly.

✧   For control panel, name of device type is user-definable and running record can be uploaded to computer and saved as an Excel file.

2   System Requirement

2.1 Hardware

CPU: Pentium IV 1.7G or above
Free Hard disk: 2GB or above
Memory: 1G or above

2.2 Software

Windows 7 or Windows XP Professional

3   Installation

The software setup file is named GstDef-M2.2_setup.exe. Double clicking the file and following the wizards will install the software into your computer.

To uninstall the software, you can either go to <Control Panel> -- <Add/Remove Software> or run the GstDef-M2.2_setup.exe again.
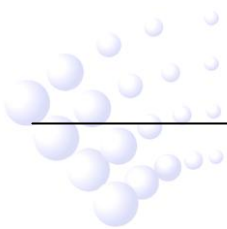
4   User's Guide

4.1 Function Tools

The toolbar is shown in Fig. 1, clicking the corresponding button, you can reach the relevant window.
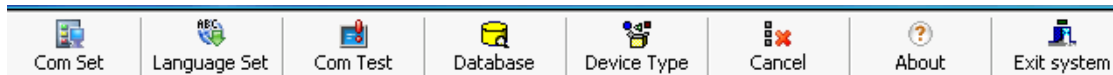
Fig. 1

4.1.1 Com Set

Choose the serial port communicating with control panel, as shown in Fig. 2.
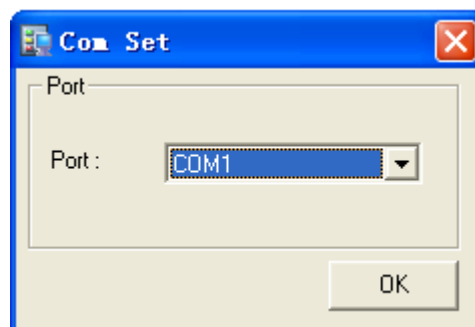
Fig. 2

4.1.2 Setting Language

Define system language, as shown in Fig. 3. The software supports multi-languages. The default language is English. The language package can be downloaded from GST website.

Fig. 3

4.1.3 Com Test

Test the communication, as shown in Fig. 4.
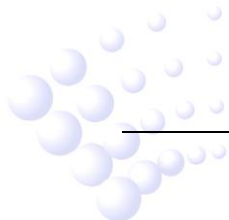
Fig. 4

4.1.4 Database

Database tools, for backup and restoring the database. The default folder is \…\Gst Software\GstUL\Backup, as shown in Fig. 5.

Fig. 5

4.1.5 Device type

Add device types and look at the related symbol, as shown in Fig. 6.

