



Submittal Guide

GST UL Series

Fire alarm system

The background of the lower half of the cover is a composite image. It features a wide-angle aerial view of a city, likely Hong Kong, with a river and a bridge. The sky is filled with dramatic, orange-hued clouds from a sunset or sunrise. The city's dense skyline of skyscrapers is visible in the foreground and middle ground.

Intelligent
Fire Alarm
Solutions





Parent Company Carrier

GST's parent company, Carrier, is a world leader in HVAC, Refrigeration, Fire & Security solutions headquartered in Florida, USA. For over a century, we have been developing innovative products and services that have changed the way people live and work. That drive for innovation continues today with a renewed focus on creating solutions that will change the world for the better. At Carrier, we see possibilities in everything.

Our fire and security business encompasses a wide range of residential, commercial and industrial systems, including fire and carbon monoxide detection, alarm signaling, incident management, evacuation, monitoring; fire, gas and water mist suppression, fire and gas safety solutions, and HVAC, industrial equipment controls. In addition, from a security standpoint, we offer access control and event monitoring, electronic locks, hospitality solutions, mobile apps and credentialing, real estate access solutions, remote access management and video management.

Gulf Security Technology Co., Ltd. (GST)

Gulf Security Technology Co., Ltd, GST, is a key player in the Asia fire and security industry and a trusted provider of comprehensive fire system solutions around the world. It is a subsidiary of Carrier (Carrier Global Corporation), a leading global provider of innovative HVAC, refrigeration, fire, security and building automation technologies.

GST provides a wide range of fire products and customized fire system solutions tailored to the needs of different industries. With a sales infrastructure that covers many countries and regions, and includes a China-wide network of more than 120 sales offices and several logistics centers, GST has become an important part of Carrier's global business.

To satisfy the needs of its global customer base, GST has established extensive R&D facilities in Beijing and Qinhuangdao in northern China. It constantly strives to develop innovative new

technologies and products. GST's factory in Qinhuangdao is a large manufacturing base producing intelligent electronic products that incorporate innovative technology. To ensure superior product quality, it has advanced manufacturing and inspection equipment and strong capabilities in quality control and process management.

GST has earned a range of national and international certificates of conformity to standards such as China's CCC, the international UL, the global LPCB, Europe's CE, etc.

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IFPX Series: A collaboration of advanced features, reliable performance, easy installation, worry-free operation with a competitive cost.

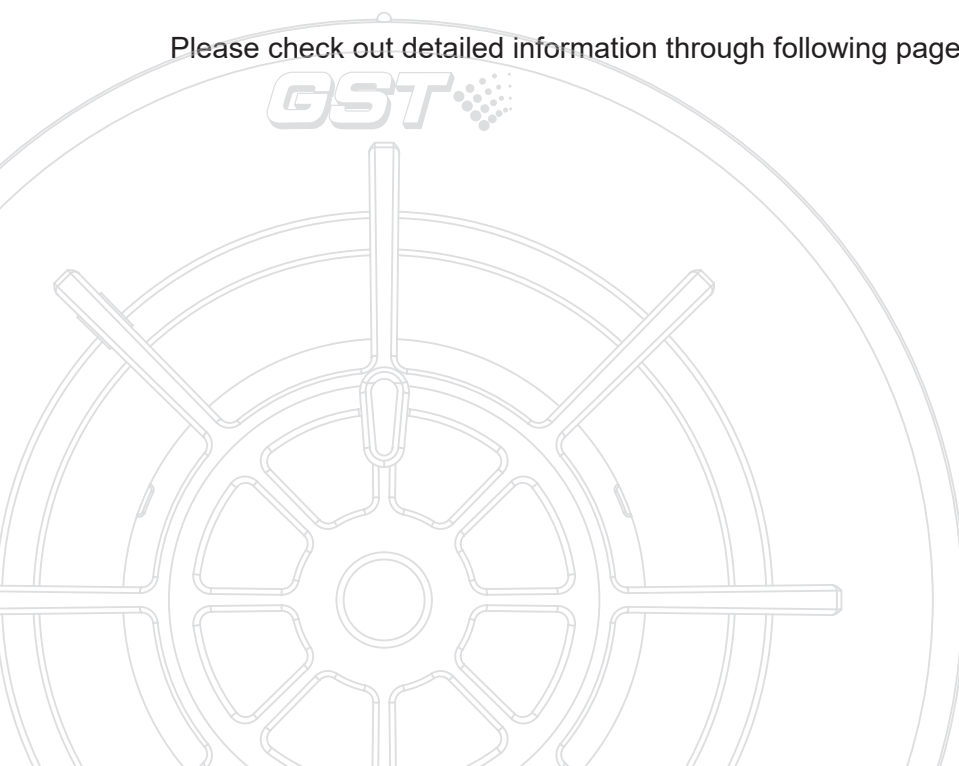
As one of the global major manufacturers of fire safety products, each day, we work to expand our boundary of innovation, providing advanced solutions to protect people and property from fire and related hazards.

IFPX Series fire detection and alarm system is a powerful and intelligent system provides solution for small to large sized buildings.

Our extensive range of fire detection & alarm products provides you a freedom to tailor the system to each particular needs of the project, include but not limited to the size of the project, requirement of the specification & certification and the project budget. IFPX series also leaves you a plenty of room for future upgrade, expansions and retrofits.

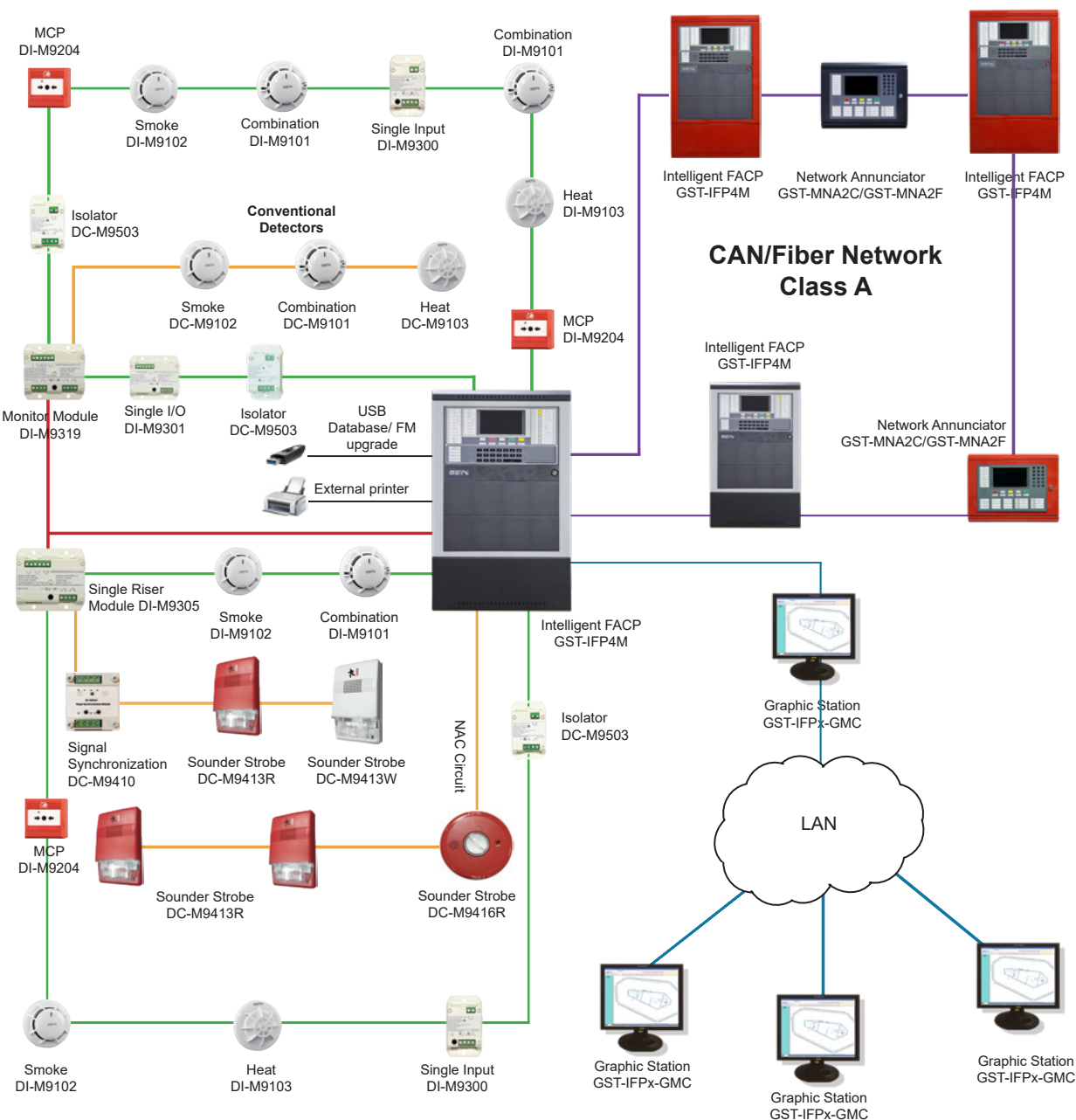
This is a collaboration of leading technology, excellent performance, easy installation, worry-free operation with a competitive cost.

Please check out detailed information through following pages.



System and Control Panels

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- Need additional CAN/Fiber network card to be installed into panel for networking, maximum networking capacity 250 Panels and network annunciators.
- Maximum 10 Remote Users can be connected to the host PC through LAN.
- Maximum output of Panel NAC+ Auxiliary output is 2.5A

GST-IFP4M Control Panel

Features and Benefits

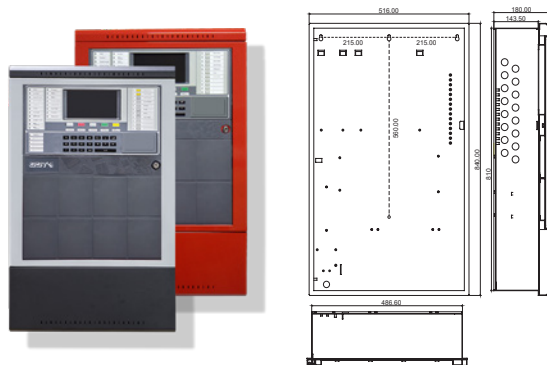
- 242 addressable devices per loop mixing various types of devices, Max. 1452 addresses.
- Support up to 32 ZCP panel with individual programmable buttons & LED indicators. Max 8 ZCP panels for wall mount cabinet
- 7-inch Touch Screen 800 x 480
- Built-in multiple languages, currently supports English, Spanish, Portuguese and Russian
- Programing via PC or panel keypad and touch screen
- USB port for system configuration and firmware update
- Support USB dongle for securing project database
- History records of 100,000 events
- Report device type mismatch and duplicated loop address
- Optional Redundancy CPU
- Built-in BACnet (Authorization code needs to be ordered separately)
- Capability of remote downloading site specific data
- 2 Power Limited Class B Notification Appliance Circuits (NAC), total load Max.2.5A/24VDC. The 2nd NAC can be set as AUX.
- Optional mini thermal printer and additional USB printer interface port for external printer
- Built in protocol to voice alarm system, communicate via onboard RS232 port

Compatible Devices

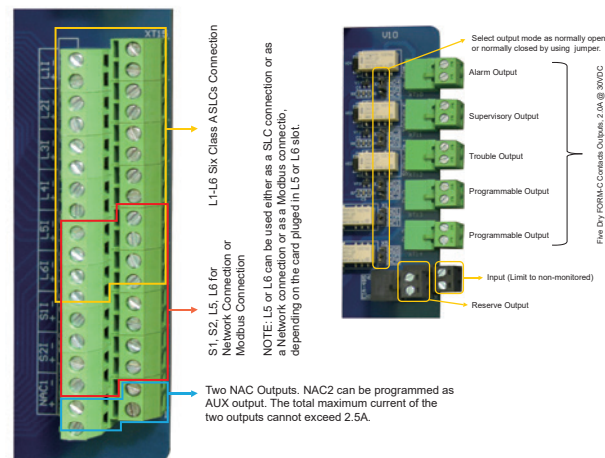
Detectors	I-9102(UL)/I-9103(UL) DI-M9101/DI-M9102/DI-M9103
Manual Call Point	DI-M9204
Modules	I-M9300/I-M9301 DI-M9300/DI-M9301/DI-M9305/DI-M9319
Sounders & Strobes	DC-M9410 Synchronization Module DC-M9413R/DC-M9413W DC-M9414R/DC-M9414W DC-M9415R/DC-M9415W DC-M9416R/DC-M9416W
Loop Isolators	C-M9503 DC-M9503 DC-M9504

Installation Data

GST-IFP4M panel is wall-mount/flush-mount combined. Its appearance and the mounting holes are shown here.



Terminals



Fixed outputs:

Alarm output, Supervisory output, Trouble output. 2.0A @ 30VDC, NO/NC can be set.

Programmable outputs:RL2, RL3. 2.0A @ 30VDC, NO/NC can be set.

EIA-485 port:Reserved output port, not currently in use.

Input port:Limit to non-monitored input interface.

Network ports:S1 & S2 ports are reserved for network connection. Relative CAN network card(s) is required.

NAC ports:NAC1 & NAC2 NAC outputs connect Notification Appliances, Class B type. Rated at 24VDC, total current cannot exceed 2.5A.The NAC2 can be configured as AUX output, providing 24VDC for limited power consumption devices (4k7 EOLR for NAC, 1k EOLR for AUX).

Loop connections:Panel supports maximum 6 loops, L1 ~ L6 ports link with corresponding slots. Each loop is Class A type loop connection. Closed ring from LOOP OUT backs to LOOP IN.

Cable Requirement

Loop:Minimum 18AWG, ideally 16AWG, 1300 meters

Network:Minimum 18AWG, ideally 16AWG, 3000 meters

Relay Output:Minimum 18AWG

NAC Outputs:Minimum 18AWG, ideally 16AWG

All cables should be fire rated and follow local codes.

