Name : _____

Company : _____

A UTC Fire & Security Company

Training Manual

GST Headquarters

GST Production Base

GST Intelligent Addressable Fire Alarm System is easy and flexible to install. This handbook manual is designed to provide quick reference information at each stage of your installation.

The manual offers practical system installation guidance using an easy to follow format. It deals with the various system architectures using colour coding to identify the type connection followed by individual installation information for each product

More detailed guidance is given separately for our specialist products, interfacing arrangement and cable types to ensure they are fully explained.

Please make sure of your technical support if your require any further support. You can call to our local distributor's technical engineers who are trained to provide an instant response.

Contents

Product List

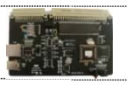
Image	Model	Description
GST200-2/Series - Intelligent Control Panel		
	GST200-2/1	New Intelligent Fire Alarm Control Panel - Single Loop expandable to 2 Loops, Maximum 477 addressable devices, 30 Zone, 2 Bell Circuit, Integrated PSU with Battery Charger, Excluding Batteries, (Certificated by LPCB)
	GST200-2/2	New Intelligent Fire Alarm Control Panel - 2 Loop Maximum 477 addressable devices, 30 Zone, 2 Bell Circuit, Integrated PSU with Battery Charger, Excluding Batteries, (LPCB & UL Pending)
	P-9901A	Micro Printer - Panel Printer for GST200
	P-9902	Loop Splitter - Splitting Loop to Additional Class A Connections, 24VDC required
	P-9930	RS232 Communication Board for GST200 for Commissioning and GMC Connection
	P-9940	RS485 Network Card for GST200, Serial Connection, 1200 Meters Network Range Use P-9940A if connecting with IFP8
	P-9940A	RS485 Network Card for GST200, Class A Connection, 1200 Meters between Panels
	P-9930-TCPIP	RS232 Communication Board for Communication to NPORT
	P-9930-MB	MODBUS Protocol RS232 Communication Board
	NPORT 5230	NPORT5230 RS232 to TCPIP Converter
GSTIFP8 - Intelligent Control Panel - LPCB Approved		
	GSTIFP8	New Flush or Surface Mounting Modularized Panel, Maximum 10 Loops (8 with Network) , No Loops Fitted, Max Capacity with 10 Loops = 2,420 Addressable Devices, 140 Zone Indication, Big Screen, 2 Bell Circuit, Integrated PSU with Battery Charger, Excluding Batteries. (LPCB Approved & UL Pending)
	GSTIFP8-VT	New Flush or Surface Mounting Modularized Panel, Maximum 10 Loops (8 with Network) , No Loops Fitted, Max Capacity with 10 Loops = 2,420 Addressable Devices, 70 Zone Fire Indication and 16-80 Zone Voice, Big Screen, 2 Bell Circuit, Integrated PSU with Battery Charger, Excluding Batteries. (LPCB Approved & UL VT Approved)
	LCIFP8	Dual Loop card for IFP8, 484 Addressable Devices Capacity (LPCB & UL Pending)
	P-9935	RS232 Communication Board for IFP8 - Commissioning and GMC Connection
	P-9946	RS485 Repeater Network Card for IFP8 Connection to GST852RP & RPX, 1200 Meters Network Range
	P-9945A	RS485 Network Card for IFP8 & NRP01, Class A Connection, 1200 Meters Between Panels
	P-9935-TCPIP	RS232 Communication Board for Communication to NPORT

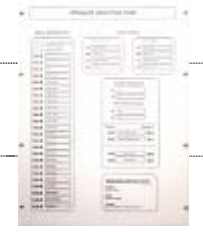
Image	Model	Description
	P-9935-EVAC	RS232 Communication Board for Voice Alarm System
	P-9935-MB	MODBUS Protocol RS232 Communication Board
	NPORT 5230	NPORT5230 RS232 to TCPIP Converter
GST100 - Intelligent Control Panel		
	GST100	Intelligent Fire Alarm Control Panel 8+1 Zone, Maximum 128 addressable devices, 2 Bell Circuit, Integrated PSU with Battery Charger, Excluding Batteries. Optional Accessories: P-9943, P-9943A
	P-9943	RS485 Network Card for GST100, Serial Connection, 1200 Meters Network Range
	P-9943A	RS485 Network Card for GST100, Class A Connection, 1200 Meters between Panels
Other Panel Accessories		
	GST852RP	Passive LCD Repeater. Compatible with GST100, GST200, GST5000W, GST5000F and GST5000
	NRP01	Network Active Repeater with Full Control, Semi-Flush or Wall Mounting, Includes RS485 Class A Network Card. Compatible with GST100, GST200, GST5000, IFP8. (LPCB & UL Pending)
	GST8903	Graphic Repeater Panel, 99 Zone/Device Alarm Indication with No Fascia - Dealer to Build
	GST8903-A3	A3 Size - Custom Graphic Repeater Panel, 99 Zone/Device Alarm Indication with Custom Designed Fascia, Including Box
	GST8903-A2	A2 Size - Custom Graphic Repeater Panel, 99 Zone/Device Alarm Indication with Custom Designed Fascia, Including Box
	GST8903-A1	A1 Size - Custom Graphic Repeater Panel, 99 Zone/Device Alarm Indication with Custom Designed Fascia, Including Box
	GSTSIP-A3	A3 Size - Custom Sprinkler Monitoring and Indication Panel, 99 Zone/Device Alarm Indication with Custom Designed Fascia, Including Box
	GSTSIP-A2	A2 Size - Custom Sprinkler Monitoring and Indication Panel, 99 Zone/Device Alarm Indication with Custom Designed Fascia, Including Box
	GSTSIP-A1	A1 Size - Custom Sprinkler Monitoring and Indication Panel, 99 Zone/Device Alarm Indication with Custom Designed Fascia, Including Box
	P-9903	RS485 Network Relay, Serial Connection, 1000 Meters Network Range
	T-9911	80 Way, Surface Mount
	P-9910B	Portable Programming Tool for Addressing, Presetting and Testing of Addressable Devices
SOFTWARE		
	GSTGMC	Computer Based Software, Enabling Complete Colour graphic Control and Display system, Providing a Window on to the Fire Alarm System, Computer not Included

Image	Model	Description
SAFIE		
	SAFIE-4	SAFIE Smoke and Flame Intelligent Eye system for 4 camera including one video acquisition card ,one 16 relay output card , system software and one dongle key
	SAFIE-8	SAFIE Smoke and Flame Intelligent Eye system for 8 camera including two video acquisition card ,one 16 relay output card , system software and one dongle key
	IND-PC	Industrial Grade PC without Monitor, Mouse or Keyboard - recommended
Intelligent Detectors		
	DZ-03	Common Detector Base for Addressable & Conventional Detectors (Certificated by LPCB)
	I-9101	Intelligent Combined Optical Smoke, Fixed Temperature and Rate of Rise Heat Detector, Drift Compensation, Sensitivity Adjustment, 8 Bit Processor with Remote Indicator Output.
	I-9102	Intelligent Optical Detector, Drift Compensation, Sensitivity Adjustment, 8 Bit Processor with Remote Indicator Output (Certificated by LPCB)
	I-9103	Intelligent Fixed Temperature and Rate of Rise Heat Detector, 8 Bit Processor with Remote Indicator Output (Certificated by LPCB)
	I-9104	Intelligent Ultra-Violet Flame Detector
	I-9105R	Addressable/Conventional Beam Detector with 4 pieces Reflector, 24VDC required, Detection Range 8-100 Meters (Certified by LPCB)
	I-9602LW-NG	Gas Detector Natural Gas, 24VDC Powered, with Local Buzzer Alarm
	I-9602LW-LPG	Gas Detector LPG Low Pressure Gas, 24VDC Powered, with Local Buzzer Alarm
	I-9602LW-CG	Gas Detector Coal Gas, 24VDC Powered, with Local Buzzer Alarm
	DP9100	Duct Probe with Adjustable Tubes excluding Base & Detector
	I-9314	Programmable Alarm Indication Linked to Any One or Group of Devices.
D Range Intelligent Detectors & Accessories		
	DB-01	Common Detector Base for Innovation Detectors
	DI-9101	Digital Multi Sensor, Optical Detector, Rate of Rise and Fixed Temperature Heat, Algorithms and Mapping, Drift Compensation, Sensitivity Adjustment, 8 Bit Processor with Remote Indicator Output
	DI-9102	Digital Optical Detector, Algorithms and Mapping, Drift Compensation, Sensitivity Adjustment, 8 Bit Processor with Remote Indicator Output
	DI-9103	Digital Fixed Temperature and Rate of Rise Heat Detector, 8 Bit Processor with Remote Indicator Output

Image	Model	Description
	DC-9504	Digital Base Mounted Isolator
Intelligent Manual Call Points		
	DI-9204	Semi Flush Mounting Re-settable (Non-Breaking Glass), Supplied with Special Reset Tool - Compatible with both I & DI Series (Certified by LPCB)
	DC-92FC	Anti Tamper Security Cover - Protects call point from accidental operation, suitable for DI & DC 9204 Manual Call Points
	DC-92WPB	IP66 Water Box for DI & DC 9204 Manual Call Point
Intelligent Modules Plus Isolators		
	I-9300	Single Input Module (Certificated by LPCB) - Loop Powered
	DI-9301	Single Input/Output Module (Certificated by LPCB) - Loop Powered
	I-9303	Dual-way Input/Output Module, 24VDC required
	DI-9309	Individual Control for 2 Dry-Contact Outputs and 1-16 Inputs, 24VDC required, without case
	I-9308	Addressable Sounder Circuit Control Module, Alert and Evacuation Control, 24VDC required
	C-9503	Zonal Short Circuit Loop Isolator, (Certificated by LPCB)
	C-9504	Base Mounted Isolator (Certificated by LPCB)
	I-9319	Input Module for Fault and Alarm Monitoring, 24VDC required
	C-9302	AC Control Relay for Power Switching
	C-9302C	Interface Module for Fireman's Switch, Enabling Cable Monitoring and Signal Confirmation
	B-9310	Surface Mount Back box for Modules
Intelligent Sounders		
	I-9406	New Addressable Loop Powered Combined Base Mount Sandwich Type Sounder and Strobe, Multi Tone, 80 DB@1M for I Series Detectors (LPCB Pending)
	I-9402	Addressable Base Mount Sounder
	I-9403	Addressable Combined Sounder and Strobe, Loop Powered and 24VDC, (Certificated by LPCB)
	I-9404	Addressable Sounder, 24VDC required (Certificated by LPCB)
		Deep Base of I-9403 I-9404 C-9403 C-9404 for Surface Cable Entry
UL Listed Fire Alarm System		
	GST-M200	Single loop fire alarm control panel (listed by UL), capacity of 230 intelligent devices, 2 Style Y Notification Appliance Circuits (NAC), 3 fixed relay outputs for fire/fault/supervisory, Excluding batteries
	I-9102UL	Intelligent Optical Detector (Listed by UL), without base
	I-9103UL	Intelligent Fixed Temperature and Rate of Rise Heat Detector (Listed by UL), without base

Image	Model	Description
	C-9102UL	Conventional Optical Detector(Listed by UL), without base
	C-9103UL	Conventional Fixed Temperature and Rate of Rise Heat Detector (Listed by UL), without base
	DZ-03(UL)	Base for I-9102(UL), I-9103(UL), C-9102(UL), C-9103(UL)
	DI-M9204	Flush mount Resetable (Non-Breaking Glass), Supplied with surface mount back box and Special Reset Key (Listed by UL) Optional Accossories:120352 120353
	DC-M9204	Resetable (Non-Breaking Glass), Supplied with surface mount back box and Special Reset Key Optional (Listed by UL) Optional Accossories:120352 120353
	C-9503	Zonal Short Circuit Loop Isolator (Listed by UL)
	I-M9300	Single input module suitable for monitoring switch contact of remote equipment or connecting conventional detectors. (Listed by UL)
	I-M9301	Single output module with dry contact output or power output (Listed by UL)
Conventional Control Panel		
	GST101S	1 Zone, 2 Sounder Circuit, 1 Fire Output, 1 Fault Output, Built-in Battery Charger, Excluding Batteries
	GST101	1 Zone, 2 Sounder Circuit, 1 Fire Output, 1 Fault Output, Built-in Battery Charger, Excluding Batteries
	GST102	2 Zone, 2 Programmable Sounder Circuit, 1 Fire Output, 1 Fault Output, Built-in Battery Charger, Excluding Batteries (Certificated by LPCB)
	GST104	4 Zone, 2 Programmable Sounder Circuit, 1 Fire Output, 1 Fault Output, Built-in Battery Charger, Excluding Batteries (Certificated by LPCB)
	GST108	8 Zone, 4 Programmable Sounder Circuit, 1 Fire Output, 1 Fault Output, Built-in Battery Charger, Excluding Batteries (Certificated by LPCB)
	GST116	16 Zone, 4 Programmable Sounder Circuit, 1 Fire Output, 1 Fault Output, Built-in Battery Charger, Excluding Batteries (Certificated by LPCB)
	GST-RP16	16 Zones Alarm and General Fault Indication, Compatible with GST101, GST102, GST104, GST108 and GST116 Panels
	RB102	Relay Board for GST102 Panel, 2 Fire & 2 Fault Outputs Rated @ 1 Amp 24V DC
	RB104	Relay Board for GST102 Panel, 2 Fire & 2 Fault Outputs Rated @ 1 Amp 24V DC
	RB108	Relay Board for GST102 Panel, 2 Fire & 2 Fault Outputs Rated @ 1 Amp 24V DC
	RB116	Relay Board for GST102 Panel, 2 Fire & 2 Fault Outputs Rated @ 1 Amp 24V DC
D Range Conventional Detectors		
	DB-01D	Common Detector Base with Diode for Innovation Detector using DP-9907 AEOL, Use DB-01 without EOLR
	DC-9101	Digital Multi Sensor, Optical Detector, Rate of Rise and Fixed Temperature Heat, Flashing LED, Algorithms and Mapping, Drift Compensation, 8 Bit Processor with Remote Indicator Output
	DC-9102	Digital Optical Detector, Flashing LED, Algorithms and Mapping, Drift Compensation, 8 Bit Processor with Remote Indicator Output

Image	Model	Description
	DC-9103	Innovation Fixed Temperature and Rate of Rise Heat Detector, 8 bit Processor with Remote Indicator Output, and Magnetic Test Function
	DP-9907	Active End of Line Unit for D Range Conventional System using Diode Base, Enabling Line Continuity in case of Detector Removing
Conventional Detectors		
	DZ-03D	Common Detector Base with Diode for Conventional Detector using P-9907 AEOL (Certified by LPCB)
	C-9101	Conventional Combined Optical Smoke, Fixed Temperature and Rate of Rise Heat Detector, Drift Compensation, 8 Bit Processor with Remote Indicator Output.
	C-9102	Conventional Optical Detector, Drift Compensation, 8 Bit Processor with Remote Indicator Output
	C-9103	Conventional Fixed Temperature and Rate of Rise Heat Detector, 8 Bit Processor with Remote Indicator Output (Certified by LPCB)
	C-9104	Conventional Ultraviolet Flame Detector
	R6601	4 Wire Conventional Optical Detector, 12-28VDC Power, N/O Relay Output
	R6602	4 Wire Conventional Fixed Temperature and Rate of Rise Heat Detector, 12-28VDC Power, N/O Relay Output
	S-9102	Local Buzzer Alarm, Manual Test Button, Optional Network Function, 9V Battery for Operation of 1 Year
	I-9105R	Addressable/Conventional Beam Detector with 4 pieces Reflector, 24VDC required, Detection Range 8-100 Meters (Certified by LPCB)
	C-9602LW-NG	Gas Detector Natural Gas, 220VAC Powered, with Local Buzzer Alarm and Relay Output
	C-9602LW-LPG	Gas Detector LPG Low Pressure Gas, 220VAC Powered, with Local Buzzer Alarm and Relay Output
	C-9602LW-CG	Gas Detector Coal Gas, 220VAC Powered, with Local Buzzer Alarm and Relay Output
	C-9314P	Compatible with I-9102, I-9103, DI-9102 and DI-9103
Conventional Manual Call Point		
	DC-9204	Semi Flush Mounting Re-settable (Non-Breaking Glass), Supplied with Special Reset Tool - Compatible with both C & DC Series (Certified by LPCB)
	D-92FC	Anti Tamper Security Cover - Protects call point from accidental operation, suitable for DI & DC 9204 Manual Call Points
	D-92WPB	IP66 Water Box for DI & DC 9204 Manual Call Point
Conventional Sounders		
	C-9402	Conventional Base Mount Sounder
	C-9403	Conventional Combined Sounder and Strobe, (Certificated by LPCB)
	C-9404	Conventional Sounder (Certificated by LPCB)

Image	Model	Description
	C-94DB	Deep Base of I-9403 I-9404 C-9403 C-9404 for Surface Cable Entry
	C-9410	6" Electronic 24 VDC Bell
	C-9411	8" Electronic 24 VDC Bell - Weather Proof
Gas Release Control System		
	GST301	Conventional Gas Release Control Panel, 2+1 Detection Zones, Integrated PSU with Battery Charger, Excluding Batteries
	GST303	Addressable Gas Release Control Panel, 3 Output Zones, 24VDC Powered
	GST306	Addressable Gas Release Control Panel, 6 Output Zones, 24VDC Powered
	C-9317	Emergency Start/Abort Switch, Compatible with GST301, GST303 and GST306
	C-9318	LED Lighting Indicator
	C-9329	Interface Module for GST303 and GST306, Enabling Cable Monitoring and Signal Confirmation
Explosion Proof Products		
	DI-9104Exd	Digital and Conventional Flame Proof Ultraviolet Flame Detector
	D-9105RExd	Explosion Proof Reflective Beam Detector
	D-9107RExd	Explosion Proof Dual Ultra Violet Flame Detector with Sun Filters and Water Proof - Suitable for Both Addressable and Conventional Systems
	DC-9104Exd	Conventional Flame Proof Ultraviolet Flame Detector- Use DI-9104Exd
	DI-9204Exd	Explosion Proof Innovation Addressable Manual Call Point
Intrinsically Safe Products		
	DZB	Intrinsically Safe Detector Base
	C-9101 (EX)	Intrinsically Safe Conventional Optical/Heat Detector
	C-9103 (EX)	Intrinsically Safe Conventional Heat Detector
	C-9201 (EX)	Intrinsically Safe Manual Call Point
	C-9403(EX)	Intrinsically Safe Sounder and Strobe
	C-9404(EX)	Intrinsically Safe Sounder
Interfaces and Zener Barrier		
	I-9332	Addressable Explosion Proof Interface for Intrinsically Safe Detectors and MCP, with Built In Zener Barrier, 24VDC required
	I-9333	Addressable Explosion Proof Interface for Intrinsically Safe Sounder and Strobe, with Built In Zener Barrier, 24VDC required
	GST-ZB-100	Zener Barrier with Case

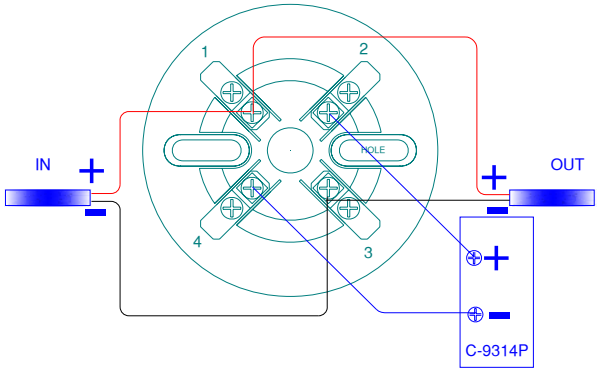
Image	Model	Description
	GST-ZB-200	2 Line Zener Barrier, with 1-line Grounding
	GST-ZB-300	2 Line Zener Barrier
Power Supplies		
	PSU24-3	3A 24VDC Intelligent PSU, Display shows DC Output Voltage and Load Current, Fully Monitored with Self test Facilities, Excluding Batteries
	PSU24-5	Addressable 5A 24VDC Intelligent PSU, Display shows DC Output Voltage and Load Current, Fully Monitored with Self test Facilities, Excluding Batteries
	PSU24-6	Addressable 6A 24VDC Intelligent PSU, Display shows AC Input Voltage, DC Output Voltage and Load Current, Fully Monitored with Self test Facilities, Excluding Batteries
	PSU24-6RM	PSU24-6 19” Rack Mount Type
	PSU24-10	Addressable 10A 24VDC Intelligent PSU, Display shows AC Input Voltage, DC Output Voltage and Load Current, Fully Monitored with Self test Facilities, Excluding Batteries
	PSU24-15A	Addressable 15A 24VDC Intelligent PSU, Display shows AC Input Voltage, DC Output Voltage and Load Current, Fully Monitored with Self test Facilities, Excluding Batteries
Fire Telephone System		
	GSTFT8N	8 Zone Fire Telephone Control Panel, Wall Mounted, Networkable Up to 8 Panels, Fully Monitored, 24VDC Powered
	GSTFT24N	24 Zone Fire Telephone Control Panel, Rack Mounting, Networkable Up to 8 Panels, Fully Monitored, 24VDC Powered
	GSTFT40N	40 Zone Fire Telephone Control Panel, Rack Mounting, Networkable Up to 8 Panels, Fully Monitored, 24VDC Powered
	P-9911 (J)	Fire Telephone Jack Socket
	P-9911 (M)	Fire Telephone Mobile Handset
	P-9911 (F)	Fixed Fire Telephone Handset
	P-9911 (S)	Hand Free Fire Telephone Outstation
Voice & Fire Telephone System UL Approved		
	GST-MP16X	16 Zone Integrated Voice Alarm & Fire Telephone, c/w Blank Plates, Swing Door, Back Plate with 1 x SLC, DCC, ASC, SSC, PWR, II & ISO Complete **Use GSTIFP8-VT for Enclosure UL Approved**
	GST-MP16X-P	16 Zone Integrated Voice Alarm & Fire Telephone, c/w Blank Plates, Swing Door, Back Plate with 1 x SLC, DCC, ASC, SSC, PWR, II & **Cabinet box**
	GST-MFA	Master Fire Phone Assembly, Includes MFH, MFP, Cable and Mounting hardware Kit UL Approved

Image	Model	Description
	GST-SLC-A	16 Zone Switch Assembly includes Plate, Label and Both Short & Long Cables UL Approved
	GST-DP	Addressable Distributed Panel, , 8 Class B Supervised 70 Volt Line Speaker Circuits, Includes DCC, 2-MBR, AMI & 2 MBK, Enclosure 385W x 729H x 108D, 220-240V 50-60 Hz. UL Approved
	GVX50E	50 Watt Expander Amplifier c/w Cabling & Mounting Hardware UL Approved
	GVX100E	100 Watt Expander Amplifier c/w Cabling & Mounting Hardware UL Approved
	XFMR	T-17528 Kit with Cabling & Mounting Hardware UL Approved
	FPI	DP Fire Phone Interface with Connecting Cable UL Approved
	FPO2	DP Fire Phone Output Card with Connecting Cable UL Approved
	GVXSC	Remote Supervisory Card for Remote Microphone fitted in GST-MP16X
	GVXRM	Remote Microphone c/w All Call Mic and Enclosure
	GST-VA200-16	Addressable Distributed Panel, , 16 Class B Supervised 70 Volt Line Speaker Circuits, Includes DCC, 2-MBR, AMI & 4 MBK & 2 x 100 Watt Amplifiers with Transformers, Enclosure 26"W x 42"H x 6"D, 220-240V 50-60 Hz. UL Approved
	SSPKW	White Ceiling or Wall Mounting 6.1” Square X 1.88” Deep, Mounting to a standard 4” Square X 2- 1/8" Deep Back Box • High Quality dBA Output (Intelligible) • Frequency Range 400-4000Hz • Screw Terminals, Separate In/Out Wiring (12-18 Gauge) • Field Selectable Power Taps: 1/8W, 1/4W, 1/2W, 1W, 2W, 4W • Speaker Voltage 25 or 70.7 VRMS Standard, Field Selectable UL Listed.
	SSPKR	Red Ceiling or Wall Mounting 6.1” Square X 1.88” Deep, Mounting to a standard 4” Square X 2- 1/8" Deep Back Box • High Quality dBA Output (Intelligible) • Frequency Range 400-4000Hz • Screw Terminals, Separate In/Out Wiring (12-18 Gauge) • Field Selectable Power Taps: 1/8W, 1/4W, 1/2W, 1W, 2W, 4W • Speaker Voltage 25 or 70.7 VRMS Standard, Field Selectable UL Listed.
	SSPK24W	White Ceiling or Wall Mounting Speaker & Strobe 6.1” Square X 1.88” Deep, Mounting to a standard 4” Square X 2- 1/8" Deep Back Box • High Quality dBA Output (Intelligible) • Frequency Range 400-4000Hz • Screw Terminals, Separate In/Out Wiring (12-18 Gauge) • Field Selectable Power Taps: 1/8W, 1/4W, 1/2W, 1W, 2W, 4W • 15, 30, 75, 95, 115 Candela, Field Selectable UL Listed.
	SSPK24R	Red Ceiling or Wall Mounting Speaker & Strobe 6.1” Square X 1.88” Deep, Mounting to a standard 4” Square X 2- 1/8" Deep Back Box • High Quality dBA Output (Intelligible) • Frequency Range 400-4000Hz • Screw Terminals, Separate In/Out Wiring (12-18 Gauge) • Field Selectable Power Taps: 1/8W, 1/4W, 1/2W, 1W, 2W, 4W • 15, 30, 75, 95, 115 Candela, Field Selectable UL Listed.
	GBLPW	White Back Box or Use Standard US Specs 4” Square X 2- 1/8" Deep Back Box
	GBLPR	Red Back Box or Use Standard US Specs 4” Square X 2- 1/8" Deep Back Box
	GST8401	6 Watt Ceiling Speaker c/w Fire Dome and Ceramic Terminals - Tapings 1/2, 1, 3 & 6 Watts
	GST8410	6 Watt Wall Mounting Speaker - Ceramic Terminals - Tapings 1/2, 1, 3 & 6 Watts

Device Wiring Details

Detectors

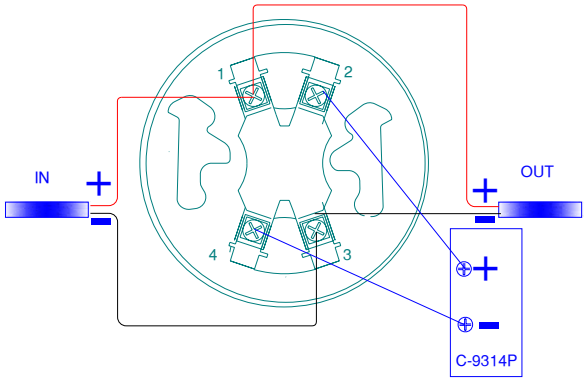
I-9101, I-9102, I-9103, I-9104



Notes:

1. DZ-03 detector base
2. I-9101, I-9102 and I-9103 available with built-in remote indicator output
3. I-9104 is without remote indicator output
4. To fix, point the detector in the base by the mark-line and secure the detector in that position by rotating it clockwise until it reaches the next mark line.

DI-9101, DI-9102, DI-9103



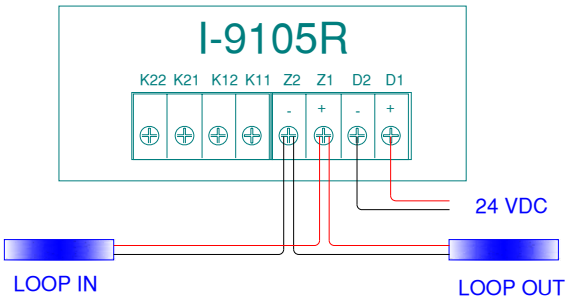
Notes:

1. DB-01 detector base
2. DI-9101, DI-9102 and DI-9103 available with built-in remote indicator output
3. To fix, point the detector in the base by the mark-line and secure the detector in that position by rotating it clockwise until it reaches the next mark line.

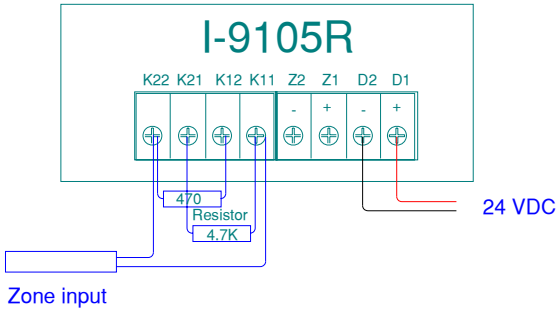
Beam Detector

I-9105R

For addressable connection

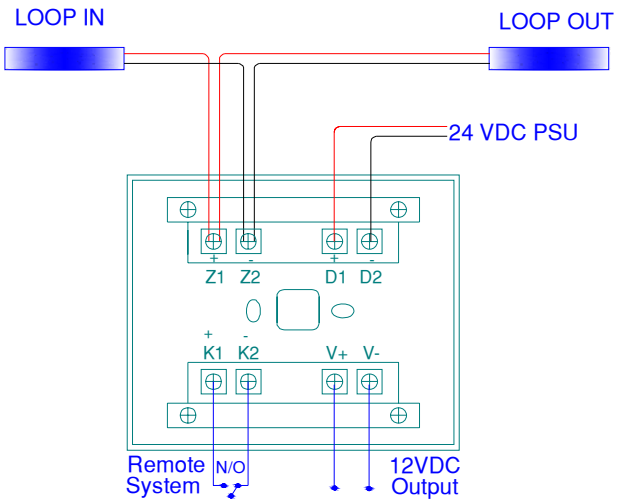


For conventional connection



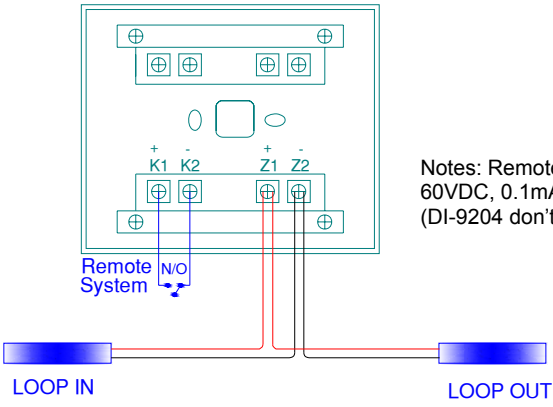
Gas Detector

I-9602LW



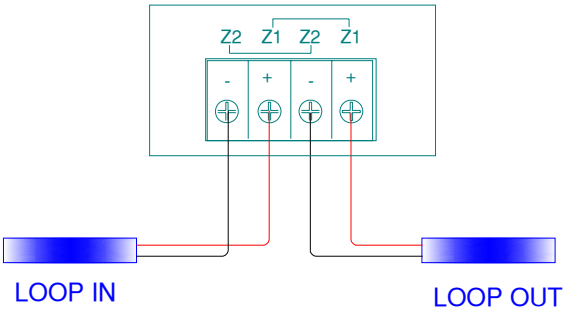
Manual Call Point

I-9201/I-9202-Discontinued



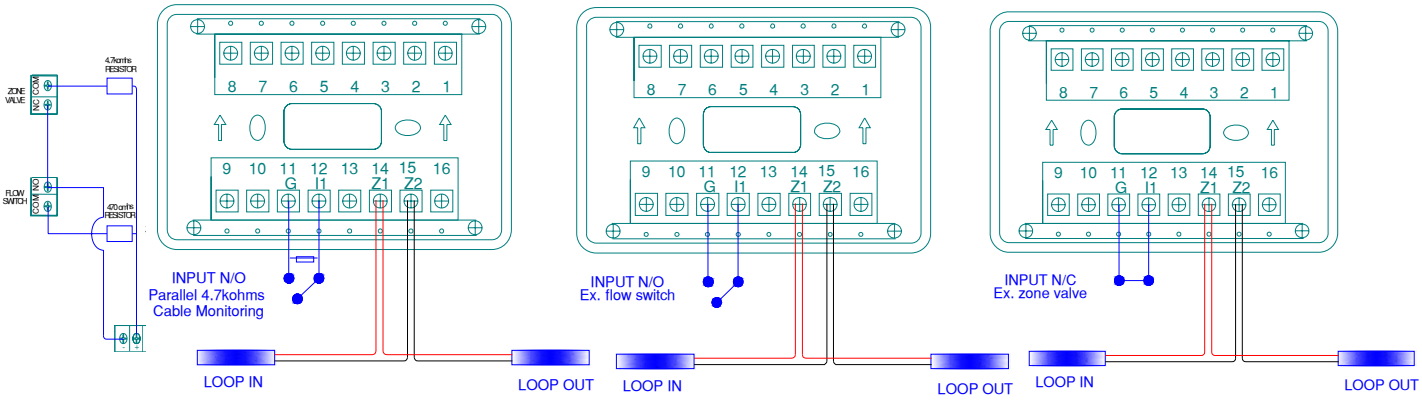
Notes: Remote N/O contact
60VDC, 0.1mA at 100mΩ
(DI-9204 don't have contact)