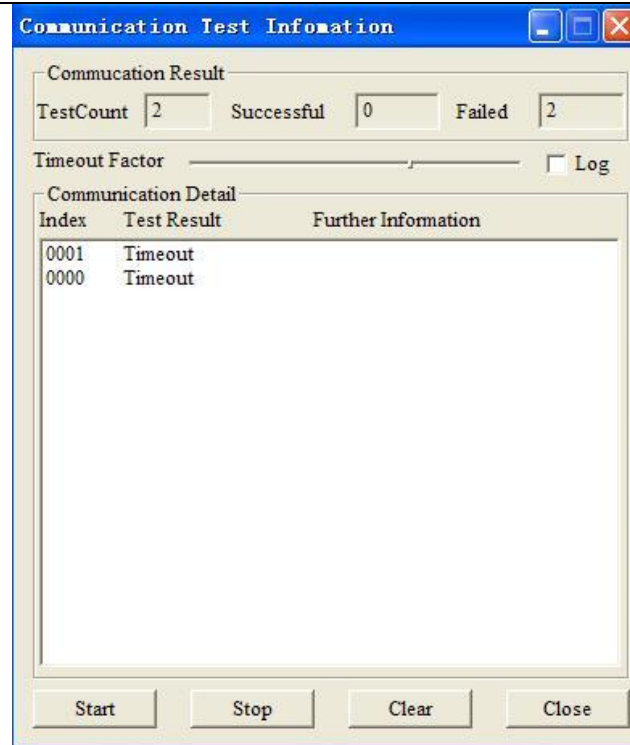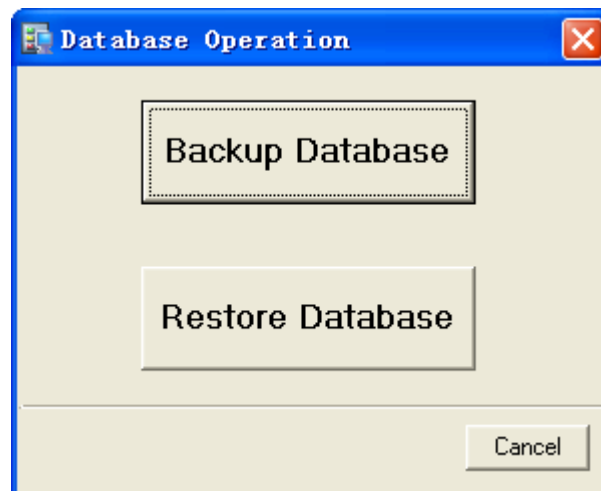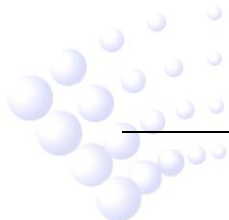| No.	DeviceTypeName	No.	DeviceTypeName	No.	DeviceTypeName	No.	DeviceTypeName	No.	DeviceTypeName
01	MULTISENSOR	21	USER DEFINED	41	ZONE VALVE	61	USER DEFINED	81	F.P.E.A
02	HEAT DETECTOR	22	USER DEFINED	42	FLOW SWITCH	62	USER DEFINED	82	SounderA
03	OPTICAL SMOKE	23	USER DEFINED	43	PRESSURE SWITCH	63	USER DEFINED	83	ALARM ROUTINGA
04	USER DEFINED	24	USER DEFINED	44	USER DEFINED	64	USER DEFINED	84	Loop Flash Data
05	GAS DETECTOR	25	USER DEFINED	45	USER DEFINED	65	USER DEFINED	85	USER DEFINED
06	BEAM DETECTOR	26	USER DEFINED	46	USER DEFINED	66	USER DEFINED	86	Panel charger
07	FLAME DETECTOR	27	USER DEFINED	47	USER DEFINED	67	Loop SW	87	BAT Resistance
08	CONVENTIONAL P	28	USER DEFINED	48	USER DEFINED	68	Loop Board	88	USER DEFINED
09	USER DEFINED	29	USER DEFINED	49	USER DEFINED	69	CONTROL Panel	89	USER DEFINED
10	FLOW SWITCH	30	USER DEFINED	50	USER DEFINED	70	ZoneDir Board	90	USER DEFINED
11	MCP (BG)	31	TROUBLE MONITOR	51	USER DEFINED	71	AC Power	91	USER DEFINED
12	SOUNDER STOBE	32	PSU	52	USER DEFINED	72	Battery	92	USER DEFINED
13	SOUNDER	33	USER DEFINED	53	USER DEFINED	73	Keypad Board	93	USER DEFINED
14	FLASHER	34	USER DEFINED	54	USER DEFINED	74	Ground.F	94	USER DEFINED
15	LIFT	35	USER DEFINED	55	USER DEFINED	75	USER DEFINED	95	USER DEFINED
16	FIRE DAMPER	36	USER DEFINED	56	USER DEFINED	76	Loop Short	96	USER DEFINED
17	FIRE DOOR	37	USER DEFINED	57	USER DEFINED	77	Loop Board	97	USER DEFINED
18	AHU	38	USER DEFINED	58	USER DEFINED	78	Delay Mode	98	USER DEFINED
19	EXTRACT FAN	39	Net Unit	59	USER DEFINED	79	Power Board	99	USER DEFINED
20	BMS	40	Repeater	60	USER DEFINED	80	CRT Board	00	USER DEFINED

2009-08-14 8:26

Fig. 6

4.1.6 Cancel

Cancel current operation. It is used to stop downloading or uploading communications.