Certificates and Compliance

- Standards: UL864 10th Edition / NFPA72
- Certifications: UL
- WEEE & RoHS Compliant

Technical Specification

Primary Supply	120VAC / 60Hz, 220VAC / 50Hz
Max. Current	3.0A (120VAC) or 1.5A (220VAC)
Battery	Two 12V / 38Ah sealed lead-acid batteries
Max. Battery Capacity	Two 12V / 66Ah (additional battery box required)
Loop Capacity	1 - 6 Loops
Device Capacity	242 addresses per loop
Loop Parameter	Voltage: Nominal 24VDC Average current: 130mA Maximum alarm current: 200mA Maximum wiring resistance: 18ohms (each line).
NAC outputs	2 Notification Appliance Circuits Class B, Power-limited Output Voltage: Nominal 24VDC Max. Current: Totally 2.5A

Relay Outputs	3 fixed outputs 2 programmable outputs Rated 2A@30VDC
Input Rating	Maximum current: 1.7mA (short circuit)
Printer	Thermal, ASCII code printer
LCD Display	7" TFT touch screen, 800x480
Network Nodes	Max. 250 panels
PC Port	LAN/USB interface
Protection	IP30
Operating Environment	32-120° F (0-49°C) ≤93% RH, non-condensing
Dimensions	516mm(W) x 840mm(H) x 180mm(D)

10106176 GST-IFP4M Addressable Fire Alarm Control Panel with grey color cabinet

10106178 GST-IFP4M Addressable Fire Alarm Control Panel with red color cabinet

GST-IFP4M Option Cards

LC-401 Single Loop Card / LC-402 Dual Loop Card

LC-401 Single Loop Card can be inserted to slot of GST-IFP4M panel to provide ONE (1) Class A SLC (signaling line circuit) with capacity of 242 addresses. It is compatible with I and DI series loop devices. LC-402 Dual Loop Card can be inserted to slot of GST-IFP4M panel to provide TWO (2) Class A SLC (signaling line circuit) with capacity of 484 addresses. It is compatible with I and DI series loop devices.

Maximum 3 pieces of loop cards can be combined in GST-IFP4M panel. The LC-401 and LC-402 loop cards can be mixed to build a system with 1-6 loops.

- Nominal Voltage: 24VDC
- Standby Current: 0.13A (LC402: 0.25A)
- Maximum Current: 0.35A (LC402: 0.7A)
- Capacity: 242 Addresses (LC402: 484 Addresses, 242 per loop)
- Environment Temperature: 0°C - 49°C
- RH Range: ≤93%, non-condensing



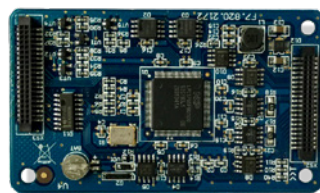
20102729 LC-401 Single Loop Card

20102730 LC-402 Dual Loop Card

MP-401 CPU Card

MP-401 CPU card is the processor board of GST-IFP4M control panel, builds the main board with MP-400 mounting board. It controls and monitors states of NAC, relay, auxiliary power and processes 485 and CAN communication information. 1 piece of MP-401 (together with MP-400) is configured as default. Additional MP-401 can build redundancy CPU feature.

- 1 RS485 port 1 RS422 port 2 CAN ports
- Baud Rate: 10Kbps
- Operation Voltage: 5VDC
- Consumption: 100mA
- Environment Temperature: 0°C - 49°C
- RH Range: ≤93%, non condensing

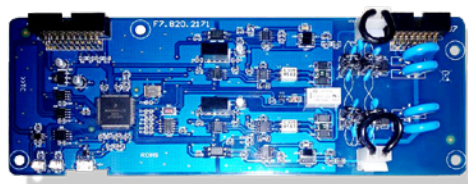


20102858 MP-401 CPU Card

P-9966A CAN Class A Network Card

P-9966A network card provides CAN Class A network connection to GST-IFP4M panel. All panels are connected in peer to peer topology. Many separate FACP's can form a fire alarm network through the card. Each panel supports Max three network cards working simultaneously and these 3 cards can be combination of P-9966A and P-9983.

- Power: 5VDC, 200mA
- Communication Protocol: CAN
- Band rate: 10,000bps
- Node Capacity: 250 panels
- Communication Distance: 3000 meters
- WEEE & RoHS compliant
- Environment Temperature: 0°C - 49°C
- RH Range: ≤93%, non condensing
- Cable Requirement: 1.0 mm² or above twisted pair, shielded twisted pair is recommended.



20102731 P-9966A CAN Class A Network Card

P-9983 Fiber Network Card

P-9983 card is optional for GST-IFP4M control panel, providing two LC single-mode optical Fiber interfaces, to build pure fiber-optic Class-A network topology.

- Communication media: Single mode Fiber-optic cable
- Termination: LC mode
- Communication distance: 20KM
- Baud rate: 115200bps
- Node Capacity: 250 panels
- WEEE & RoHS compliant
- Environment Temperature: 0°C - 49°C
- RH Range: ≤93%, non-condensing

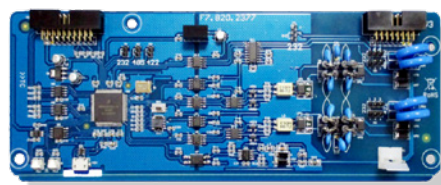


20102732 P-9983 Fiber Network Card

P-9956-Modbus Configurable RS Modbus Card

For integrating fire alarm system to BMS, GST provide ModBus Interface Card P-9956-ModBus for GST-IFP4M panel. Status of the fire alarm system will be converted and transferred to the memory of the interface card. The BMS system can simply read out the data and decode, to get all information required.

- Communication Protocol & Distance:
RS232: 15m RS422/485: 1200m
- Baud Rate: 4800bps
- WEEE & RoHS compliant
- Environment Temperature: 0°C - 49°C
- RH Range: ≤93%, non-condensing



20102733 P-9956-Modbus Configurable RS Modbus Card

IFPx-BAC-Lic Soft License

Soft License to active IFPx series panel Bacnet interface, enable panel connect with BMS system through Ethernet port base on Bacnet protocol.

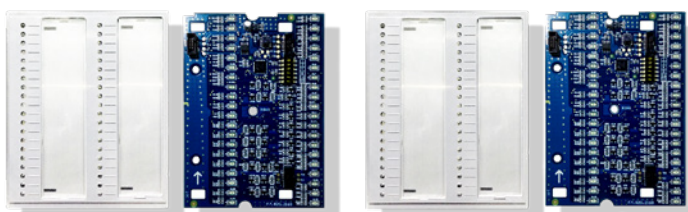
8000001 IFPx-BAC-Lic Soft License

P-9981 Zone Display Panel / P-9981F Zone Display Panel

P-9981 zone display panel is expansion LED indication unit for GST-IFP4M control panel for displaying system status. Totally 40 bi-color LEDs on each P-9981 panel can light Red/Green/Yellow. Every LED(s) can be programmed to show zone/device status individually or grouped. Maximum 32 panels can be linked together (Max.8 units on GST-IFP4M panel). Each ZDP has 3 ports for connecting to main board and other ZDPs. The connection can be peer-to-peer or any type of branching. A transparent baffle is provided for each column LEDs, to hold the printed label to the side slot.

P-9981F zone display panel is expansion LED indication unit for GST-IFP4M control panel for displaying system status. Totally 40 LEDs on each P-9981F panel colored Red/Yellow in turn. Every LED(s) can be programmed to show zone/device status individually or grouped. Maximum 32 panels can be linked together (Max.8 units on GST-IFP4M panel). Each ZDP has 3 ports for connecting to main board and other ZDPs. The connection can be peer-to-peer or any type of branching. A transparent baffle is provided for each column LEDs, to hold the printed label to the side slot.

- Operation Voltage: 5VDC
- Operation Current: 20mA
- Code range: 1-32 (code sets 0-31)
- WEEE & RoHS compliant
- Environment Temperature: 0°C - 49°C
- RH Range: ≤93%, non-condensing



P-9981 Zone Display Panel

P-9981F Zone Display Panel

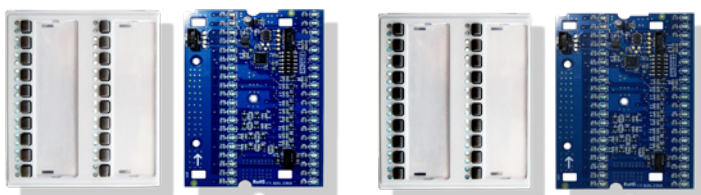
20102720 P-9981 Zone Display Panel

20102721 P-9981F Zone Display Panel

P-9982 Zone Display and Control Panel / P-9982F Zone Display and Control Panel

P-9982 zone display and control panel is expansion LED indication unit and control buttons for GST-IFP4M control panel. There are 20 buttons each with 2 bi-color LEDs. The LED can light in Red/Green/Yellow. Every LED(s) and every button(s) can be programmed freely to display status or control device either individually or grouped. Maximum 32 panels can be linked together (Max.8 units on GST-IFP4M panel). Each ZDCP has 3 ports for connecting to main board and other ZDCPs. The connection can be peer-to-peer or any type of branching. A transparent baffle is provided for each column LEDs, to hold the printed label to the side slot.

P-9982F zone display and control panel is expansion LED indication unit and control buttons for GST-IFP4M control panel. There are 20 buttons each with 2 LEDs colored in Red & Yellow. Every LED(s) and every button(s) can be programmed freely to display status or control device either individually or grouped. Maximum 32 panels can be linked together (Max.8 units on GST-IFP4M panel). Each ZDCP has 3 ports for connecting to main board and other ZDCPs. The connection can be peer-to-peer or any type of branching. A transparent baffle is provided for each column LEDs, to hold the printed label to the side slot.



P-9982 Zone Display Control Panel

P-9982F Zone Display Control Panel

- Operation Voltage: 5VDC
- Operation Current: 20mA
- Code range: 1-32 (code sets 0-31)
- WEEE & RoHS compliant
- Environment Temperature: 0°C - 49°C
- RH Range: ≤93%, non-condensing

20102722 P-9982 Zone Display and Control Panel

20102723 P-9982F Zone Display and Control Panel

PR-400 Thermal Printer

PR-400 is Thermal Printer built-in GST-IFP4M fire panel, connected through RS232. It can print running record of the control panel manually or automatically, easy to operate and convenient for checking.

- Printer type: Thermal
- Operation voltage: 5VDC
- WEEE & RoHS compliant



☐ 20102891 PR-400 Thermal Printer

GST-IFP4M Option Software

GST-IFPx-GMC Graphic Monitor Center

GST-IFPx-GMC Graphic Monitor Centre, hereinafter referred to as GMC, is fit for GST-IFP4M serial panels and attached front-end devices. It can communicate between a fire alarm system and control panels. With aethetical interface and focused graphic messages, the GMC also supports vectorized device icons. It's simple to operate and suitable for different kinds of users.

- Based on pc, software provides simple, direct and complete user graphics view interface
- Shifting between device layouts of different monitoring zones
- Popup of abnormal information automatically, with devices in alarm, action, fault or disabled condition flashing in different colors
- Multi-level password control
- Complete functions of database management and data backup ensure system safety by minimizing possibility of data loss
- Licensing via USB dongle



☐ 10106185 GST-IFPx-GMC-S Graphic Monitor Center

☐ 10106186 GST-IFPx-GMC-M Graphic Monitor Center

☐ 10106187 GST-IFPx-GMC-L Graphic Monitor Center

DEF-KEY / DEF-KEY-TIMER USB Dongle

A sort of CPU or smart card based security device, to protect definition database of DEF software and panel project configuration data. Unauthorized person without the dongle key is not possible to start the software (DEF3.0) or create communication between Def software and panel.

- USB Driverless
- Universal unique hardware ID
- Provide shell encryption tool
- Dongle with built in timer, can be pre-set valid period, can be renewal via specified program with renewal certificate supported
- Support multiple operating systems: Windows/Linux/Mac OS
- Compatible with DEF V3.0 or above version and also IFPx-Def



☐ 10106030 DEF-KEY USB Dongle

☐ 10106165 DEF-KEY-TIMER USB Dongle

Network Annunciator

GST-MNA2C Network Annunciator

GST-MNA2C Network Annunciator is an Intelligent fire annunciator to connect with GST-IFP4M panel via CAN network, easy for installation, operation, and maintenance. The powerful CPU, inbuilt Linux OS and touch-screen provide a user-friendly operation interface.

Features and Benefits

- Receive message and send command (Reset, Silence, ACK etc.) through network
- Network interface: CAN, Class A
- LCD display unit of 800 x 480, 7.0" color TFT LCD
- Capacitive Touch screen
- History file 100,000 events capacity
- Password and key-protected nonvolatile memory
- User programmable password
- Field-programmable, or by pc with GST-IFPx-Def Defining Tool

Certificates and Compliance

- Standards: NFPA 70,72 UL864
- UL Listed

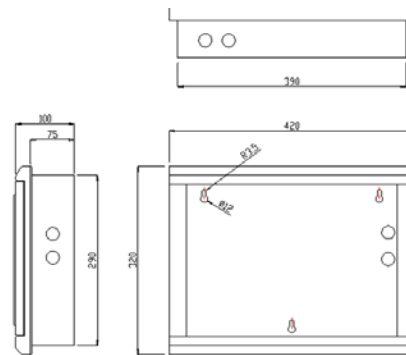
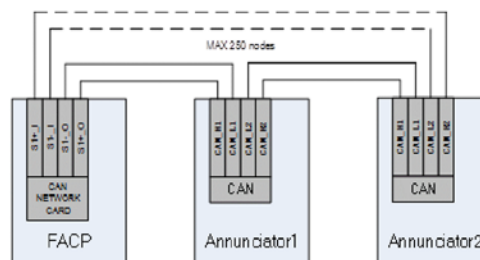
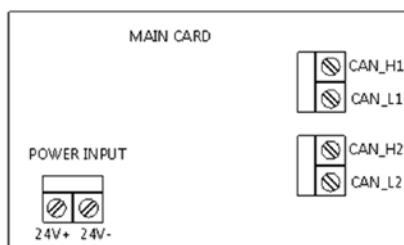
Installation Data

GST-MNA2C annunciator can be flush-mount or surface-mount. Its appearance and dimensions are shown below.

Recommended Cabling: Maximum distance between two neighbor nodes is 2500m with 18AWG or 3000m with 16AWG. All cables should be subject to local codes.

Typical Connections

The GST-MNA2C Annunciator Panel sits in GST CAN network. The terminals and A typical Class-A network connection is shown below.



Certificates and Compliance

Primary AC	20VDC~28VDC
Standby Current	200mA
Max. Current	400mA
Communication Distance	2500m with 18AWG cable, or 3000m with 16AWG cable
Network Capacity	250 nodes
Display	800×480, 7.0" color TFT LCD
Network	CAN Network, Class A
Operating Environment	0°C ~ +49°C 93% RH, (Indoor Dry)
Dimensions	420mm x 350mm x 100mm

GST-MNA2F Network Annunciator

GST-MNA2F Network Annunciator is an Intelligent fire annunciator to connect with GST-IFP4M panel via Fiber-Optic network, easy for installation, operation, and maintenance. The powerful CPU, inbuilt Linux OS and touch-screen provide a user-friendly operation interface.