DI-9204



MODULES

I-9300 INPUT MODULE- LOOP POWERED

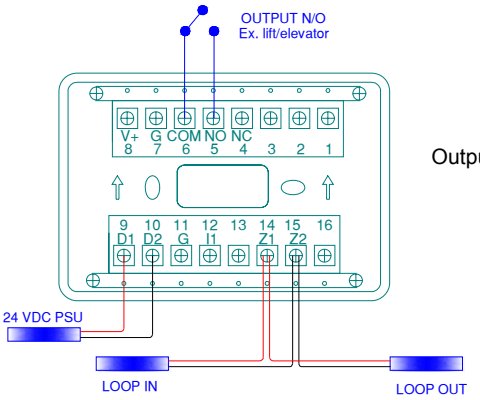


Parameter 1-N/O,cables monitor

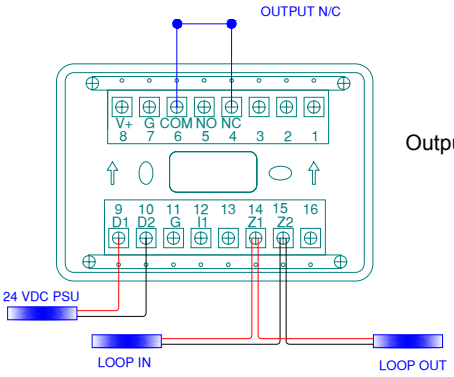
Parameter 4-N/O

Parameter 7-N/C

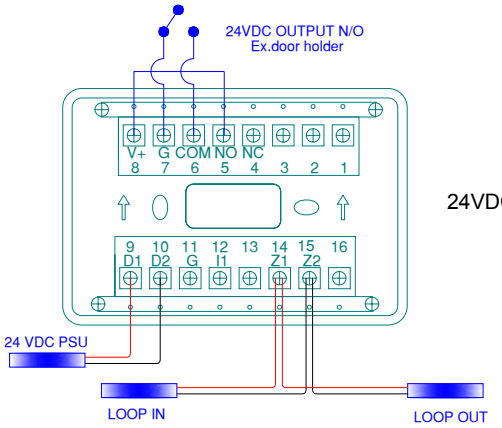
I-9301 CONTROL AND RELAY, INPUT



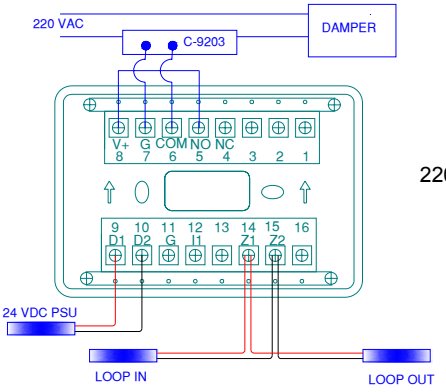
Output Dry Contact
N/O



Output Dry Contact
N/C



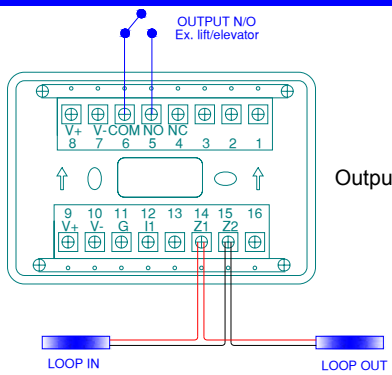
24VDC Output N/O



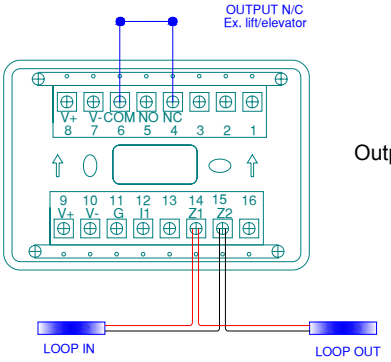
220VAC Control

Note: For input connection is the same as I-9300 (Terminal G & I1). Do not have parameter 1 but with parameter 3 self confirm or feedback signal

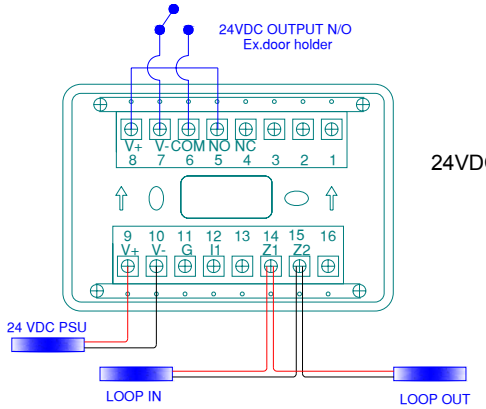
DI-9301 RELAY-LOOP POWERED; or CONTROL-24VDC



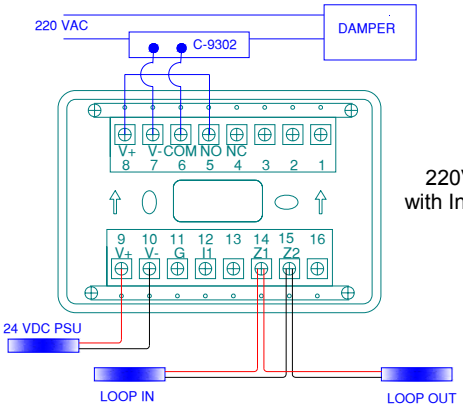
Output Dry Contact
N/O



Output Dry Contact
N/C



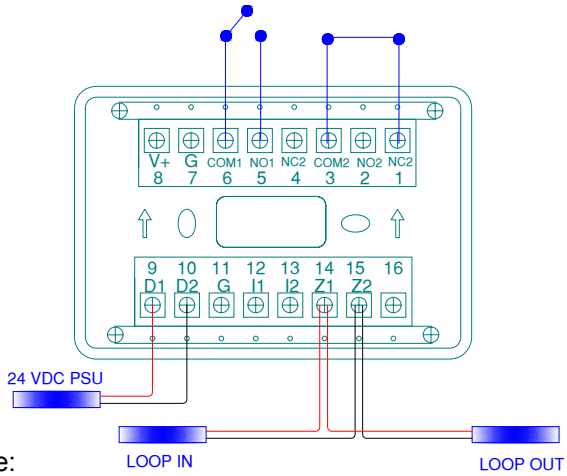
24VDC Output N/O

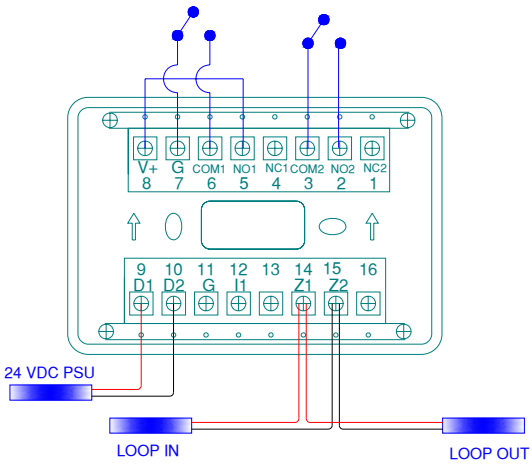


220VAC Control,
with Interposing relay

Note: For input connection is the same as I-9300 (Terminal G & I1). Do not have parameter 1 & 3.

I-9303 DUAL CONTROL AND RELAY, INPUT



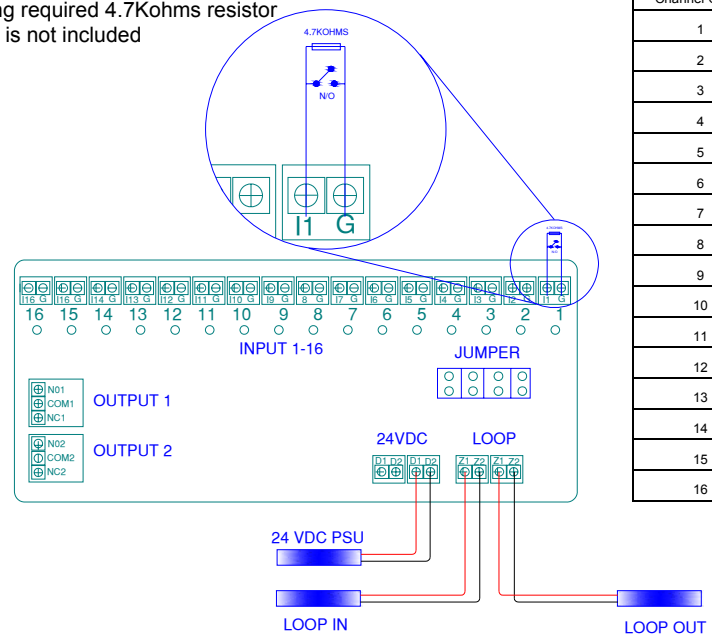


Note:

1. Note: For input connection is the same as I-9300 (Terminal G & I1). Do not have parameter 1 but with parameter 3 self confirm or feedback signal
2. Output:Com-NO1-NC1 is the 1st address Channel 1; Com-NO2-NC2 is the 2nd address Channel 2
3. Input: G-I1 is the 1st address Channel 1 ; G-I2 is the 2nd address Channel

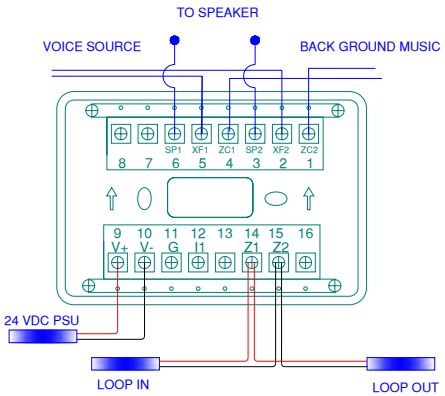
DI-9309 -16 INPUTS;2 OUTPUT RELAY

Note: Input monitoring required 4.7Kohms resistor
Enclosure box is not included

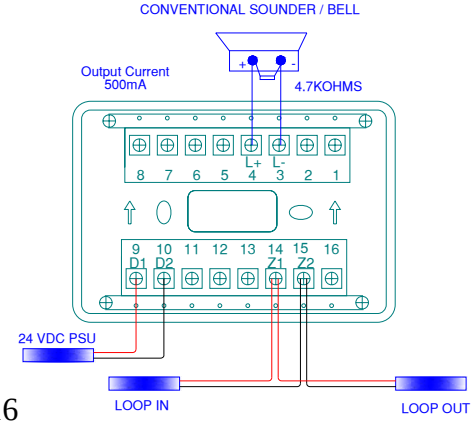


Pin / Channel QTY.	4	3	2	1
1	OFF	OFF	OFF	OFF
2	OFF	OFF	OFF	ON
3	OFF	OFF	ON	OFF
4	OFF	OFF	ON	ON
5	OFF	ON	OFF	OFF
6	OFF	ON	OFF	ON
7	OFF	ON	ON	OFF
8	OFF	ON	ON	ON
9	ON	OFF	OFF	OFF
10	ON	OFF	OFF	ON
11	ON	OFF	ON	OFF
12	ON	OFF	ON	ON
13	ON	ON	OFF	OFF
14	ON	ON	OFF	ON
15	ON	ON	ON	OFF
16	ON	ON	ON	ON

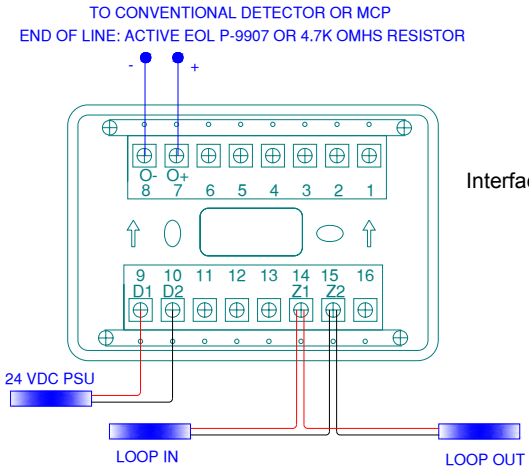
I-9305-Discontinued



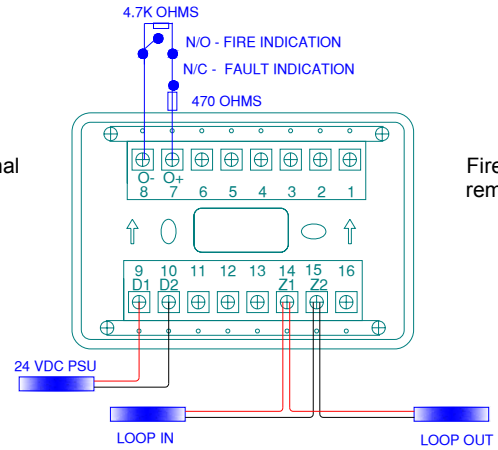
I-9308



I-9319



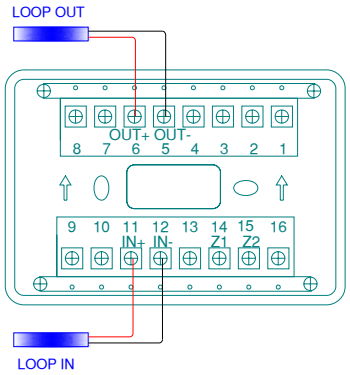
Interfacing conventional devices



Fire/Fault from remote system

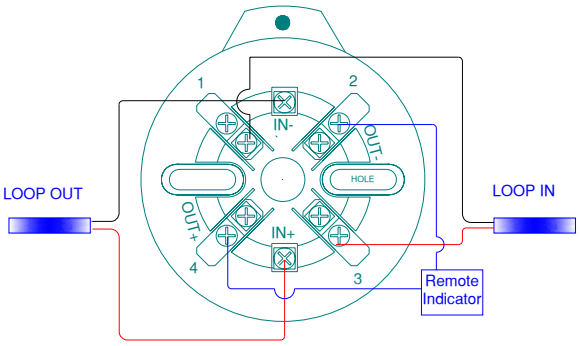
LINE ISOLATOR

C-9503



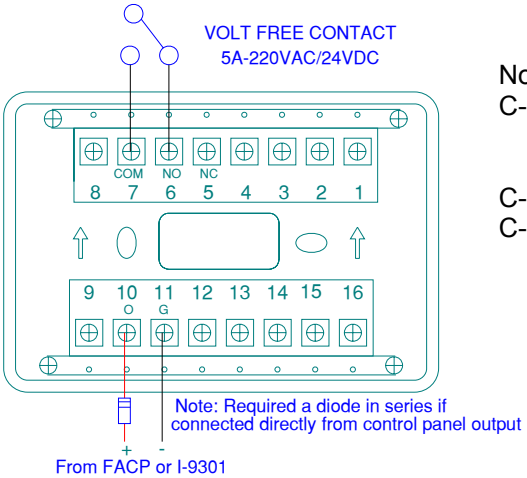
Note: Up to 7 /loop and control 32 devices

C-9504



Note: Up to 20 /loop and control 25 devices

C-9302

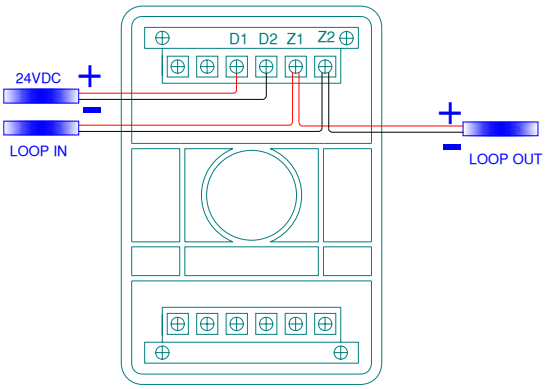


Note:

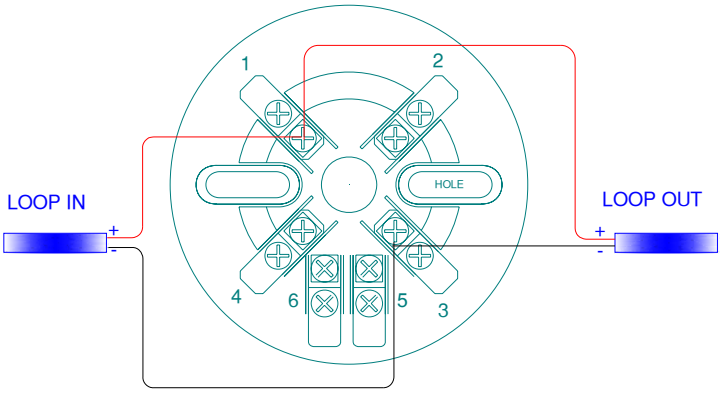
C-9302	AC control relay for power switching Dry contact volt-free (Panel output, Output Module)
C-9302C	Interface for fire-man's switch
C-9302A	Dual relay output, AC or dry contact switching

SOUNDER STROBE

I-9401

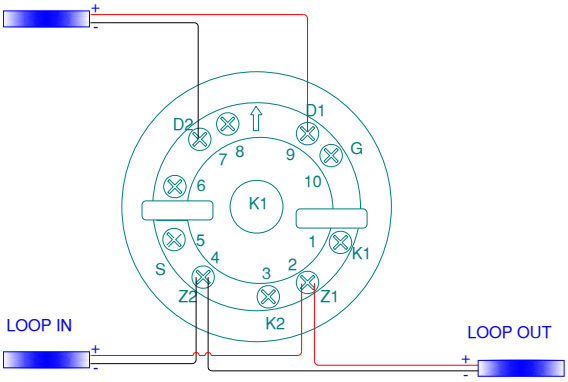


I-9402, I-9406

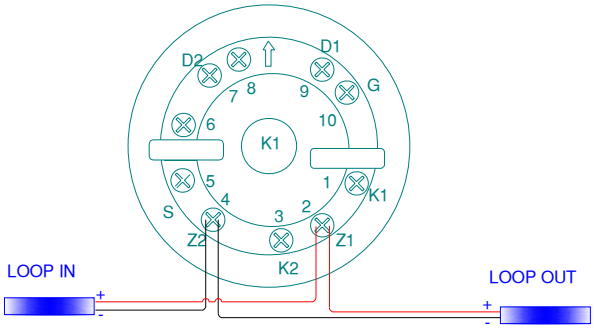


Note: max 30 per loop

I-9403, I-9404

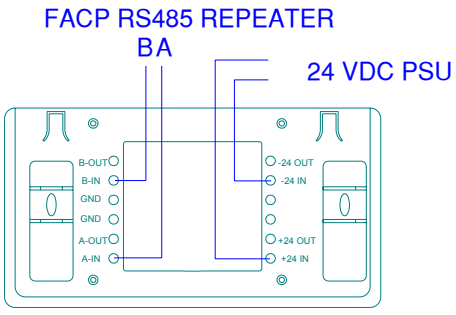


I-9407

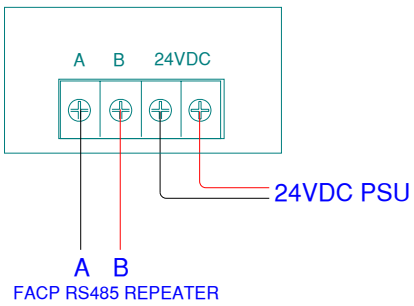


Repeater Panel Wiring Details

GST852RP

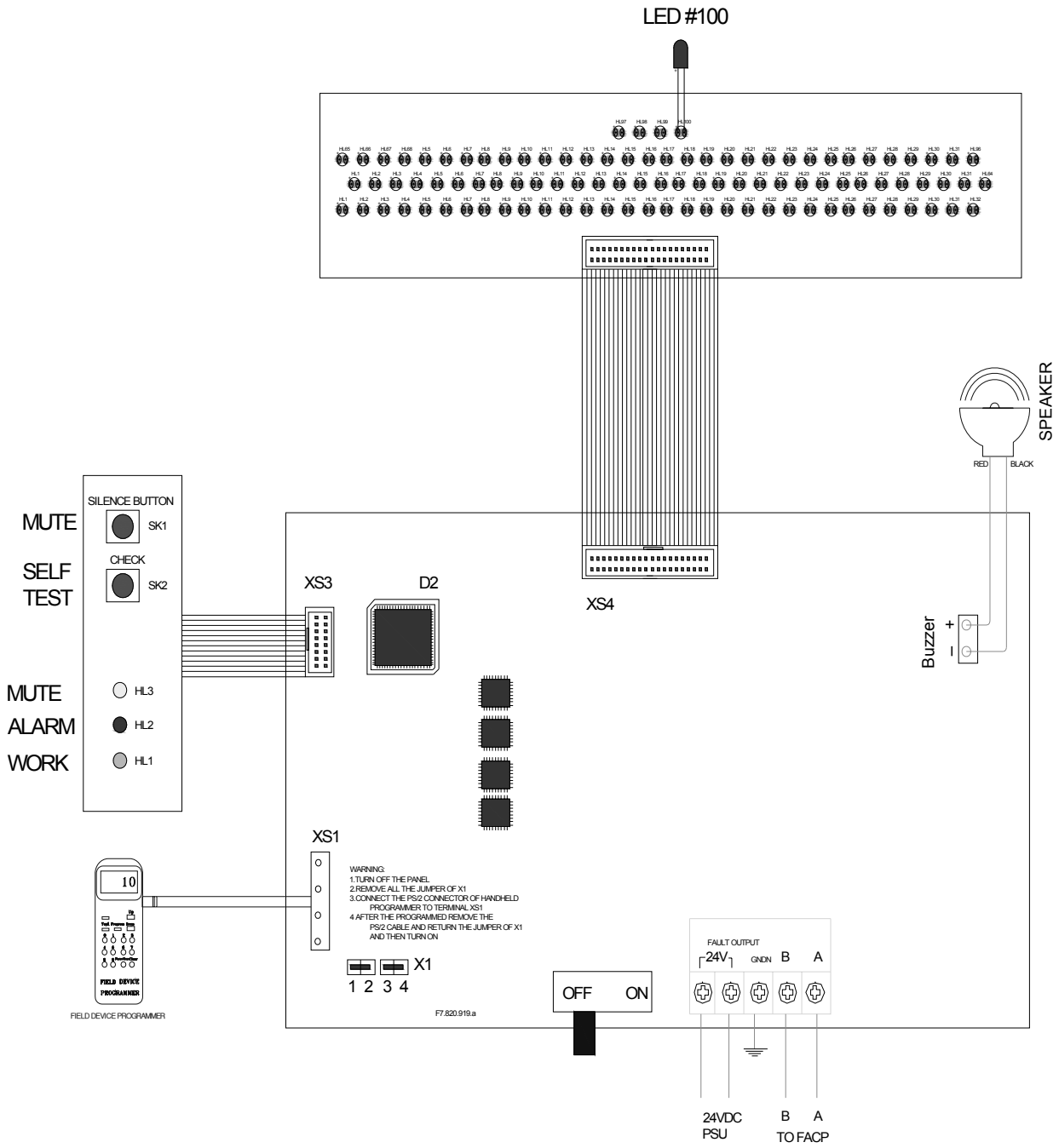


GST852RPX



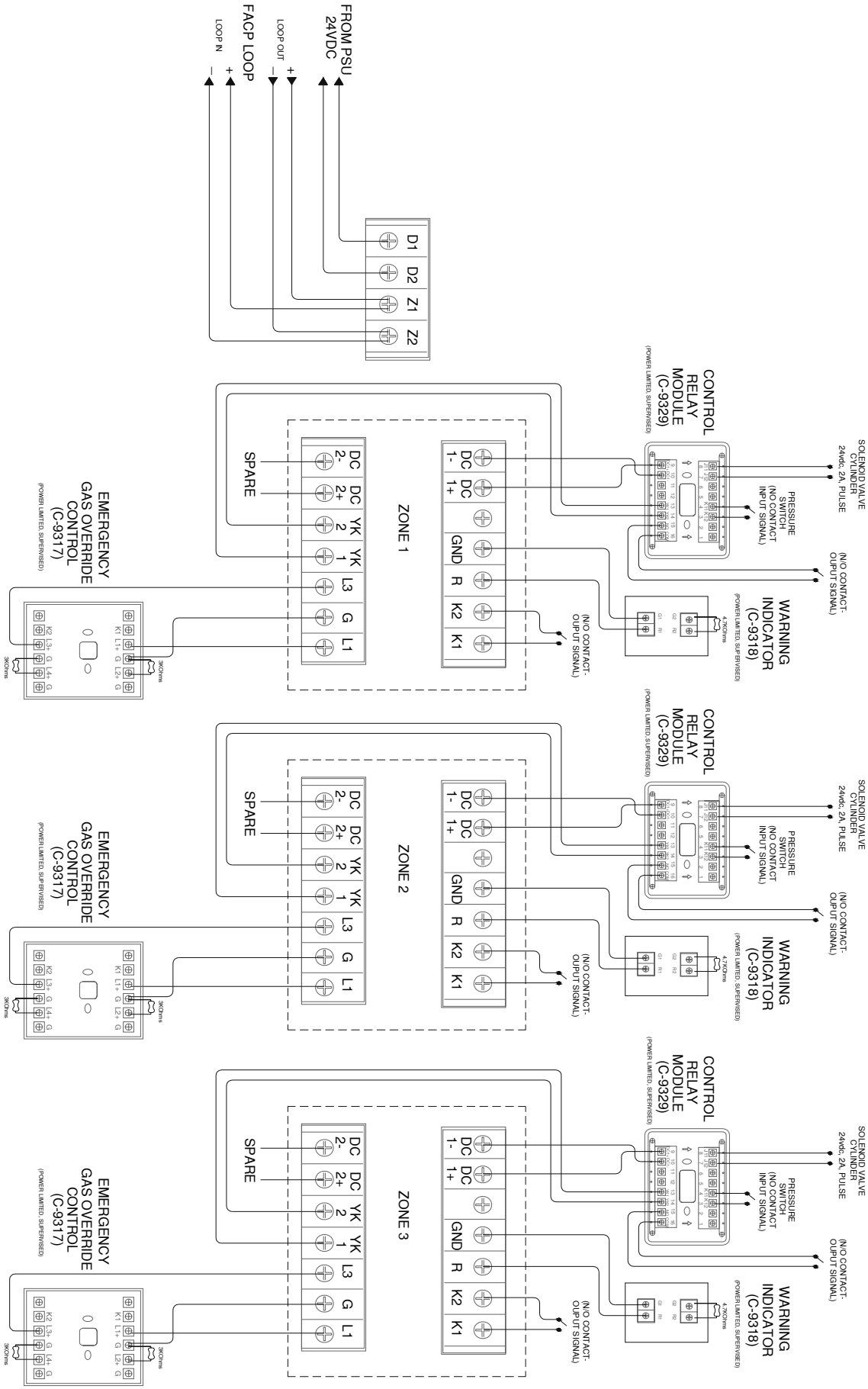
Mimic Panel Wiring Details

GST-8903



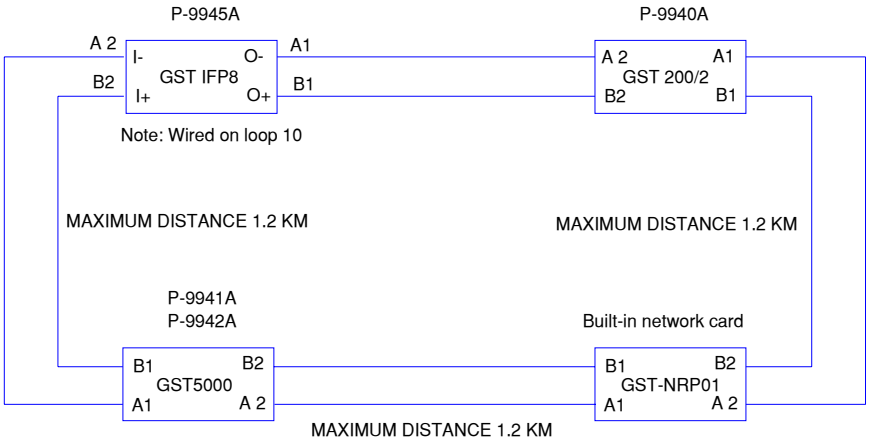
Addressable Gas Extinguishing Panel Wiring