4.1.7 About

About the copyright.

4.1.8 Exit system

4.2 General Operation

The system map provides a quick method to define FACPs, loops, devices, manual keys and zones and etc, as shown in Fig. 7.
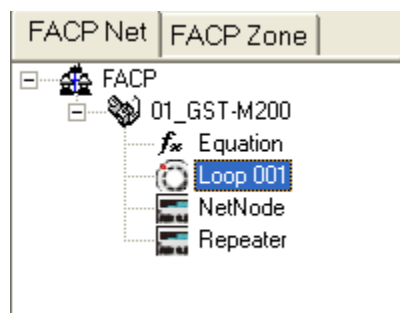

Fig. 7

4.2.1 Panel Operation

4.2.1.1   Add New FACP

Right-click on <FACP>, click on <Add FACP>. The dialogue box is shown in Fig. 8.
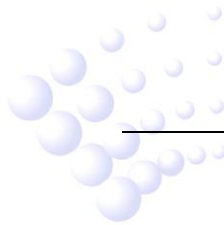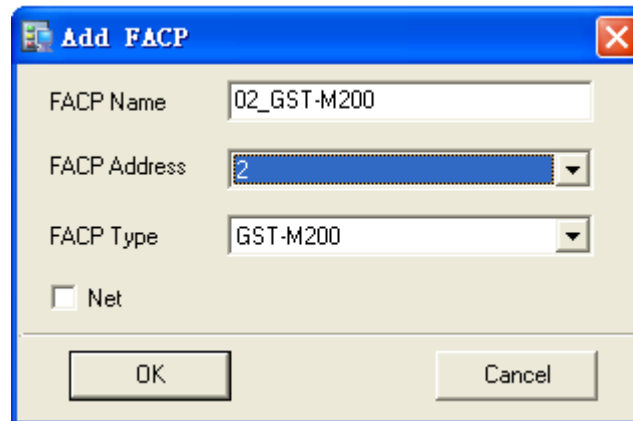
Fig. 8

- ✧ **FACP Name**：Any description of the FACP, which can be blank.
- ✧ **FACP Address**：The FACP Address must be unique for each control panel.
- ✧ **FACP Type**：The FACP Type must be correct, otherwise GstDef Tools cannot communicate with the panel. This setting cannot be changed once it is saved.
- ✧ **Net:** If < Net> is selected, the devices in this panel can be used into equations on other panels.
- ✧ **Start Zone:** The Start Zone is for network use, only for GST-M200. When the panel is connected to network, the information will be displayed on main panel as <Zone = Local zone + Start Zone>. The setting can be modified later.

4.2.1.2   Delete FACP

Right-click the name of the panel, select <Delete FACP>, all configurations with this panel will be completely deleted.

4.2.1.3   Export Devices

Right-click the name of the panel, select <Export Devices>, all the defined devices in this panel can be exported to a text file (.txt), which can be easily converted to Excel file or other format.

4.2.1.4   Export Equations

This operation can export C&E equations to a text file by double clicking.

4.2.1.5   Upload and Download

When a panel is selected, the upload or download operation will cover all definitions relating to that panel, including zones, devices, control switches and equations, as shown in Fig. 9.

Fig. 9

Upload means taking pre-record information from the panel.

Download means sending the definitions to the panel.

4.2.1.6   Save

The "Save" operation is for completing definition. Each time it will save all changes comparing with previously saved data.

4.2.2 Zone Operation

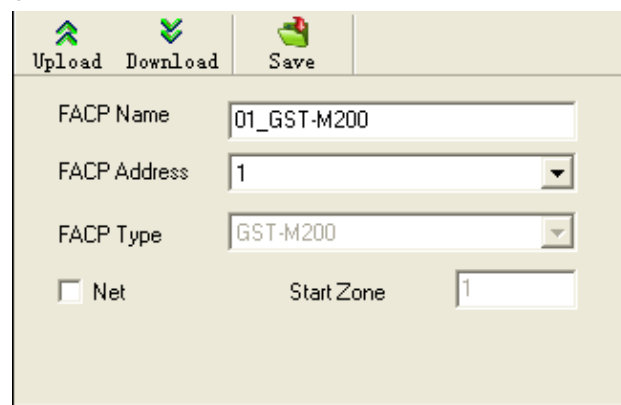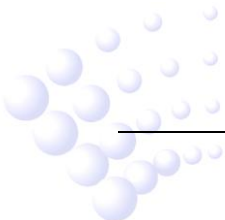Clicking <FACP Zone> will go to zone operation. Here you can add, delete or modify the zones.