Features and Benefits

- Receive message and send command (Reset, Silence, ACK etc.) through network
- Network interface: Fiber-Optic, Class-A type
- LCD display unit of 800 x 480, 7.0" color TFT LCD
- Capacitive Touch screen
- History file 100,000 events capacity
- Password and key-protected nonvolatile memory
- User programmable password
- Field-programmable, or by pc with GST-IFPx-Def Defining Tool

Certificates and Compliance

- Standards: NFPA 70,72 UL864
- UL Listed

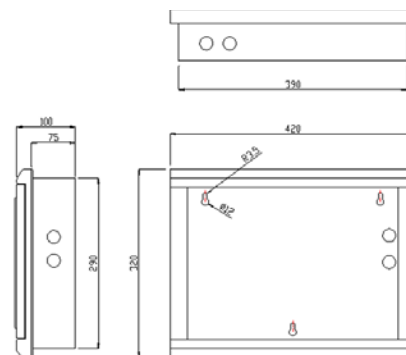
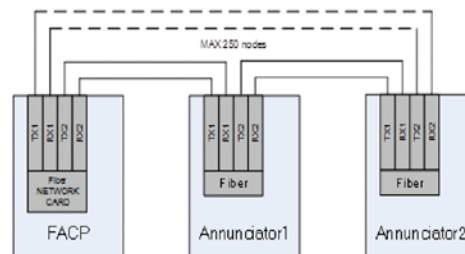
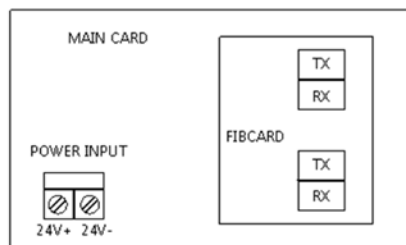
Installation Data

GST-MNA2F annunciator can be flush-mount or surface-mount. Its appearance and dimensions are shown here.

Recommended Cabling: Single mode Fiber Optic cable, communication distance 20kM.

Typical Connections

The GST-MNA2F Annunciator Panel sits in GST Fiber-Optic network. The terminals and A typical Class-A network connection is shown below.



Certificates and Compliance

Primary AC	20VDC~28VDC
Standby Current	200mA
Max. Current	400mA
Communication Distance	Single mode Fiber Optic cable, communication distance 20kM, attenuation -10dB
Network Capacity	250 nodes
Display	800×480, 7.0" color TFT LCD
Network	Fiber-Optic Network, Class-A
Operating Environment	0°C ~ +49°C 93% RH, (Indoor Dry)
Dimensions	420mm x 350mm x 100mm

GST-M200 Intelligent Fire Alarm Control Panel

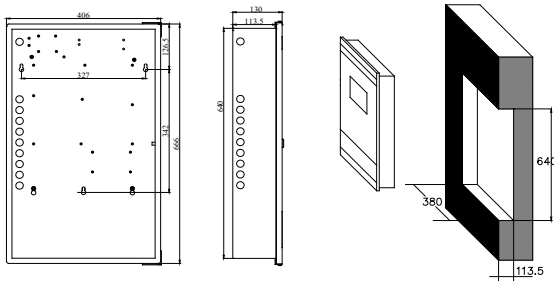
GST-M200 Intelligent Fire Alarm Control Panel (FACP) complies to UL864 standard with features of easy installation, operation and maintenance. All circuit boards are installed in a metal cabinet, providing a complete fire control system for most applications.

Features and Benefits

- Single ring loop which meets Style 6 (Class A) requirement
- 240 addressable devices
- Optional 2 loops with additional loop card
- LCD display unit of 128 X 64
- History file with 1,000 events capacity
- "Walk Test", silent or audible
- PAS (positive Alarm Sequence) per point (NFPA72 compliant)
- Auto silent timer option per NAC. The time duration is 5minutes.
- Password and key-protected nonvolatile memory
- Fully programmable from local keypad and from a pc
- Signaling Line Circuit (SLC) operates up to 4000 ft through
- twisted pair with cross section 17AWG (1.02mm²)

Installation Data

The FACP can be flush-mounted or wall-mounted. Its appearance and the mounting method are shown here.



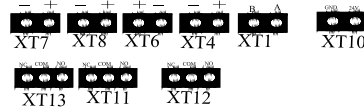
Certificates and Compliance

- Standards: UL864 10th Edition / NFPA72
- Certifications: UL
- WEEE & RoHS Compliant

Technical Specification

Primary AC	120VAC/60Hz, 220VAC/50Hz
Power Consumption	Max. 2A
Backup Battery	20AH/24V
Loop Quantity	1 or 2
Device per loop	240 per loop
NAC output	2 Class B, 1.2A@24VDC each
Relay output	Fixed, Alarm/Fault/Supervisory

Terminals



SLC (Signaling Line Circuit) LOOP (XT4 & XT6):

Style 6 (Class A) loop connection, provides communication to addressable detectors.

NAC (Notification Appliance Circuit) XT8 (NAC1) & XT7 (NAC2):

Style Y (Class B) output port, outputs when there is fire alarm, maximum 1.2A for each circuit.

ALARM (COM, NC, NO) (XT11): Dry contact output energized in case of fire, rated 2.0A @ 30VDC.

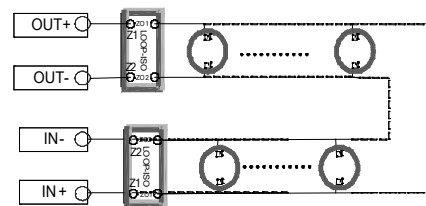
FAULT (COM, NC, NO) (XT12): Dry contact output energized in case of fault, rated 2.0A @ 30VDC.

Supervisory (COM, NC, NO) (XT13): Dry contact output energized in case of abnormal conditions, rated 2.0A @ 30VDC.

Auxiliary 24VDC (XT10): Power limited output, maximum 0.75A.

Typical Connections

Signaling Line Circuits (SLC) loop connection is shown below.



Cable Requirement:

Loop: Minimum 17AWG, ideally 14AWG; Network: Minimum 17AWG, ideally 14AWG; Active Outputs: Minimum 16AWG, ideally 12AWG. All cables should be fire rated and follow local codes.

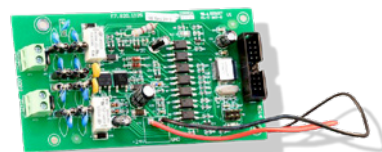
Auxiliary Power	Standby: 0.05A Max.: 0.75A
Display	128 X 64, LCD
Pc connection	RS232
Network connection	RS485 or CAN
Operating Environment	0-49°C/32-120°F ≤93%, non-condensing
Color	Red
Dimension	406(W) X 666(H) X 130(D) mm ²

GST-M200 Option Cards

LC200 Loop Card

System expansion card for GST200 series panels, adds one additional loop.

- Operation voltage: 24VDC
- Operation current: 300mA
- Capacity: 242 addresses
- Loop Connection: Class A
- Cable Requirement: Minimum 1.0mm² Fire Cable
- WEEE & RoHS compliant



20101370 LC200 Loop Card

P-9930 RS232 Communication Card

Communication card provide interface between panel and pc. Either RS232 or USB port can be applied.

- Communication Protocol: RS232/USB
- Band rate: 2400
- Parity Check: none
- Stop Bit: 1 bit
- Communication Distance: RS232 15 meter; USB 1.5meter



20101836 P-9930 RS232 Communication Card

P-M9930Modbus Modbus Communication Card

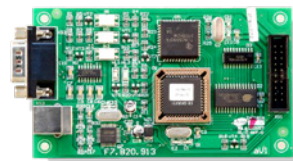
For integrating fire alarm system to BMS, GST provide ModBus Interface Card P-M9930ModBus for GST-M200 panel. Status of the fire alarm system will be converted and transferred to the memory of the interface card. The BMS system can simply read out the data and decode, to get all information required.

Features

- 4 types of statuses for each initialization device, Normal / Fire / Fault / Disable
- 4 types of statuses for each output device, Normal / Action / Fault / Disable
- Separate zone status transmission, Normal / Fire

Technical Specification

- Communication Protocol: RS232
- Baud Rate: 4800bps
- Parity Check: None
- Stop Bit: 1 bit
- 10 bits for each byte
- Device Capacity: 120758 (499X242)
- Zone Capacity: 999
- WEEE & RoHS compliant



20102531 P-M9930Modbus RS232 Communication Card

GSTGMC-M2.2 Graphic Monitor Center

GstGMC-M2.2 Graphic Monitor Centre is a fire alarm system monitoring software. With friendly interface, the software may support 8 remote client stations plus local monitor station, making complete monitoring and control. Also with OLE for Process Control (OPC), the communication with fire alarm control panel can also be integrated into other systems. The software is compatible with GST-M200 intelligent fire alarm control panel.

- Based on pc, software provides simple, direct and complete user graphics view interface
- Shifting between device layouts of different monitoring zones
- Popup of abnormal information automatically, with devices in alarm, action, fault or disabled condition flashing in different colors
- Multi-level password control
- One local operator and maximum 8 remote users



10104707 GSTGMC-M2.2 Graphic Monitor Center

Initiating Devices

<i>Intelligent Fire Detector Series</i>	p. 12
<i>Conventional Fire Detector Series</i>	p. 15
<i>Detector Bases and Remote Indicator</i>	p. 18
<i>Modules</i>	p. 19
<i>Module Covers and Module Boxes</i>	p. 23
<i>Isolators</i>	p. 24
<i>Manual Call Point</i>	p. 26



Intelligent Fire Detector Series



DI-M9101 Intelligent Combination Heat Photoelectric Smoke Detector

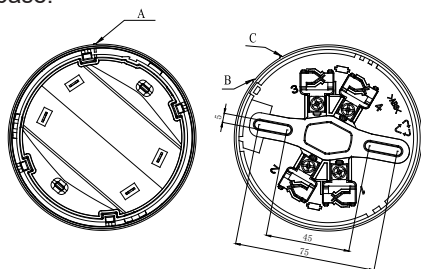
DI-M9101 Intelligent Combination Heat Photoelectric Smoke Detector integrates photoelectric detection, fixed temperature and rate of rise detection technology. The smoke sensor and heat sensor are integrated in mechanism and circuitry structure, provide wide range of application, to detect more types of fire conditions like black smoke with small particles and alcohol flame.

Features and Benefits

- Electrically addressed, can be modified by programmer
- Strong environmental adaptability due to drift compensation
- Self-diagnostic
- Reed switch test
- Dirty chamber checking
- Fire LED allows 360° viewing
- LED indication for both fire and normal status
- LED indication for normal status can be turned off by handheld programmer
- Remote indicator output
- 2 levels smoke sensitivities programmable
- Compatible Products: GST-M200, GST-IFP4M Intelligent Fire panel

Terminals and Installation Holes

Below figures show the detector bottom and terminals of the base.



- 1&3: Loop connection (non-polarized)
2: Positive terminal of remote indicator
4: Negative terminal of remote indicator

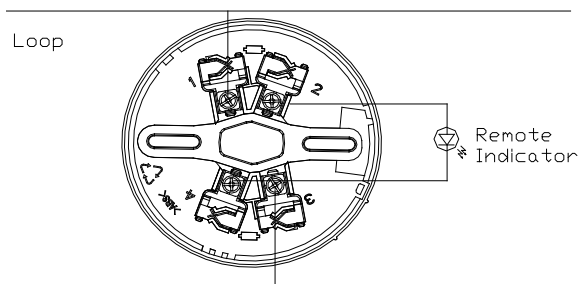
Recommended Cabling: 17AWG ~ 14AWG fire cable is recommended, but subject to local codes.

Certificates and Compliance

- Standards: UL 268 / UL521
- Listed by UL
- WEEE & RoHS Compliant

Application

The wiring diagram is shown below:



Address can be set through P-9910B programmer, also the sensitivity.

Below table shows relative setting codes for sensitivity levels and working modes. Factory defaults at Level 2 + Fixed Temperature + Normal LED.

Detector Code	Smoke Sensitivity	Heat Detection	Polling LED
1	1	Fixed Temperature	Normal
2	2	Fixed Temperature	Normal
129	1	Fixed Temperature	OFF
130	2	Fixed Temperature	OFF

Technical Specification

Operating Voltage	Loop 24VDC
Standby Current	≤0.8mA
Alarm Current	≤1.8mA (without remote indicator) ≤ 3.8mA (with remote indicator)
LED Indicator	Red Normal: Flash on polling Fire: Steadily ON
Remote Indicator Output	Polarized output. Directly connect to remote indicator (built in 10k resistor in series, output current is 2mA); Flash in alarming and do not illuminate in normal.
Maximum Ripple Voltage	2V (peak-to-peak)
Programming	Electronically addressing from 1 to 242
Sensitivity and range	Level 1: 1.23%~2.7% per ft Level 2: 2.0%~3.89% per ft
Maximum spacing (When Used as a Heat Detector only)	50 ft. (15.2 m)
Action Temperature	135°F (57.2°C)
UL Temperature Range	32°F (°C) - 100°F (37.8°C)
Operating Temperature	14°F (-10°C) - 122°F (+50°C)
Relative Humidity	≤95%, non condensing
Material of Enclosure	ABS White (RAL 9016)
Ingress Protection Rating	IP2X
Dimensions	Diameter: 100mm Height: 54.5mm (with base)
Mounting Hole Distance	45mm-75mm
Weight	110g

DI-M9102 Intelligent Photoelectric Smoke Detector

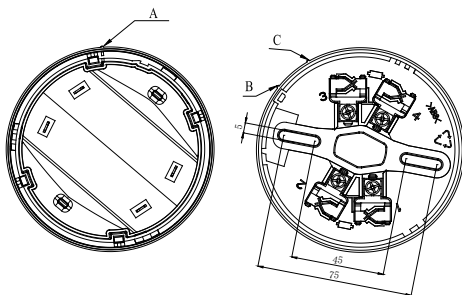
DI-M9102 Intelligent Photoelectric Smoke Detector is addressable type fire detection device, build up fire alarm system together with fire alarm panel and other alarm devices. By light-scattering technology, the detector is suitable for hotel, restaurant, office building, school, bank, warehouse, library, computer room, switch room, and etc.

Features and Benefits

- Electrically addressed, can be modified by programmer
- Strong environmental adaptability due to drift compensation
- Self-diagnostic
- Reed switch test
- Dirty chamber checking
- Fire LED allows 360° viewing
- LED indication for both fire and normal status
- LED indication for normal status can be turned off by handheld programmer
- Remote indicator output
- Compatible Products: GST-M200, GST-IFP4M Intelligent Fire panel

Terminals and Installation Holes

Below figures show the detector bottom and terminals of the base.