GST 303/306

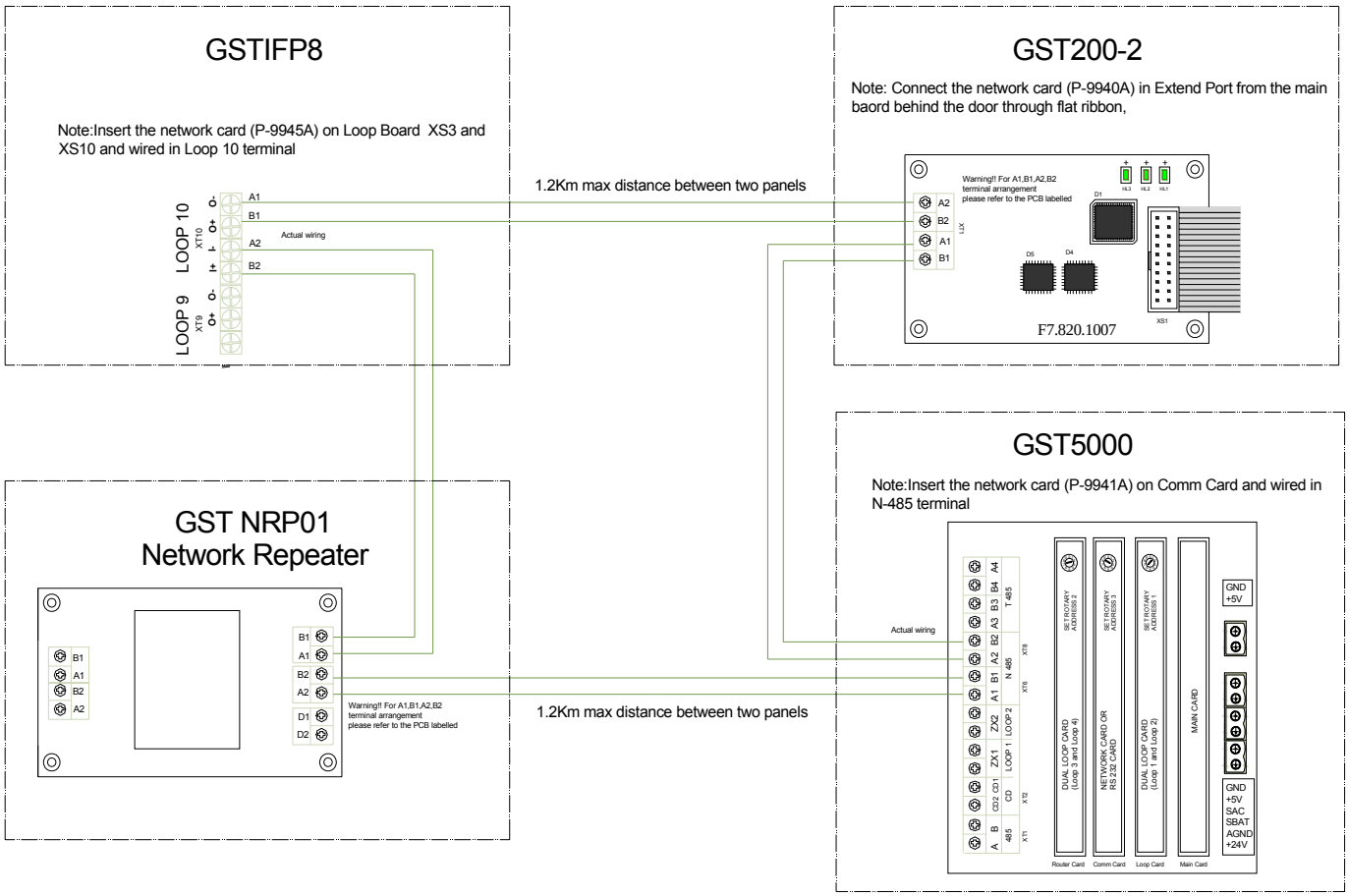


Networked Wiring Details

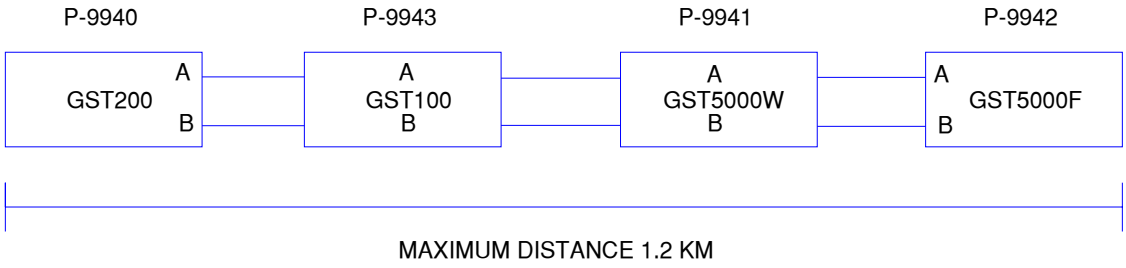
Class A Network/GST-NRP01



GST Network Wiring Details for Class A Topology

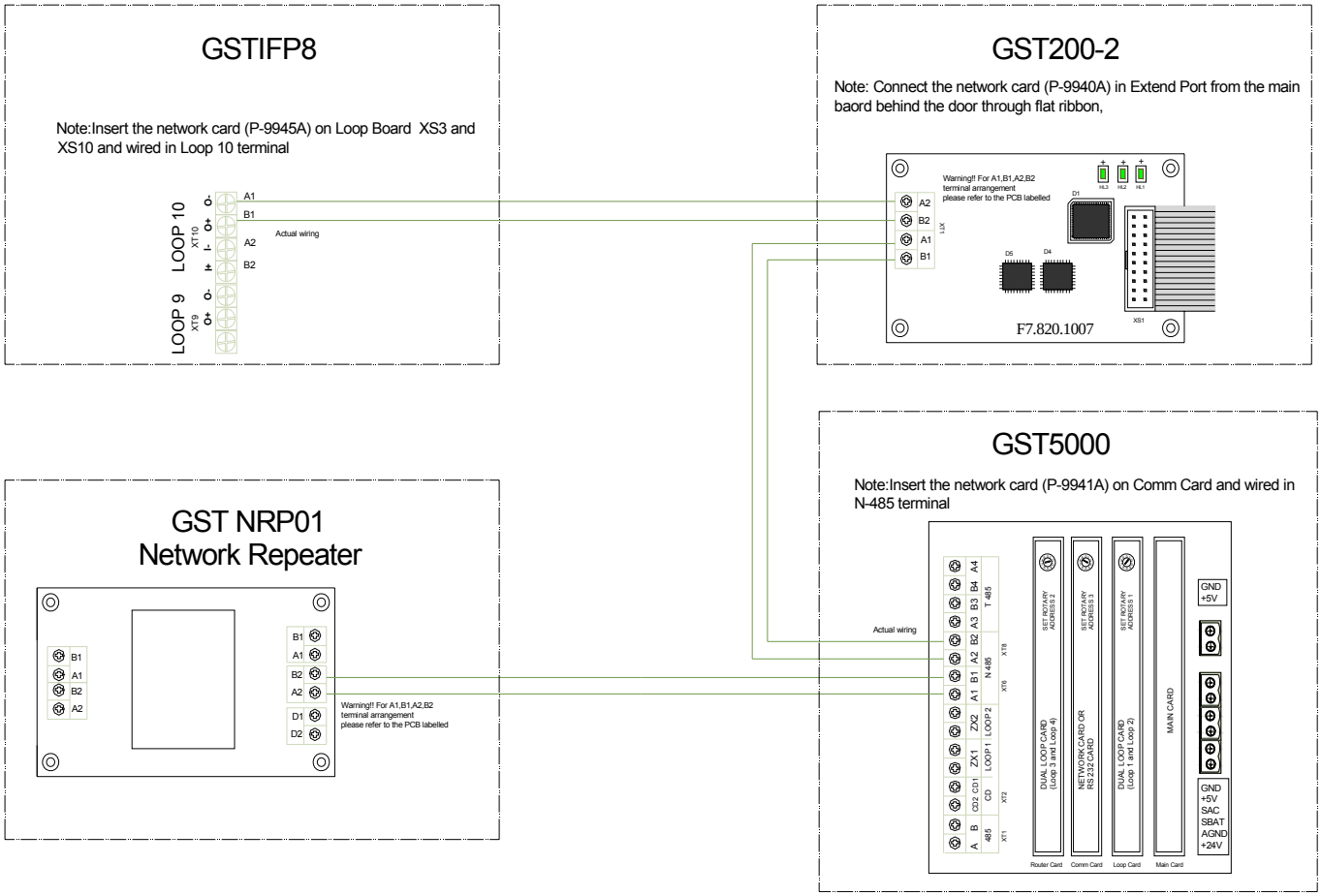


Class B Network- GST200 series and GST5000 series



Class B Network with IFP8

GST Network Wiring Details
for Class B Topology using
Class A Network Card



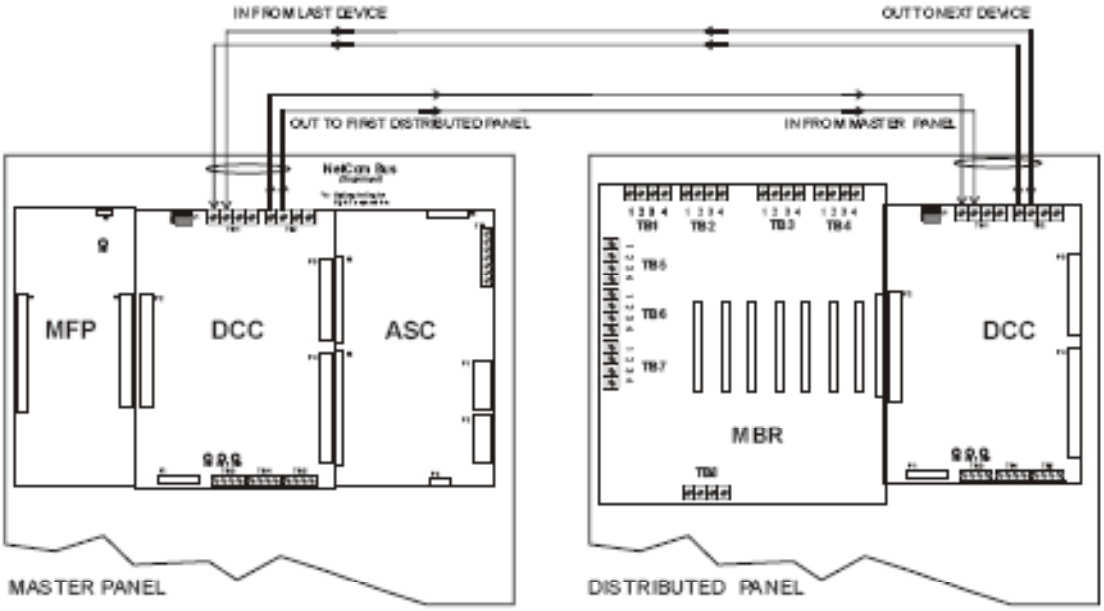
Other network solution:

- CAN BUS
- Network using Fiber Optic (multi-mode or single mode)
- LAN network (NPort-required Fixed IP)

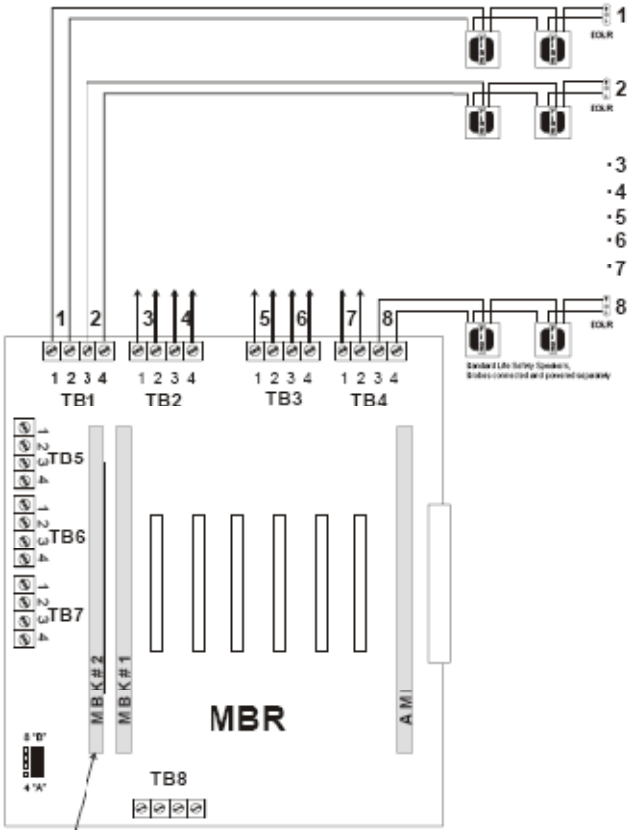
Voice Alarm Wiring Details

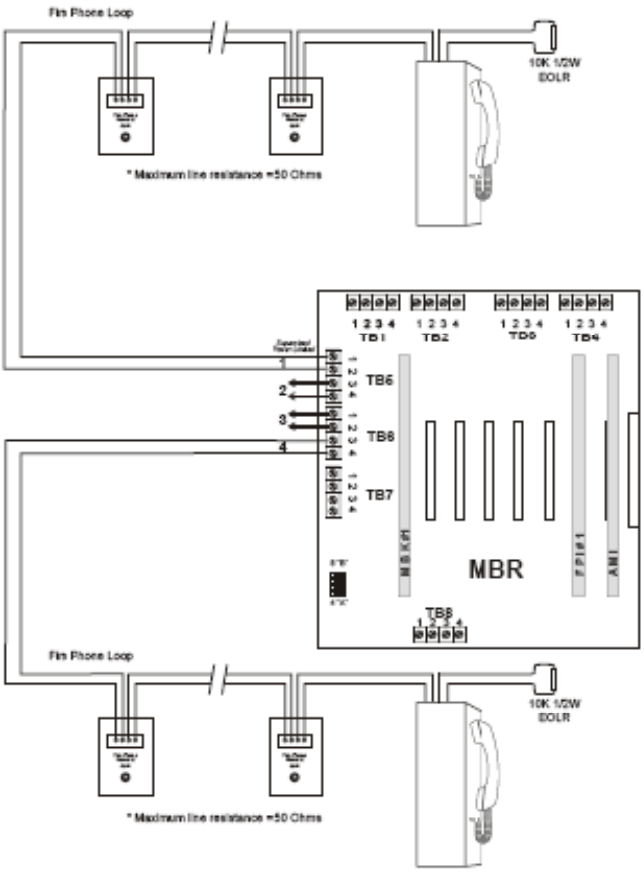
UL -Voice Alarm

GST-MP

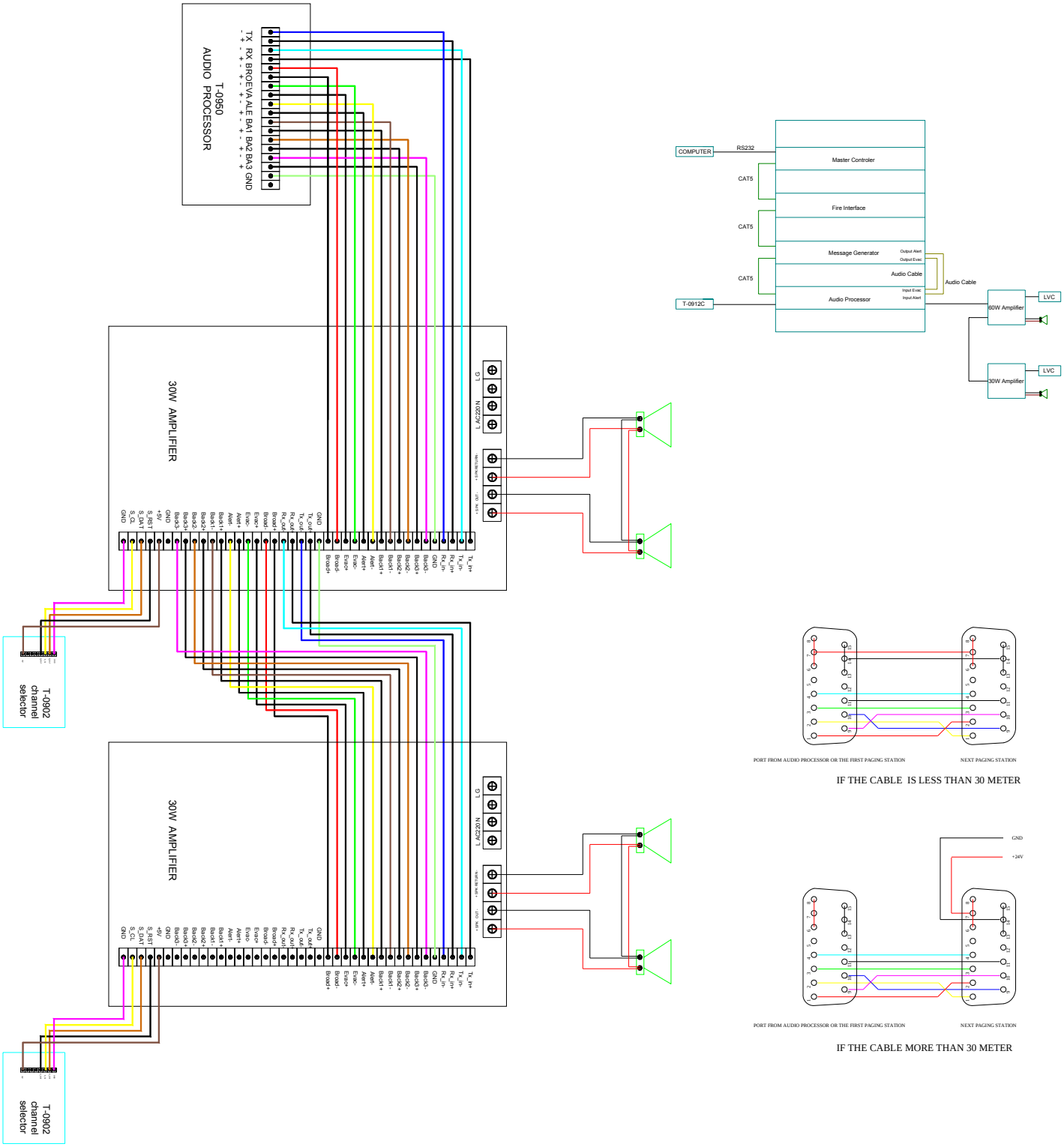


GST-DP



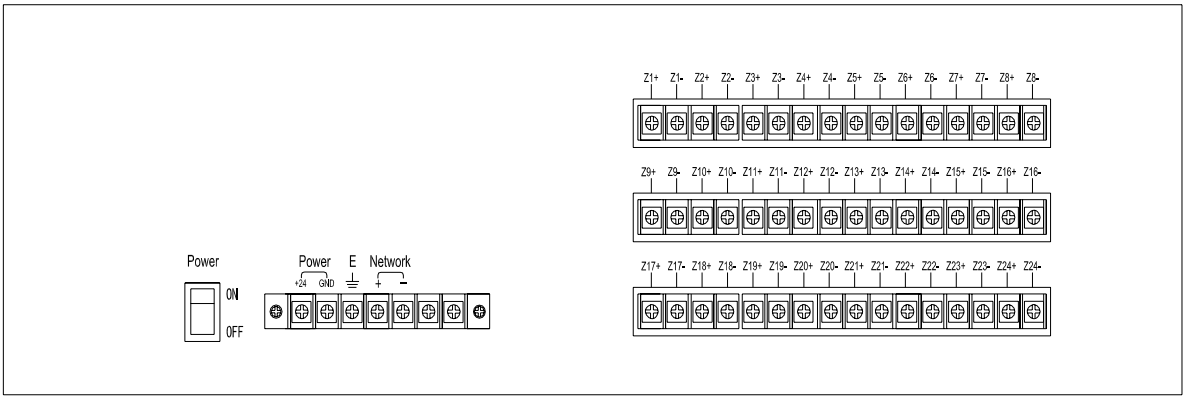


GST8000Series-Discontinued

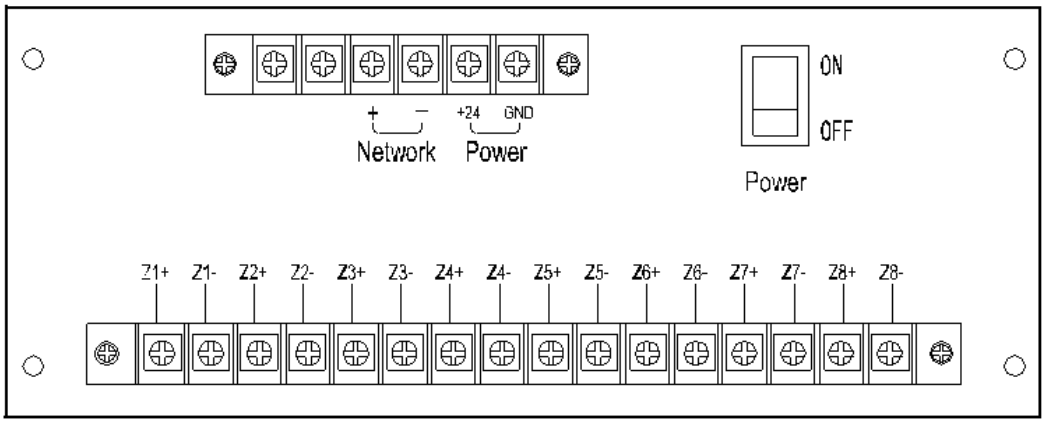


Fire Telephone Panel Details

GSTFT24N



GSTFT8WN



Device Programming

P-9901B

Device terminal connection to digital handheld programmer:
Detectors: Terminal 1 and 3
Manual Call Point: Terminal Z1 and Z2
Sounders: Terminal Z1 and Z2
Modules: Terminal Z1 and Z2

Checking Parameter

- Turn on
- Press the “Clear”
- Press the “Test” and then scroll using the “UP and Down” buttons

Device parameters sequence:

(For Detector & Input Module)	(For Sounders)
TEST – Address	Test- Address
UP – Sensitivity/Parameter	UP- Sensitivity/Parameter
UP – Device Type	UP - Factory
UP – Factory code	UP – Device Code (For Sounder)

Addressing of devices

- Turn on the handheld programmer
- Press the “Clear”
- Enter the address and then press the “Program”
  (Display P-means confirm programmed or E-meaning error)

Shifting Sensitivity of the detectors and input module parameter

- Turn on
- Press the “Clear”
- Press the “4,5,6” and then the “Clear”
- Press the “Function” and then the “3” (notice “-“ appears on the display)
- Enter Sensitivity Level or Parameter and then the “Program”
  (Display P-means confirm programmed or E-meaning error)

1. 3 Sensitivity Level I-9101, I-9102, I-9103, and I-9104
   Level 1 highest sensitivity (Default Setting)
   Level 2 Standard sensitivity
   Level 3 Lowest Sensitivity
   (Optical Smoke: L1-0.10dB/m, L2-0.33dB/m, L3-0.56dB/m)
   (Fixed Temp: L1-54°C, L2-62°C, L3-70°C)
   (Flame: L1-25metres, L2-17metres, L3-12metres)

2. Input module I-9300, I-9301, DI-9301 and I-9303 (See table 2)
   Parameter 4 Normally Open Input (Default Setting)
   Parameter 7 Normally Close Input
   Parameter 1 Cable monitoring only for I-9300
   Parameter 3 Feedback signal to the panel only for I-9301 (PLANT condition)

3. Remote Indicator I-9314
   Parameter 20: Operates on its duplicate address
   Parameter 21: One address

Table 2

Parameter	I-9303 Input Mode (1st address- channel 1; 2nd address-channel 2)
1	Channel 1 auto feedback: Channel 2 normally open
2	Channel 1 normally open: Channel 2 auto feedback
3	Both channels auto feedback
4	Both channels normally open (default setting)
5	Channel 1 normally closed: Channel 2 normally open
6	Channel 1 normally open: Channel 2 normally closed
7	Both channels normally closed
8	Channel 1 auto feedback Channel 2 normally closed

Changing Code

- Turn on
- Press the “Clear”
- Press the “4,5,6” and then the “Clear”
- Press the “Function” and then the “4” (notice “-“ appears on the display)
- Enter device code and then the “Program”
  (Display P-means confirm programmed or E-meaning error)

Handheld Programmer Function 4 Device Code

1. I-9103/ DI-9103 Heat Detector
   Code 2 Dual Function, Fixed and Rate of Rise Temperature (Default Setting)
   Code 4 Fixed Temperature Function
2. I-9106 Linear Heat Cable
   Code 18 Single Zone Cable (Default Setting)
   Code 08 2 Zones Cable
3. I-9105 (I2C operation) Addressable Reflective Beam Detector
   Code 52 Detection Distance between 40 to 100 metres (Default Setting)
   Code 51 Detection Distance between 8 t0 40 metres
4. C-9105 (I2C operation) Conventional Reflective Beam Detector **(note: 259 function)**
   Code 54 Detection Distance between 40 to 100 metres (Default Setting)
   Code 53 Detection Distance between 8 to 40 metres
5. I-9402 Sounder Base
   Code 100 Operates on its Duplicate Address
   Code 101 Evacuate Tone, One Address (Default Setting)
   Code 102 Alert and Evacuate, 2 Address:1st -Alert: 2nd –Evacuate Tone
6. I-9403/ I-9404 Sounder Strobe
   Code 27 Evacuate Tone, One Address (Default Setting)
   Code 121 Alert and Evacuate Tone, 2 Address:1st -Alert: 2nd –Evacuate Tone
7. I-9406 Sounder Strobe Base
   Code 1 One Address – 1 to 16 tones (Default Setting)
   Code 2 Two addresses (1 to 16 tones)
8. I-9308 Sounder Driver Module
   Code 1 Evacuate Tone, One Address (Default Setting) for C-9403/04
   Code 2 Alert and Evacuate Tones, 2 Addresses for C-9402
   Code 3 Evacuate Tones, One Address for C-9402
   Code 4 Alert and Evacuate Tones, 2 Addresses for C-9403/04

Reflective Beam Detector

Note: Connect the PS/2 connector to “XT3”

Addressing of Beam

- Turn on, press the “2,5,9” then the “Function”,
- Input the new address and then press the “Program”
  (Display P-means confirm programmed or E-meaning error)

Shifting Sensitivity of Beam

- Turn on, press the “2,5,9” then the “Function” and press “Clear”
- Press “4,5,6” then “Clear”
- Press “Function” then “3” (display show ‘-‘ dash)
  Enter sensitivity (2 means sensitivity 1 or 3 means sensitivity 2) then the “Program” (Display P-means confirm programmed or E-meaning error)
  (Level 1:1.61dB/m and Level 2:2.31dB/n)

Changing Device Code of Beam

- Turn on, press the “2,5,9” then the “Function” and then press the “Clear”
- Press the “Function” then “4” then press the “4,5,6” and “Clear”
- Press “Function” then “4” (display show ‘-‘ dash)
- Enter device code and then “Program”

Mimic Panel

Note: 1.Off condition
2. Remove all X1 jumpers
3. Connect the PS/2 connector to "XS1 Program"

Addressing Mimic Panel

- Turn on, press "2,5,8" then "Function", Press "Down"(display the current address)
- Input the new address and Press "Program"

Assigning Individual LED per Device

- Turn on, press "2,5,8" then "Function", Display "0"
- Input the LED number , then "Function" (L –LED number will display) "Function"
- Input zone and device address (Ex.001023) then Press "Program"
- Then display the next increment LED number.

Assigning Individual LED per Zone

- Turn on, press "2,5,8" then "Function", Display "0"
- Input the LED number , then "Function" (L –LED number will display) "Function"
- Input zone and 255 (ex. 001255) then Press "Program"
- Then display the next increment LED number to be programmed

To view the program

- Press "2,5,8" then "Function"-"Test"
- Press "UP" (for assigned LED)
- Press "Down" (for panel address)

Loop Capacity

Cable Recommendation

1. Using Fire Alarm Cable 1.00mm²-800M-Full Load
2. Using Fire Alarm Cable 1.5mm²-1.2Km-Full Load

Loop Capacity

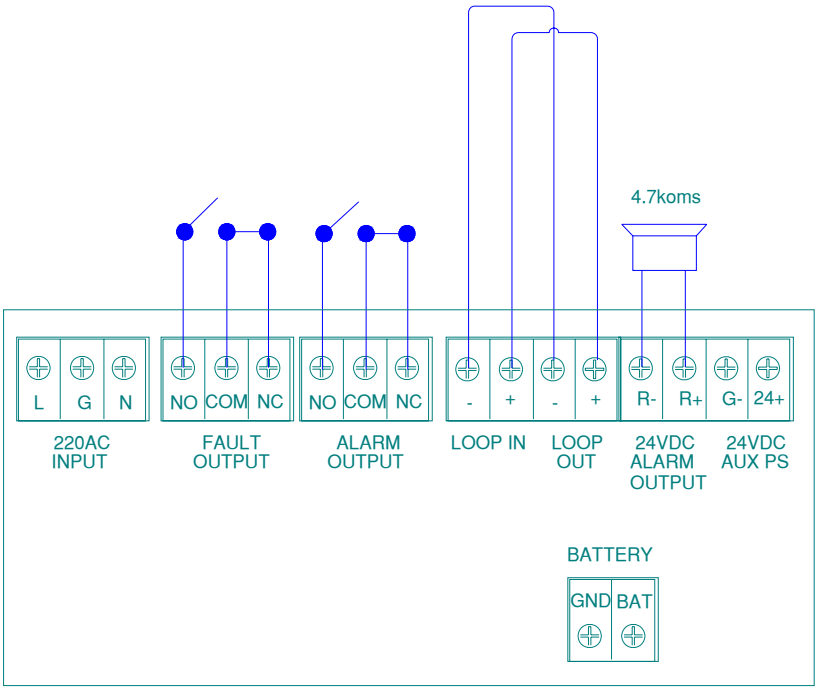
1. 242 addresses per loop
2. Consider that zone indication, 3 programmable alarm outputs and loop monitoring have an address.(GST5000 Only)
3. Consider 20% spare addresses per loop for future expansion within the loop
4. Limitation per loop

   I-9402 = 30 per loop
   I-9406 = 30 per loop or (44 Max 80 devices)
   I-9407 = 25 per loop
   I-9300 = 100 per loop
   DI-9301 = 50 per loop
   C-9503 = 10 per loop
   C-9504 = 20 per loop

   Note: I-9402 +I-9406 +I-9407=30 units

GST100 Control Panel

GST100



NOTE

L, PG, N: 220VAC terminal and ground terminal for chassis protection.

BAT, GND: 24VDC battery input terminal.

LOOP IN, LOOP OUT: Class A loop, able to connect up to 128 addressable devices.

R-, R+: SOUNDER OUTPUT terminal 24VDC

+24V, GND: 24VDC auxiliary power output, the maximum output current is 500mA.

FAULT OUTPUT: Voltage-free contact output

ALARM OUTPUT: Passive contact output

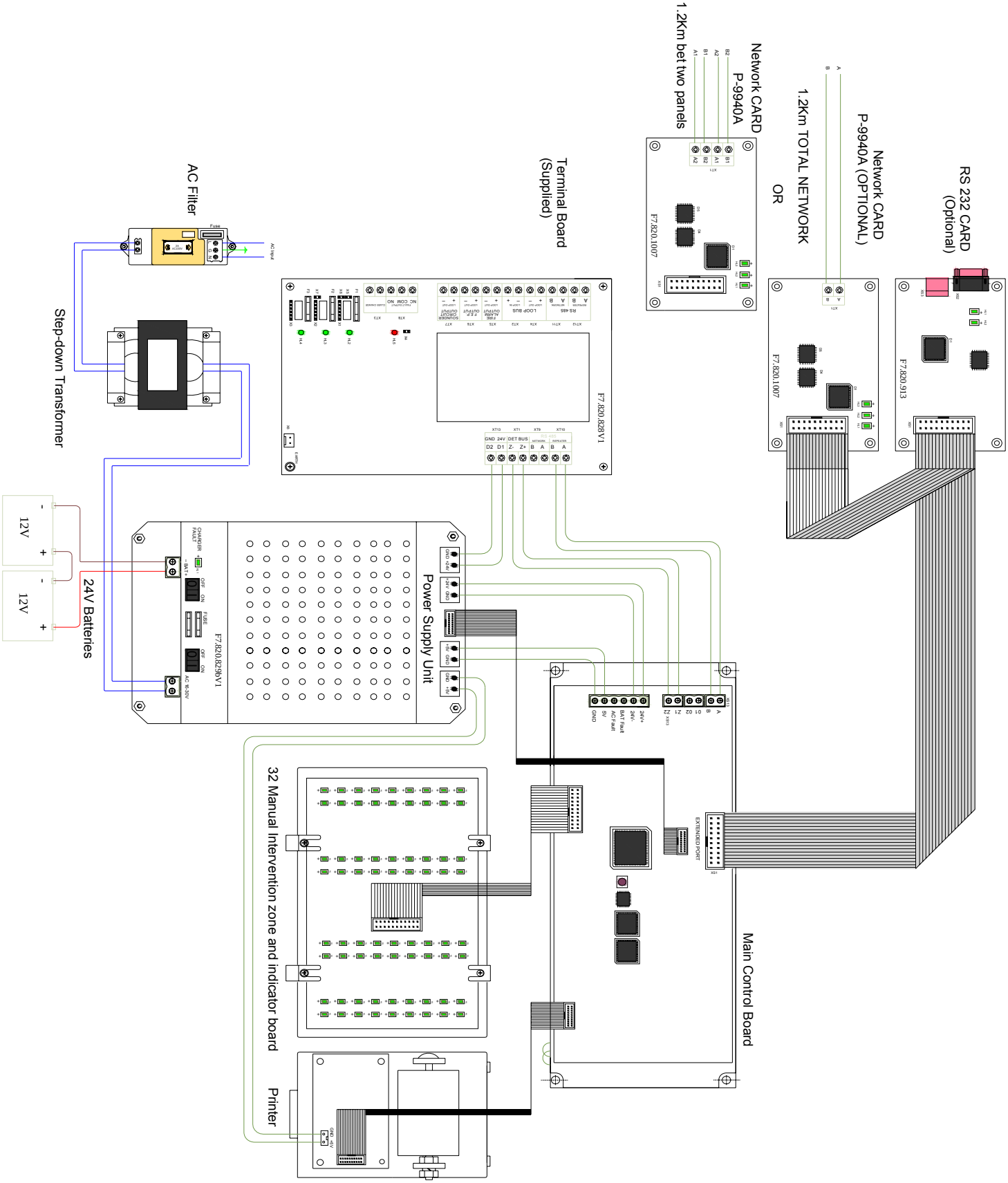
EARTH: Terminal for checking ground fault, which is enabled by shorting it with a cable.

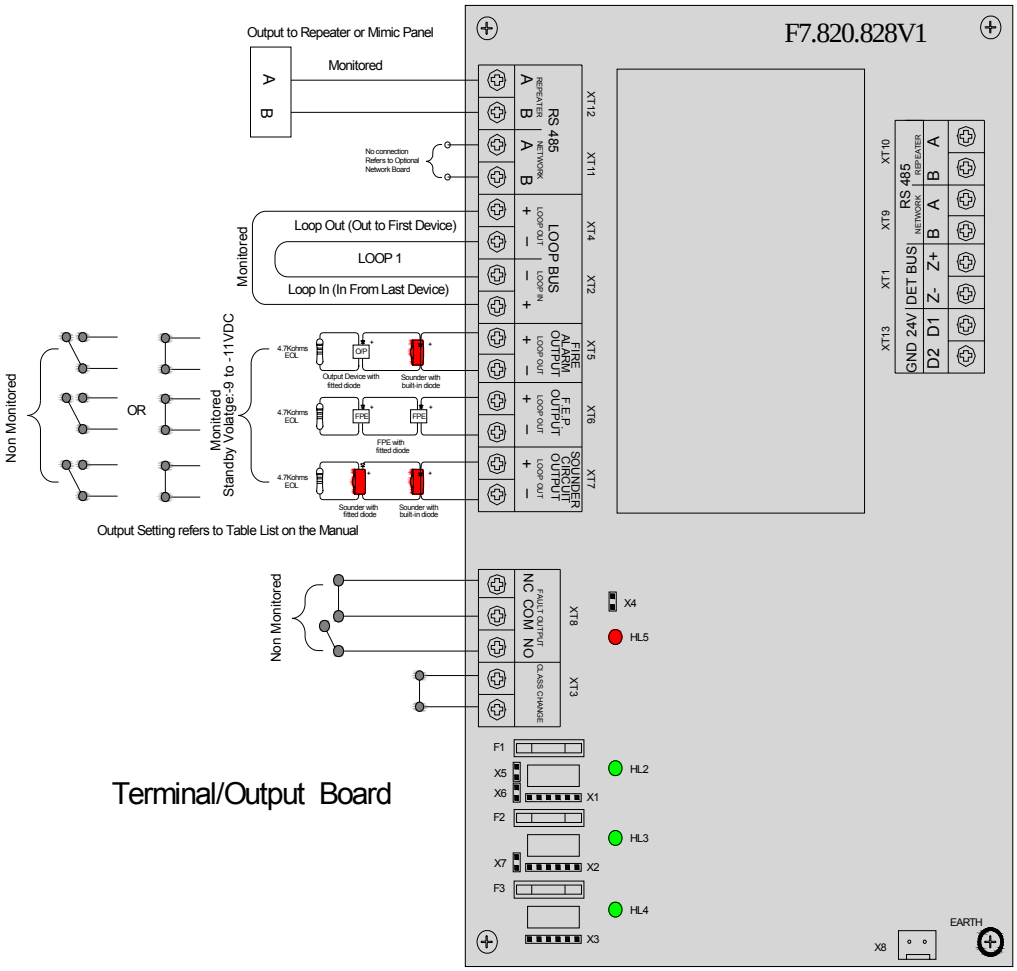
GST200 Control Panel

GST200- Discontinued

Installation of the panel should be carried out by trained personnel only. The electronic components inside the panel are vulnerable to damage by electrostatic discharges. It is recommended to wear a wrist strap designed to prevent the buil-up of static charges whithin the body, before handling any electronic circuit boards.