4.3 System Definition

4.3.1 Define zones

The protected area can be divided into several zones, which, in case of emergency situation in a zone, a general location information can be shown on the FACP to give people the "First Aid". The zones should be divided according to building structure. A major consideration is to make people easily access the area. By BS standard, each detection zone should be no more than 2000m^2 to 3000 m^2 for L1 or L2.

The zone definitions are shared by all devices connected to the FACP. Each zone may contain devices from different loops, and devices from the same loop may be set to different zones.

Click <FACP Zone> and select a panel, all zones defined in this panel will be displayed. And click a zone number, you can check all devices in that zone, as shown in Fig. 10.
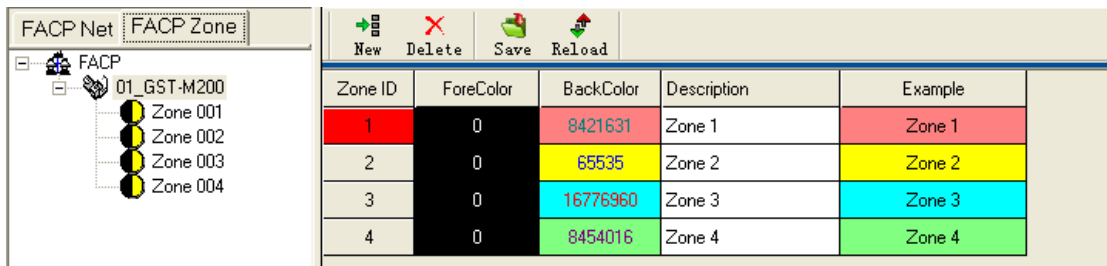

Fig. 10

4.3.1.1   Add New Zone

Click <New> ![New], there will be a new zone shown at the bottom.

The information will be shown on panel screen.

<ForeColor> and <BackColor>: When a device is defined into a zone, the text <ForeColor> and background <BackColor> will easily spot it. The default color is black on white, as shown in Fig.11.

Address	Device Number	Loop	Zone	Device Type	Walktest	PAS	Silenceable	Autosilence	Location	Registered
1	001001	1	001-Zone 1	01-SMOKE(ION)	0	0	0	0		False
2	001002	1	001-Zone 1	01-SMOKE(ION)	0	0	0	0		False
3	001003	1	001-Zone 1	01-SMOKE(ION)	0	0	0	0		False
4	001004	1	001-Zone 1	01-SMOKE(ION)	0	0	0	0		False
5	002005	1	002-Zone 2	01-SMOKE(ION)	0	0	0	0		False
6	002006	1	002-Zone 2	03-SMOKE-DUCT-P	0	0	0	0		False
7	002007	1	002-Zone 2	03-SMOKE-DUCT-P	0	0	0	0		False
8	002008	1	002-Zone 2	03-SMOKE-DUCT-P	0	0	0	0		False
9	003009	1	003-Zone 3	03-SMOKE-DUCT-P	0	0	0	0		False
10	003010	1	003-Zone 3	03-SMOKE-DUCT-P	0	0	0	0		False
11	003011	1	003-Zone 3	11-Waterflow	0	0	0	0		False
12	003012	1	003-Zone 3	11-Waterflow	0	0	0	0		False
13	004013	1	004-Zone 4	11-Waterflow	0	0	0	0		False
14	004014	1	004-Zone 4	11-Waterflow	0	0	0	0		False
15	004015	1	004-Zone 4	11-Waterflow	0	0	0	0		False
16	004016	1	004-Zone 4	03-SMOKE-DUCT-P	0	0	0	0		False

Fig. 11

4.3.1.2 Delete zone

Select a zone (highlighted) and click <Delete> Delete button.