- 1&3: Loop connection (non-polarized)
 2: Positive terminal of remote indicator
 4: Negative terminal of remote indicator

Recommended Cabling: 17AWG ~ 14AWG fire cable is recommended, but subject to local codes.

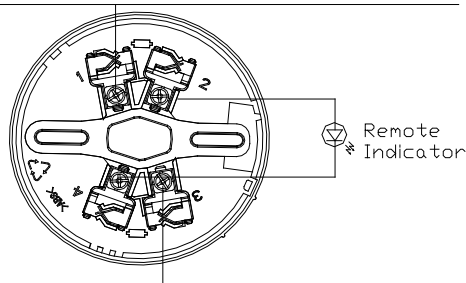
Certificates and Compliance

- Standards: UL 268
- Listed by UL
- WEEE & RoHS Compliant

Application

The wiring diagram is shown below:

Loop



Address can be set through P-9910B programmer, also the sensitivity.

Below table shows relative setting codes for working modes. Factory defaults at Normal LED.

Detector Code	Polling LED
1	Normal
129	OFF

Technical Specification

Operating Voltage	loop 24VDC (16VDC ~ 28VDC)
Standby Current	≤0.8mA
Alarm Current	≤1.8mA (without remote indicator) ≤3.8mA (with remote indicator)
LED Indicator	Red Normal: Flash on polling Fire: Steadily ON
Remote Indicator Output	Polarity-sensitive output, directly connect to remote indicator (built in 10k resistor in series, max. output current is 2mA); Flashes in alarming and does not illuminate in normal.
Programming Method	Electronically programming
Code Range	1 ~ 242
Sensitivity and range	1.23%~3.20% per ft
UL Temperature Range	32°F (0°C) - 100°F (37.8°C)
Operating Temperature	14°F (-10°C) - 131°F (+55°C)
Relative Humidity	≤95%, non condensing
Material of Enclosure	ABS White (RAL 9016)
Ingress Protection Rating	IP2X
Dimensions	Diameter: 100mm Height: 44.5mm(without base)
Mounting Hole Distance	45mm ~ 75mm
Weight	About 110g



DI-M9103

Intelligent Rate of Rise and Fixed Temperature Heat Detector

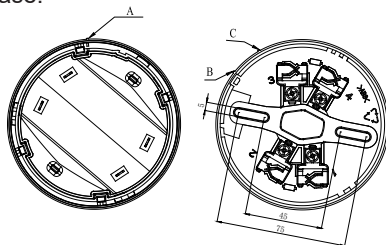
DI-M9103 Intelligent Rate of Rise and Fixed Temperature Heat Detector is addressable fire alarm device cooperating with GST intelligent fire alarm control panels (FACP) to build a fire detection system. The detector shows fire alarm by the LED indicator and transmits the signal to the FACP. Rate of rise and fixed temperature detections are combined. Rate of rise detection can be switched off due to environment to avoid false alarm.

Features and Benefits

- Electrically addressed, can be modified by programmer
- Fault self-diagnostic
- Rate of rise detection can be switched off
- Reed switch test
- Fire LED allows 360° viewing
- LED indication for both fire and normal status
- LED indication for normal status can be turned off by handheld programmer
- Output terminal for remote indicator available
- Comply with UL 521
- Compatible Products: GST-M200, GST-IFP4M Intelligent Fire panel

Terminals and Installation Holes

Below figures show the detector bottom and terminals of the base.



There are four terminals with marks on the base.

- 1: Positive IN
- 2: Positive OUT
- 3: Negative IN and OUT
- 4: Positive terminal of remote indicator
- 4: Negative terminal of remote indicator

Recommended Cabling: 17AWG ~ 14AWG fire cable is recommended, but subject to local codes.

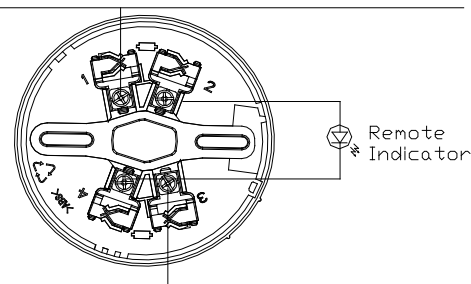
Certificates and Compliance

- Standards: UL521
- Listed by UL
- WEEE & RoHS Compliant

Application

The wiring diagram is shown below:

Loop



Address can be set through P-9910B programmer, also the sensitivity.

Below table shows relative setting codes for sensitivity levels and working modes. Factory defaults at Rate of Rise and Fixed Temperature + Normal LED.

Detector Code	Class	Polling LED
7	Rate of Rise and Fixed Temperature	Normal
8	Fixed Temperature	Normal
135	Rate of Rise and Fixed Temperature	OFF
136	Fixed Temperature	OFF

Technical Specification

Operating Voltage	loop 24VDC (16VDC ~ 28VDC)
Standby Current	≤0.6mA
Alarm Current	≤1.5mA (without remote indicator) ≤3.5mA (with remote indicator)
LED Indicator	Red Normal: Flash on polling Fire: Steadily ON
Remote Indicator Output	Polarity-sensitive output, Directly connects to remote indicator (built in 10k resistor in series. Maximum output current is 2.0mA); The remote indicator is quiet in polling and will flash in alarming.
Programming Method	Electronically programming
Code Range	1 ~ 242
Sensitivity	Action Temperature: 135°F (57.2°C) Response rate of rise: 15°F/min (8.3°C/min)
UL Temperature Range	32°F (0°C) - 100°F (37.8°C)
Operating Temperature	14°F (-10°C) - 122°F (+50°C)
Relative Humidity	≤95%, non condensing
Material of Enclosure	ABS White (RAL 9016)
Ingress Protection Rating	IP2X
Dimensions	Diameter: 100mm Height: 53.3mm (with base)
Mounting Hole Distance	45mm ~ 75mm
Weight	About 110g



Conventional Fire Detector Series

DC-M9101 Conventional Combination Heat Photoelectric Smoke Detector

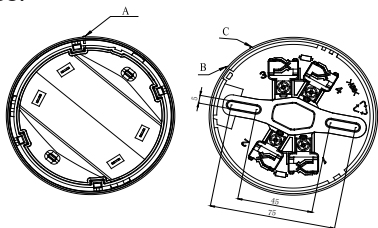
DC-M9101 Conventional Combination Heat and Photoelectric Smoke Detector integrates photoelectric detection, fixed temperature and rate of rise detection technology. The smoke sensor and heat sensor are integrated in mechanism and circuitry structure, provide wide range of application, to detect more types of fire conditions like black smoke with small particles and alcohol flame. Connected with compatible control panel or interface module, the detector will build up fire detection system.

Features and Benefits

- Strong environmental adaptability due to drift compensation
- Self-diagnostic
- Reed switch test
- Dirty chamber checking
- Fire LED allows 360° viewing
- LED indication for both fire and normal status
- LED indication for normal status can be turned off by handheld programmer
- Remote indicator output
- 2 levels smoke sensitivities programmable, complies with UL268
- Heat part is fixed temperature, complies with UL521

Terminals and Installation Holes

Below figures show the detector bottom and terminals of the base.



There are four terminals with marks on the base.

- 1: positive IN
- 2: positive OUT
- 3: negative IN and OUT
- 2: Positive terminal of remote indicator
- 4: Negative terminal of remote indicator

Recommended Cabling: 17AWG ~ 14AWG fire cable is recommended, but subject to local codes.

Certificates and Compliance

- Standards: UL 268 / UL521
- Listed by UL
- WEEE & RoHS Compliant

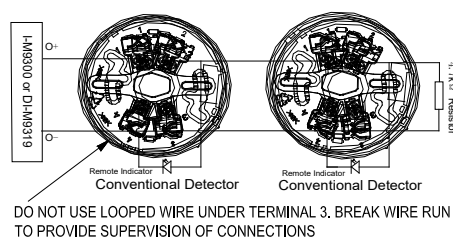
Application

Warning: The detector should be connected with fire

alarm control panel or other devices with current limit function. Otherwise the detector may be damaged by too heavy alarm current.

The alarm current depends on the current limit of the control panel or interface unit.

The detector is compatible with I-M9300 and DI-M9319 interface module. The typical connection is shown below.



Below table shows relative setting codes for sensitivity levels and working modes. Factory defaults at Level 2 + Fixed Temperature + Normal LED.

Detector Code	Smoke Sensitivity	Heat Detection	Polling LED
1	1	Fixed Temperature	Normal
2	2	Fixed Temperature	Normal
129	1	Fixed Temperature	OFF
130	2	Fixed Temperature	OFF

Technical Specification

Operating Voltage	24VDC
Standby Current	≤ 60μA
Alarm Current	≤ 55mA
LED Indicator	Red, periodically flash once in polling when the status is set to "ON"; don't illuminate when the status is set to "OFF". Periodically flash twice in fault or sensing chamber dirty; illuminate in alarming.
Remote Indicator Output	Polarized output. Directly connect to remote indicator (built in 10k resistor in series, output current is 2mA); Flash in alarming and do not illuminate in normal.
Maximum Ripple Voltage	2V (peak-to-peak)
Alarm Reset	Instantaneous power down (Min. 10sn, Max. 1.0VDC)
Setting of sensitivity and range	Level 1: 1.23%~2.7% per ft Level 2: 2.0%~3.89% per ft
Maximum spacing (When Used as a Heat Detector only)	50 ft. (15.2 m)
Action Temperature	135°F (57.2°C)
Environment Temperature	32°F (0°C) ~ 100°F (+37.8°C)
UL Temperature Range	32°F (0°C) - 100°F (37.8°C)
Operating Temperature	14°F (-10°C) - 122°F (+50°C)
Relative Humidity	≤ 95%, non-condensing
Material of Enclosure	ABS White (RAL 9016)
Ingress Protection Rating	IP2X
Dimensions	Diameter: 100mm Height: 54.5mm (with base)
Mounting Hole Distance	45mm-75mm
Weight	110g



DC-M9102 Conventional Photoelectric Smoke Detector

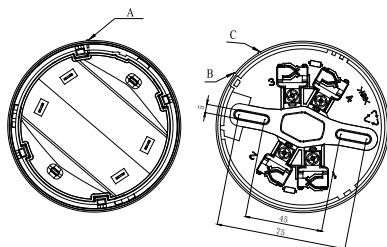
DC-M9102 is Conventional Photoelectric Smoke Detector by light-scattering technology, can build up fire alarm system together with fire alarm panel and other alarm devices. The detector is suitable for hotel, restaurant, office building, school, bank, warehouse, library, computer room, switch room, and etc.

Features and Benefits

- Strong environmental adaptability due to drift compensation
- Self-diagnostic
- Reed switch test
- Dirty chamber checking
- Fire LED allows 360° viewing
- LED indication for both fire and normal status
- LED indication for normal status can be turned off by handheld programmer
- Remote indicator output
- Removable innovative sensing chamber, easy for maintenance

Terminals and Installation Holes

Below figures show the detector bottom and terminals of the base.



There are four terminals with marks on the base.

- 1: positive IN
- 2: positive OUT
- 3: negative IN and OUT
- 4: Positive terminal of remote indicator
- 4: Negative terminal of remote indicator

Recommended Cabling: 17AWG ~ 14AWG fire cable is recommended, but subject to local codes.

Certificates and Compliance

- Standards: UL268
- Listed by UL
- WEEE & RoHS Compliant

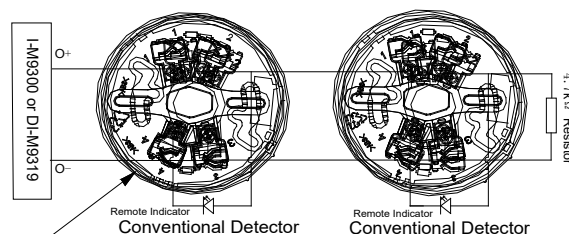
Application

Warning: The detector should be connected with fire alarm control panel or other devices with current limit function. Otherwise the detector may be damaged by

too heavy alarm current.

The alarm current depends on the current limit of the control panel or interface unit.

The detector is compatible with I-M9300 and DI-M9319 interface module. The typical connection is shown below.



DO NOT USE LOOPED WIRE UNDER TERMINAL 3. BREAK WIRE RUN TO PROVIDE SUPERVISION OF CONNECTIONS

Below table shows relative setting codes for working modes. Factory defaults at Normal LED.

Detector Code	Polling LED
1	Normal
129	OFF

Technical Specification

Operating Voltage	24VDC
Standby Current	≤ 60μA
Alarm Current	≤ 55mA
LED Indicator	Red, periodically flash once in polling when the status is set to "ON"; don't illuminate when the status is set to "OFF". Periodically flash twice in fault or sensing chamber dirty; illuminate in alarming.
Remote Indicator Output	Polarity-sensitive output, directly connecting with remote indicator (built in 10k resistor in series, max. output current is 2mA); don't illuminate when in normal; flash in alarming.
Maximum Ripple Voltage	2V (peak-to-peak)
Alarm Reset	Instantaneous power down (Min.10sn, Max. 1.0VDC)
Sensitivity and range	1.23%~3.20% per ft
Operating Temperature	14°F (-10°C) - 131°F (+55°C)
UL Temperature Range	32°F (0°C) - 100°F (37.8°C)
Relative Humidity	≤95%, non-condensing
Material of Enclosure	ABS White (RAL 9016)
Ingress Protection Rating	IP2X
Dimensions	Diameter: 100mm Height: 44.5mm (without base)
Mounting Hole Distance	45mm-75mm
Weight	110g



DC-M9103 Conventional Rate of Rise and Fixed Temperature Heat Detector

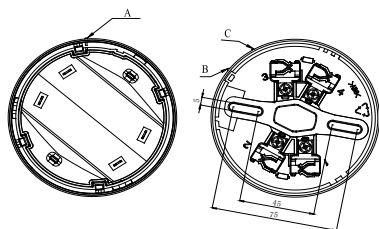
DC-M9103 is Conventional Rate of Rise and Fixed Temperature Heat Detector, can build up fire alarm system together with fire alarm panel and other alarm devices. The detector shows fire alarm by the LED indicator and transmits the signal to the FACP.

Features and Benefits

- Self-diagnostic
- Reed switch test
- Fire LED allows 360° viewing
- LED indication for both fire and normal status
- LED indication for normal status can be turned off by handheld programmer
- Remote indicator output
- Rate of rise detection can be disabled by programmer

Terminals and Installation Holes

Below figures show the detector bottom and terminals of the base.



There are four terminals with marks on the base.