GST200 Basic Wiring Diagram





Zone Capacity-30 Zones

Terminal Details

RS-485 (XT11, XT12): To be connected with repeater panel and FACP

LOOP BUS (XT2, XT4): Class A loop can connect with up to 235 addressable devices.

FIRE ALARM OUTPUT (XT5): 24vDC default outputs when there is fire alarm; Address **242**

F.P.E. OUTPUT (XT6): 24VDC default outputs, Address **241**

SOUNDER CIRCUIT OUTPUT (XT7): 24VDC defaults outputs, Address **240**

LOOP BUS (XT2, XT4): Loop Out is the starting point, Class A loop can connect with up to 235 addressable devices. With loop isolator in Class A loop, the detector protected by loop isolator is not missing when there is short or open circuit. In this case, the FACP reports loop fault.

CLASS CHANGE (XT3): Shorting this terminal can make Sounder Circuit Output (XT7) output.

FAULT OUTPUT (XT8): Fault relay is closed in normal condition, and it's disconnected in fault condition.

Earth (X8): This terminal is for checking earth fault when shorted.

F.P.E. OUTPUT, SOUNDER CIRCUIT OUTPUT and FIRE ALARM OUTPUT can provide three output modes, which are 24VDC voltage output, normally open output and normally closed output. You can set up the three modes through Pin X1 ~ X7. See more details in Table 1.

Table 1

(Note: Turn off the Panel before setting)

Output	24VDC	Normally Closed	Normally Open	LED Indicator
Fire Alarm Output	Short 1 to 2 & 4 to 5 of X1 ; Short X5	Short 3 to 4 & 5 to 6 of X1 ; Disconnect X5	Short 2 to 3 & 5 to 6 of X1 ; Disconnect X5	HL2
F.P.E. Output	Short 1 to 2 & 4 to 5 of X2 ;Short X6	Short 3 to 4 & 5 to 6 of X2 ; Disconnect X6	Short 2 to 3 & 5 to 6 of X2 ; Disconnect X6	HL3
Sounder Circuit Output	Short 1 to 2 & 4 to 5 of X2 ; Short X7	Short 3 to 4 & 5 to 6 of X3 ; Disconnect X7	Short 2 to 3 & 5 to 6 of X3 ; Disconnect X7	HL4

Note:

GST200 Output Set-up

1. Default Outputs
    a. All 3 outputs active immediately at fire events
    b. Equation loop sounder will not activate (only same zone) excluding modules
    c. Sounder Circuit can be silenced only.
2. C & E Outputs (Cause and Effect Equation)
    a. Fire Outputs active immediately at fire events
    b. FPE – Device type No. 65 and zone (000) should be defined, Delay time is not possible
    c. Sounder Circuit- Device type No. 55 and zone (000) should be defined, Delay time is possible. Can be silence

Procedures to Commission GST 200

1. Program a unique address number for each device using handheld programmer (P-9910B) according to the project layout before placing from the terminal base.
2. Connect the loop within the panel as follows: Loop OUT + to Loop IN+/ Loop OUT- to Loop IN- .
3. Turn on the panel and perform an auto learn/registration as follows:
    - Press “System” Enter the password _____ (Commissioning password)
    - Press “Enter”
    - Press “SK1 button” behind the door.
      (Note: procedure should be done within 25 seconds otherwise the control panel will initialize the normal panel reset)
4. Confirm the registered device address using browsing menu as follows:
    - Press “Browse” Enter the password 11111111 (Default password)
    - Press button number “1 Active EQ”
5. Download the database to the panel, it required to connect the download card and also must be registered from the panel. (See Upload/Download Procedures on page 68)
6. View the downloaded database using the User Keypad Menu (Device Detailed, Zone, Equation)
7. Test the system

To ensure the system commissioning runs as smoothly as possible, the following points must be observed.

- As-fitted drawing marked up with address numbers.
- Loop complete and tested for continuity on both cores
- No cable faults exist (open circuit, short circuit between cores, cores to screen or cores to building earth).
- Cables terminated to the panel and the devices have each core correctly screwed.

Trouble Shooting

1. Loop SW – loop wiring problem, check the following (open circuit, short circuit between cores, cores to screen or cores to building earth.) and make sure the loop is not exceed to 1.2Km.
2. CRT Fault – Download card is not communicating with the computer, turn-off the panel and removed the card after commissioned the system.
3. System cannot register the device/s
    a. Check the device wiring and terminal polarity
    b. Check the address on the device
    c. Subsequent to A and B isolate the loop filter by connecting one device directly to the loop card and try to register again.
    d. Subsequent to C, then still not registering, replace the loop card.

GST200 User Keypad Menu

Operator password: 11111111
Manager password: 11111111

BROWSE
- 1 Active EQ: View *number of devices and detailed provided with each device*
- 2 COM Devices: *View the number of Panels and Repeater panel connected in the system*
- 3 Access: *Control switch and zone indicator detailed.*

LOG (*History record- up to 999 events)*

VIEW FAULT (*To view fault devices)*

VIEW DISABLE *(To view disable devices)*

VIEW PLANT *(To view active device output)*

SELF TEST *[Operator Password required]*

SCREEN [*Operator password required]*
- 1 LCD Contrast : (*0-100)*
- 2 Browse Mode
  - 1 Zone Mode : *by zone détail*
  - 2 Loop Mode : *by point device detail*
- 3 Browsing C&E: *Sequence of operation detailed*

PRINT [*Operator password required]*
- 1 Disable
- 2 Only Fire : *Automatic print on fire event*
- 3 All History: *Pressing PRINT when viewing history records can print out the messages being viewed*

START/STOP
- 1 Start Devices *(manually start)*
- 2 Stop Devices *(manually stop)*
- 3 View Start
- 4 View Delay *(To view delay message of the device)*

ENABLE/DISABLE *[Operator Password Required]*
- 1 Disable Devices
- 2 Enable Devices
- 3 Dis/En-able Delays: *the C&E equation*
  - 1 Disable
  - 2 Enable

SYSTEM *[Manager Password Required]*
- 1 Time/Date
- 2 Password Change
  - 1 Operator Password *(0-8 digit)*
  - 2 Manager Password *(0-8 digit)*
- 3 Network Setup
  - 1 Net Local Address *(1-32 address)*
  - 2 Net Event Display
    - 1 Disable
    - 2 Enable
- 4 Zone Start Number
- 5 Output Set-up
  - 1 Default Output: *Device type 13 Sounder activate at alarm in the same zone*
  - 2 C&E Output: *The system output will follow the Equation*
- 6 Initialize System
- 7 Devices debug

MUTE
Acknowledge the alarm condition / Silence the FACP sounder

EVAC-Control Key 31 *-[Operator Password Required]*
Alarm the entire loop sounder.

SILENCE- Control Key 32 *[Operator Password Required]*
Stop the entire loop sounder.

LOCK *(Locking keypad)*

"▲" / "▼" *(Turning pages)*

ESC *Canceling or exiting operation menu, or enabling the FACP to displaying information of the highest priority*

ENTER Confirmation of input

RESET *[Operator Password Required]*
Resetting the FACP from fire or fault to normal standby state

OUTPUT SET-UP*
On Default MODE

Output	Condition	Address	Alarm	Delay Time-Enable	Stop – via Silence Button
Fire Alarm Output	Output 1	242	Immediate	Immediate	NO
FPE	FPE	241	Immediate	Immediate	NO
Sounder Circuit	Sounder A	240	Immediate	On after 30 sec	Yes

On C&E MODE

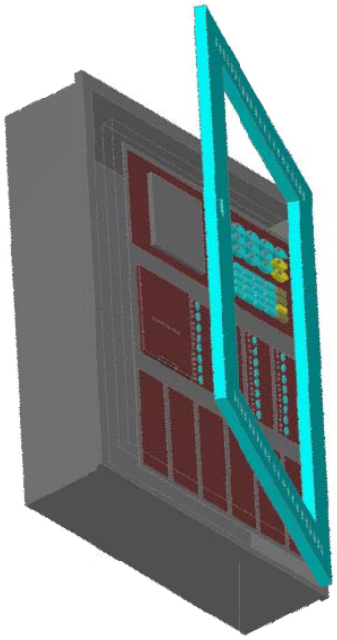
Output	Condition	Address	Alarm	CE Mode	CE Mode Delay Time	Stop – via Silence Button
Fire Alarm Output	Output 1	242	Immediate	No	No	NO
FPE	FPE	241	Configured CE only Zonal	YES	No	NO
Sounder Circuit	Sounder A	240	Configured CE	YES	Yes	Yes

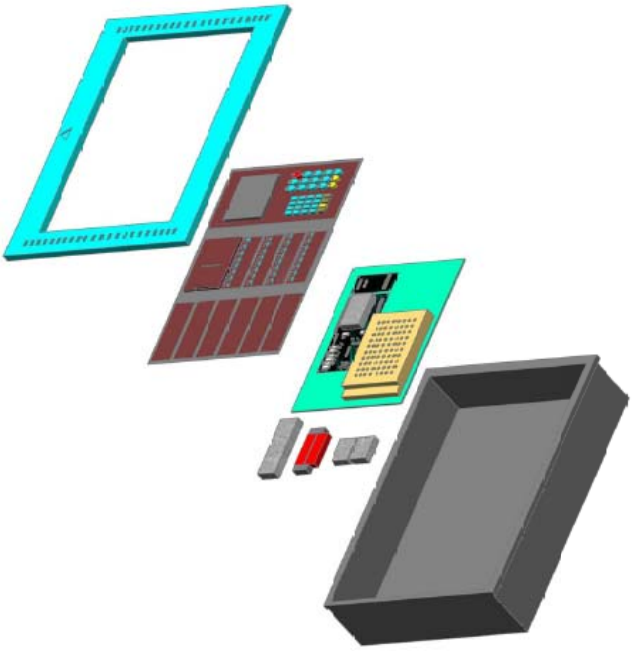
Note: device number of 3 outputs:

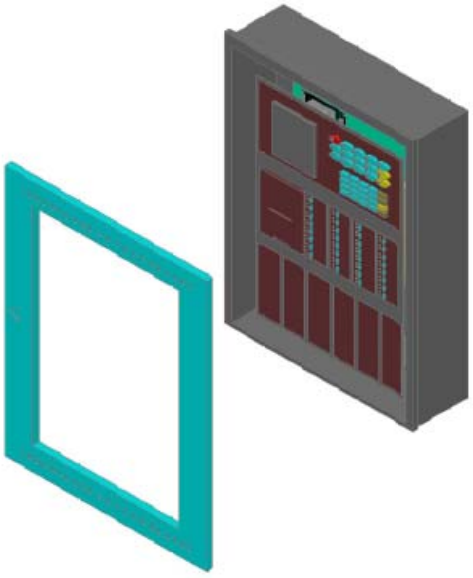
000 240 55 Sounder Circuit Output
000 241 65 F.P.E. Output
000 242 55 Fire Alarm Output

GST200-2 Control Panel

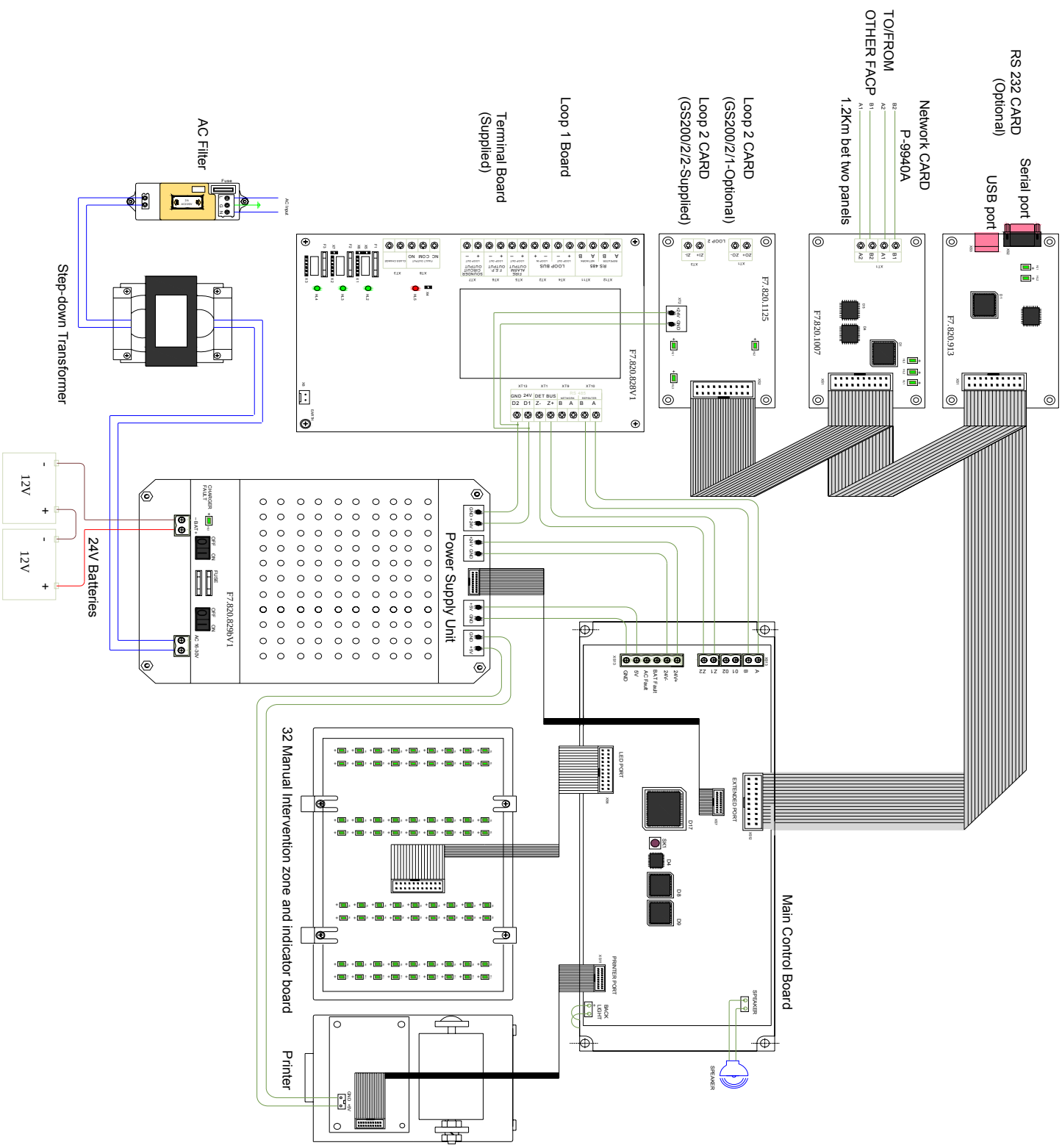
Installation of the panel should be carried out by trained personnel only. The electronic components inside the panel are vulnerable to damage by electrostatic discharges. It is recommended to wear a wrist strap designed to prevent the buil-up of static charges whithin the body, before handling any electronic circuit boards.

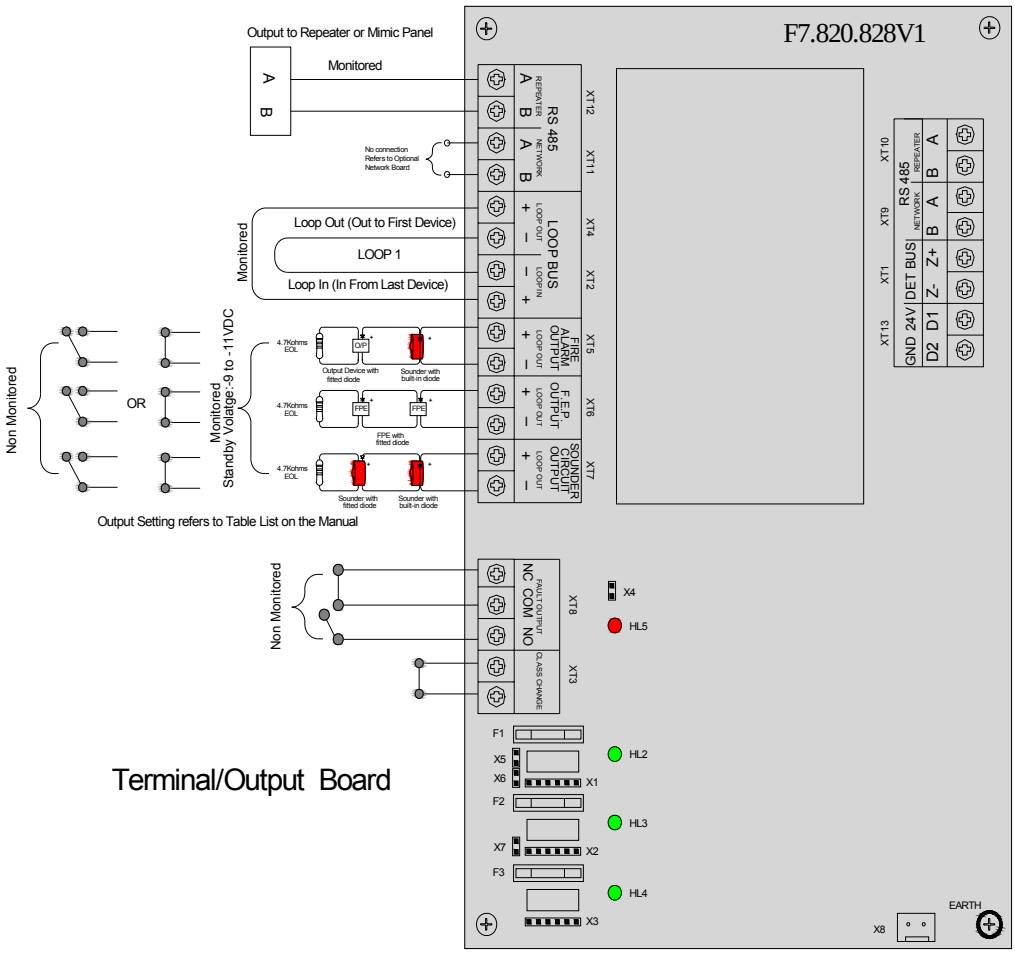






GST200-2 Basic Wiring Diagram





Zone Capacity-60 Zones

Terminal Details

RS-485 (XT11, XT12): To be connected with repeater panel and FACP

LOOP BUS (XT2, XT4): Class A loop can connect with up to 235 addressable devices.

FIRE ALARM OUTPUT (XT5): 24vDC default outputs when there is fire alarm; Address **242**

F.P.E. OUTPUT (XT6): 24VDC default outputs, Address **241**

SOUNDER CIRCUIT OUTPUT (XT7): 24VDC defaults outputs, Address **240**

LOOP BUS (XT2, XT4): Loop Out is the starting point, Class A loop can connect with up to 235 addressable devices. With loop isolator in Class A loop, the detector protected by loop isolator is not missing when there is short or open circuit. In this case, the FACP reports loop fault.

CLASS CHANGE (XT3): Shorting this terminal can make Sounder Circuit Output (XT7) output.

FAULT OUTPUT (XT8): Fault relay is closed in normal condition, and it's disconnected in fault condition.

Earth (X8): This terminal is for checking earth fault when shorted.

F.P.E. OUTPUT, SOUNDER CIRCUIT OUTPUT and FIRE ALARM OUTPUT can provide three output modes, which are 24VDC voltage output, normally open output and normally closed output. You can set up the three modes through Pin X1 ~ X7. See more details in Table 1.

Table 1

(Note: Turn off the Panel before setting)

Output	24VDC	Normally Closed	Normally Open	LED Indicator
Fire Alarm Output	Short 1 to 2 & 4 to 5 of X1 ; Short X5	Short 3 to 4 & 5 to 6 of X1 ; Disconnect X5	Short 2 to 3 & 5 to 6 of X1 ; Disconnect X5	HL2
F.P.E. Output	Short 1 to 2 & 4 to 5 of X2 ;Short X6	Short 3 to 4 & 5 to 6 of X2 ; Disconnect X6	Short 2 to 3 & 5 to 6 of X2 ; Disconnect X6	HL3
Sounder Circuit Output	Short 1 to 2 & 4 to 5 of X2 ; Short X7	Short 3 to 4 & 5 to 6 of X3 ; Disconnect X7	Short 2 to 3 & 5 to 6 of X3 ; Disconnect X7	HL4

Note:

GST200-2 Output Set-up

1. Default Outputs
    a. All 3 outputs active immediately at fire events
    b. Equation loop sounder will not activate (only same zone) excluding modules
    c. Sounder Circuit can be silenced only.
2. C & E Outputs (Cause and Effect Equation)
    a. Fire Outputs active immediately at fire events
    b. FPE – Device type No. 65 and zone (000) should be defined, Delay time is not possible
    c. Sounder Circuit- Device type No. 55 and zone (000) should be defined, Delay time is possible. Can be silence

Procedures to Commission GST 200/2/2

1. Program a unique address number for each device using handheld programmer (P-9910B) according to the project layout before placing from the terminal base.
2. Connect the loop within the panel as follows: Loop OUT + to Loop IN+/ Loop OUT- to Loop IN- .
3. Turn on the panel and perform an auto learn/registration as follows:
    - Press “System” Enter the password _____ (Commissioning password)
    - Press “Enter”
    - Press “SK1 button” behind the door.
      (Note: procedure should be done within 25 seconds otherwise the control panel will initialize the normal panel reset)
4. Confirm the registered device address using browsing menu as follows:
    - Press “Browse” Enter the password 11111111 (Default password)
    - Press button number “Loop Devices”
    - Select the loop number and press Enter
5. Download the database to the panel, it required to connect the download card **(P-9930)** and also must be registered from the panel. (See Upload/Download Procedures on page 68)
6. View the downloaded database using the User Keypad Menu (Device Detailed, Zone, Equation)
7. Test the system

To ensure the system commissioning runs as smoothly as possible, the following points must be observed.

- As-fitted drawing marked up with address numbers.
- Loop complete and tested for continuity on both cores
- No cable faults exist (open circuit, short circuit between cores, cores to screen or cores to building earth).
- Cables terminated to the panel and the devices have each core correctly screwed.

Trouble Shooting

1. Loop SW – loop wiring problem, check the following (open circuit, short circuit between cores, cores to screen or cores to building earth.) and make sure the loop is not exceed to 1.2Km.
2. CRT Fault – Download card is not communicating with the computer, turn-off the panel and removed the card after commissioned the system.
3. System cannot register the device/s
    a. Check the panel if it set to Commissioning Mode
    b. If the cable exceed to 1.2Km the succeeding devices will not register (Loop In is the standby voltage)
    c. Check the device wiring and terminal polarity
    d. Check the address on the device
    e. Subsequent to C and D isolate the loop filter by connecting one device directly to the loop card output terminal (XT1) of the Terminal board and try to register again.
    f. Subsequent to E, and then still not registering, replace the main card.

GST200-2/2 User Keypad Menu

Operator password: 11111111
Manager password: 11111111

BROWSE
1 Loop Devices: *View number of devices per loop and detailed provided with each device*
2 Zone Devices: *View the total number of Input devices per zone*
3 Group Device: *View the total number of Output devices per zone*
4 In Test Mode Zones
5 COM Devices: *View the number of Control Panel and Repeater panel connected in the system*
6 Access: *Control switch and zone indicator detailed.*
7 Browsing C&E: *Sequence of operation detailed*

LOG (*History record- up to 999 events)*

VIEW FAULT (*To view fault devices)*

VIEW DISABLE *(To view disable devices)*

MODE *[Operator password required]*
1 LCD Contrast : (*0-100)*
2 Display Mode
1 Zone Mode : *by zone détail*
2 Loop Mode : *by point device detail*
3 Print Mode
1 Disable
2 Only Fire : *Automatic print on fire event*
3 All History: *Pressing PRINT when viewing history records can print out the messages being viewed*
4 PAS (Positive Alarm Sequence) Setup *
1 Disable
2 Enable
*Pre-alarm Window: pre-programmed15 seconds. A distinctive pre-alarm indication shall be displayed.
*Alarm Verification window: programmable from 0 to 180 seconds. The system shall response to a second alarm from any device as the system alarm

5 Start Devices *(manually start)*
6 Stop Devices *(manually stop)*

TEST *[Operator Password required]*
1 Display Test (Self-test)
2 Each Zone In Test
3 Stop a Zone Test
4 Stop All Zones Test

ENABLE/DISABLE *[Operator Password Required]*
1 Disable Devices
1 Each Zone Fully
2 Individual Point
3 All Loop Sounder
4 Use Device Code
2 Enable Devices
1 Each Zone Fully
2 Individual Point
3 All Loop Sounder
4 Use Device Code
3 Dis/En-able Output
1 Sounder Circuit
2 F.P.E Output
4 Dis/En-able Delays:
1 Disable
2 Enable-***The Panel will delay the output base on configured C&E equation***
5 Delete Net Disable

SYSTEM *[Manager Password Required]*

1 Time/Date
2 Password Change
    1 Operator Password *(0-8 digit)*
    2 Manager Password *(0-8 digit)*
3 Network Setup
    1 Net Local Address *(1-32 address)*
    2 Net Event Display
        1 Disable
        2 Enable
4 Zone Start Number
5 Customize
    1 Output Set-up*
        1 Default Output: *Device type 13 Sounder activate at alarm in the same zone*
        2 C&E Output: ***The system output will be based on the configured C&E equation***
    2 PAS Delay *(000-180 second)**
    3 Re-Sound Configurations
        1 Another Zone
        2 Self Zone
6 Initialize System – Set the system Main Board into factory setting (Commissioning Password)
7 Devices debug
    Command Zero (0) device status
        Normal Status: Range 450 to 650
        Alarm Status: Range from 900 to 1200
        Fault Status: Range from 1 to 120

ACK/MUTE

Acknowledge the alarm condition / Silence the FACP sounder

SILENCE *[Operator Password Required]*

Stop the entire loop sounder.

EVAC *[Operator Password Required]*

Alarm the entire loop sounder.

LOCK *(Locking keypad)*

"▲" / "▼" *(Turning pages)*

ESC

Canceling or exiting operation menu, or enabling the FACP to displaying information of the highest priority

ENTER

Confirmation of input

RESET *[Operator Password Required]*

Resetting the FACP from fire or fault to normal standby state

OUTPUT SET-UP*

On Default MODE

Output	Condition	Address	Alarm	Delay Time-Enable	Stop – via Silence Button
Fire Alarm Output	Output 1	242	Immediate	Immediate	NO
FPE	FPE	241	Immediate	Immediate	NO
Sounder Circuit	Sounder A	240	Immediate	On after 30 sec	Yes

On C&E MODE

Output	Condition	Address	Alarm	CE Mode	CE Mode Delay Time	Stop – via Silence Button
Fire Alarm Output	Output 1	242	Immediate	No	No	NO
FPE	FPE	241	Configured CE only Zonal	YES	No	NO
Sounder Circuit	Sounder A	240	Configured CE	YES	Yes	Yes

Note: device number of 3 outputs

000 240 55 **Sounder Circuit Output**
000 241 65 **F.P.E. Output**
000 242 55 **Fire Alarm Output**

Device Type List for GST200 & GST200-2

Device Type	Number	Description	Condition
Undefine	00	Undefined	Fire
ION	01	Ionization detector	
R+F.Heat'	02	Rate of rise and fixed temperature	
Optical	03	Photoelectrical smoke detector	
Fix Temp	04	Fixed temperature detector	
Gas Det	05	Gas detector	
Beam Det	06	Infrared beam detector	
FlameDet	07	Ultraviolet flame detector	
CableDet	08	Cable heat detector	
Heat Det	09	Analogue heat detector	
Flow SW	10	Flow Switch	
MCP	11	Manual call point	
VAModule	12	Voice alarm module	Action
Sounder	13	Sounder strobe	
FTModule	14	Fire telephone module	
HR MCP	15	Hydrant pump	
HR Pump	16	Hydrant pump	
SPKR Pmp	17	Sprinkler pump	
PS.SW	18	Stabilized pressure pump	
Extract	19	Smoker exhauster	
Presuriz	20	Blower	
FreshAir	21	Fresh air	
Damper	22	Fire damp	
SM Vent	23	Smoke vent	
AirInlet	24	Air inlet	
SolValve	25	Solenoid valve	
SM CURT	26	Roller shutter door middle point	
RSD Clse	27	Shutter screen door close point	
FireDoor	28	Fire door	
PS.DIFF	29	Pressure switch	
Flow SW	30	Water flow indicator	
Elevator	31	Elevator	
AHU	32	Air handling unit	
GENI	33	Diesel generator	
Light.DB	34	Power for lightening	
Power.DB	35	Power distribution	
WTR.CURT	36	Solenoid valve for water curtain	
Gas Dump	37	Gas start-up	
GasAbort	38	Gas stop	
Net Unit	39	Net unit	
Repeater	40	Repeater panel	
Module	41	Flash-locks valve	
DryPower	42	Dry powder fire extinguisher	
FoamPump	43	Foam pump	
FieldPSU	44	Power supply unit	
EM Light	45	Emergency light	
EscapeLT	46	Escape light	
GasActiv	47	Gas activation	
Security	48	Security module	
ZoneValv	49	Zone valve	
Cylinder	50	Cylinder	
DelugePM	51	Deluge pump	
Undefine	52	Undefined	
Stop Mod	53	Device stop	

Silence	54	Mute key	
SounderA	55	Fire alarm sounder	
SounderF	56	Fault sounder	
Loop SW	57	Loop switch	
CRTFault	58	GMC fault	
Loop	59	Loop	
PSU.Bat	60	Battery	
PSU.AC	61	AC power	
Lock	62	Multi-wire lock	
PART	63	Partial devices	
ZoneDir	64	Zone direction	
F.P.E	65	Fire protection equipment	

Programmed and Cards

Power

Up 220/230 (+10%, -15%) 50/60Hz
Battery fault: voltage drop to 19 Vdc, internal resistance more than 1ohm

Fault – Auto reset once the fault clear within 5 sec

System Fault - System failure (Key pad cannot use)

Display priority (Fire, Pre-Alarm, Plant, Fault, and Disable)

Keypad lock – auto lock after 30 sec

Silence/ Evac – Operate the sounders/device programmed on device type 13

Settings and Integrated Circuits

Ground Monitoring “Ground Fault”

J1 Jumper – shorted monitoring state (connected in common ground)
Not short not monitor ground

Main Board (F7.820.826)

SK1 – Reset and registration button
D4, D17– Microcontroller, Watchdog Timer, Full Duplex -Main Processor
D8 – Microcontroller, EEPROM , Full duplex , Watch dog Timer - Loop program (Loop address, text, device type)
D9 – Microcontroller, EEPROM , Full duplex, Watch dog Timer (WDT) Main Program (Zone, C&E, Switch key)
D10- RAM
HL1 – LED Communication

P-9930 Communication Board (F7.820.913)

HL1 – Communication indicator (PC to panel)
HL2 – Signal processing indicator (PC to panel)

LC200 Loop Card (F7.820.1125)

HL1 – Loop line shift indicator
HL2 – Loop output shut-down indicator
HL3 – Communication indicator (to Main processor)

P-9940A Network Class A (F7.820.1007)

HL1 – Communication indication bet network card and control panel
HL2 – Transmit Signal Indicator
HL3 – Received Signal Indicator

NOTE:
Many applications require EEPROM (Electrically Erasable Programmable Read-Only Memory) for non-volatile data storage. EEPROM is typically characterized by the ability to erase and write individual bytes of memory many times over, with programmed locations retaining their data over an extended period when the power supply is removed. Most Flash microcontrollers include on-chip EEPROM but some omit EEPROM for reduced price. GST microcontrollers have onchip EEPROM; can store non-volatile data in the on-chip Flash memory using the software described in this application.