4.3.1.3 Save

Press <Save> Save button to save all the modifications.

4.3.1.4 Reload

This operation will restore the definition from the last <Save> operation. All modifications not saved will be lost.

4.3.2 Define devices

4.3.2.1 General

1	001001	1	001-Zone 1	01-SMOKE(ION)	0	0	0	0		False
2	001002	1	001-Zone 1	01-SMOKE(ION)	0	0	0	0		False
3	001003	1	001-Zone 1	01-SMOKE(ION)	0	0	0	0		False

Fig. 12

The items include:

<Address>: The physical address of the device.

<Device Number>: Each device has a 6-digit number, normally arranged as zone number + address. This number must not be repeated in the whole system (including network devices).

<Loop>: Showing the loop of the devices.

<Zone>: Dropdown list to select zone.

<Device Type>: Select device type by dropdown list. Type should be selected according to the real device. For modules, the type is decided by equipment connecting to the module. For example, there is a Fire Door connecting to a module addressed 17, so address 17 should be defined as 28-FireDoor. To view the complete type list, please refer to the appendix.

<Walktest>, <PAS>, <Silenceable>, <AutoSlience>: Device properties

<Location>: Detailed location of the device, maximum 32 characters including letters, numbers and some symbols.

<Registered>: The device is successfully registered or not.

4.3.2.2   Loop Operation

For GST-M200, there is only ONE loop. When the panel is created, the loop is configured as default.

For GST-M200-2, there are TWO loops. When the panel is created, two loops are configured as default.

4.3.2.3   Upload and Download

Same as for zones, the upload or download can be done to one or a group of or all the devices in the current loop.

4.3.2.4   Device Check

Click on Check button, the software will check the definitions of the current panel. As mentioned in <Device Number>, in the whole system, the device number cannot be duplicated. This operation will check all devices and give the information.

If there are the same addresses from different loops installed into the same zone, the duplicated condition may occur. In this case, please manually modify the 4th to 6th digits of <device Number>.

4.3.2.5   Reload

This operation will restore the definition from last <Save> operation. All modifications not saved will be lost.

4.3.3 Define Repeater Panels
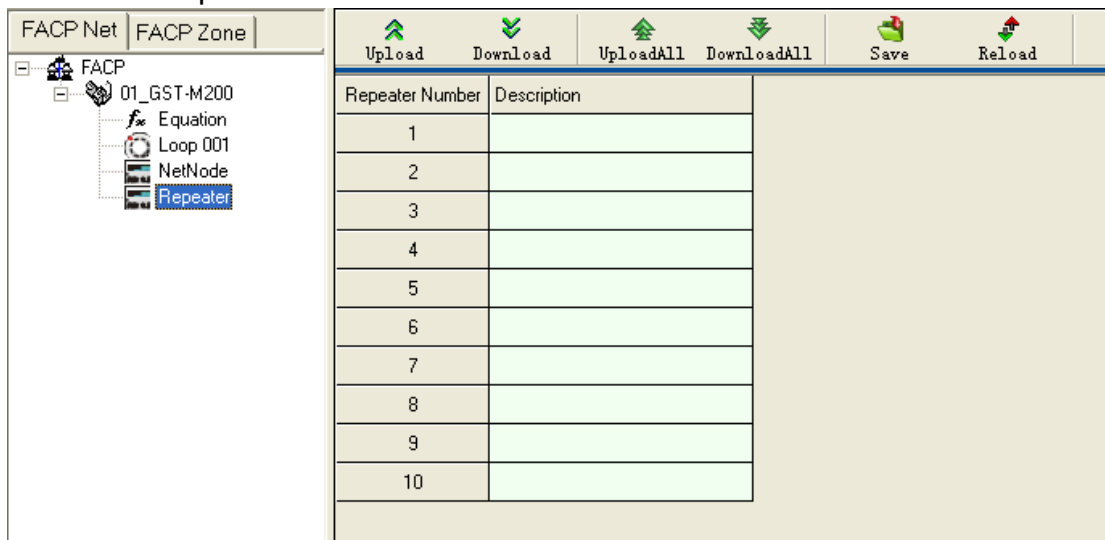
Fig. 13

As shown in Fig. 13, GST-M200 and GST-M200-2 can drive up to 10 repeater panels. The description (8 characters) can be downloaded to the control panel. In case there is fault with the repeater panel, the description will be displayed on the FACP. But even if the repeater panel is not defined, it will still work normally.