- 1: positive IN
- 2: positive OUT
- 3: negative IN and OUT
- 2: Positive terminal of remote indicator
- 4: Negative terminal of remote indicator

Recommended Cabling: 17AWG ~ 14AWG fire cable is recommended, but subject to local codes.

Certificates and Compliance

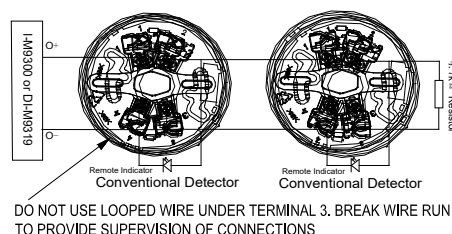
- Standards: UL UL521
- Listed by UL
- WEEE & RoHS Compliant

Application

Warning: The detector should be connected with fire alarm control panel or other devices with current limit function. Otherwise the detector may be damaged by too heavy alarm current.

The alarm current depends on the current limit of the control panel or interface unit.

The detector is compatible with I-M9300 and DI-M9319 interface module. The typical connection is shown below.



Below table shows relative setting codes for working modes. Factory defaults at Normal LED.

Detector Code	Class	Polling LED
7	Rate of Rise and Fixed Temperature	Normal
8	Fixed Temperature	Normal
135	Rate of Rise and Fixed Temperature	OFF
136	Fixed Temperature	OFF

Technical Specification

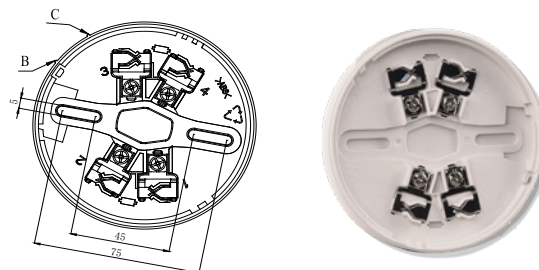
Operating Voltage	24VDC
Standby Current	≤60μA
Alarm Current	≤55mA
LED Indicator	Red, periodically flash once in polling when the status is set to "ON"; don't illuminate when the status is set to "OFF". Periodically flash twice in fault; illuminate in alarming.
Remote Indicator Output	Polarity-sensitive output, Directly connecting with remote indicator (built in 10k resistor in series, maximum output current is 2.0mA); The remote indicator does not illuminate in normal and flashes in alarm.
Maximum Ripple Voltage	2V (peak-to-peak)
Alarm Reset	Instantaneous power down (Min. 10sn, Max. 1.0VDC)
Sensitivity	Action Temperature: 135°F (57.2°C) Response rate of rise: 15°F/min (8.3°C/min)
Class and Setup	Rate of rise and fixed temperature (default), and fixed temperature programmable.
Maximum spacing	50 ft. (15.2 m)
UL Temperature Range	32°F (0°C) - 100°F (37.8°C)
Operating Temperature	14°F (-10°C) - 122°F (+50°C)
Relative Humidity	≤95%, non condensing
Material of Enclosure	ABS White (RAL 9016)
Ingress Protection Rating	IP2X
Dimensions	Diameter: 100mm Height: 53.3mm (with base)
Mounting Hole Distance	45mm-75mm
Weight	110g

Detector Bases and Remote Indicator

DB-M01 Common Detector Base

A common base for both GST addressable and conventional DI/DC series UL listed detectors, provides mechanical fixing and electrical connection. There is no electrical component on the base. The DB-M01 base has 4 terminals marked with 1-4. For the detail connections, please refer to the manual of installed detector.

- Compatible Devices: DI-M9101, DI-M9102, DI-M9103, DC-M9101, DC-M9102, DC-M9103
- Material: ABS
- Dimension: 100mm(D) X 16.5mm(H)
- WEEE & RoHS Compliant



30205767 DB-M01 Common Detector Base

C-9314P Passive Remote Indicator

C-9314P Passive Remote Indicator is a duplicate indication for detector. It is directly controlled with the relative detector, transmitting the fire alarm signal to the conspicuous place so that people can find the alarming detector easily. It is suitable for detectors installed in residential department, dangerous area, under false floor or above false ceiling.

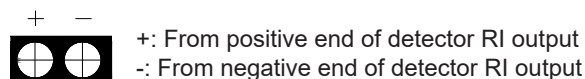
Technical Specification

Operating Voltage	2.0VDC ~ 3.0VDC
Operating Current	Standby current : 0mA Action current ≤30mA
Indicator	Red. It turns off when monitoring normally, but constantly illuminates in action.
Operating Temperature	-10°C ~ +50°C
Relative Humidity	≤85%, non-condensing
Material of Enclosure	ABS, White (RAL 9016)
Dimension (L×W×H)	64.5mm×64.5mm×31.4mm
Compatible Products	C-9101, C-9102, C-9103, DC-9101E, DC-9102E, DC-9103E, DC-M9102, DC-M9103, DC-M9101, I-9101, I-9102, I-9103, DI-9101E, DI-9102E, DI-9103E, DI-M9102, DI-M9103, DI-M9101

A back plate (BP-9314P 30208096) is required when mounting onto UL style 1-Gang or 2-Gang box.

Terminals

Terminals are shown blow.



Application

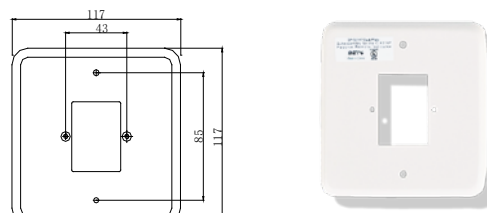
The C-9314P indicator can be connected to compatible detector. Here shows the connection with common detector base DZ-03 as a sample.



10102339 C-9314P Passive Remote Indicator

BP-9314P Back Plate

C-9314P Passive Remote Indicator is a duplicate indication for detector. The BP-9314P mounting plate is to provide a mounting method onto UL style electronic back-box.



30208096 BP-9314P Back Plate

Modules

DI-M9300 Digital Single Input Module

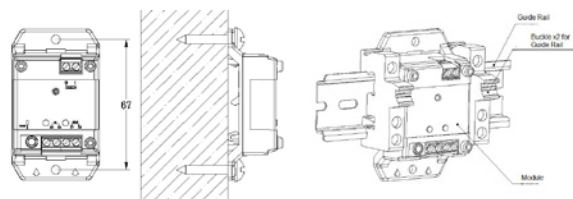
DI-M9300 Digital Single Input Module is used for receiving normally open or normally closed switch signal (dry contact), and transmitting the signal to fire alarm control panel (FACP) through signaling line circuit (SLC) loop to FACP. Then the FACP generates active message and displays the address of the module. By cable monitoring, the module can transmit the fault message to the FACP when the input loop is broken. And the FACP will display the address of the module.

Features and Benefits

- Input port monitored with 4.7KΩ EOLR
- Normally open or normally closed contact acceptable
- Electronically addressed. Address can be modified in field
- Built-in microprocessor and AD sampling technology
- Rail mount or surface mount

Installation

The installation points of the module are shown below, Wall-mount and Rail-mount. DIN-35mm rail is applicable.



Recommended Cabling:

(Z1, Z2) IN & OUT: Loop (SLC) connection, In & Out, non-polarized

I, G: Contact input, non-polarized

Recommended Cabling: Minimum 17 AWG, Maximum 14AWG twisted pair cable, and subject to local codes.

Certificates and Compliance

- Standards: UL864 / NFPA [70.72]
- Certifications: UL
- WEEE & RoHS Compliant

Application

The module is electronically programmable. Set the address and input parameter by handheld programmer P-9910B. The input can be N/O (default) or N/C.

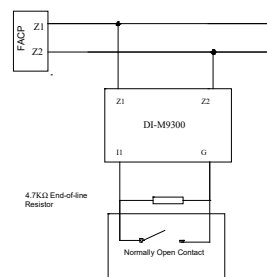
Parameter (Function-3)	Input Mode
1	Normally-Closed
Other numbers	Normally-Open



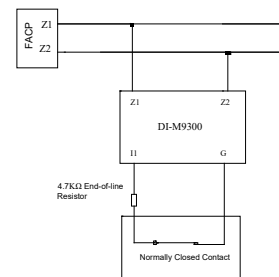
The operation can be done either through the clips-link to the terminals (Z1&Z2), or through the earphone-link to the 3.5mm code-jack.

Below figures show the connections of the module. A 1-Watt 4k7 End of Line Resistor is required.

Normally-open input:



Normally-closed input:



Technical Specification

Operating Voltage	Loop 24VDC (16VDC - 28VDC) Power Limited
Standby Current	≤ 0.26 mA
Action Current	≤ 0.5 mA
Programming	Electronically addressing
Address Range	1 address, from 1 to 242.
Indicator	Feedback LED: Red, lights on activation, flashes in other states. Fault LED: Yellow, lights 0.5s on and 0.5s off as there is input fault, turns off in other states.
Ingress Protection Rating	IP30 (not tested by UL)
Operating Temperature	0°C ~ +49°C
Relative Humidity	≤ 93%, Non Condensing
Ingress Protection Rating	IP30 (not tested by UL)
Material and Color of Enclosure	ABS, white (RAL9016)
Dimension (L×W×H)	78mm×45.3mm×28.5mm
Weight	About 36.8g



DI-M9301 Digital Single Input and Output Module

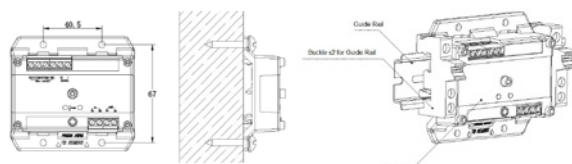
DI-M9301 Digital Single Input and Output Module provides dry contact output (normally open and/or normally closed) following command from fire alarm control panel, also possible receives switch signal (dry contact) from field equipment and transmits to FACP. The input and output can be programmed to monitor and control the same or different equipment.

Features and Benefits

- Input port monitored with 4.7KΩ EOLR
- Normally open or normally closed contact acceptable
- Input port co-operates with output or works individually
- Electronically addressed. Addresses can be modified in field
- Built-in microprocessor and AD sampling technology
- Rail mount or surface mount

Installation

The installation points of the module are shown below, Wall-mount and Rail-mount. DIN-35mm rail is applicable.



Recommended Cabling:

(Z1, Z2) IN & OUT: Loop (SLC) connection, In & Out, non-polarized

I, G: Contact input, non-polarized

COM, NO, NC: Dry contact output terminals, Normally-open or Normally-closed

Recommended Cabling: Minimum 17 AWG, Maximum 14AWG twisted pair cable, and subject to local codes.

Certificates and Compliance

- Standards: UL864 / NFPA [70.72]
- Certifications: UL
- WEEE & RoHS Compliant

Application

The module is electronically programmable. Set the address and input parameter by handheld programmer P-9910B. The input can be N/O (default), N/C or self-confirm.

Parameter (Function-3)	Input Mode
1	Self-confirm
2	Normally-Closed
Other numbers (Default)	Normally-Open

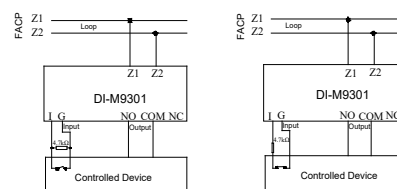
The module address quantity also can be set by handheld programmer. The input and output will take individual addresses when taking continuous 2 addresses. The input port takes the 1st address, and the output port takes the 2nd. The input and output will take the same address under single address mode.

Parameters (Function-4)	Address QTY
2	2
Other numbers (Default)	1

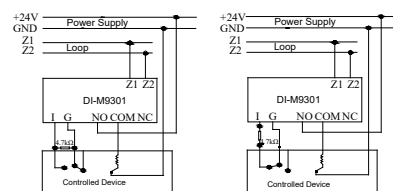
The operation can be done either through the clip-link to the terminals (Z1&Z2), or through the ear-phone-link to the 3.5mm code-jack.

Below figures show the connections of the module. A 1-Watt 4k7 End of Line Resistor is required to the input port.

Dry contact output, Normally-open/closed input:



Powered output, Normally-open/closed input:



Technical Specification

Operating Voltage	Loop 24VDC (16VDC - 28VDC) Power Limited
Standby Current	≤ 0.28mA
Action Current	Loop ≤ 0.7mA
Output Capacity	2A @ 30 VDC, 0.35PF Normally-open/Closed
Input line impedance	Maximum 25Ω each wire
Programming	Electronically addressing
Address Range	1 address, from 1 to 242 2 addresses, from 1 to 241
Indicator	Input LED: Red. It lights in receiving feed-backs, lights 0.5s on, 0.5s off when input faults, and flashes in other states. Output LED: Red. It lights in relay action, turns off in other states.
Ingress Protection Rating	IP30 (not tested by UL)
Operating Temperature	0°C ~ +49°C
Relative Humidity	≤ 93%, Non Condensing
Material and Color of Enclosure	ABS, white (RAL9016)
Dimension (L×W×H)	85.3mm×78mm×33mm
Weight	About 66.5g



DI-M9305 Digital Single Riser Output Module

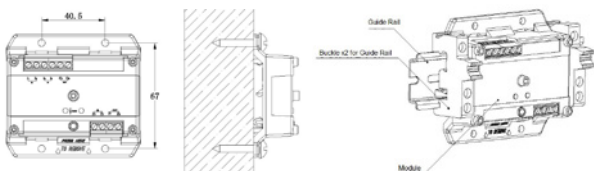
DI-M9305 Digital Single Riser Output Module is designed to control the powering route, switches on and off the supply to end devices.

Features and Benefits

- Output port monitored with 47KΩ EOLR.
- Double-contact relay switching 2 lines together
- Electronically addressed. Addresses can be modified in field
- Rail mount or surface mount

Installation

The installation points of the module are shown below, Wall-mount and Rail-mount. DIN-35mm rail is applicable.



Recommended Cabling:

(Z1, Z2) IN & OUT: Loop (SLC) connection, In & Out, non-polarized

(I1, I2) IN & OUT: Power source input terminals

O1, O2: Output terminals, polarity depends on connected device and input terminals

Recommended Cabling: Minimum 17 AWG, Maximum 14AWG twisted pair cable, and subject to local codes.

Certificates and Compliance

- Standards: UL864 / NFPA [70.72]
- Certifications: UL
- WEEE & RoHS Compliant

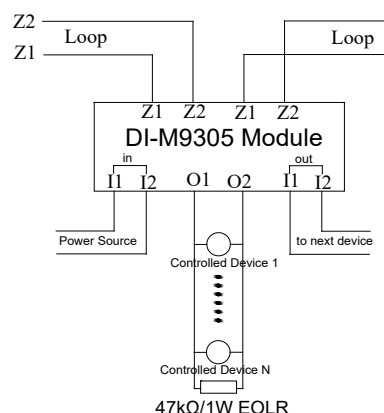
Application

The module is electronically programmable. Set the address and output parameter by handheld programmer P-9910B. The output line can be set monitored (default) or not.