List of Spare Parts

Part Number	Description
F7.820.826	GST200-2 Main Board
F7.820.828	GST200-2 Terminal/ Loop Board (Loop 1)
F7.820.1125	GST200-2 Loop Board (Loop 2)
F7.820.913	GST200-2 RS232 Communication Card (P-9930)
	GST200-2 Network Card Class B (P-9940)
F7.820.1007	GST200-2 Network Card Class A (P-9940A)
F2.908.408	GST200-2 Loop Splitter
R-150	GST200-2 AC Transformer, 220/27AC Volt
F2.910.093	GST200-2 AC Power Filter
F2.932.829b	GST200-2 Power Supply Unit
CGM12864	GST200-2 LCD Screen Circuit Board
F7.820.827	GST200-2 Main LED, Clock, Switch Board
	GST200-2 Rubber Key Pad
F7.820.312d	GST200-2 32 LED& Control Button Circuit Board
F2.828.630	GST200-2 Printer Board (P-9901)
	GST200-2 Printer Paper
	GST200-2 Door Glass
	Door Lock & Key

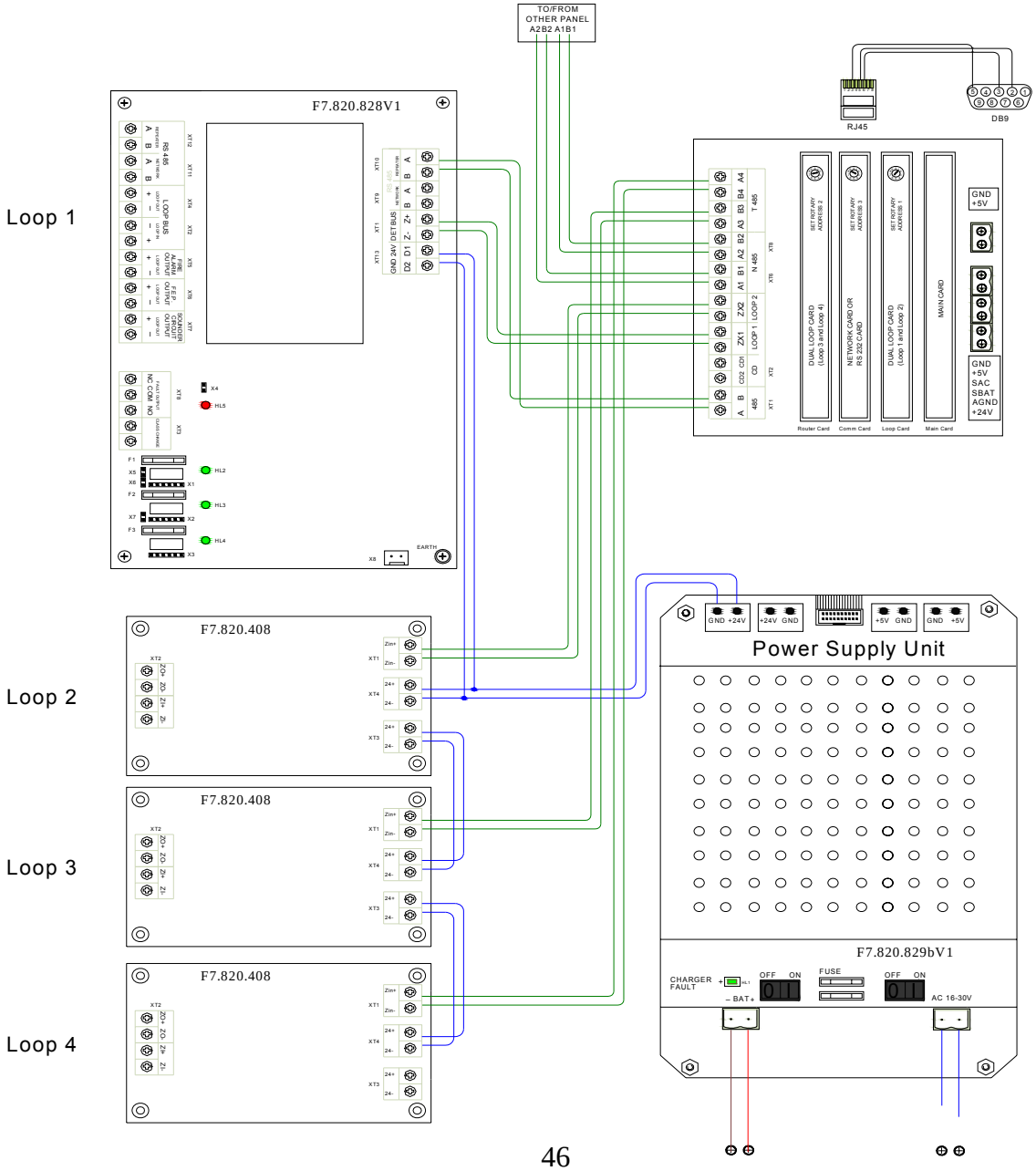
GST200 Fault Information

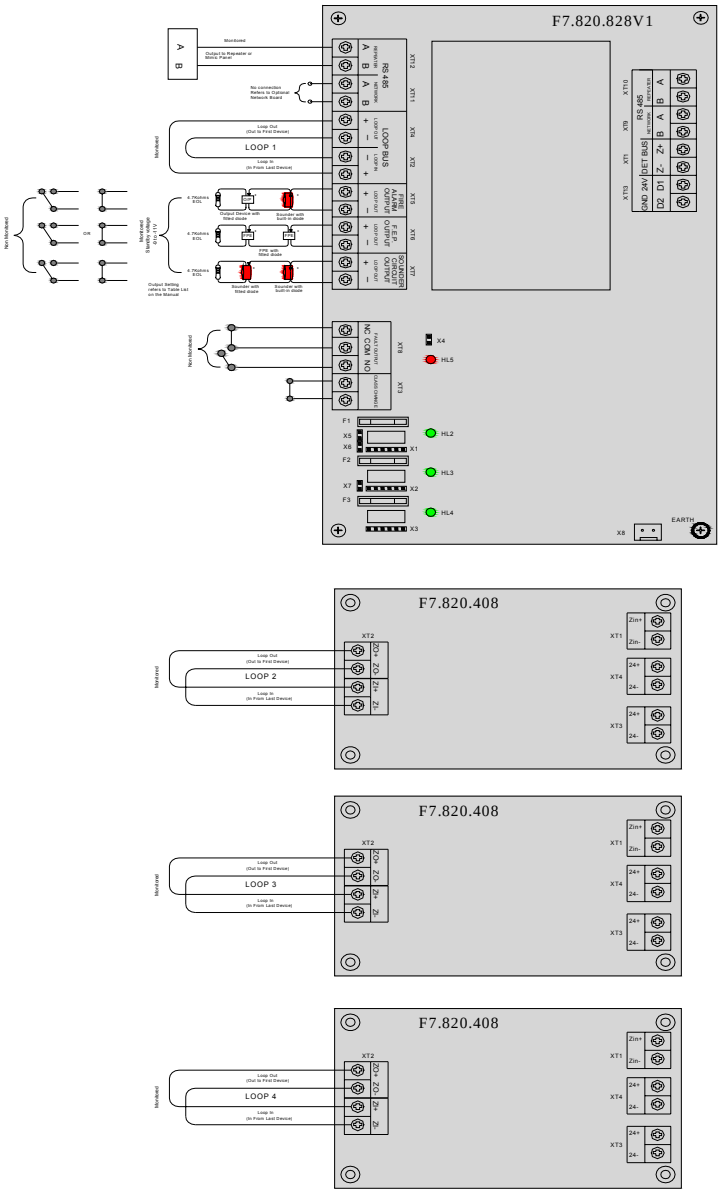
1	Loop2Card	Second loop card communicate with main board problem, either damage or loose connection
2	Loop1FAIL	Loop 1 fault. Loop open or short circuit
3	Repeator	repeater fault
4	AC Fault	220Vac main power fault
5	Bat Fault	battery fault
6	Key Fault	Keypad fault, reason could be keypad CPU fault or main board keypad interface circuit fault
7	Ground F	Ground fault, loop cable grounding
8	Access	Zone indication board fault: zone indication board communicate with main board fault, or flat ribbon cable loose connection
9	CRT Card	Communication between CRT communication card and mainboard fault: communication cable loose or communication card fault
10	Loop2FAIL	2nd loop fault: open or short circuit of external loop cable
11	Net Card	Network card fault: communication between network card and panel fault, communication cable fault or network card fault
12	PowerBox	Internal PSU fault: communication between internal PSU and mainboard fault, communication loose or internal PSU fault
13	F.P.E	FPE F.P.E circuit fault: FPE output circuit open or short circuit, or no end of line resistance. Or lose 24V power
14	SounderA	sounder circuit fault: sounder output circuit open or short circuit, or no end of line resistance. Or lose 24V power
15	Output1	Fire alarm circuit fault: fire alarm output circuit open or short circuit, or no end of line resistance. Or lose 24V power
16	PortBoard	Communication between terminal board and mainboard fault. Bus interface terminal board lose 24v or loose communication cable connection
17	Charger	Charger fault: charger circuit fault
18	BatHighZ	Battery internal resistance value high: damage too old or cable loose connection

GST5000W/F Control Panel

GST5000W/2/4-Discontinued

GST5000W Basic Wiring Diagram





Zone Capacity
GST5000W/F – 500 Zones

Terminal Details

RS-485 (XT11, XT12): To be connected with repeater panel and FACP

LOOP BUS (XT2, XT4): Class A loop can connect with up to 235 addressable devices.

FIRE ALARM OUTPUT (XT5): 24vDC default outputs when there is fire alarm; Address **242**

F.P.E. OUTPUT (XT6): 24VDC default outputs, Address **241**

SOUNDER CIRCUIT OUTPUT (XT7): 24VDC defaults outputs, Address **240**

LOOP BUS (XT2, XT4): Loop Out is the starting point, Class A loop can connect with up to 235 addressable devices. With loop isolator in Class A loop, the detector protected by loop isolator is not missing when there is short or open circuit. In this case, the FACP reports loop fault.

CLASS CHANGE (XT3): Shorting this terminal can make Sounder Circuit Output (XT7) output.

FAULT OUTPUT (XT8): Fault relay is closed in normal condition, and it's disconnected in fault condition.

Earth (X8): This terminal is for checking earth fault when shorted.

FPE OUTPUT, SOUNDER CIRCUIT OUTPUT and FIRE ALARM OUTPUT can provide three output modes, which are 24VDC voltage output, normally open output and normally closed output. You can set up the three modes through Pin X1 ~ X7. See more details in Table 1.

Table 1

(Note: Turn off the Panel before setting)

Output	24VDC	Normally Closed	Normally Open	LED Indicator
Fire Alarm Output	Short 1 to 2 & 4 to 5 of X1 ; Short X5	Short 3 to 4 & 5 to 6 of X1 ; Disconnect X5	Short 2 to 3 & 5 to 6 of X1 ; Disconnect X5	HL2
F.P.E. Output	Short 1 to 2 & 4 to 5 of X2 ;Short X6	Short 3 to 4 & 5 to 6 of X2 ; Disconnect X6	Short 2 to 3 & 5 to 6 of X2 ; Disconnect X6	HL3
Sounder Circuit Output	Short 1 to 2 & 4 to 5 of X2 ; Short X7	Short 3 to 4 & 5 to 6 of X3 ; Disconnect X7	Short 2 to 3 & 5 to 6 of X3 ; Disconnect X7	HL4

GST5000 Output Set-up

C & E Outputs (Cause and Effect Equation)

a. Fire Outputs active immediately at fire events. Can be silenced.
b. FPE – Device type No. 65 and zone (000) should be defined, Delay time is not possible
c. Sounder Circuit- Device type No. 55 and zone (000) should be defined, Delay time is possible. Can be silenced.

Procedures to Commission GST5000

1. Program a unique address number for each device using handheld programmer (P-9910B) according to the project layout before placing from the terminal base.
2. Connect the loop within the panel as follows: Loop OUT + to Loop IN+/ Loop OUT- to Loop IN- .
3. Turn on the panel and perform an auto learn/registration as follows:
    - The control panel is set in COMMISIONING MODE by default, once it is powered ON, the system immediately after the start-up will automatically initialize the REGISTRATION process.
    - If the system set to MONITORING MODE change the setting by: (System→ 3 Working State Set-up→ select 2 Commissioning State)
    - For manual registration, press “Self Test” and then press “Enter”
4. Confirm the registered device address using browsing menu as follows:
    - Press “Browse”, No password (Default password) then press Enter
    - Select the loop number using UP/Down arrow and then press Enter
5. Download the database to the panel, it required to connect the download card **(P-9931/2)** and also must be registered from the panel. (See Upload/Download Procedures on page 68)
6. View the downloaded database using the User Keypad Menu (Device Detailed, Zone, Equation)
7. Test the system

To ensure the system commissioning runs as smoothly as possible, the following points must be observed.

- As-fitted drawing marked up with address numbers.
- Loop complete and tested for continuity on both cores
- No cable faults exist (open circuit, short circuit between cores, cores to screen or cores to building earth).
- Cables terminated to the panel and the devices have each core correctly screwed.

Trouble Shooting

1. Loop SW – loop wiring problem, check the following (open circuit, short circuit between cores, cores to screen or cores to building earth.) and make sure the loop is not exceed to 1.2Km.
2. CRT Fault – Download card is not communicating with the computer, turn-off the panel and removed the card after commissioned the system.
3. System cannot register the device/s
    a. Check the panel if it set to Commissioning Mode
    b. If the cable exceed to 1.2Km the succeeding devices will not register (Loop In is the standby voltage)
    c. Check the device wiring and terminal polarity
    d. Check the address on the device

GST5000 User Keypad Menu

Operator password: no password
Manager password: no password

BROWSE Viewing registration information [password required]
System Configuration (Press the "Enter")
Loop 1 (Press the "Enter")
Address 1 View devices detailed
(Up to the number of registered devices)

DISABLE Disabling a device [password required]
Disable: _ _ _ Zone, _ _ _ Address _ _ Device Type

ENABLE To re-enable the disabled device [password required]
Enable: _ _ _ Zone, _ _ _ Address _ _ Device Type

STOP To stop a started device [password required]
Stop: _ _ _ Zone, _ _ _ Address _ _ Device Type

START To start a device [password required]
Start: _ _ _ Zone, _ _ _ Address _ _ Device Type

SECURITY MODE To set security mode [password required]
1 Disable
2 Enable

EXTINGUISHING MODE To set gas-release mode [password required]
1 Disable
2 Enable

PRINT To set the printer [password required]
1 Disable
2 History
3 Only Fire – Automatically print in real time

CLOCK Modifying the system time [password required]
MUTE To mute the speaker
RESET To reset the system [password required]
TAB To change time display mode
ESC To the previous menu
and For changing pages
ENTER For confirmation
VIEW FIRE Viewing fire information
VIEW FAULT Viewing fault information
VIEW DISABLE Viewing disabled information
VIEW PLANT Viewing action information
SELF TEST For self-test [password required]
LOG Browsing history record

SYSTEM System menu [password required]

1 Modify password - Modifying password
- 1 User Password
- 2 Extinguishing Password
- 3 System Passwords

2 Communicate setup - Setting communication mode
- 1 Color CRT – View the address of the panel
  (Note: cannot view the address unless the download is installed)
- 2 Remote Telephone Network
- 3 Network Set-Up
  - If the panel set to address 1
    - Unit Address = 01
    - Total Unit Address =
  - If the panel set to any address except 1
    - Unit Address = 02
    - Displaying of Network Unit
      1. Disable
      2. Enable

3 Working state setup- Setting working mode
- 1 Monitoring State
- 2 Commissioning State - (Note: The screen shows “Installer Version)

4 Fire Display Mode- Setting fire display mode
- 1 By Point
- 2 By Zone

5 Zone Browse - Viewing zone information

6 C&E Browse Viewing C&E equation
- 1 General C&E – configured equation
- 2 Extinguishing C&E
- 3 The Space of Formula

7 Monitoring Device - Viewing supervisory data of intelligent devices.

Output	Condition	Address	Fire Alarm (default)	Stop – via Silence Button	Start – via EVAC Button	Control Equation	Control Equation-Delay time
Fire Alarm Output	Sounder A	242	Immediate	Yes	Yes	No	No
FPE	FPE	241	Immediate	NO	NO	Yes	No
Sounder Circuit	Sounder A	240	Immediate	Yes	Yes	Yes	Yes

Device Type List of GST5000

Device Type	Number	Description	Condition
Undefine	00	Undefined	Fire
ION	01	Ionization detector	
R+F.Heat'	02	Rate of rise and fixed temperature	
Optical	03	Photoelectrical smoke detector	
Fix Temp	04	Fixed temperature detector	
Gas Det	05	Gas detector	
Beam Det	06	Infrared beam detector	
FlameDet	07	Ultraviolet flame detector	
CableDet	08	Cable heat detector	
Heat Det	09	Analogue heat detector	
Flow SW	10	Flow Switch	
MCP	11	Manual call point	
VAModule	12	Voice alarm module	Action
Sounder	13	Sounder strobe	
FTModule	14	Fire telephone module	
HR MCP	15	Hydrant pump	
HR Pump	16	Hydrant pump	
SPKR Pmp	17	Sprinkler pump	
PS.SW	18	Stabilized pressure pump	
Extract	19	Smoker exhauster	
Presuriz	20	Blower	
FreshAir	21	Fresh air	
Damper	22	Fire damp	
SM Vent	23	Smoke vent	
AirInlet	24	Air inlet	
SolValve	25	Solenoid valve	
SM CURT	26	Roller shutter door middle point	
RSD Clse	27	Shutter screen door close point	
FireDoor	28	Fire door	
PS.DIFF	29	Pressure switch	
Flow SW	30	Water flow indicator	
Elevator	31	Elevator	
AHU	32	Air handling unit	
GENI	33	Diesel generator	
Light.DB	34	Power for lightening	
Power.DB	35	Power distribution	
WTR.CURT	36	Solenoid valve for water curtain	
Gas Dump	37	Gas start-up	
GasAbort	38	Gas stop	
Net Unit	39	Net unit	
Repeater	40	Repeater panel	
Module	41	Flash-locks valve	
DryPower	42	Dry powder fire extinguisher	
FoamPump	43	Foam pump	
FieldPSU	44	Power supply unit	
EM Light	45	Emergency light	
EscapeLT	46	Escape light	
GasActiv	47	Gas activation	
Security	48	Security module	
ZoneValv	49	Zone valve	
Cylinder	50	Cylinder	
DelugePM	51	Deluge pump	
Undefine	52	Undefined	

Stop Mod	53	Device stop	
Silence	54	Mute key	
SounderA	55	Fire alarm sounder	
SounderF	56	Fault sounder	
Loop SW	57	Loop switch	
CRTFault	58	GMC fault	
Loop	59	Loop	
PSU.Bat	60	Battery	
PSU.AC	61	AC power	
Lock	62	Multi-wire lock	
PART	63	Partial devices	
ZoneDir	64	Zone direction	
F.P.E	65	Fire protection equipment	

Programmed and Cards

Ground Monitoring "Ground Fault"

J1 Jumper – shorted monitoring state (connected in common ground)

Not short not monitor ground

Main Board

SK1 – Reset and registration button (Panel has to be on)

D9 – Microcontroller, EEPROM , Full duplex, Watch dog Timer (WDT) Main Program (Zone, C&E, Switch key)

D10- RAM

HL1 – LED Communication

J5 – Short the jumper for GST5000W (GST500)

J8 - Short the jumper for GST5000F (GST5000)

Note: Incorrect jumper configuration will result "AC FAULT"

P-9931/2 Communication Board

D1- Main Program

A1 – Rotary Address

J1 – Jumper Address multiplier (X1 and X10)

Loop Card

D1 – Main Program

D9 – Microcontroller, EEPROM , Full duplex WDT Main Program (Loop Device Type and details)

A1 – Rotary Address

J1 – Jumper Address multiplier (X1 and X10)

P-9940A Network Class A

D1 – Main Program

K1 – Relay (Orange components)

A1 – Rotary Address

J1 – Jumper Address multiplier (X1 and X10)

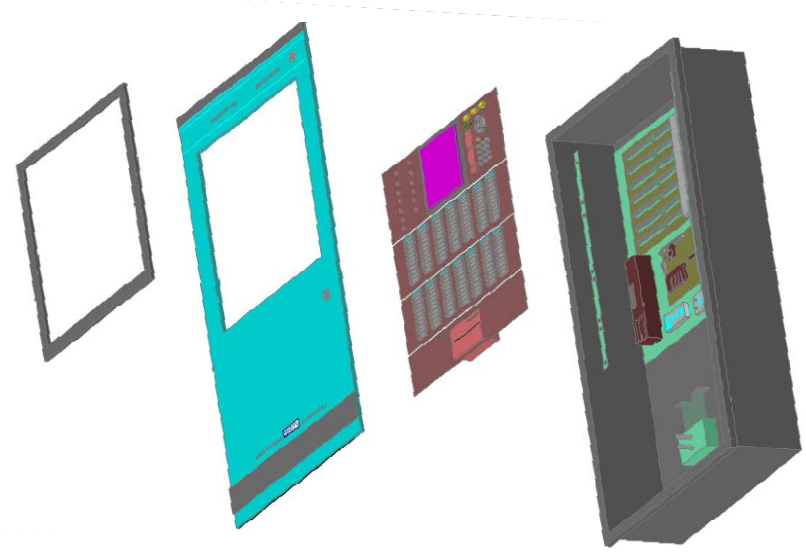
Spare Parts List

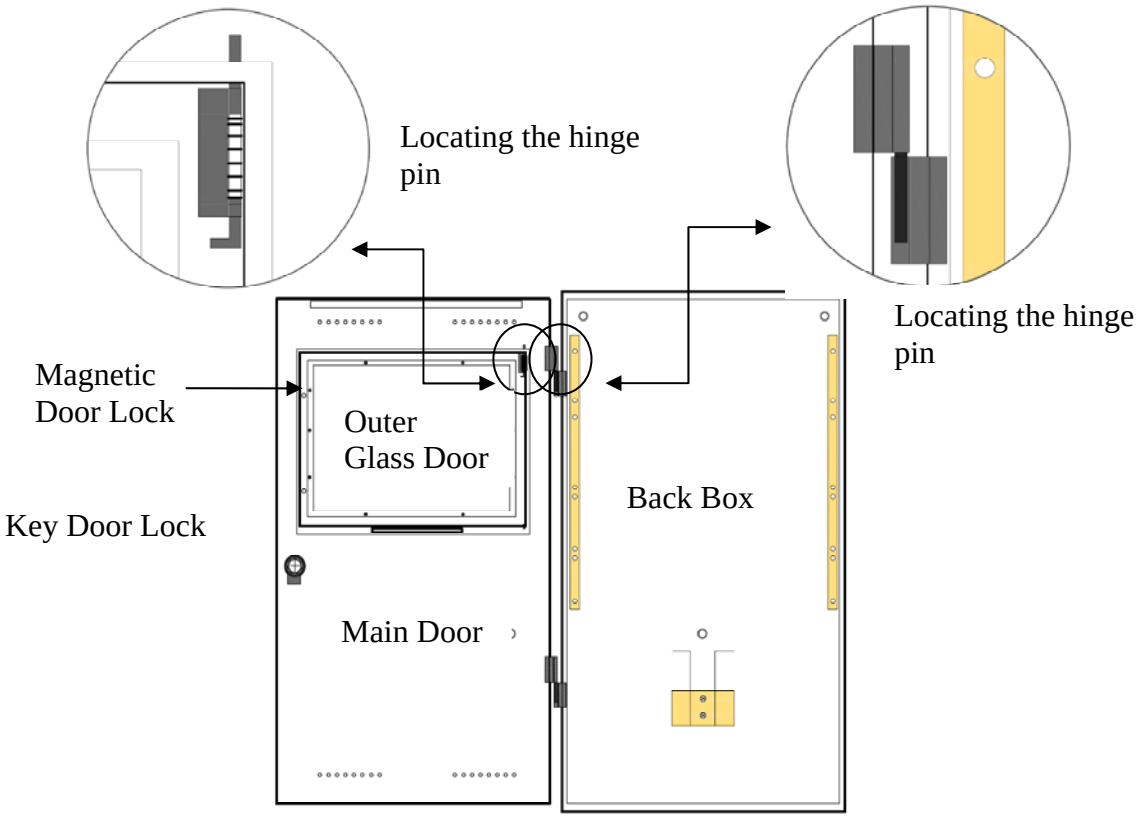
Part Number	Description
GST7.820.367c	GST5000 Main Board
F7.820.368	GST5000LC-GST5000 Loop Card
F7.820.828	GST5000 Terminal Board
P-9931	GST5000 Communication Card
P-9941 or 42	GST5000 Network Card Class B
P-9941A or 42A	GST5000 Network Card Class A
F2.908.369a	Mother Board
F2.908.408	GST5000 Loop Converter/Splitter
R-150	GST5000 AC Transformer, 220/27AC Volt
F2.839.003	AC Power Filter
F2.932.028	GST500 Power Supply Unit
DMF50174ZNB-FW	GST5000 LCD Screen Circuit Board
F7.820.365	GST5000 Main LED, Clock, Key Pad Circuit Board
	Key Pad
F7.820.298	GST5000 32 LED& Control Button Circuit Board
F.820.297c	GST5000 32LED&Control Button Expansion Board
SP-M40PK	GST5000 Printer
FOR-SP-EK32PK	GST5000 Printer Paper

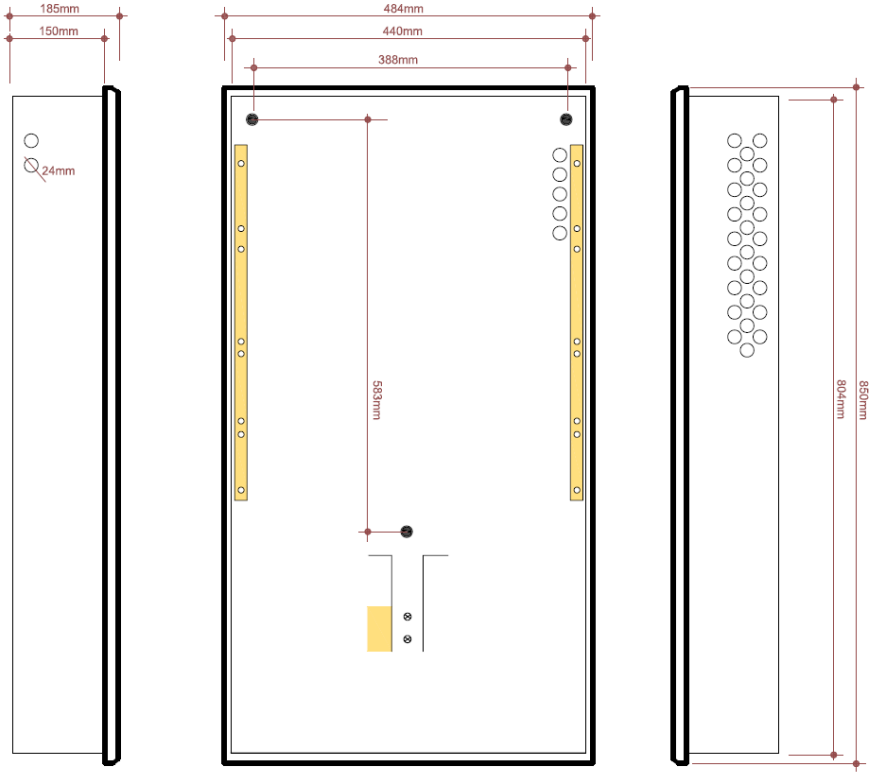
GSTIFP8 Control Panel

GST-IFP8

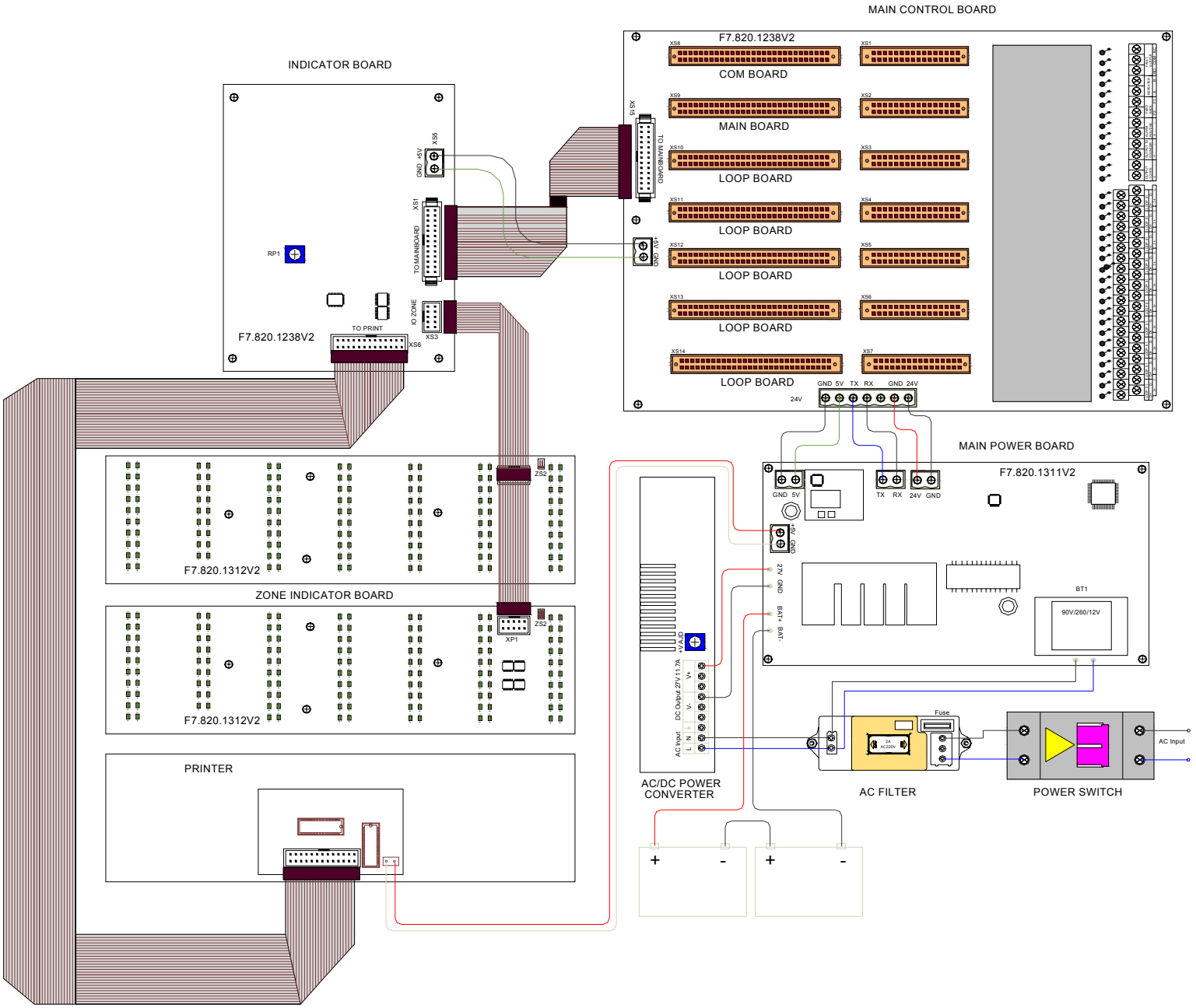
Installation of the panel should be carried out by trained personnel only. The electronic components inside the panel are vulnerable to damage by electrostatic discharges. It is recommended to wear a wrist strap designed to prevent the buil-up of static charges whithin the body, before handling any electronic circuit boards.