4.3.4 Define Equations

4.3.4.1   General

In case of fire, the FACPs will act according to the pre-programmed equation. There are TWO default actions that do not need to be defined:

(1) In case of fire in a zone, zonal sounders will be started immediately.

(2) In case of fire in a zone, the panel outputs (Sounder circuit output, fire alarm output & F.P.E.) will be started immediately.

Clicking <Equations> under <FACP Net> will get into equation definition, as shown in Fig. 14 and Fig. 15.

Fig. 14

<New>:   Add a new equation.

<Insert Dev>:   Add a device into the condition or result.

<Delete Dev>:   Delete a device from the condition or result.

<Save Modify>:   Save the current equation temporarily.

<Save New>: Easily add a similar equation into the temporary database.

Fig. 15

<Upload>:   Upload this piece of equation from panel.

<Upload All>:   Upload all equations from panel.

<Download All>: Download all equations to the panel. The equations can be only downloaded together, rather than piece by piece.

<Delete>:   Delete the selected equation.

<Save>:   Save all equations to the database. Note: this operation must be done after defining all equations.

<Reload>:   Restore equation from the last <Save> operation.

The number of devices (both in condition and result) shall not exceed 10. If more than 10 devices are to be used, please split them into two equations.

4.3.4.2 Equations in GST200 and GST200-2

Click the device cell under the <Condition Devices>, the cell becomes editable. The device number can be input manually. An easier way is double-clicking the cell again, a defined device list will pop out. Choose the device and double-click or click <OK> button, the device will be selected and input to the cell, as shown in Fig. 16.

If more than one device are required in the condition, click <Insert Dev> to add another device. The relationship between the devices should be manually set. "+" means "OR" logic. "X" means "AND" logic.

The operation is the same for adding multiple devices to the result.

The delay time can be set individually to each output device. The delay time is in second multiplied by 10, Maximum 10 minutes (600 seconds). For example, 6 means delaying 1 minute (6X10=60s).
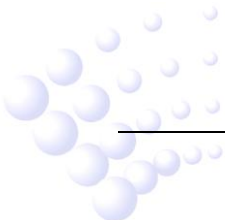
Fig. 16

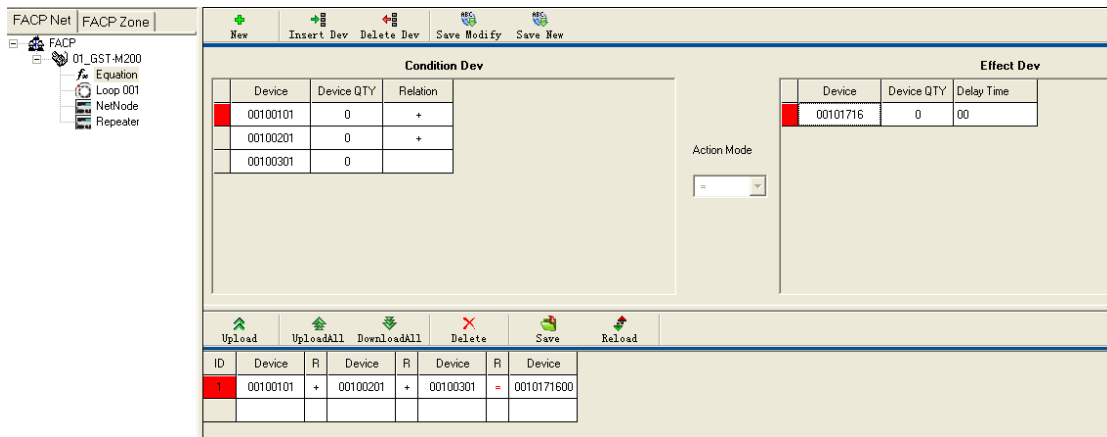After clicking ![Save Modify], the equation will be added to the list at the bottom. Then add the next equation.