Parameter (Function-3)	Output monitor
1	No
Other numbers (Default)	Yes

The operation can be done either through the clips-link to the terminals (Z1&Z2), or through the ear-phone-link to the 3.5mm code-jack.

A typical application connection is shown below. The polarity of O1O2 is same as I1I2.



Technical Specification

Operating Voltage (Loop)	24VDC (16VDC - 28VDC) Power Limited
Power Voltage	Maximum 30VDC Power Limited
Standby Current	≤ 0.26mA (Loop)
Action Current	≤ 0.5mA (Loop)
Output Capacity	2A @ 30 VDC, 0.35PF
Programming	Electronically addressing
Address Range	1 address, from 1 to 242
Indicator	Feedback LED: RED, illuminates when the relay is activated, turns off as loop power cuts down, flashes in other states. Fault LED: Yellow, flashes 0.5s/ on and 0.5s/off when output fault occurs, quiet in other states.
Ingress Protection Rating	IP30 (not tested by UL)
Operating Temperature	0°C ~ +49°C
Relative Humidity	≤ 93%, Non Condensing
Material and Color of Enclosure	ABS, white (RAL9016)
Dimension (L×W×H)	85.3mm×78mm×33mm
Weight	About 66.6g



DI-M9319 Digital Zone Monitor Module

DI-M9319 Digital Zone Monitor Module is designed to connect conventional detectors into addressable system. When any device reports fire signal, the module will transmit the signal to the fire alarm control panel which generates fire alarm and displays the address of the module.

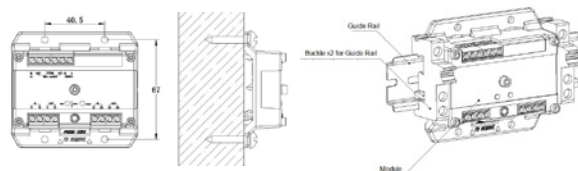
It is also suitable to connect dry contacts input, collect action or fault signals.

Features and Benefits

- Input port cable monitoring with 4.7KΩ EOLR
- Monitoring power supply
- Two indicators for fire and fault
- Normally-open or Normally-close output automatically follows input port to change state
- Electronically addressed. Addresses can be modified in field
- Rail mount or surface mount

Installation

The installation points of the module are shown below, Wall-mount and Rail-mount. DIN-35mm rail is applicable.



Recommended Cabling:

(Z1, Z2) IN & OUT: Loop (SLC) connection, In & Out, non-polarized

(V, G) IN & OUT: 24VDC power supply, V is positive, G is negative

I, G: Conventional detectors, polarized

E: Optional Ground connection. This terminal shall not be connected when the 24VDC power circuit provides cable checking. Otherwise, it shall be connected to ground.

COM, NO, NC: Dry contact output terminals.

Recommended Cabling: Minimum 17 AWG, Maximum 14AWG twisted pair cable, and subject to local codes.

Certificates and Compliance

- Standards: UL864 / NFPA [70.72]
- Certifications: UL
- WEEE & RoHS Compliant

Application

The module is electronically programmable. Set the

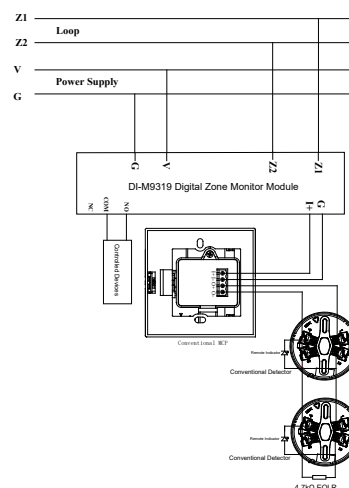
address by handheld programmer P-9910B. The operation can be done either through the clips-link to the terminals (Z1&Z2), or through the earphone-link to the 3.5mm code-jack.

A typical application connection is shown below. The module can connect up to 30 conventional detectors, manual call points, or the combination.

Note:

When the detectors are connecting with C-9314P passive remote indicator, the module can only connect up to 9 compatible detectors.

If optional FACP features, such as Positive Alarm Sequence (PAS) apply to the input zone, the module shall only connect with automatic fire detectors.



Technical Specification

Operating Voltage (Loop)	24VDC (16VDC - 28VDC) Power Limited
Power Voltage	24VDC (20VDC - 28VDC) Power Limited
Standby Current	≤ 0.26mA (Loop) ≤ 18mA (Power)
Action Current	≤ 0.39mA (Loop) ≤ 60mA (Power)
Output Capacity	2A @ 30 VDC, 0.35PF
Voltage of Input Port	16.8VDC - 27.6VDC
Input Capacity	30 detectors or manual call points , or 9 detectors with remote indicator
Programming	Electronically addressing
Address Range	1 address, from 1 to 242
Indicator	Fire LED: RED, illuminates in fire condition, quiet when 24VDC power is off and flashes in other states Fault LED: Yellow, flashes 0.5s/on and 0.5s/off when input fault occurs, 0.2s/on and 0.8s/off when ground fault occurs, quiet in other states.
Ingress Protection Rating	IP30 (not tested by UL)
Operating Temperature	0°C ~ +49°C
Relative Humidity	≤ 93%, Non Condensing
Material and Color of Enclosure	ABS, white (RAL9016)
Dimension (L×W×H)	85.3mm×78mm×33mm
Weight	About 74.1g

Module Covers and Module Boxes

D-93CT1

Din-rail Module Transparent Cover 1U

D-93CT1 is the optional transparent cover for 1 U size module (DC-9503E, DI-9300E, DC-M9503 and DI-M9300) to cover the module and terminals.

- Material: PC
- Dimension: 51.7*42.6*7.7(mm)
- Thickness: 1.6mm
- RoHS complied



D-93TC2

Din-rail Module Transparent Cover 2U

D-93TC2 is the optional transparent cover for 2 U size module (DI-9301E, DI-9305E, DI-9319E, DI-M9301, DI-M9305 and DI-M9319) to cover the module and terminals.

- Material: PC
- Dimension: 79.6*51.2*7.8(mm)
- Thickness: 1.6mm
- RoHS complied



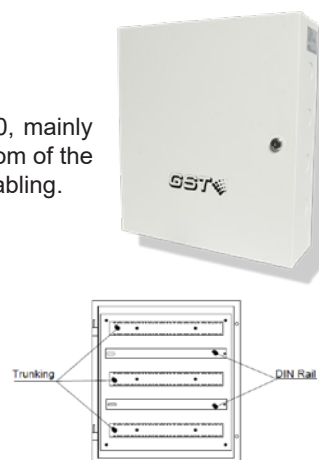
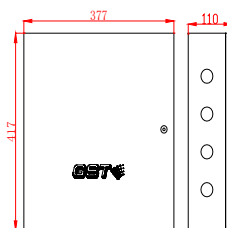
20103182 D-93CT1 Din-rail Module Transparent Cover 1U

20103183 D-93TC2 Din-rail Module Transparent Cover 2U

GST-MBX22 Module Box

GST-MBX22 Module Box is installed indoors with ingress protection rating of IP30, mainly used for mounting and protecting modules. With knock-holes at both sides and bottom of the box, built-in two row Din-rail and 3 row cable trunk inside for easy installation and cabling.

- Material: Metal
- Dimension: 377 x 417 x 110 (mm)
- Storage capacity: 10 pcs small size module (DC-9503E, DI-9300E, DC-M9503, DI-M9300) or 6 pcs big size module (DI-9301E, DI-9305E, DI-9319E, DI-M9301, DI-M9301, DI-M9319)
- IP30, Indoor use
- RoHS Complied



30208656 GST-MBX22 Module Box

GST-MBX29 Module Box

GST-MBX29 Module Box is installed indoors with ingress protection rating of IP30, mainly used for mounting and protecting modules. With knock-holes at both sides and bottom of the box, built-in two row Din-rail and 3 row cable trunk inside for easy installation and cabling.

- Material: Metal
- Dimension: 612 x 417 x 110 (mm)
- Storage capacity: 20 pcs small size module (DC-9503E, DI-9300E, DC-M9503, DI-M9300) or 12 pcs big size module (DI-9301E, DI-9305E, DI-9319E, DI-M9301, DI-M9301, DI-M9319)
- IP30, Indoor use
- RoHS Complied



30208657 GST-MBX29 Module Box



Isolators

DC-M9503 Loop Isolator Module

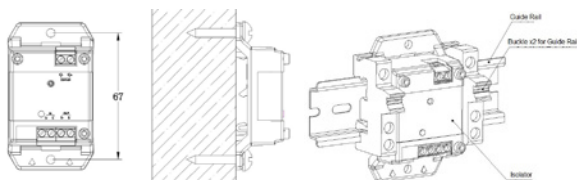
In fire alarm system, such condition often occurs that partial short circuit of loop affects the whole system. DC-M9503 Loop Isolator Module can isolate the shorted circuit from the whole system to ensure normal operation of other devices and locate the devices in fault. After the short circuit fault is cleared, those devices will be re-introduced into the system. The isolator is suitable for use in Signaling Line Circuit (SLC) of addressable fire alarm system, suitable for Class A and Class B.

Features and Benefits

- Isolation of short circuit, automatic restore when short circuit is cleared
- Support Class A SLC loop
- Rail mount or surface mount

Installation

The installation points of the module are shown below, Wall-mount and Rail-mount. DIN-35mm rail is applicable.



IN: Loop connection input, I+ is positive and I- is negative.

(I+, I-) OUT: Loop branch connection output, I+ is positive and I- is negative.

O+, O-: Loop connection output, O+ is positive and O- is negative.

Recommended Cabling: Minimum 17 AWG, Maximum 14AWG twisted pair cable, and subject to local codes.

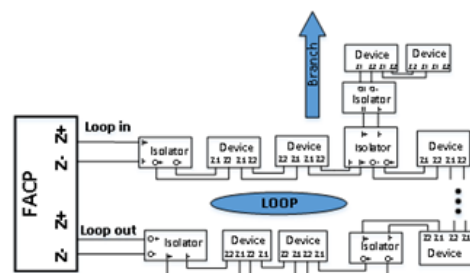
Certificates and Compliance

- Standards: UL864 / NFPA [70.72]
- Certifications: UL
- WEEE & RoHS Compliant

Application

To ensure the operation of isolator, maximum 50 devices can be connected between each 2 isolators. The loop can be Class A or Class B mode. Branch

connection is also acceptable. Below figures show the loop schematic.



UL listed GST-M200 / GST-IFP4M control panel can connect the longest loop and the maximum number of isolators as shown in the table below.

When the loop current is maximum 70mA

QTY of Isolators	2	50	70	100	128
Max. length of 17 AWG loop wire(ft)	4000	3200	2900	2400	2000

If 14AWG is used, up to 128 isolators are connected for 4000ft loop.

When the loop current is maximum 200mA

Quantity of Isolators	2
Max length of 17 AWG loop wire(ft)	1310

Technical Specification

Operating Voltage	Loop 24VDC (16VDC - 28VDC) Power Limited
Standby Current	≤ 0.15mA
Action Current	≤ 1.5mA
Capacity	Maximum 128 isolators can be connected to each loop. Devices quantity between two isolators should follow local codes, but cannot exceed 50 devices between two isolators.
Indicator	Yellow, flashes in standby state, steady at fault.
Max. closed impedance (Z _{C MAX})	0.15Ω
Operating Temperature	0°C ~ +49°C
Relative Humidity	≤ 93%, Non Condensing
Ingress Protection Rating	IP30 (not tested by UL)
Material and Color of Enclosure	ABS, white (RAL9016)
Dimension (L×W×H)	78mm×45.3mm×28.5mm
Weight	About 41.4g



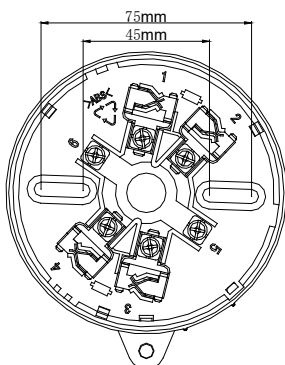
DC-M9504 Base Mount Short Circuit Isolator

In loop type fire alarm system, it often occurs that partial short circuit of loop affects the whole system. DC-M9504 Loop Isolator can isolate the shorted circuit from the complete loop to ensure normal operation of other parts and locate the isolated part. The isolator is applicable to Class A loop wiring. As a base type, the isolator can be used to replace a common base, to save the cost of installation and cabling.

Features and Benefits

- Polarity-sensitive external connections. Input and output can be used inversely without direction.
- Delayed power-up to output end devices, avoids strong transient current when the load is heavy.

Terminals and Installation Holes



- 1, 3: Loop output cable, 1 is positive and 3 is negative.
5, 6: Loop input cable, 5 is negative and 6 is positive.
2, 4: Connecting with remote indicator output.

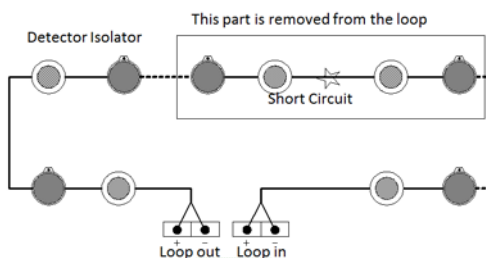
Recommended Cabling
17AWG~14AWG (maximum 14AWG) fire cable, subject to local codes

Certificates and Compliance

- Standards: UL864 / MFPA [72.70]
- Certifications: UL
- WEEE & RoHS Compliant

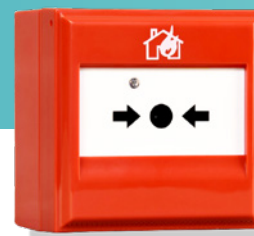
Application

The isolator is simply plugged onto the base after corresponding terminals are connected. To ensure the operation of isolator, maximum 70 devices can be connected between each 2 isolators. Application of the isolator in Class A loop is shown below.