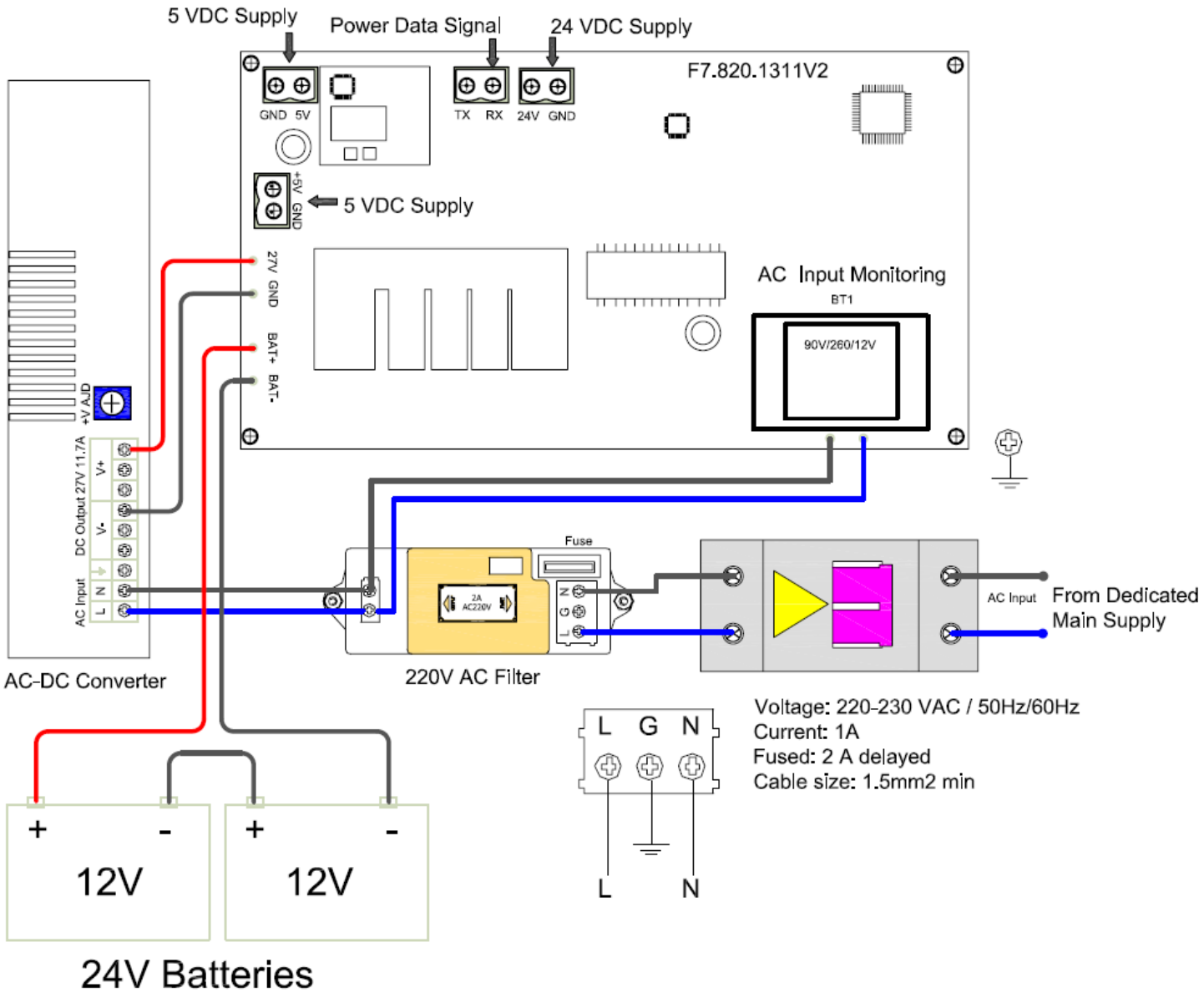

Locating the hinge pin
Locating the hinge pin
Magnetic Door Lock
Outer Glass Door
Back Box
Key Door Lock
Main Door


185mm
150mm
24mm
484mm
440mm
388mm
583mm
804mm
850mm

Control Panel Lay-out

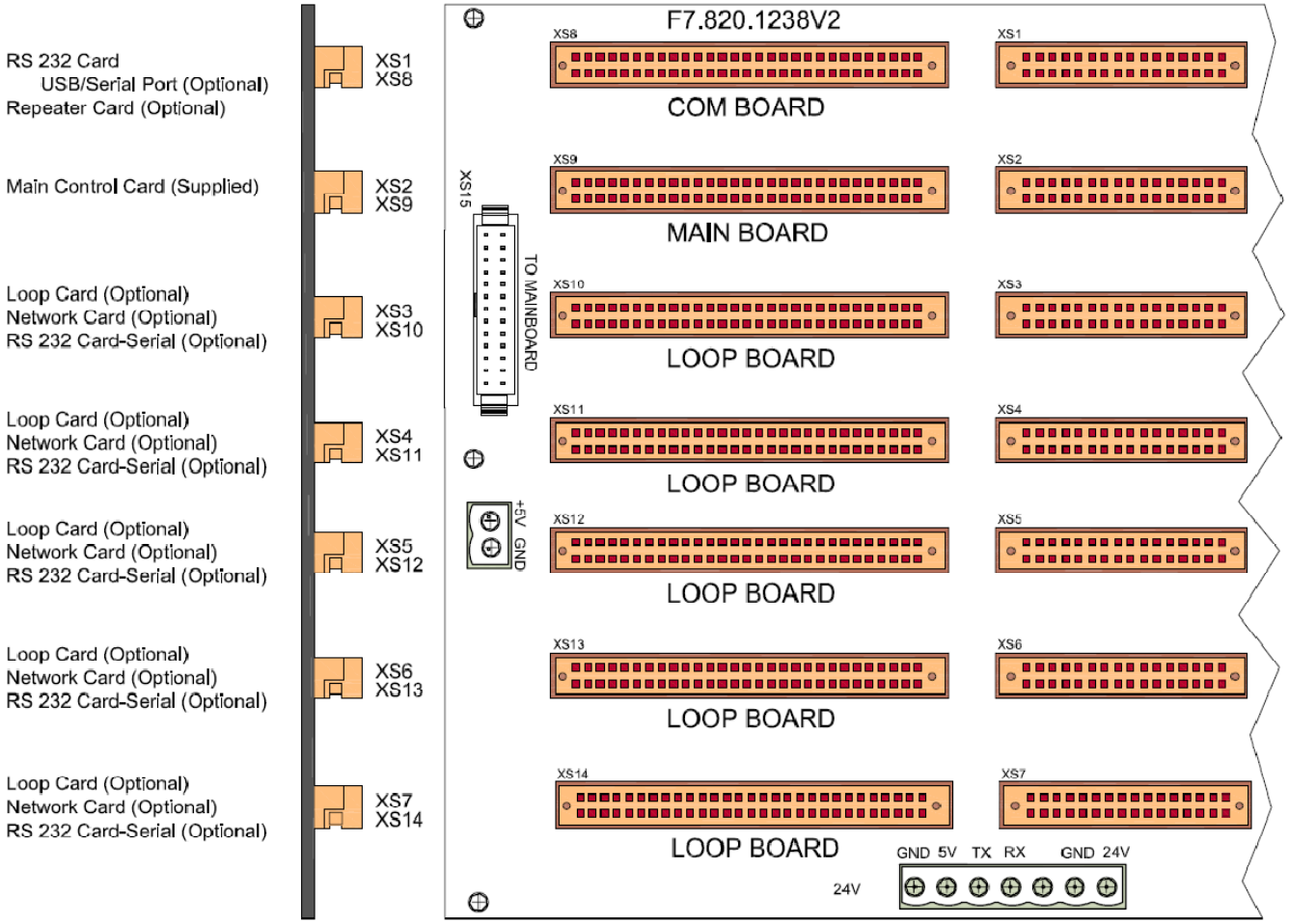


Main Power Lay-out



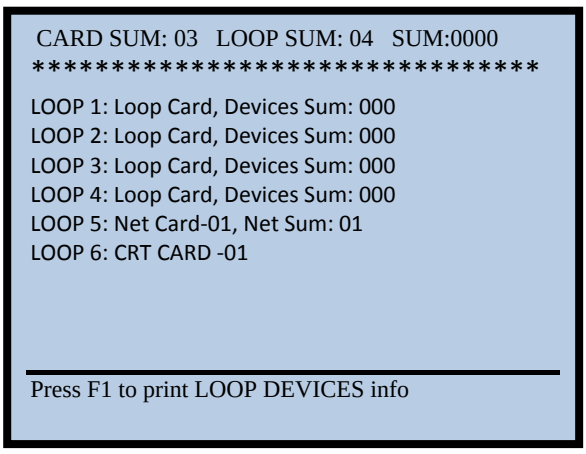
Standby Batteries
Maximum Charge Current: 2A±0.1A
Maximum Charge Voltage: 27.3V±0.3V
Type: Sealed lead acid batteries
Maximum Charge Capacity: Two 12V/38Ah batteries
Recommended manufacturer and model of battery: Yuasa NP38-12I
Maximum Internal Resistance: 0.7Ω
Quiescent Current under Full-loaded Condition: 1.4A
Maximum Operating Current: 4.2A
Recommended Cable: GST fire cable

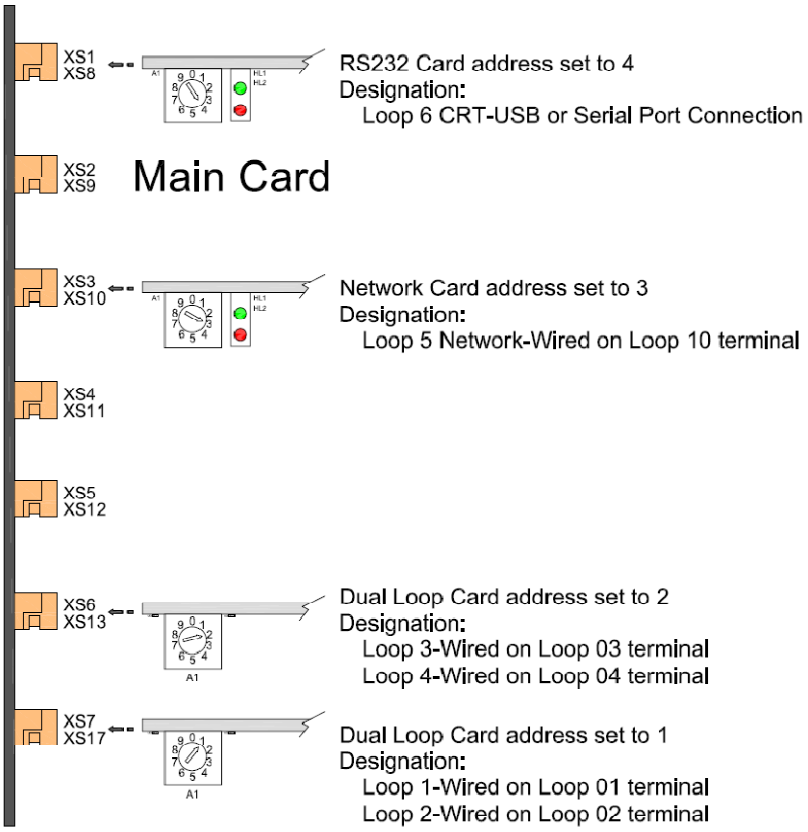
Main Control Board



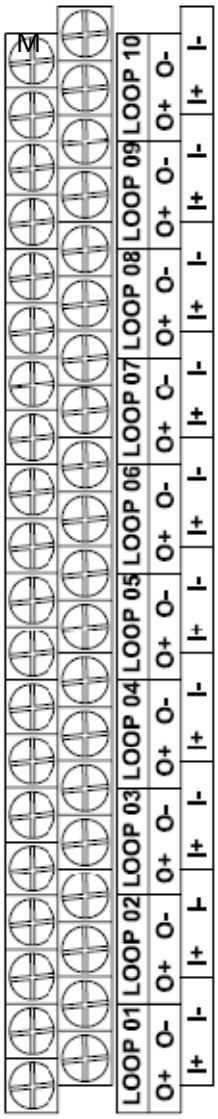
Warning:
Use static precautions when handling boards, grounding wrist strap and contact with chassis.

Setting the card address
Numbering sequence, lower card is the recommended lowest numerical setting. Set dials on the additional board in ascending order. Each card must be set at least one higher digit than the lower card.

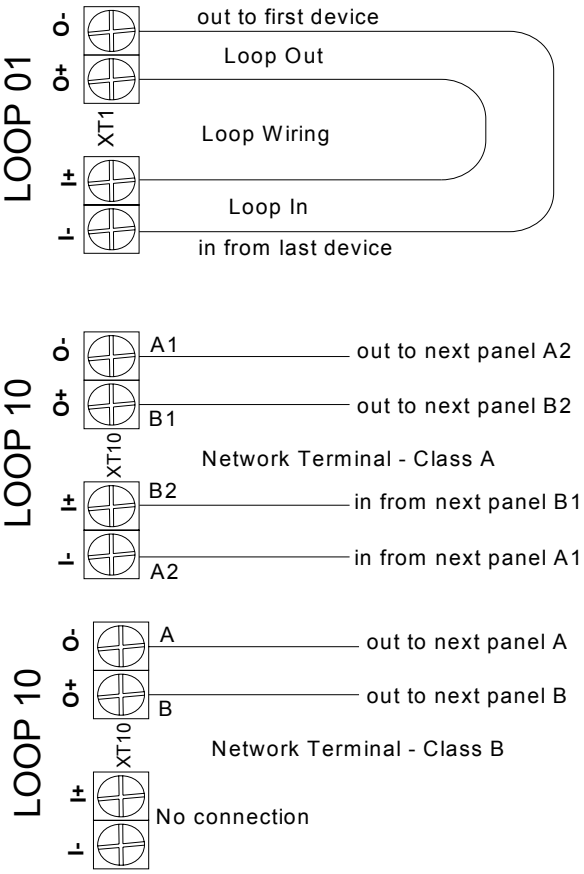


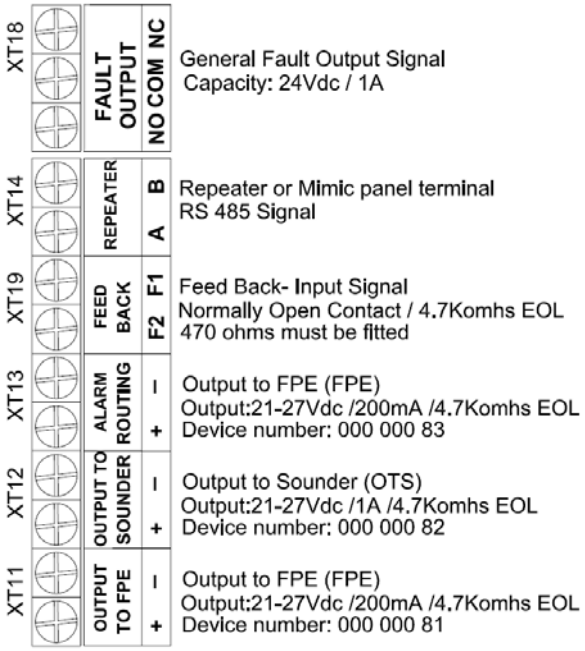


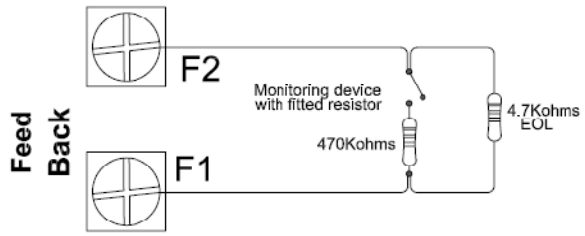
Terminal Connection

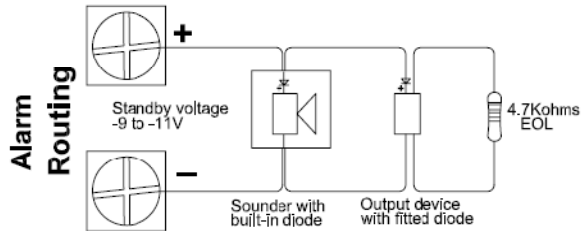


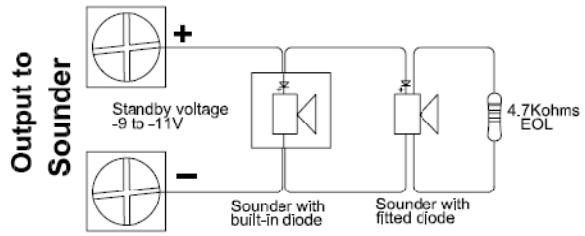
Sample Loop Wiring

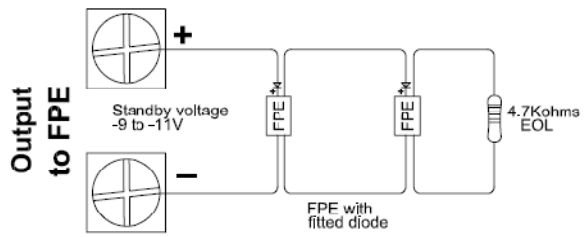












Loop Parameter LOOP1～LOOP10

No of Loop:

- 10 Loops+ Repeater Card
- 10 Loops + RS232 Card
- 8 Loops + RS232 Card + Network Card
- 8 Loops + Network Card + Repeater Card
- 6 Loops + RS 232 card + Network Card + Repeater Card

Loop Address: 242

Output Voltage:21-27Vdc

Output Current:300mA

Wiring Topology: Class A/Loop

Recommended Cable length: 1200 meters

Recommended Cable: GST Fire Cable

Loop protection: Optional loop isolator (C-9503/4)

Note:

- *Com Board (XS8-XS1) – Used only for Repeater/ Mimic Card P-9946 or Communication Card P-9935 (USB and serial connection)*
- *Communication Card P-9935 can be placed in any Loop Board using only serial port connection, USB is not accessible*
- *Network card should be placed to Loop Board 5 (XS10-XS3) and wired in loop 10 terminal*

Output Set-up

- Alarm Routing (FAR)
- Output to Sounder (OTS) can include into C&E but cannot set at delay mode, Silence
- Output to FPE (FPE)- can include into C&E but can set at delay mode

  MODE

  0-Alarm the output on one fire event

  1-Alarm the output on more than one fire event

  2-Alarm the output on C&E

Output	Condition	Device Number	Alarm (Default)	Disable	CE Mode	Delay Time Program	Stop – via Silence Button
Alarm Routing	Routing A	00000083	Immediate	Yes	No	Yes	No
Output to Sounder	Sounder A	00000082	Immediate	Yes	Yes	Yes	Yes
Output to FPE	FPE A	00000081	Immediate	Yes	Yes	No	No

Note: For output dry contact use C-9302C (output capacity 5A/220VAC or 24VDC @26mA Alarm Current)

Procedures to Commission GSTIFP8

1. Program a unique address number for each device using handheld programmer (P-9910B) according to the project layout before placing from the terminal base.
2. Insert the loop card and set the card address, Numbering sequence, the lower card is the recommended lowest numerical setting. (see page 47)
3. Connect the loop within the panel as follows: Loop OUT + to Loop IN+/ Loop OUT- to Loop IN- .
4. Turn on the panel and perform an auto learn/registration as follows:
    - The control panel is set in COMMISIONING MODE by default, once it is powered ON, the system immediately after the start-up will automatically initialize the REGISTRATION process.
    - If the system set to MONITORING MODE change the setting by: (System Setup→ 3 Working State Set-up→ select 1 Commissioning State)
    - For manual registration (System Setup→ 4 Commissioning → select 1 Device Learn)
5. Set the password of the control panel.
6. View the registered device addresses using browsing menu as follows:
    - Press “User Setup”, No password (Default password) then press Enter
    - Press “Browse Devices”
    - Select the loop number using UP/Down arrow and then press Enter
7. Download the database to the panel, it required to connect the download card and also must be registered from the panel. (See Upload/Download Procedures on page 68)
8. View the downloaded database using the User Keypad Menu (Device Detailed, Zone, Equation)
9. Test the system

To ensure the system commissioning runs as smoothly as possible, the following points must be observed.

- As-fitted drawing marked up with address numbers.
- Loop complete and tested for continuity on both cores
- No cable faults exist (open circuit, short circuit between cores, cores to screen or cores to building earth).
- Cables terminated to the panel and the devices have each core correctly screwed.

Trouble Shooting

1. Loop SW – loop wiring problem, check the following (open circuit, short circuit between cores, cores to screen or cores to building earth.) and make sure the loop is not exceed to 1.2Km.
2. CRT Fault – Download card is not communicating with the computer, turn-off the panel and removed the card after commissioned the system.
3. System cannot register the device/s
    a. Check the panel if it set to Commissioning Mode
    b. If the cable exceed to 1.2Km the succeeding devices will not register (Loop In is the standby voltage)
    c. Check the device wiring and terminal polarity
    d. Check the address on the device

GST-IFP8 User Keypad Menu

Operator password: no password
System password: no password

System Setup *(System Password)*

1 PROGRAMMING

1 Device-Setup: loop 01 point (1-242) *(Select the loop and address of a device)* *Commission Mode*
- Zone (1-999):
- Device Type:
- Attribute (0-6):
- Text (40 byte):

2 Zone Setup: (I-999) (*Select the zone)* *Commission Mode*
- Dependency type (0-2)
  - 0 – Off
  - 1 – Type A
  - 2 – Type B
- Sounder Mode (0-1)
  - 0 – Sound by Zone Fire
  - 1 – On E&C
- Resound Mode (0-1)
  - 0– No Resound
  - 1 – Resound by New Fire
- Zone LED (1-140): Text (40byte)

3 Communication Setup *Commission or Monitor Mode*
(View the loop number from User Setup→Browse→1 Browse Devices)
1. Monitor interface (interface card RS232)
   - Please input loop number: (1:10)
   - Please input panel address: (1-32)
2. Network Interface
   - Please Input loop number: (1-10)
   - Please Input panel address (1-64)
   - Enter:
     - Received Command : Enable/Disable
     - Send Command : Enable/Disable
     - Received Information : Enable/Disable
     - Send Information : Enable/Disable

4 Day / Night time Set-up *Commission or Monitor Mode*
- Please Input start time of day mode (08:00) default
- Please Input the end time of day mode (18:00) Note: Do not exceed to 23:59Hr

5 Modify Password *Commission or Monitor Mode*
1. Operator Password
2. Manage Password

6 C&E Equation Set-up *Commission Mode*
1. Create
2. Modify
3. Delete (one by one)
4. Initialization (To clear all the equation) *Commissioning password*

7 Device Type Set-Up (see device list) *Commission Mode*

2. LOCAL OUTPUT SETUP *Commission Mode*

(OTS) Output to Sounder A Mode (0-2)
- 0-one fire
- 1-more fire
- 2-On C&E *(Note: use device number 00000082-Sounder A)*

(FPE) Fire Protection Equipment A Mode (0-2)
- 0-one fire
- 1-more fire
- 2-On C&E*(Note: use device number 00000081-FPE A)*

(FAR)Fire Alarm Routing A mode (0-2)
- 0-one fire
- 1-more fire
- 2-On C&E *(Note: use device number 00000083-Alarm Routing A)*

Delay Time: 00 (*note: ratio 1:10)*
- FPE no delay effect
- OTS & FAR

3. WORKING STATE SET-UP *Commission or Monitor Mode*

1. Commission (note:"X" upper right corner)
2. Monitoring

4. Commissioning *Commission or Monitor Mode*

1. Device Learn (To registered devices) *Commission Mode, Device in Analog or Digital Mode*
2. Duplicated Address Check *Commission Mode, Device in Digital Mode*
   (To view duplicated address press User Setup→Browse→4 Duplicated Address)
3. Modify Address *(To change the device address) Commission Mode, Device in Digital Mode*
   - Select the loop and device address
   - User Code: 00100106 (zone,address,device type) existing device detailed
   - Serial Number: device serial number
   - New Address: Enter new address
4. Modify Device Sensitivity *(To change the sensitivity) Commission Mode, Device in Digital Mode*
   - Select the loop and device address
   - User Code: 00100106 (zone,address,device type) existing device detailed
   - Serial Number: device serial number
   - Sensitivity: existing sensitivity
   - New Sensitivity: Enter new sensitivity (1-3)
5. Commission in Analog Mode (Command 0) *Commission Mode, Device Analog or Digital Mode*
   - Normal Status: Range 450 to 650
   - Alarm Status: Range from 900 to 1200
   - Fault Status: Range from 1 to 120
6. Commission in Digital Mode *Commission Mode, Device in Digital Mode*
7. System Initialization. *Commission Mode, Initializations password*

   Press 1 Initialize detector to digital mode
   Press 2 Initialize detector to analog mode
   Press 3 To initialize the system (To reset the main control card)
   Press 4 To disable battery resistance,
   Press 5 To hide sounder alert item

User Setup *(Operator password)*

1 BROWSE *Commission or Monitor Mode*
- 1 Browse Devices: *View the number of devices per loop and detailed provided with each device*
- 2 Browse Zone: *View the total number of Input devices per zone*
- 3 Browse Group: *View the total number of Output devices per group (Zone)*
- 4 Browse Duplicated Address : *View the repeated address in a loop*
- 5 Browse Panel Status: *View the panel configuration and version*
- 6 Browse C&E Equation: C&E or *Sequence of operation detailed*
- 7 History Log
  - 1 Fire History
  - 2 Common History
  - 3 Initialization

2 CLOCK *Commission or Monitor Mode*

3 PRINTER SETUP *Commission or Monitor Mode*
- 1 Disable
- 2 Only Fire : *Automatic print on fire event*
- 3 All History: *Pressing PRINT when viewing history records can print out the messages being viewed*

4 DELAY MODE SETUP *Commission or Monitor Mode*
- 1 Disable
- 2 Enable (Enable the equation delay time and system must set to Day Mode)

5 ACKNOWLEDGE TIMER *(Positive Alarm Sequence delay time)* Commission or Monitor Mode,*
- Phase 1 (30 seconds default)
- Phase 2 (2 minutes default)

6 TEST SETUP *Commission or Monitor Mode*
- 1 LED Buzzer Test
- 2 Local Output Test
  - 1 Output to Sounder Test (OTS)
  - 2 Output to F.P.E. (FPE)
  - 3 Alarm Routing Test (FAR)
- 3 Setup Test Zone
  - Input test zone : (1-999)
  - Input test mode : (0-1)
    - 0-Without sounder
    - 1-With sounder
- 4 Cancel Test Zone
  - 1 Cancel One Test Zone
  - 2 Cancel All Test Zone

7 START/STOP DEVICE *Commission or Monitor Mode*
- 1 Start Device
- 2 Stop Device
  - By device code- Zone, address, device type

8 DISABLE/ENABLE *Commission or Monitor Mode*
- 1 Dis/Enable Devices – By Code
  - 1 Disable Device
  - 2 Enable Device
- 2 Dis/Enable Device – By Address
  - 1 Disable Device
  - 2 Enable Device
- 2 Dis/Enable Zone
  - 1 Disable Zone
  - 2 Enable Zone
- 1 Disable/Enable Sounder
  - 1 Disable Sounder
  - 2 Enable Sounder

ACK *acknowledge the fire event and start the PAS**

SILENCE *Silence the entire sounder on the loop*

EVAC *Alarm the entire loop sounder.*

RESET *[Operator Password Required]*
Resetting the FACP from fire or fault to normal standby state

MUTE: Silence the panel

"▲" / "▼" /"◄"/'►" *(Arrow) Scroll or view other events*
CANCEL
Canceling or exiting operation menu, or enabling the FACP to displaying information of the highest priority

ENTER *Confirmation of input*

F1,F2,F3 *Function Key- shortcut keys*

Dependencies on more than one alarm signal – Type A & B (EN54 P2-7.12)

Day Mode
*Pre-alarm Window: programmable from 1 sec. to 30 min. A distinctive pre-alarm indication shall be displayed.
*Alarm Verification window: programmable from 1 sec. to 30 min.

The system shall response to a second alarm from any device in the same zone as the system alarm (Type A)
The system shall response to a second alarm from any device in the same or different zone as the system alarm (Type B)

Night Mode (Default setting)
*Pre-alarm Window: preprogrammed 30 min. Auto-reset the Alarm in the Panel after 30 min (Type A)
*Pre-alarm Window: preprogrammed 5 min. Auto-reset the Alarm in the Panel after 5 min (Type B)

The system shall response to a second alarm from any device in the same zone as the system alarm (Type A)
The system shall response to a second alarm from any device in the same or different zone as the system alarm (Type B)

Setting required enabling the delay outputs based on the configured C&E equation:

1. Enable the delay command form DELAY MODE SETUP
2. Configured the system "DAY TIME" form DAY/NIGTH SETUP
3. Configured the zone mode parameter into 1- on C&E from the ZONE SETUP

Device Type List of GST IFP8

DEVICE TYPE	DEVICE NUMBER	RELAY	CONDITON
Undefine	0		FIRE
MULTISENSOR	1		
HEAT DETECTOR	2		
OPTICAL SMOKE	3		
USER DEFINED	4		
GAS DETECTOR	5		
BEAM DETECTOR	6		
FLAME DETECTOR	7		
CONVENTIONAL P	8		
USER DEFINED	9		
FLOW SWITCH	10		
MCP (BG)	11		
SOUNDER STOBE	12	Latching	ACTION
SOUNDER	13	Latching	
FLASHER	14	Latching	
LIFT	15		
FIRE DAMPER	16		
FIRE DOOR	17		
AHU	18		
EXTRACT FAN	19		
BMS	20		
USER DEFINED	21		
USER DEFINED	22		
USER DEFINED	23		
USER DEFINED	24		
USER DEFINED	25		
USER DEFINED	26		
USER DEFINED	27		
USER DEFINED	28	Latching	
USER DEFINED	29	Latching	
USER DEFINED	30	Latching	
TROUBLE MONITOR	31		FAULT
PSU	32		
USER DEFINED	33		
USER DEFINED	34		
USER DEFINED	35		
USER DEFINED	36		
USER DEFINED	37		
USER DEFINED	38		
Net Unit	39		
Repeater	40		
ZONE VALVE	41		SUPERVISORY
FLOW SWITCH	42		
PRESSURE SWITCH	43		
USER DEFINED	44		
USER DEFINED	45		
USER DEFINED	46		
USER DEFINED	47		
USER DEFINED	48		
USER DEFINED	49		
USER DEFINED	50		

USER DEFINED	51		ACTION
USER DEFINED	52		
USER DEFINED	53		
USER DEFINED	54		
NET SounderA	55		
USER DEFINED	56		
USER DEFINED	57		
USER DEFINED	58		
USER DEFINED	59		
USER DEFINED	60		
USER DEFINED	61		
USER DEFINED	62		
USER DEFINED	63		
USER DEFINED	64		
NET F.P.E.A	65		
Undefine	66		PANEL
Loop SW	67		
Loop Board	68		
CONTROL Panel	69		
ZoneDir Board	70		
AC Power	71		
Battery	72		
Keypad Board	73		
Ground F	74		
Undefine	75		
Loop Short	76		
Loop Board	77		
Delay Mode	78		
Power Board	79		
CRT Board	80		
F.P.E.A	81		
Sounder A	82		
ALARM ROUTINGA	83		
Loop Flash Data	84		
Undefine	85		
Panel charger	86		
BAT Resistance	87		
Undefine	88		
Undefine	89		
Undefine	90		
Undefine	91		
Undefine	92		
Undefine	93		
Undefine	94		
Undefine	95		
Undefine	96		
Undefine	97		
Undefine	98		
Undefine	99		

GST IFP8 Fault Information

1	Loop SW	Loop open circuit
2	Loop Board	Loop card fault, not able to communicate with main board
3	ZoneDir Board	Zone indication board fault, not able to communicate with main board
4	AC Power	220V Main power fault
5	Battery	Battery fault or low voltage (not able to charge)
6	Keypad Board	Keyboard fault, not able to communicate with mainboard
7	Ground.F	Ground fault, loop grounding
8	Loop Short	Loop cable short circuit
9	Loop Board	Loop card fault
10	Power Board	Internal psu to Panel communication fault, either cause by loose connection or internal PSU fault
11	CRT Board	RS232 communication card fault, card to panel communication fail
12	F.P.E.A	F.P.E port fault. Open circuit short circuit or no end of line resistance
13	SounderA	sounder circuit port fault, open circuit short circuit or no end of line resistance
14	ALARM ROUTINGA	ALARM ROUTINGA port fault, open circuit close circuit or no end of line resistance
15	Loop Flash Data	Loop card memory chip fault
16	Panel charger	PSU Charger unit hardware fault
17	BAT Resistance	Battery internal resistance value high nearly damage or not proper connect
18	FAR Fault	There is no resistor connected in the feedback signal, or check the main card K4,R46,R51

Programmed and Cards

Power
Up 220/230 (+10%, -15%) 50/60Hz
Battery fault: voltage drop to 21Vdc, internal resistance more than 0.7ohms

Fault – Auto reset once the fault clear within 5 sec

System Fault - System failure (Key pad cannot use)
Keypad failure (Key pad cannot use)

Display priority (Fire, Pre-Alarm, Supervisory, Fault, and Disable)

Keypad lock – auto lock after 30 sec

LCD Adjustment - RP1 Potentiometer (Blue) in the LCD Main board
Silence/ Evac – Operate the sounders/device programmed on device type 12, 13, 14, 28, 29 and 30

Settings and Integrated Circuits

140 Zones LED
XS2 – not shorted – as LED board 1 ranging 1 to 70
XS2 – shorted – as LED board 2 ranging 71 to 140

Ground Monitoring "Ground Fault"
J1 Jumper – shorted monitoring state (connected in common ground)
Not short not monitor ground

Main Board (F7.820.1237)
XS1- 20 pins terminal for programming the firmware
SK1- to reset the main board
SW1 – EEPROM Protection
D5 – Microcontroller;EEPROM, Real Time Clock and Watchdog
Main Processor (IFP8 programmed, Zone, C&E, Loop Text, 140 LED)
D13: RAM
D8,D9,D10,D11 – Noninverting Buffer, Line driver, Line Receiver (Contains protection circuitry to guards against damage due to high static voltage or electric fields
Time Keeper (yellow), Battery back-up for Non-volatile Time keeper.