For similar devices, customers can use Fuzzy Logic to save our work. It means for these similar devices, we use only one Fuzzy Device instead of inputting them one by one.

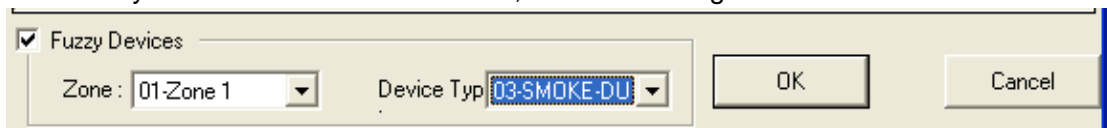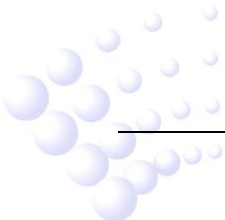Click <Fuzzy Devices> to start the function, as shown in Fig. 17.

Fig. 17

4.3.5 Customize Device Type

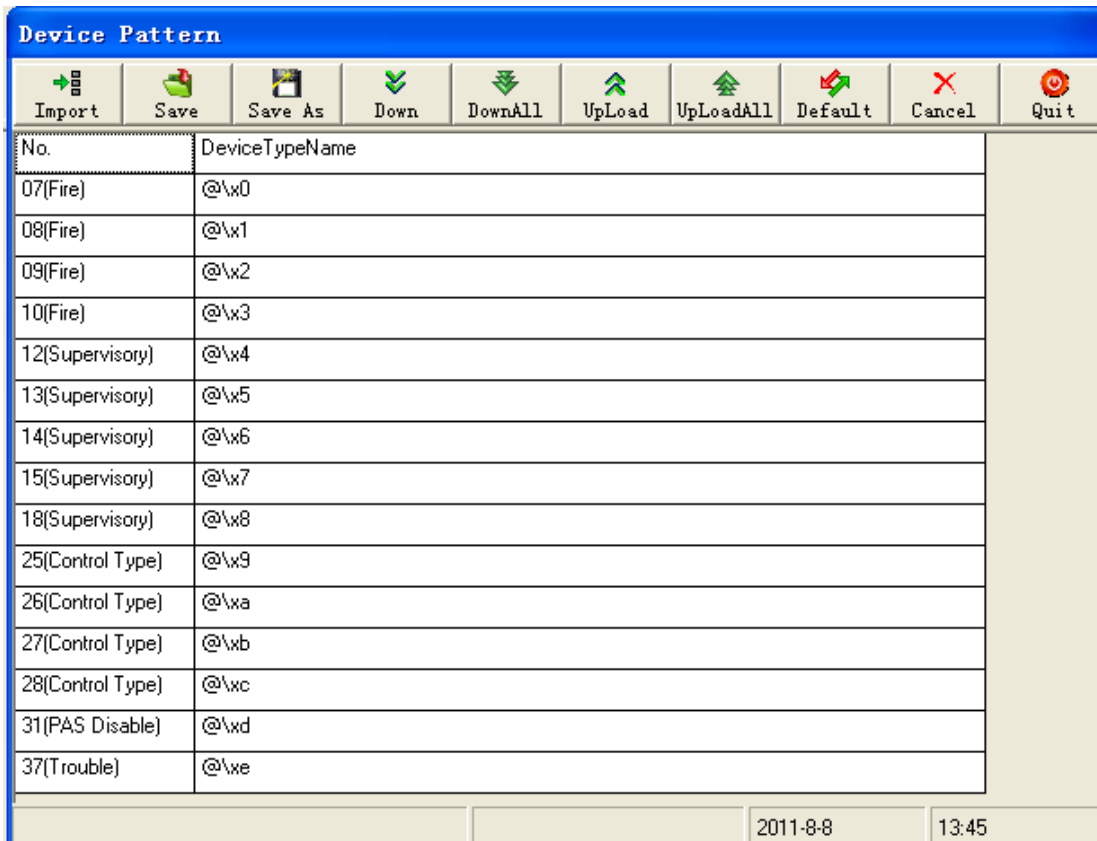| No.	DeviceTypeName
07(Fire)	@\x0
08(Fire)	@\x1
09(Fire)	@\x2
10(Fire)	@\x3
12(Supervisory)	@\x4
13(Supervisory)	@\x5
14(Supervisory)	@\x6
15(Supervisory)	@\x7
18(Supervisory)	@\x8
25(Control Type)	@\x9
26(Control Type)	@\xa
27(Control Type)	@\xb
28(Control Type)	@\xc
31(PAS Disable)	@\xd
37(Trouble)	@\xe