Technical Specification

Operating Voltage	24VDC
Standby Current	≤ 150uA
Capacity	Devices quantity between 2 isolators should follow local codes but cannot exceed 70 devices.
Indicator	Yellow, flashes when polling, illuminates in action.
Ingress Protection Rating	IP33 (with cover) IP22 (without cover)
Operating Temperature	0°C ~ +49°C
Relative Humidity	≤93%, non condensing
Material of Enclosure	Flame-retardant ABS (PA-765A), white.
Dimension	100mm x 39mm
Weight	About 100g



Manual Call Point

DI-M9204 Digital Manual Call Point

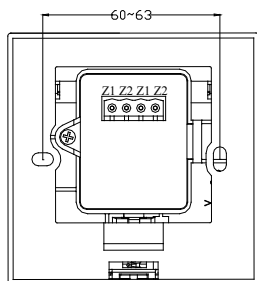
Connecting to the loop of GST fire alarm system, DI-M9204 Digital Manual Call Point is suitable for public places. When there is a fire, pressing the glass on this MCP can send fire signal to fire alarm control panel. After receiving the signal, the control panel will show address information of the MCP and generate alarm sound.

Features and Benefits

- Electronically addressed. The address can be modified in field.
- Alarming by pressing, reset by a special key
- Plug-in structure
- Comply with UL38

Terminals and Installation Holes

Terminals on the MCP are shown below.



Z1, Z2: Connecting to the loop of control panel, non-polarized

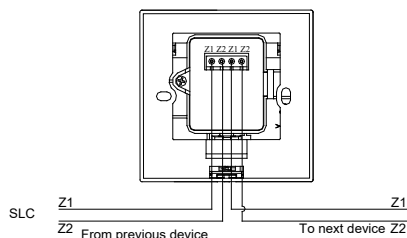
Recommended Cabling: 17AWG ~ 14AWG fire cable is recommended, but subject to local codes.

Certificates and Compliance

- Standards: UL38
- Certifications: UL
- WEEE & RoHS Compliant

Application

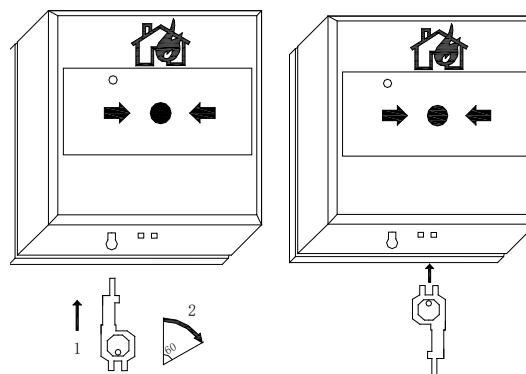
The typical connection of the MCP is shown below.



A key is provided to reset and unlock the MCP

To reset the pushed MCP, vertically insert the key into the key-hole, push in and turn it clockwise, the glass should be rebounded.

To unlock (uninstall) the MCP body, insert the forked key and pushing it home. Then the body will be separated from the base or the back box.



A test tool is provided as spare part. The test tool is used to keep continuity during commissioning or maintenance when MCP is not installed, so that cable test can be carried out easily and make the circuit completed.

Technical Specification

Operating Voltage	Loop 24V (16V ~ 28V)
Standby Current	≤ 0.6mA
Alarm Current	≤ 1.8mA
Indicator	Red. Flashes every 3s normally. Steadily Illuminates after alarm.
Type of Initiating Part	Reusable
Initiating Mode	Pressing the action plate manually
Resuming Mode	Manually resumed by a special key
Programming Mode	Electronically addressed
Address Range	Occupying one address, selectable within 1~242.
Wiring	Polarity-insensitive two-wire
Ingress Protection Rating	IP43
Environmental Temperature	14°F (-10°C) ~ 122°F (+50°C)
Relative Humidity	≤95%, non condensing
Material of Enclosure	ABS
Dimension (L×W×H)	87.1mm×87.1mm×58.5mm (with back box)
Mounting Hole Distance	60mm
Weight	About 160g (with back box)



DC-M9204 Innovation Manual Call Point

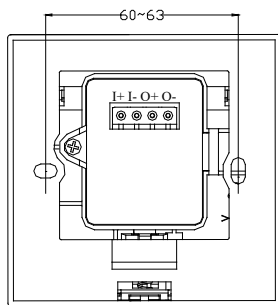
DC-M9204 Innovation Manual Call Point (MCP) is non-addressable. Alarm is triggered by pressing the glass. It can be simply connected to compatible conventional fire alarm system from various manufacturers. This MCP is suitable for public places. When there is fire, pressing the glass on this MCP can send alarm signal to compatible conventional fire alarm control panel.

Features and Benefits

- Alarming by pressing, reset by a special key
- Plug-in structure
- Complies with UL38

Terminals and Installation Holes

Terminals on the MCP are shown below.



I+, I-: Input signal, connecting with compatible control panel or the previous MCP.

O+, O-: Output signal, connecting with the next MCP.

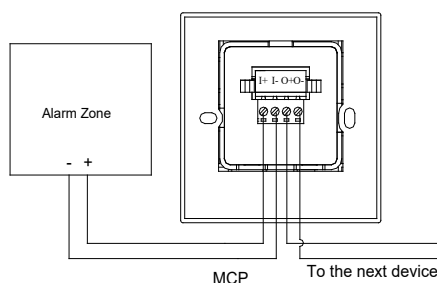
Recommended Cabling: 17AWG ~ 14AWG fire cable is recommended, but subject to local codes.

Certificates and Compliance

- Standards: UL38
- Certifications: UL
- WEEE & RoHS Compliant

Application

The typical connection of the MCP is shown below.

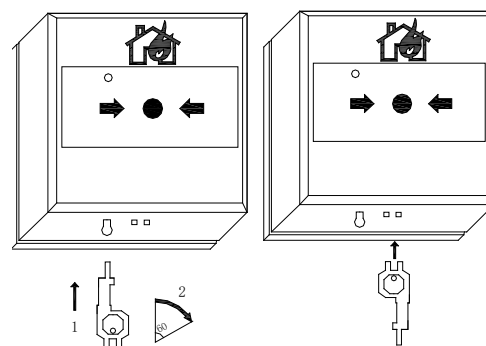


Note: The call point cannot be directly connected to 24VDC power, or its internal components may be damaged. It must be connected to a compatible power limited fire alarm control panel (28VDC/60mA max.).

A key is provided to reset and unlock the MCP

To reset the pushed MCP, vertically insert the key into the key-hole, push in and turn it clockwise, the glass should be rebounded.

To unlock (uninstall) the MCP body, insert the forked key and push it home. Then the body will be separated from the base or the back box.



A test tool is provided as spare part. The test tool is used to keep continuity during commissioning or maintenance when MCP is not installed, so that cable test can be carried out easily and make the circuit completed.

Technical Specification

Operating Voltage	24VDC (12VDC~28VDC)
Standby Current	0mA
Alarm Current	≤ 30mA(equivalent resistance is 470 1/2W)
Indicator	Red. Illuminates after alarm.
Type of Initiating Part	Reusable
Initiating Mode	Pressing the glass manually
Resuming Mode	Manually resumed by a special key
Wiring	2-wire
Ingress Protection Rating	IP43
Environmental Temperature	14°F(-10°C)~ 122°F (+50°C)
Relative Humidity	≤95%, non-condensing
Material of Enclosure	ABS
Dimension (L×W×H)	87.1mm×87.1mm×58.5mm (with back box)
Mounting Hole Distance	60mm
Weight	About 160g (with back box)



DI-M9204F Digital Manual Call Point

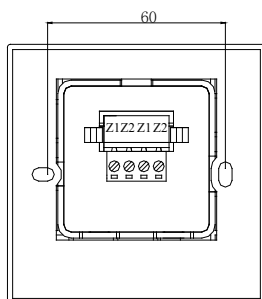
Connecting to the loop of GST fire alarm system, DI-M9204F Digital Manual Call Point (MCP) is suitable for public places. When there is a fire, pressing the glass on this MCP can send fire signal to fire alarm control panel. After receiving the signal, the control panel will show address information of the MCP and generate alarm sound.

Features and Benefits

- Electronically addressed. The address can be modified in field.
- Alarming by pressing, reset by a special key.
- Plug-in structure
- With FIRE mark
- Comply with UL38

Connection and Cabling

Terminals on the MCP base are shown as below.

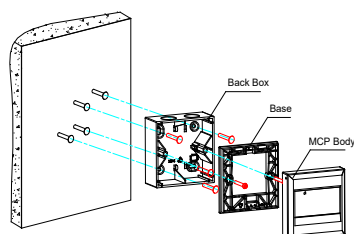


Z1, Z2: Connecting with loop of the control panel, polarity-insensitive.

Recommended Cabling: 18AWG to 12AWG fire cable, subject to local codes.

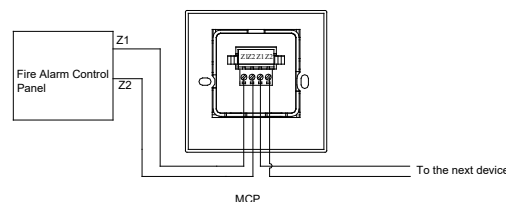
Installation

First install the back box into the wall using 4 screws, and then install the base onto the back box. Connect cables to corresponding terminals as described above. Hook the juts of the MCP body to the base, and then press the part below the glass to combine them completely.



Application

Application of the MCP is shown below.



- The MCP should be programmed using P-9910B programmer. Please refer to P-9910B Hand Held Programmer Installation and Operation Manual.
- Z1 and Z2 are to be connected with the loop of fire alarm control panel.
- Usage of the key. Vertically insert the key into the key-hole, and turn it clockwise, then push it with force. Turn the key back and pull it out when the glass is rebounded.
- Usage of the test tool. The test tool is used to keep continuity during commissioning or maintenance when MCP is not installed, so that cable test can be carried out easily and make the circuit completed.

Technical Specification

Operating Voltage	Loop 24VDC (16VDC to 28VDC)
Standby Current	≤ 0.6mA
Alarm Current	≤ 1.8mA
Indicator	Red. Flashes every 3s normally. Steadily Illuminates after alarm.
Type of Initiating Part	Reusable
Initiating Mode	Pressing the glass manually
Resuming Mode	Manually resumed by a special key
Programming Mode	Electronically addressed
Address Range	Occupying one address, selectable within 1 to 242.
Wiring	Polarity-insensitive two-wire
Ingress Protection Rating	IP43
Environmental Temperature	-10°C to +50°C
Relative Humidity	≤ 95%, non-condensing
Material of Enclosure	ABS
Dimension (L×W×H)	87.1mm × 87.1mm × 58mm (with back box)
Mounting Hole Distance	60mm
Weight	About 160g (with back box)

DC-M9204F Innovation Manual Call Point

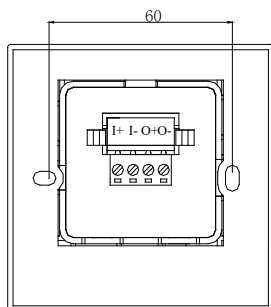
DC-M9204F Innovation Manual Call Point (MCP) is non-addressable. It alarms by the current caused by pressing the glass. It can be simply connected to compatible conventional fire alarm system from various manufacturers. This MCP is suitable for public places. When there is fire, pressing the glass on this MCP can send alarm signal to compatible conventional fire alarm control panel.

Features and Benefits

- Alarming by pressing, reset by a special key.
- Plug-in structure.
- With FIRE mark
- Complies with UL38.

Connection and Cabling

Terminals on the MCP base are shown as below.



I+, I-: Input signal, connecting with compatible control panel or the previous MCP.

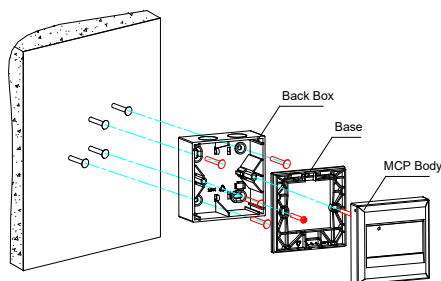
O+, O-: Output signal, connecting with the next MCP.

Recommended Wiring

18AWG to 12AWG fire cable, subject to local codes.

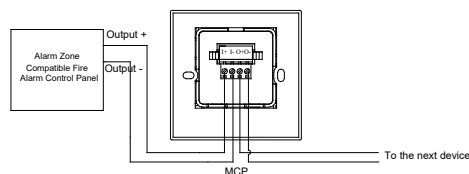
Installation

First install the back box into the wall using 4 screws, and then install the base onto the back box. Connect cables to corresponding terminals as described above. Hook the juts of the MCP body to the base, and then press the part below the glass to combine them completely.



Application

Application of the MCP is shown below.



Note: The call point cannot be directly connected to 24VDC power, or its internal components may be damaged. It must be connected to a compatible power limited fire alarm control panel (28VDC/60mA max.).

Usage of the key. Vertically insert the key into the key-hole, and turn it clockwise, then push it with force. Turn the key back and pull it out when the glass is rebounded.

Usage of the test tool. The test tool is used to keep continuity during commissioning or maintenance when MCP is not installed, so that cable test can be carried out easily and make the circuit completed.

Technical Specification

Operating Voltage	24VDC (12VDC to 28VDC)
Standby Current	0 mA
Alarm Current	≤ 30mA(equivalent resistance is 470Ω 1/2W)
Indicator	Red. Illuminates after alarm.
Type of Initiating Part	Reusable
Initiating Mode	Pressing the glass manually
Resuming Mode	Manually resumed by a special key
Wiring	two-wire
Ingress Protection Rating	IP43
Environmental Temperature	-10°C to +50°C
Relative Humidity	≤ 95%, non-condensing
Material of Enclosure	ABS
Dimension (L×W×H)	87.1mm × 87.1mm × 58mm (with back box)
Mounting Hole Distance	60mm
Weight	About 160g (with back box)

Sounder Strobe

DC-M9413R/DC-M9413W Wall Mount Sounder Strobe

The DC-M9413 Series Wall Mount Sounder Strobe is a fire alarm notification appliance designed for indoor walls. DC-M9413R is color RED. DC-M9413W is color WHITE.

Features and Benefits

- Field-configurable for selecting dB output, sounder signal, or strobe signal output.
- The strobe includes a field-configurable switch for selecting the desired candela output. The candela output setting is locked in place and remains visible after final installation.
- This strobe features an enhanced synchronization circuit to comply with the latest requirements of UL 1971 *Signaling Devices for the Hearing Impaired*. Synchronized operation requires to be connected directly to the NAC output and set NAC output as Synch Mode.