P-9935 Communication Board (F7.820.1313)
A1- Rotary Address
X1X2 – Selection of mode RS232 or RS485
XS1 – USB connection
XS2 – Serial Port Connection
D1 – Microcontroller, EEPROM, Full duplex , Watch dog Timer (WDT) - Communication program
D4 – RAM
D2 – High Speed Static RAM

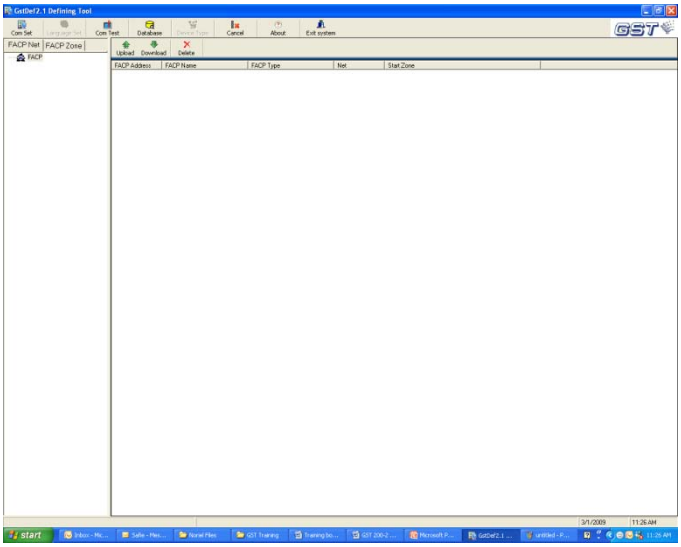
LCIFP8 Dual Loop Card (F7.820.1239)
A1 – Rotary Address
D1- Microcontroller, EEPROM , Full duplex, Watch dog Timer - Loop Program
D9 – Page-Write EEPROM CMOS, Latched Address and data, Data retention 100 years – Loop configuration such as address and device type
D4 – RAM
D2 – High Speed Static RAM

P-9945A Network Class A (F7.820.1314)
A1 – Rotary Address
L1/L2 – A1, B1, B2, A2 relay
D1 – Microcontroller, EEPROM CMOS , Full duplex, Watch dog Timer (WDT) - Network program
D4 – RAM
D2 – High Speed Static RAM

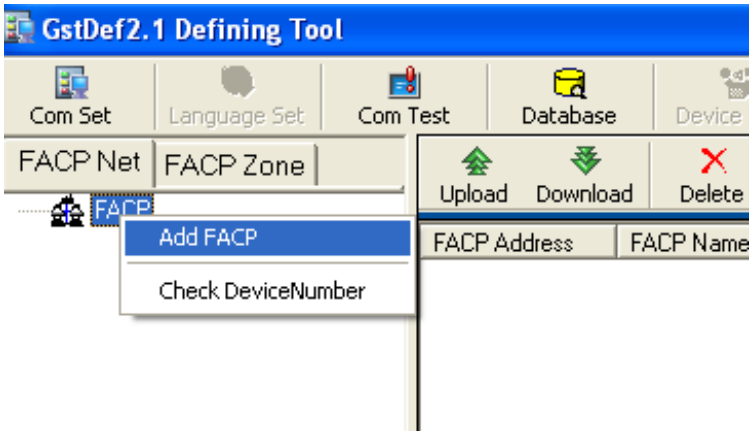
Spare Parts List

Part Number	Description
F7.820.1237	IFP8 Main Board
F7.820.1239	IFP8 Loop Card
F7.820.1313	IFP8 RS 232 Communication Card (P-9935)
F7.820.1313	IFP8 Repeater Card (P-9946)
F7.820.1314	IFP8 Network Card Class A (P-9945A)
F7.820.1310	IFP8 Mother Board
F7.820.1311	IFP8 Power Board
F7.820.1238	IFP8 Main LED, Keypad, LCD Board
F7.820.1419	IFP8 LED Board
F7.820.1326	IFP8 Key Pad Board
	IFP8 LCD Screen & Circuit Board
F7.820.1312	IFP8 140 LED Board
F8.048.741	IFP8 Printer Plate
SP-F32PK	IFP8 Printer Circuit Board
	IFP8 Printer Paper
DZ47-60 15A/2p	IFP8 Power Switch
F2.910.093	IFP8 AC Power Filter
AC/DC SP.320.27	IFP8 AC Transformer 220/27 with Fan
F6-106.768	IFP8 Panel case
	Door Lock & Key
	IFP8 Rubber Keypad

1. Control Panel Detailed
2. Number of Loop
3. Zone Configuration
4. Device Detailed per Loop
5. Equation (Cause & Effect)
6. Control Switch & Zone LED
7. Repeater Panel
8. Saving Data
9. Download / Upload

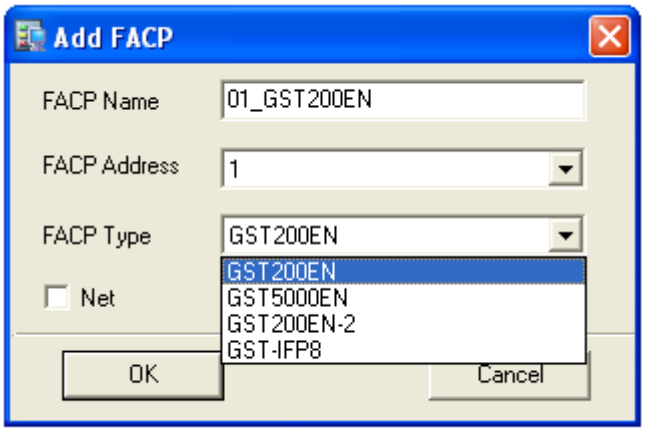


1 Control Panel Detailed



Adding Control Panel

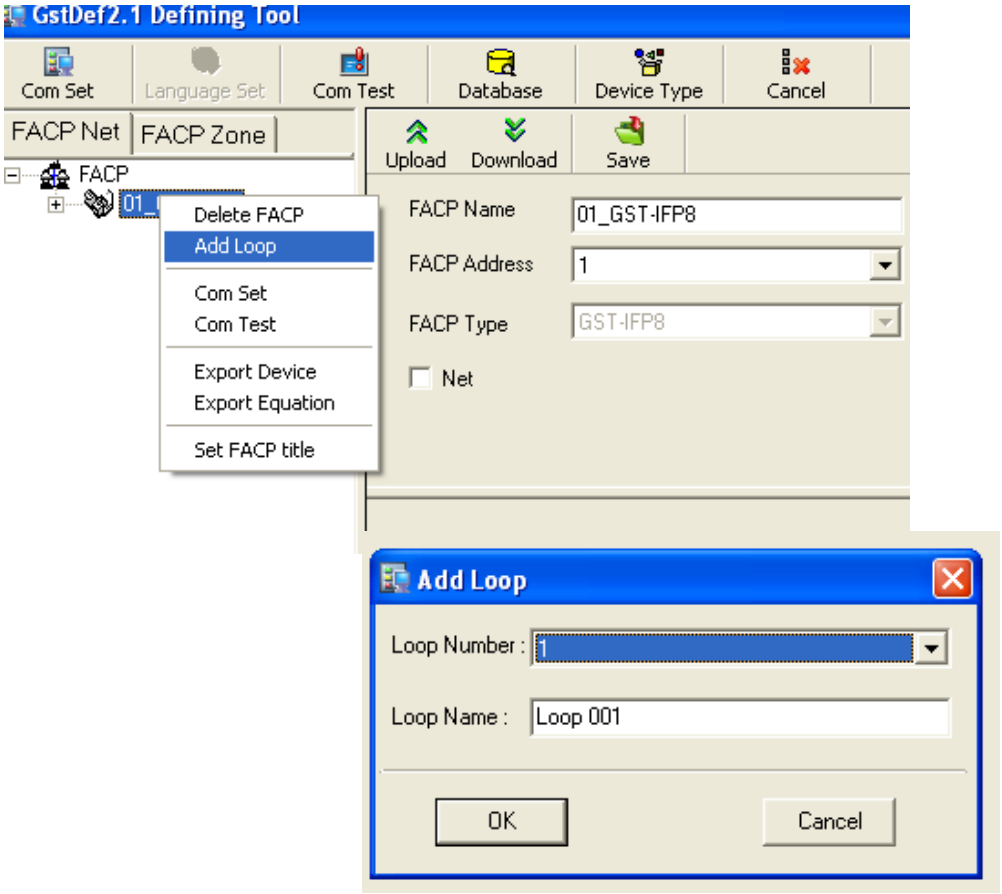
1. Click the “FACP Net” icon
2. Right-click “FACP” and select “Add FACP”
   FACP Type: Select the panel part number
   FACP Address: Address of the panel
   FACP Name: File name reference
   Net: Click if the panels are network



2 Number of Loop (For IFP8 and GST5000)

Adding Loop

1. Click the “FACP Net” icon
2. Right-click “Panel that will add loop” and select “Add Loop”
3. Click “OK”



4. To add more loop repeat no. 2

3 Zone Configuration

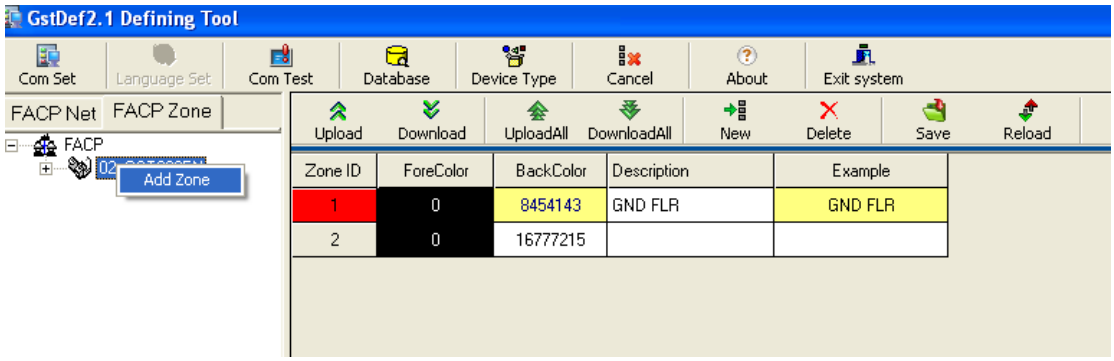
Zone Capacity:

Panel	No of Zone
GST200	30
GST200/2	60
GST5000	511
GSTIFP8	999

For GST200 and GST5000

Adding Zone

1. Click the “FACP Zone” icon
2. Right-click “Panel that will add zone” and select “Add Zone”
3. Or Click the “New” icon



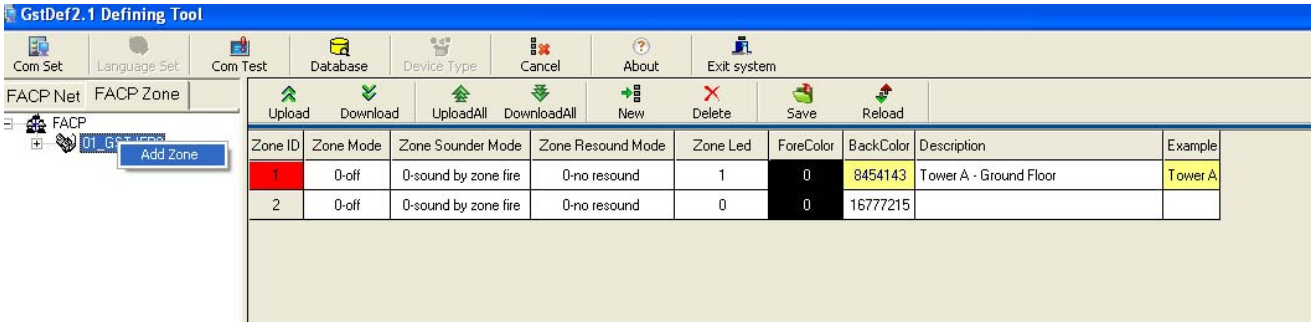
Zone ID : Zone number
ForeColor: Font Color
BackColor: Text Highlight Color
Description: Zone name (note: 8 Max character)
Example: Zone example

4. To save click the “Save” icon

For IFP8

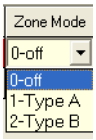
Adding Zone

1. Click the “FACP Zone” icon
2. Right-click “Panel that will add zone” and select “Add Zone”
3. Or Click the “New” icon



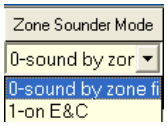
Zone ID : Zone number

Zone Mode:



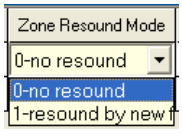
0-Off: Panel display Fire immediately- No Pre-alarm feature
1-Type A: Enable Pre-alarm/ The system shall response to a second alarm from any device in the same zone as the system alarm (Type A)
2-Type B: Enable Pre-alarm/ The system shall response to a second alarm from any device in the same or other zone as the system alarm (Type B)

Zone Sounder Mode:



0-Sound By Zone Fire: Alarm the sounder automatically if the fire is on the same zone Ex: fire in zone 1, all the sounders in zone 1 will alarm
1-On E&C: Activation of Sounder through Equation

Zone Resound Mode:



0-No Resound: Sounder will not alarm if new fire from the other zone after being silenced
1-Resound by New Fire: Sounder will alarm if new fire from other zone after being silenced

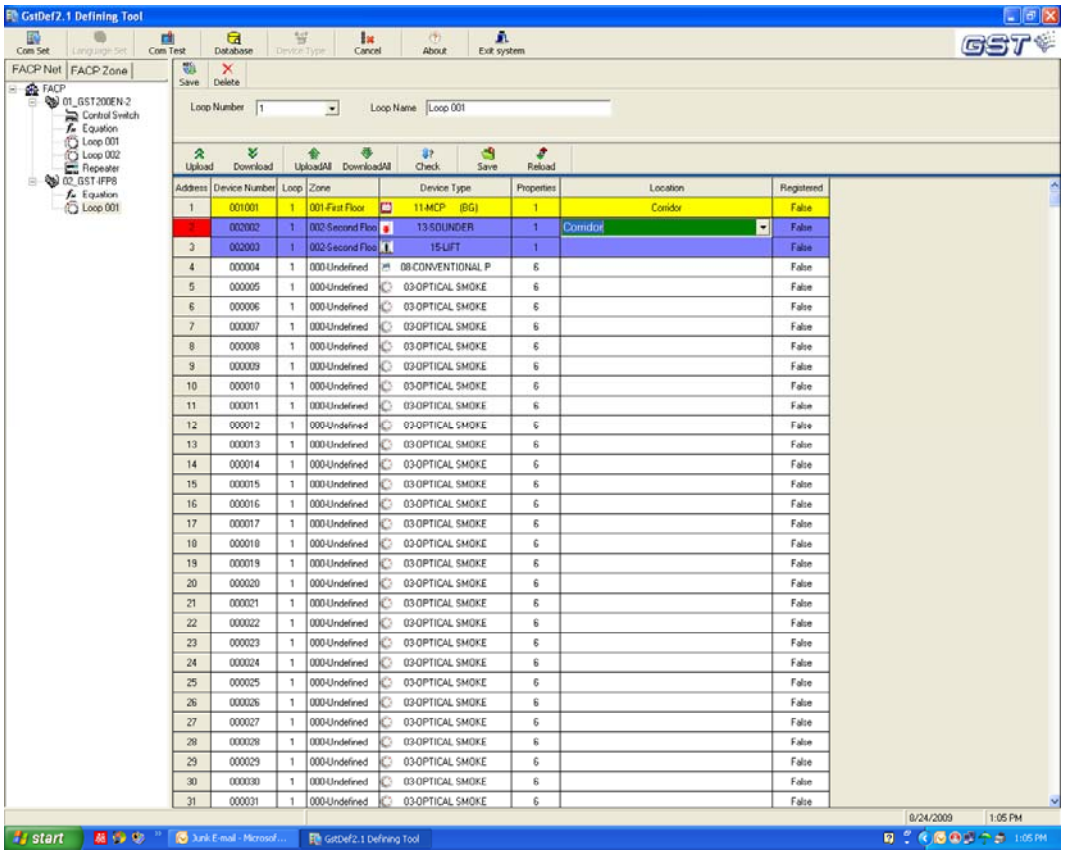
Zone LED: 1-140 LED
ForeColor: Font Color
BackColor: Text Highlight Color
Description: Zone name (note: 40 Max character)
Example: Zone example

4. To save click the “Save” icon

4 Device Detailed Per Loop

Device Configuration per Loop

1. Click the “FACP Net” icon
2. Click “Panel to be programmed”
3. Click the “Loop 1”



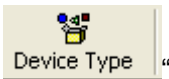
Address: 1-242
Loop Number: Loop Number
Zone: Zone assignment
Device Type: Selection of device type.
Properties: For output- 0-on/off ; 1-continoues
Location: Device location information

Note: GST200/GST200-2 character 32 max: 21 first line; 11 second line
GST5000/IFP8 character 40 max

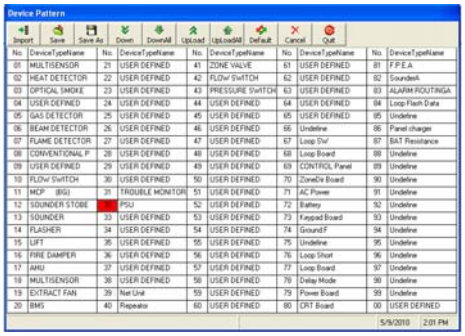
Registered: Once the data is uploaded from the panel, it will indicate TRUE if the particular device is being found or registered in the panel otherwise it will indicate False.

5. To save click the “Save” icon

To configure the USER DEFINE (IFP8)

1. Click the “Panel that will configure”
2. Click the 

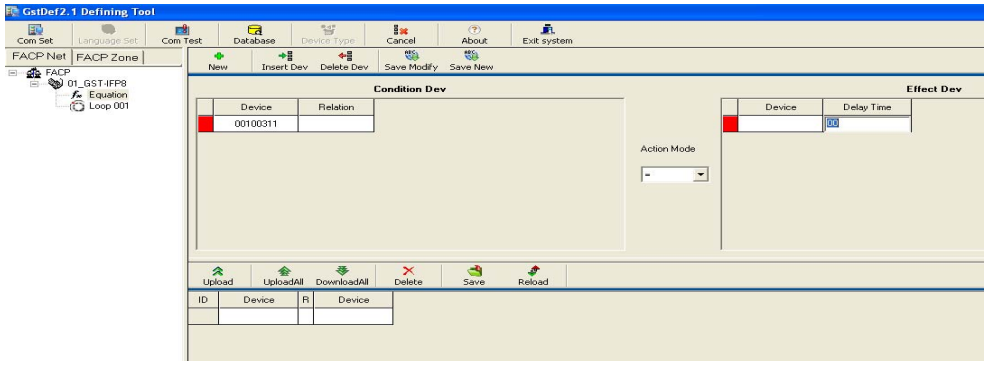
“Device Type” icon
3. The Device Type window will pop-up
4. Select the required condition and type new Device Type name.



5 Equations (Cause and Effect)

Configuring Equation

1. Click the “FACP Net” icon
2. Click “Panel to be programmed”
3. Click the “Equation”



4. To save the equation click “Save New”
5. To modify the equation click “Save Modify”
6. To save the entire equation click “Save”

Condition: INPUT DEVICES- 8 digits
Effect: OUTPUT DEVICES – 10 digits
Logic: AND Logic (x), OR Logic (+)
Fuzzy Logic: Asterisk (* value 1-9)

Delay Time Ratio:
GST200-2 1:10 seconds
GST5000 1:6 seconds
GSTIFP8 1:10 seconds

Example of device number - **GST 200-2**

G/S60 242 99 = G/S60 242 99 99

Zone Address Device Type Zone Address Device Type Delay Time

Condition
G01 020 03 meaning Address 20 Optical smoke in Zone 1 (By Point)
S02 001 11 meaning At least 1 (Amount) MCP regardless of address in Zone 2 (By Zone)
S** 002 02 meaning 2(Amount) Heat det. should alarm at same time in the entire area (Global)
Effect:
S**001 31 12 meaning latch all lift module after 2 minutes –regardless of quantity.

Sample:
S01 001 11 + S01 00103 + S0100103 = S01001 13 00, S**001 13 06

Example of device number - **GST IFP8/5000**

999 242 99 = 999 242 99 99

Zone Address Device Type Zone Address Device Type Delay Time

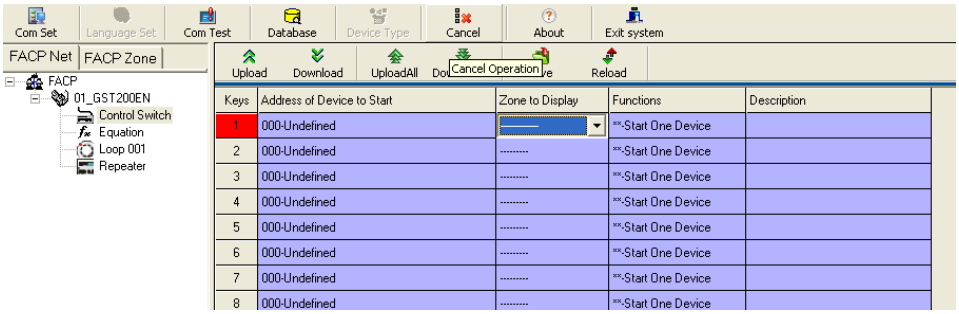
Condition
001 020 03 meaning Address 20 Optical smoke in Zone 1 (By Point)
001 *** 03 meaning At least 1*(any address)* Optical smoke in Zone 1 (By Zone)
*** *** 02 meaning At least 1*(any address)* Heat det. in the entire area (Global)
Effect:
XXX XXX 13 03 means sounder global alarm after 30 seconds (Global)

Sample:
001 *** 11 + 001 *** 03 + 001 *** 02 = 001*** 13 00, *** *** 13 06

6 Control Switch/LED Zone

GST 200 Programming control switch

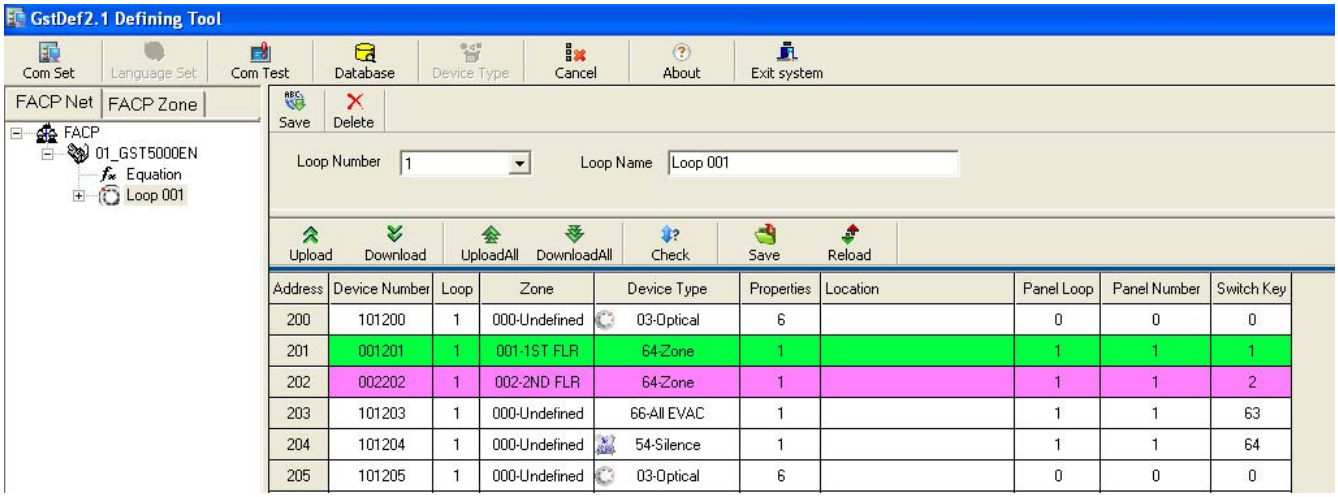
1. Click the “FACP Net” icon
2. Click “Panel to be programmed”
3. Click the “Control Switch”



Keys: 1-30
Address of Device to Start: Select the address to control
Zone to Display: Select the zone to display
Function: The control switch function-auto change

GST 5000 Programming control switch

1. Click the “FACP Net” icon
2. Click “Panel to be programmed”
3. Click the “Loop 1”



For Devices (same address)

Panel Loop: 1
Panel Number: 1(up to 4)
Switch Key: 1-64 Expandable

For Zone LED: new address-select zone;

device type 64 Zone
device type 54 Silence
device type 66 All Evac

7 Repeater and Mimic Panel

GST200

1. Click the “FACP Net” icon
2. Click the “Repeater” icon
3. Click “Save”

GST5000

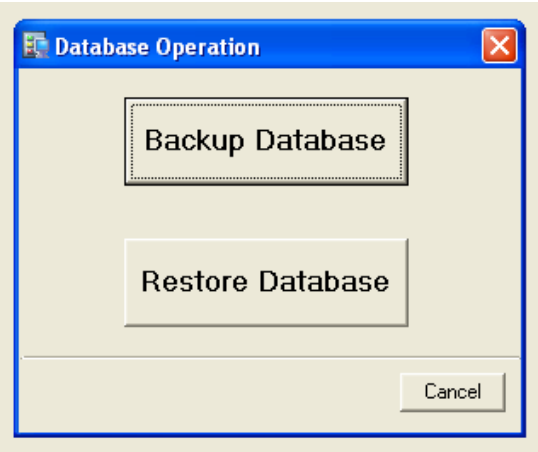
4. Click the “FACP Net” icon
5. Right-click “Panel that will add loop” and select “Add Loop”
6. Select “Loop 0”
7. Click “OK”

GSTIFP8

1. Click the “FACP Net” icon
2. Right-click “Panel that will add loop” and select “Add Loop”
   (Note: loop number refers to the panel)
3. Use Device Type 40-Repeater
4. Click “OK”

8 Save and Restore Data

1. Click the “Database” icon
2. To save data click “Backup Database”
3. To restore data click “Restore Database”



9 Upload/Download

Terminology:

Download: Data transferring from the PC to the Control Panel
Upload : Data transferring from the Control Panel to the PC

Hardware Side:

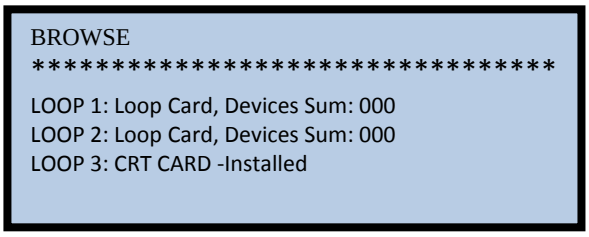
1. Registration of RS232 download card

GST200 Series

- Press “System” Enter the password _____
- Press “Enter”
- Press “SK1 button” behind the door.
  (Note: procedure should be done within 25 seconds and HL1 red LED will blink indicates that the card is registered)

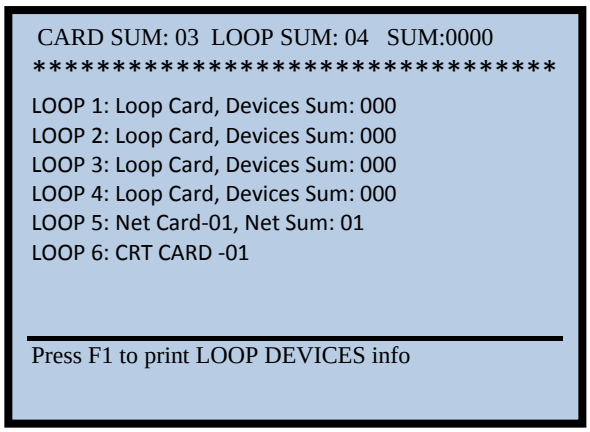
GST5000 Series

- Automatic registering if the panel set in COMMISIONING MODE once it power on.
- Or Press “Self Test” and then press “Enter”
- Press “Browse” –it will shows CRT Installed



GSTIFP8

- Identify the loop number of the RS232 card by pressing the “User Set-up”
- Select or press number 1 Browse Devices
- Press “System Setup” (No password) Press “Enter”
- Press “1 Programming” and then “3 Communication Set-up”
- Press “1 Monitor Interface”
  Please input loop number: (1:10)
  Please input panel address: (1-32)



Software Side:

2. Set Serial Port number (USB Connection-My computer-Properties-Hardware-Device Manger-Port)

3. Matched the address of the control panel “Local Address from the GSTDef software “FACP Address”.
To view the control panels address:

GST200-2 (Press “System” →3 Network Set-up →1 Net Local Address)

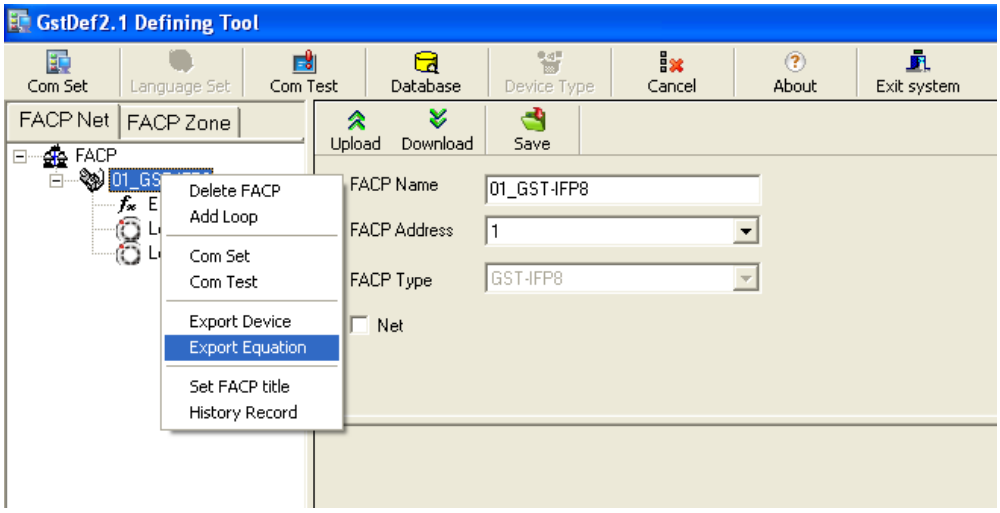
GST5000 Make sure the RS232 card is inserted (System→2Communication Set-up→1Color CRT)

GSTIFP8 (Press “System Setup” →1 Programming→3 Communication Set-up→ monitor or network interface)

10 Export Device and Equation

Exporting the configured devices or equation from the data base to text format

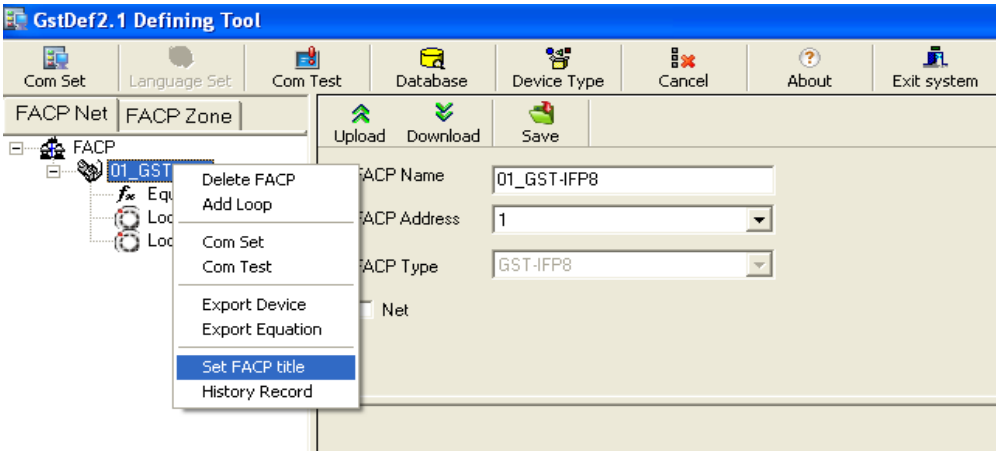
1. Click the “FACP Net” icon
2. Right-click “Panel that will export
3. Click Export Device or Export Equation, then the save as window pop-up
4. Select the location to save and enter the file name then click save.