Fig. 18

Choose the node of the tree structure at the left of the main screen and click <Device Type> button, the screen in Fig. 18 will pop up. Function of tool bar buttons are as follows:

<Import>: Importing .ini file with saved device type.

<Save>: Saving the current device type into current database so that the device type doesn't change when running the software next time.

<Save As>: Saving the current device type as an .ini file.

<Down>: Downloading the selected device type to the FACP.

<DownAll>: Downloading all currently defined device types to the FACP.

<UpLoad>: Uploading device type to the computer.

<UpLoadAll>: Uploading all device types to the computer.

<Default>: Restoring the default device type.

<Cancel>: Canceling the current operation.

<Quit>: Closing the current window.

4.3.6 Upload Running Record

Right-clicking the FACP node at the left of the main screen as in Fig. 7, a menu will pop up. Choosing <History Record >, the window as in Fig. 19 will pop up.

Fig. 19

The user can upload the running record in the FACP to the computer by clicking <Upload>. After uploading, clicking <Export> will save the current records in the form of an Excel file (the user shall have the Excel program in the computer).

5 Caution

❖ After completing all above definitions, please make a backup of the database for future checking and modification.

❖ The copyright of this software is reserved by the manufacturer, and protected by law. Any copy or modification without the permission of the manufacturer is prohibited.

❖ This operation manual may be updated according to product upgrading without notification.

The Intelligent Solution

Appendix Device Type List

Type	ID	Action after start
Undefined	00	Undefined
SMOKE(ION)	01	Alarm
SMOKE(PHOTO)	02	Alarm
SMOKE-DUCT-P	03	Alarm
HEAT DETECT	04	Alarm
BEAM DETECT	05	Alarm
PULL STATION	06	Alarm
@\x0	07	Alarm
@\x1	08	Alarm
@\x2	09	Alarm
@\x3	10	Alarm
Waterflow	11	Alarm
@\x4	12	Supervise
@\x5	13	Supervise
@\x6	14	Supervise
@\x7	15	Supervise
Supervisory	16	Supervise
Supervisory-AR	17	Supervise
@\x8	18	Supervise
Bell Circuit	19	Control Type
Horn Circuit	20	Control Type
Sounders	21	Control Type
Relay	22	Control Type
Strobe Circuit	23	Control Type
Control	24	Control Type
@\x9	25	Control Type
@\xa	26	Control Type
@\xb	27	Control Type
@\xc	28	Control Type
NAC	29	NAC
PAS-Bypass	30	PAS
@\xd	31	PAS
FIRE-Relay	32	FIRE-Relay
Trouble Relay	33	Trouble Relay
SUPERV Relay	34	SUPERV Relay

PAS Relay	35	PAS Relay
TroubleMonitor	36	TroubleMonitor
@\xe	37	
SLC	38	SLC
GROUND FAULT	39	GROUND FAULT
BATTERY CHANGE	40	BATTERY CHANGE
AUX 24V FAULT	41	AUX 24V FAULT
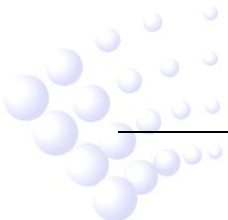
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