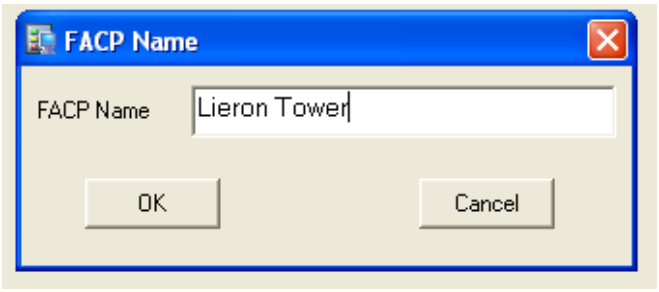
11 Set the control panel title

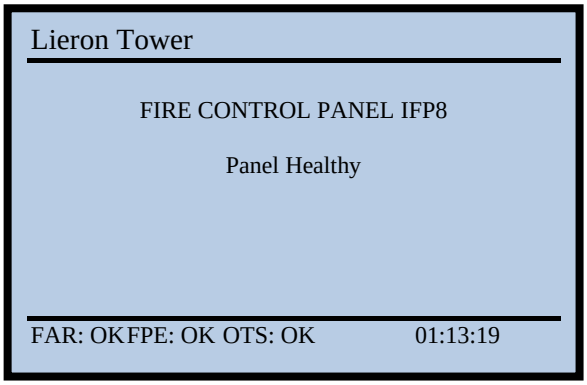
To set the panel name

1. Click the “FACP Net” icon
2. Right-click “Panel that will set the name
3. Click Set FACP Title



4. Enter the FACP name and then click OK

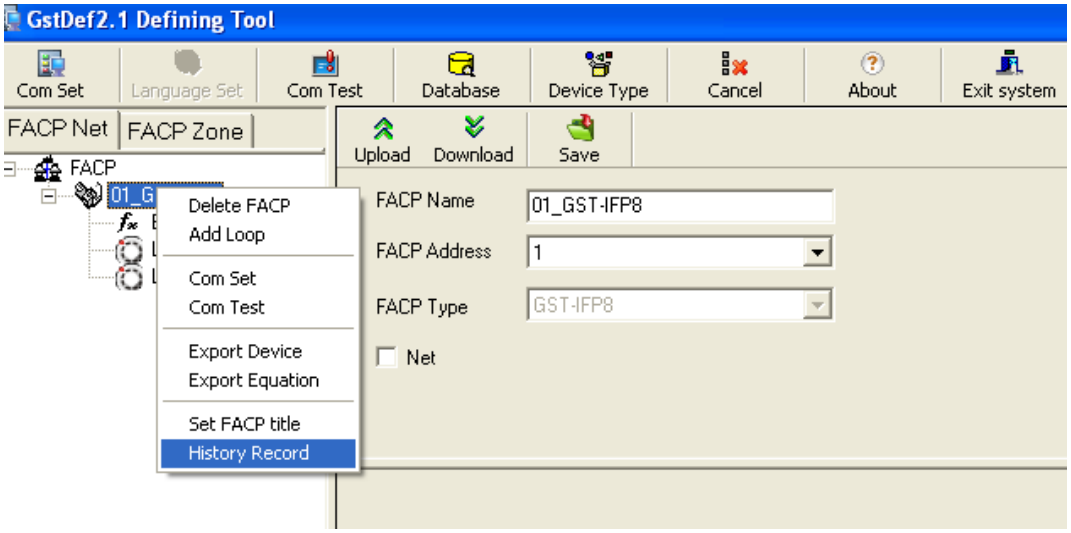




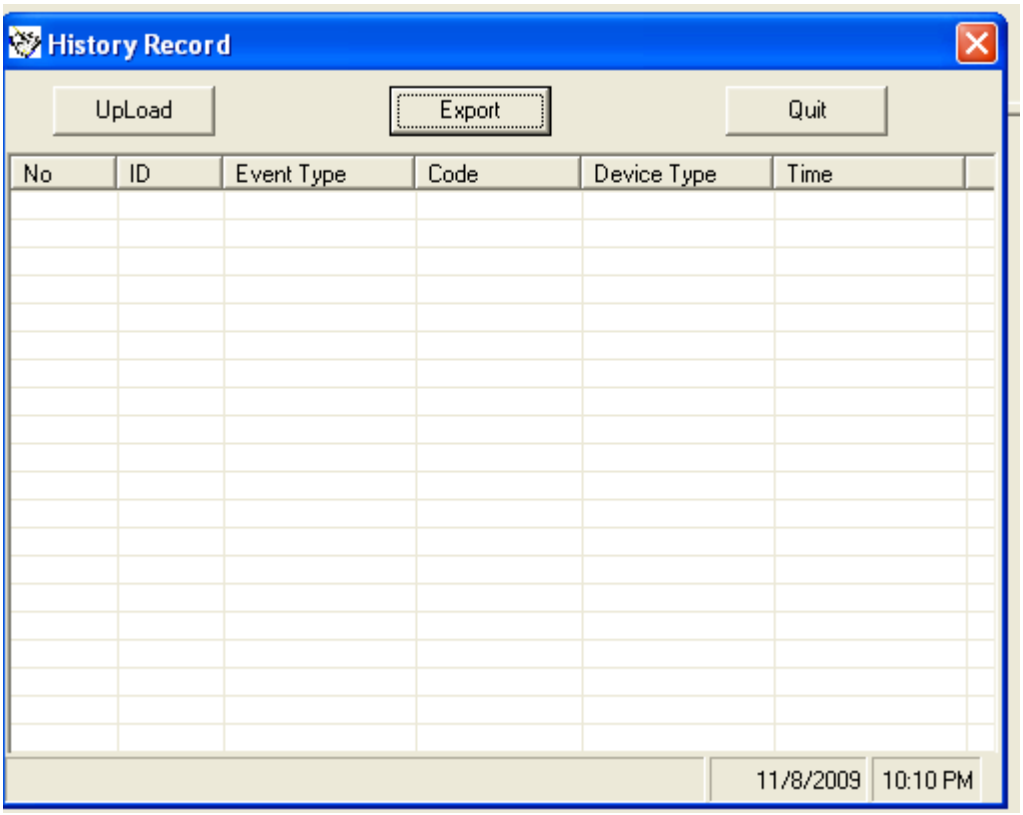
11 Upload History

To upload the history of the panel

1. Click the “FACP Net” icon
2. Right-click “Panel to be uploaded”
3. Click “History Record” then pop-up the window



4. Click “Upload” to start uploading.
5. Click ‘Export” to save in excel format.



GST303/306 Sample C&E

Addressable Panel; GST 200/2/1
Extinguishing Control Panel: GST 306
Panel Address: Set dial to 1 (S1 rotary switch)
Loop address: 1st address will start to 21 and end to 45

Extinguishing Zone	Loop address	Device Type	Condition
	21	62 Lock (GST5000 use only)	Action
Zone 1	22	11 MCP	Fire (C-9317 Start-release with delay based on set dial S2)
	23	38 Gas Abort	Action (C-9317 Stop)
	24	37 Gas Dump	Action
	25	00 Undefined	N/A
Zone 2	26	11 MCP	Fire (C-9317 Start-release with delay based on set dial S2)
	27	38 Gas Abort	Action (C-9317 Stop)
	28	37 Gas Dump	Action Direct release with delay
	29	00 Undefined	N/A
Zone 3	30	11 MCP	Fire (C-9317 Start-release with delay based on set dial S2)
	31	38 Gas Abort	Action (C-9317 Stop)
	32	37 Gas Dump	Action
	33	00 Undefined	N/A
Zone 4	34	11 MCP	Fire (C-9317 Start-release with delay based on set dial S2)
	35	38 Gas Abort	Action (C-9317 Stop)
	36	37 Gas Dump	Action
	37	00 Undefined	N/A
Zone 5	38	11 MCP	Fire (C-9317 Start-release with delay based on set dial S2)
	39	38 Gas Abort	Action (C-9317 Stop)
	40	37 Gas Dump	Action
	41	00 Undefined	N/A
Zone 6	42	11 MCP	Fire (C-9317 Start-release with delay based on set dial S2)
	43	38 Gas Abort	Action (C-9317 Stop)
	44	37 Gas Dump	Action
	45	00 Undefined	N/A

For example: You have 4 addressable detectors in (addresses 60, 61, 62, 63) and sounders (set to address 51) and all are belonging to Zone 1 (**Make sure that the protected area is configuring in a separate zone)**
Sample: Cause and effect
1. Single detector alarm will activate the sounder in zone 1
2. Two smoke detectors alarm or press the remote release button (C-9317) will release the GAS in 20 second with **additional delay time base on set dial S2** in zone 1

Equation:

1. **S01 001 03 = S01 001 13 00**
2. **S01 002 03 + G01 022 11 = G01 023 37 02**

Note:
The GST 303/6 has a local delay time (S2 rotary Switch) for releasing the gas, so therefore, the delay time can be set in 2 ways:

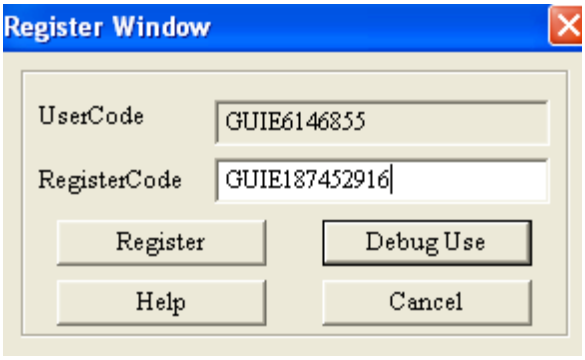
1. Through GST200/2/2 equation via programming software
2. Through GST303/6 via S2 Rotary Switch

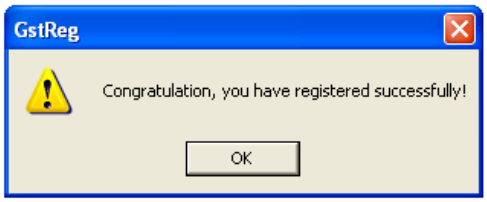
Steps to program the GST GMC Monitoring Software

Preparation:

1. The auto-cad drawing must be exported to jpeg or bmap extension file.
   The project data base must be the currently viewed in the GSTDef programming tool and must be saved properly before closing the application.

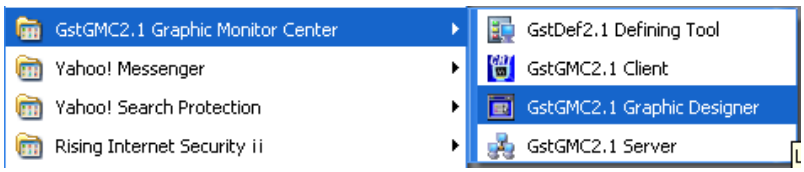
2. Install the GSTGMC software, by double click the GSTGMC_Setup.exe and follow the instructions. Click Start>All Programs>GSTGMC2.0 Graphic Monitor Center>GSTGMC2.0 Server and Click Register. (To get the Register code, please send by mail to GST office the User Code together with the SO Number) For software demo use “Debug Use”



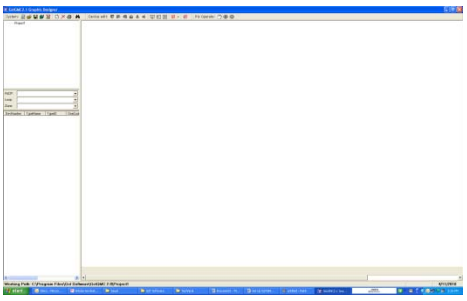


Procedures:

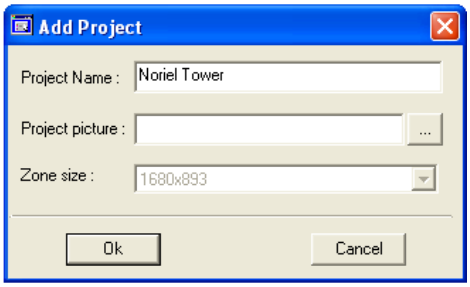
1. Open the Graphic Designer by clicking the GSTGMC2.1 Graphic Designer



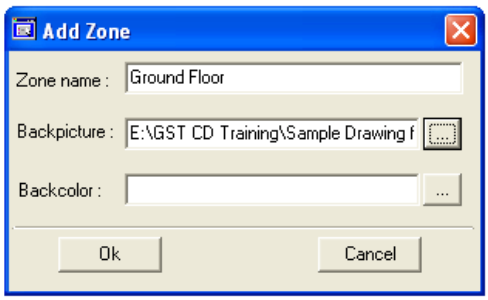
2. The graphic designer window will pop-up

3. To setup the project,  click the  icon – “Create a project”.

   Type the project name and attached project photo if required, click the  to browse the location .Then click OK



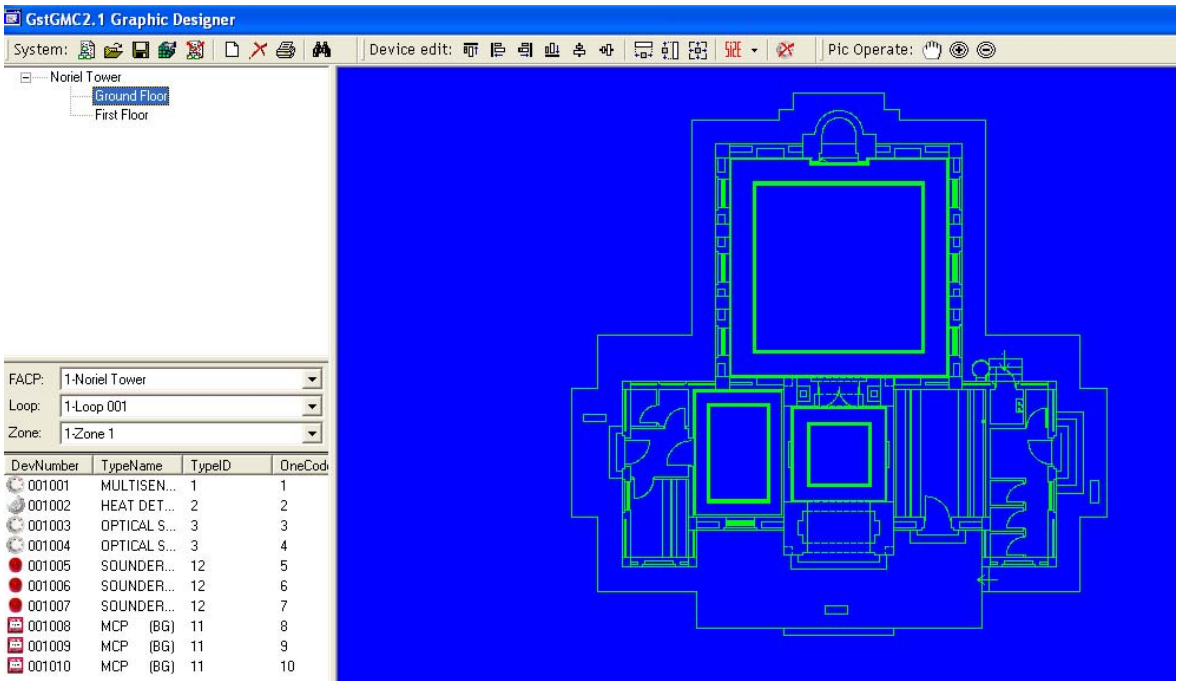
4. Then setup the zone by clicking the  icon – ""Create a zone". Type the zone name and attached zone photo in the "Project picture", click the  to browse the location .Then click OK. To set-up another zones, repeat the procedure.



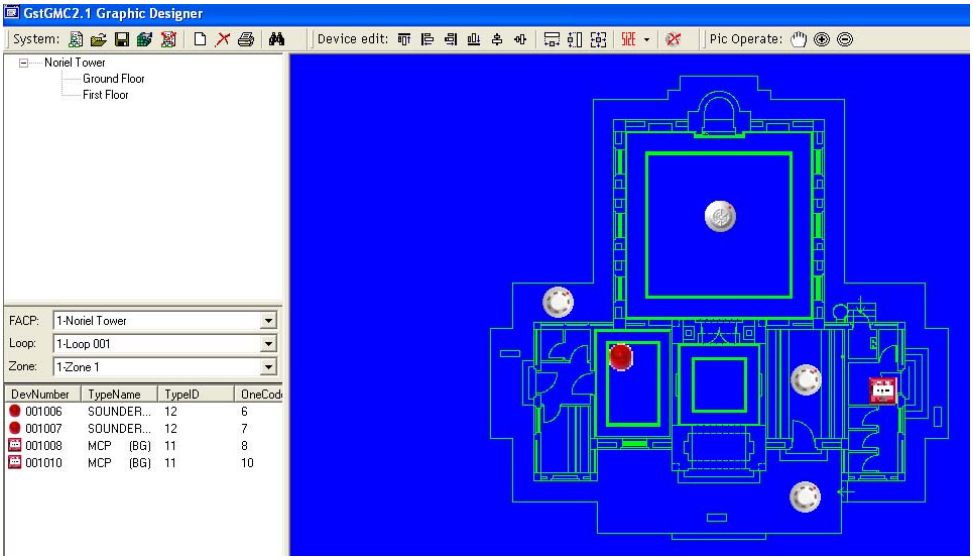
5. After set-up the number of zones required. Select the zone to be configured

Note: Ensure that zone back picture is the proper floor plan.

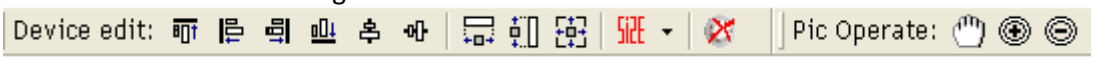
6. Then in the drop down button, select the FACP, Loop and Zone.
Note: If there are two or more selections in the drop down, select the required proper one.



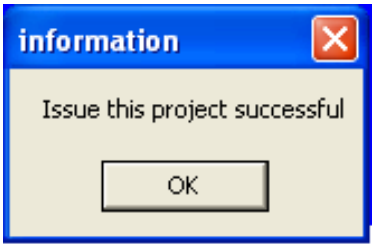
7. Select, drag and paste each device to the required location, *note that the device placed on the photo will removed from the devices list.*



8. Use the Device edit to arrange the devices location and size.

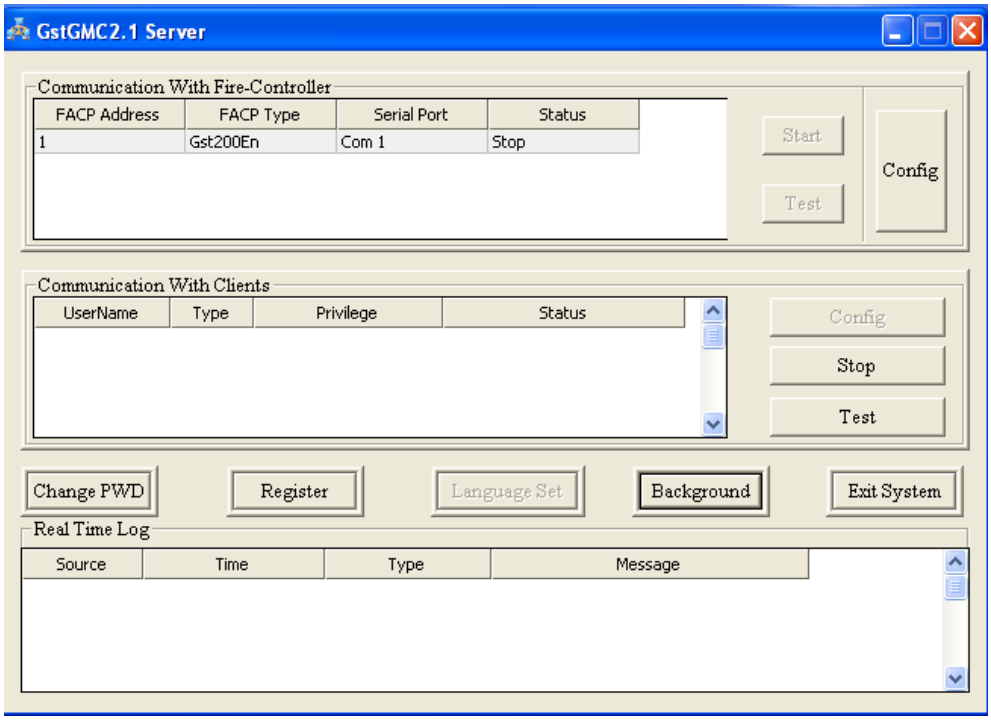


9. Repeat the procedures 7 to 10 till the all the zones are completed.
10. Click the save icon once configuration was done.
11. Click the - "Describe a project" then click OK. **This command is very important, the project must be described so that the system will identify which photo and GST data base are being used for this program.**



12. Exit the Graphic Designer window
13. Open the SERVER by clicking the GSTGMC2.1 SERVER

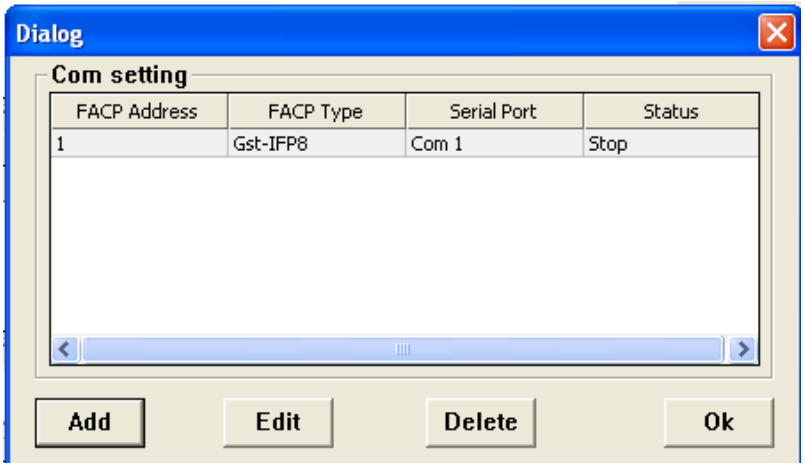
14. The SERVER window will pop-up



15. There are two communications to be configured the “Fire Controller” and the “Client”
16. First configure the “Communication with the controller” by clicking the 

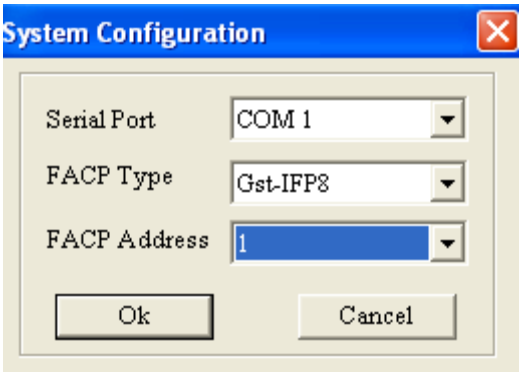
icon-Config, then it will asked for the password. *(Note: default no password just click OK)*

17. Then dialog window will pop-up



Note: by default there was the configured panel, please select and click “DELETE”

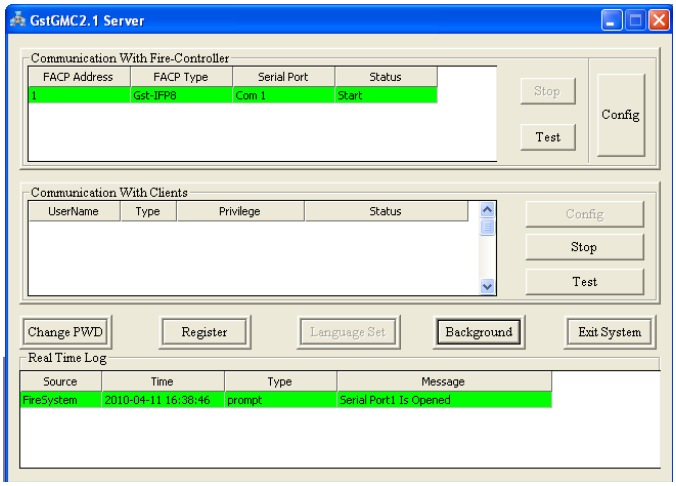
To configure the new panel, click the “ADD” and the System configuration window will pop-up.



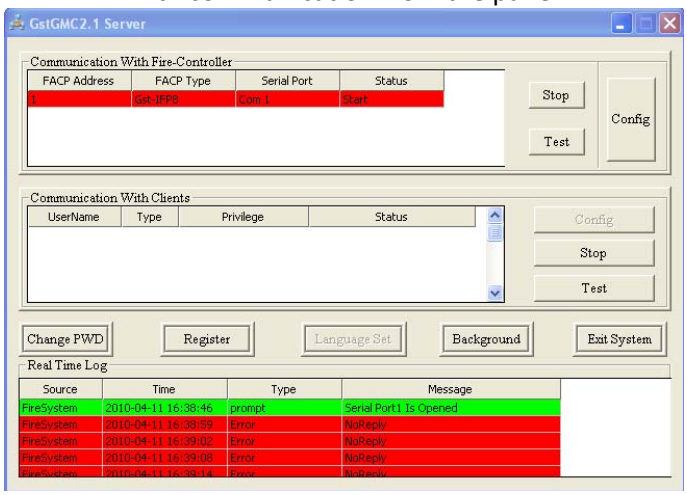
Select the Serial Port number, select the correct part number of the control panel and the address of the control panel to interface with. Then click OK also in the Dialog.

18. Then click the 

icon to start the communication of the computer and the panel.
Note: The colour green indicates there is a communication otherwise red no communication.

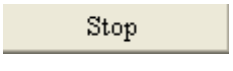


With communication from the panel



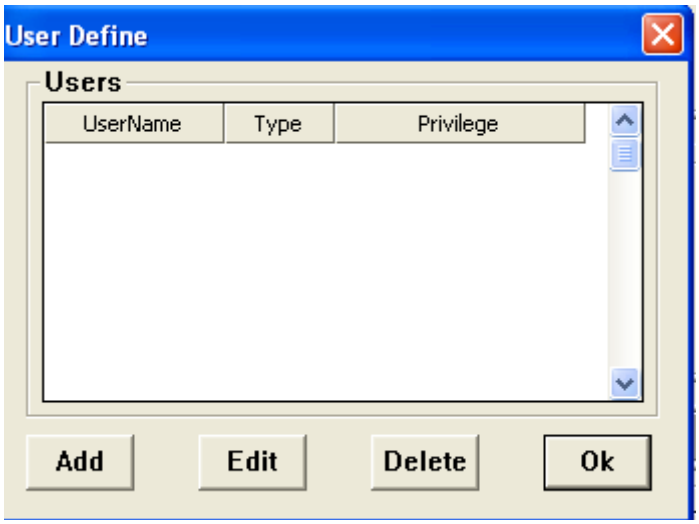
No communication with the panel

19. Second configure the “Communication with Clients” by clicking the 

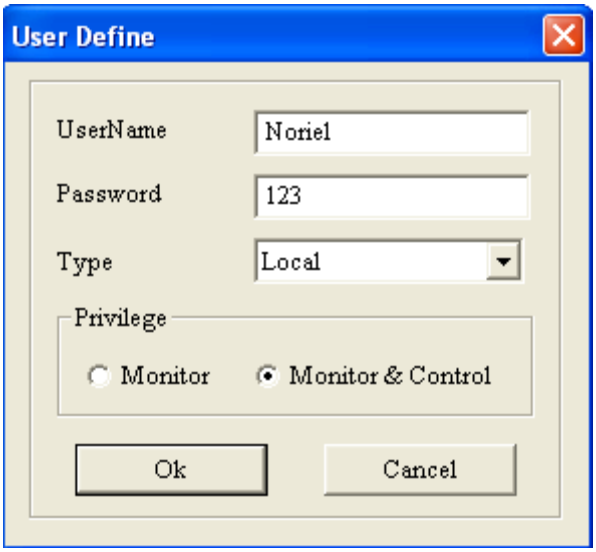
icon-Config, but incase the icon is hidden click the 

. Then, it will ask for the password. (Note: default no password just click OK)

20. Then the User Define window will pop-up



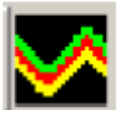
To configure the new panel, click the “ADD” and the User Define window will pop-up.



Type the User name and the password. Select the type of server connection (LOCAL- the server and the client are working in the same PC, REMOTE – the client is from the other PC which is connected through LAN). Click the type of privilege. Then click OK also in the user define.

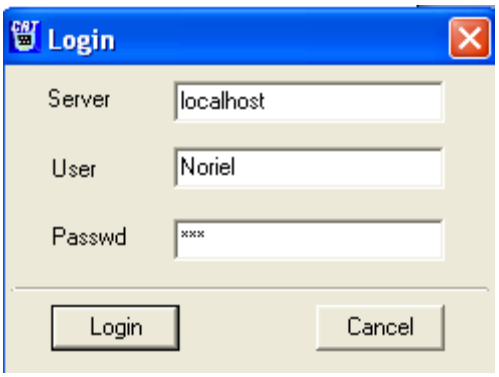
21. Click the 

to start the communication from the server.

22. Close the server window but **do not EXIT the system**. In the right corner of tool bar the  is showed indicates that the server is running.

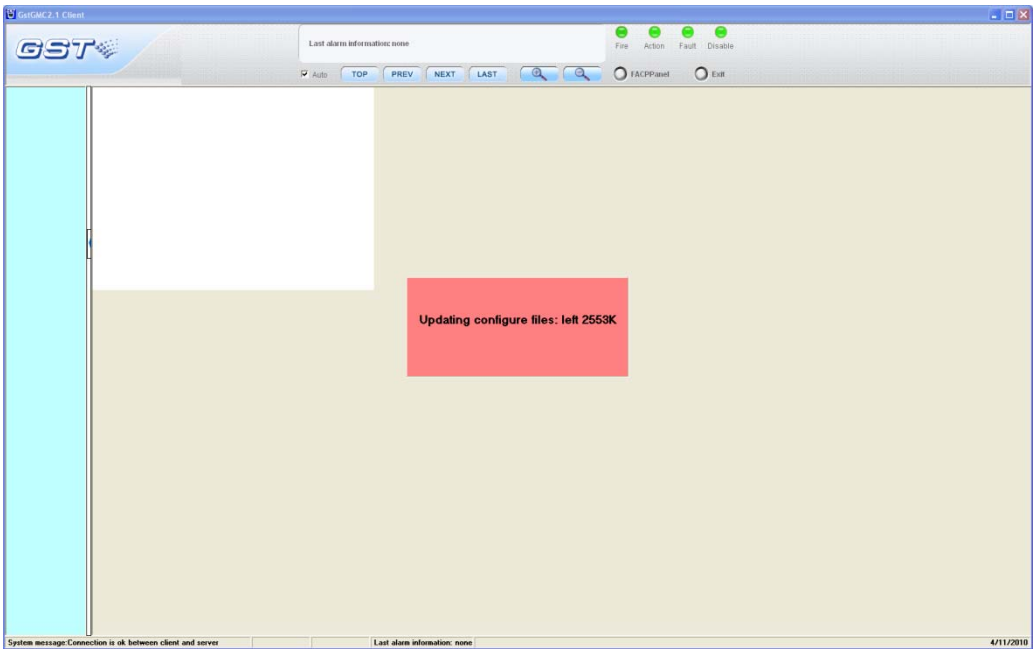
23. Open the Client by clicking the GSTGMC2.1 CLIENT

24. The Login window will pop up to confirm the password, the click LOGIN

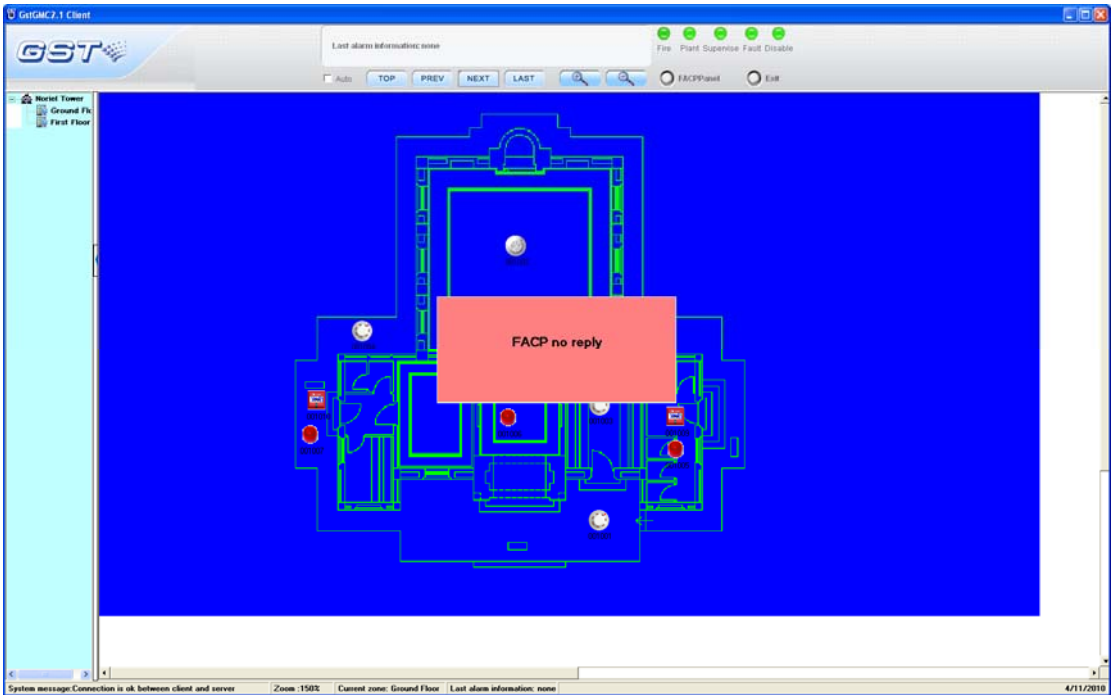


Note: if the type of connection from the server is LOCAL on the Server Login type "localhost" and if it is REMOTE type the IP address of the server PC.

The initial CLIENT window will pop up and updating the configuration.



25. Once the updating is done. The MONITORING window will pop-up



Note: If the server cannot communicate in the control panel it will indicate "FACP no reply"

A UTC Fire & Security Company

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2010GST-r2