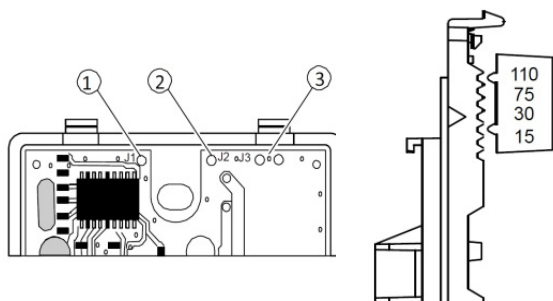
Certificates and Compliance

- UL listed
- WEEE & RoHS Compliant
- Standards: UL464, UL1638, UL1971

Installation and Appliance

1. Set the sounder features through J1, J2 & J3.

J1	Strobe signal output
J2	Temporal/steady horn signal output
J3	dB sound output level



2. Slide the candela switch to the desired candela output by aligning it with the indicator located left of the switch.
3. Connect the strobe terminals to the signal circuit field wiring. Mount the unit onto a compatible electrical box and test.
4. Cable acceptance::12 to 18 AWG (0.75 to 2.50 mm²)

Technical Specification

Operation Voltage	24 VDC or 24 VFWR nominal
Operation Current (Measured at 16VDC and high dB setting)	15cd 0.129A 30cd 0.167A 75cd 0.281A 110cd 0.337A
Sound Level (Measured in a reverberant room at 16 VDC at 10 ft.)	Continuous: High 85.5dBA, Low 80.1dBA Temporal: High 81.4dBA, Low 76.0dBA
Light Output	Selectable at 15, 30, 75 and 110 cd
Strobe signal rate	1 flash per second (fps)
Operating Temperature	32 to 120°F (0 to 49°C)
Relative Humidity	0 to 93% noncondensing
Compatible electrical boxes	Single-gang box, 2-1/2 in. (64 mm) deep
Dimension	113 x 68 x 21 (WxHxD, mm)

☐ 60102321 DC-M9413R Wall Mount Sounder Strobe

☐ 60102320 DC-M9413W Wall Mount Sounder Strobe

DC-M9416R/DC-M9416W Ceiling Mount Sounder Strobe

The DC-M9416 Series Ceiling Mount Sounder Strobe is a fire alarm notification appliance designed for indoor ceilings and walls. DC-M9416R is color RED. DC-M9416W is color WHITE.

Features and Benefits

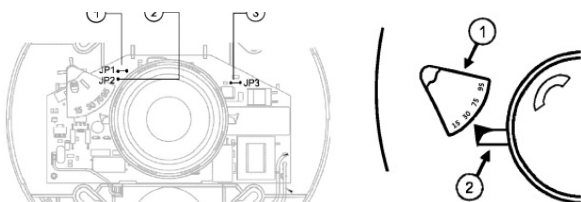
- Field configurable jumper options are available for selecting the desired dB output, temporal or steady sounder output, and strobe signal output.
- This strobe features an enhanced synchronization circuit to comply with the latest requirements of UL 1971 *Signaling Devices for the Hearing Impaired*.
- Synchronized operation requires to be connected directly to the NAC output and set NAC output as Synch Mode.

Certificates and Compliance

- UL listed
- WEEE & RoHS Compliant
- Standards: UL464, UL1638, UL1971

Installation and Appliance

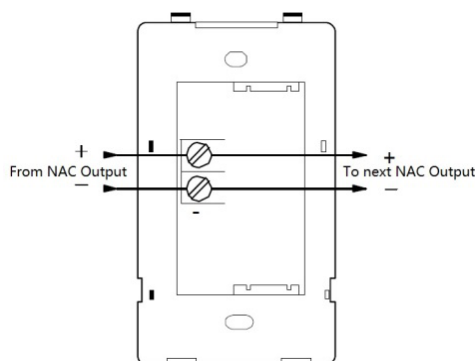
1. Set the sounder signal, sound output level and strobe signal to the desired settings through J1, J2 & J3.



2. Slide the candela switch to the desired candela output by aligning it with the indicator located left of the switch.



3. Cable acceptance: 12 to 18 AWG (0.75 to 2.50 mm²)



Technical Specification

Operation Voltage	24 VDC or 24 VFWR nominal (16-33V)
Operation Current (Measured at 16 VDC)	15cd 0.147A 30cd 0.190A 75cd 0.316A 95cd 0.372A
Light output	Selectable at 15, 30, 75, and 95 cd
Strobe signal rate	1 flash per second (fps)
Sound Level (24VDC @ 10ft)	Steady: High 85.4dBA, Low 83.0dBA Temporal: High 83.3dBA, Low 78.0dBA
Compatible electrical boxes	4 in. square electrical box, 2-1/8 in deep (no extension ring)
	32 to 120°F (0 to 49°C)
Relative Humidity	0 to 93% noncondensing
Dimension	170 x 55 (DxH, mm)

60102325 DC-M9416R Ceiling Mount Sounder Strobe

60102324 DC-M9416W Ceiling Mount Sounder Strobe

Strobe

DC-M9415R/DC-M9415W Wall Mount Strobe

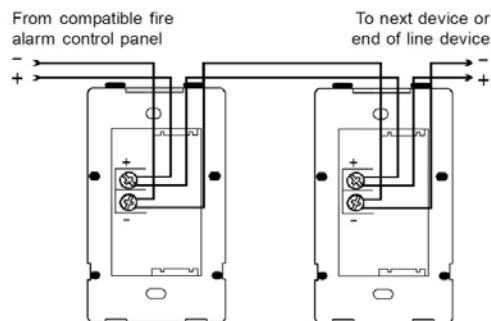
The DC-M9415 Series Wall Mount Strobe is a visible fire alarm notification appliance designed for indoor use. DC-M9415R is color RED. DC-M9415W is color WHITE.



Features and Benefits

- The strobe includes a field configurable switch for selecting the desired candela output and a field configurable jumper for the strobe signal output. The candela output setting is locked in place and remains visible after final installation.
- This strobe features an enhanced synchronization circuit to comply with the latest requirements of UL 1971 *Signaling Devices for the Hearing Impaired*.
- Synchronized operation requires to be connected directly to the NAC output and set NAC output as Synch Mode.

3. Cable acceptance: 12 to 18 AWG (0.75 to 2.50 mm²)

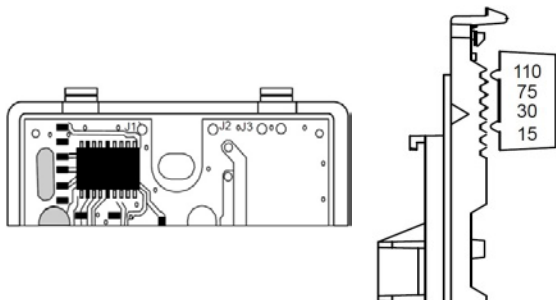


Certificates and Compliance

- UL listed
- WEEE & RoHS Compliant
- Standards: UL1638, UL1971

Installation and Appliance

1. Set the strobe signal output mode through J1.



2. Slide the candela switch to the desired candela output by aligning it with the indicator located left of the switch.

Technical Specification

Operation Voltage	24 VDC or 24 VFWR nominal
Operation Current (Measured at 16VDC)	15cd 0.103A 30cd 0.141A 75cd 0.255A 110cd 0.311A
Light Output	Selectable at 15, 30, 75 and 110 cd
Strobe signal rate	1 flash per second (fps)
Operating Temperature	32 to 120°F (0 to 49°C)
Relative Humidity	0 to 93% noncondensing
Compatible electrical boxes	Single-gang box, 2-1/2 in. (64 mm) deep
Dimension	113 x 68 x 21 (WxHxD, mm)

☐ 60102323 DC-M9415R Wall Mount Strobe

☐ 60102322 DC-M9415W Wall Mount Strobe

Sounder

DC-M9414R/DC-M9414W Wall Mount Sounder

The DC-M9414 Series Wall Mount Sounder is a fire alarm notification appliance designed for indoor use. DC-M9414R is color RED. DC-M9414W is color WHITE.

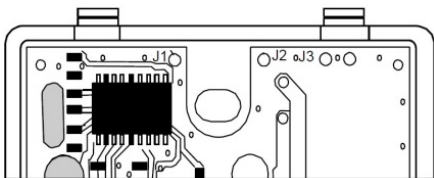
Features and Benefits

- The sounder is field-configurable for selecting dB output level and sounder signal type.

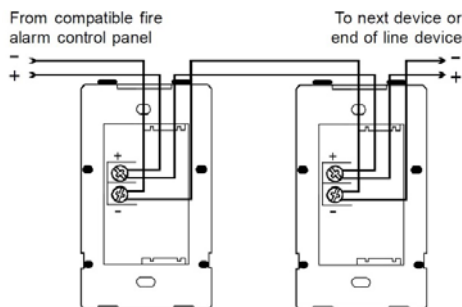
Installation and Appliance

- Set the sounder features through J2 & J3.

J2	Temporal/steady horn signal output
J3	dB sound output level



- Cable acceptance: 12 to 18 AWG (0.75 to 2.50 mm²)



Certificates and Compliance

- UL listed
- WEEE & RoHS Compliant
- Standards: UL464

Technical Specification

Operation Voltage	24 VDC or 24 VFWR nominal (16-33V)
Operation Current (under 24VDC)	High dBA 0.036A, Low dBA 0.027A
Sound Level (24VDC @ 10ft)	Continuous: High 88.6dBA, Low 83.5dBA Temporal: High 84.4dBA, Low 79.4dBA
Compatible electrical boxes	Single-gang box, 2-1/2 in. (64 mm) deep
Operating Temperature	32 to 120°F (0 to 49°C)
Relative Humidity	0 to 93% noncondensing
Dimension	113 x 68 x 21 (WxHxD, mm)

60102318 DC-M9414W Wall Mount Sounder

60102319 DC-M9414R Wall Mount Sounder

Sounder Base

DC-M9402 Conventional Sounder Base

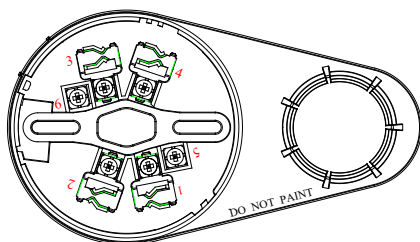
DC-M9402 Conventional Sounder Base (called the sounder base for short) is compatible with UL-listed D-series detectors. The base can give audible signals after activated. It is suitable for rooms where requiring audible signals once fire alarm occur, such as hotels, apartments, hospitals and so on.

Features and Benefits

- Non-addressable, not occupy loop address.
- This base is plugged together with a fire detector.
- Comply with UL464, UL 268, UL 521, NFPA [70,72].

Terminals and Installation Holes

Terminals of the conventional sounder base show as below.

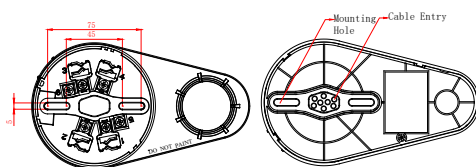


1, 3: When the sounder base install together with an intelligent detector, these terminals should connect with control panel loop, polarity insensitive; when the sounder base install together with a conventional detector, these terminals should connect with terminals I and G of intelligent zone monitor module DI-M9319.

5, 6: Connecting with fire alarm control panel NAC output terminals or outputs of driving module, 5 is positive and 6 is negative;

2, 4: Connecting with the terminals of remote indicator when the detector has remote indicator to be connected, polarity sensitive.

Dimension and installation holes of the sounder base show as below.



Application

As UL-listed base for D-series intelligent detectors (DI-M9101, DI-M9102, DI-M9103) and conventional detectors (DC-M9101, DC-M9102, DC-M9103), the sounder base can directly connect with UL-listed GST-IFP4M fire alarm control panel NAC output refer to below Fig 1 and



Fig 2. In this case, NAC output should be set to Sync mode. (Refer to GST-IFP4M Fire Alarm Control Panel Installation and Operation Manual for details). Terminal 5, 6 of the sounder base connects with panel NAC output, and connects 4.7k/1w end-of-line resistor at the last terminal. Please note polarity.

DO NOT USE LOOPED WIRE UNDER TERMINAL 1, 3, 5, 6. BREAK WIRE RUN TO PROVIDE SUPERVISION OF CONNECTIONS.

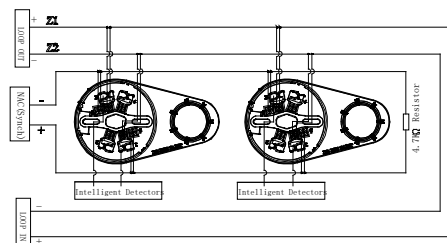


Fig 1 Connect with Intelligent Detectors

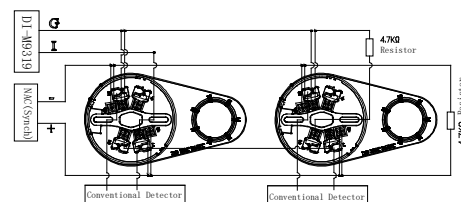


Fig 2 Connect with Conventional Detectors

If the sounder base connects with GST-IFP4M AUX/NAC power output through DI-M9305 module, terminals 5 and 6 connect with O1 and O2 of DI-M9305 respectively, refer to Fig. 3. In this case, AUX/NAC output should be set to AUX/NAC SYNC mode. Refer to GST-IFP4M Fire Alarm Control Panel for details.

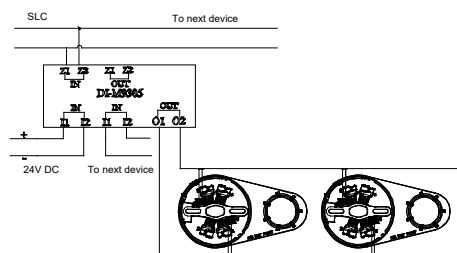


Fig. 3 Connect with driving module

The sounder base can be set high/low sound pressure level by P-9910B Hand Held Programmer. Connecting terminals 5, 6 of the sounder base with a programmer, the setting above can be done. Please note polarity.

Technical Specification

Operating Voltage	Special Application 24VDC(18VDC~28VDC)
Operating Current	≤10mA
Sound Pressure Level	≥85dB
Sound Frequency	3100Hz
Ambient Temperature	32 °F (0°C)~100 °F (37.8°C)
Storage Temperature	-4 °F (-20°C)~140 °F (60°C)
Relative Humidity	≤95%, non condensing

Locations	Indoor installation, dry
Material and Color of Enclosure	Flame retardant ABS, white
Ingress Protection Rating	IP30
Dimension (L×W×H)	175mm×101mm×34mm
Mounting Hole Spacing	45mm~75mm
Weight	About 145g
Standard	UL464, UL268, UL521, NFPA [70,72]

10106029 DC-M9402 Conventional Sounder Base

Signal Synchronization Module

DC-M9410 Signal Synchronization Module

The DC-M9410 Signal Synchronization Module provides precision synchronization for sounders and strobes.

Features and Benefits

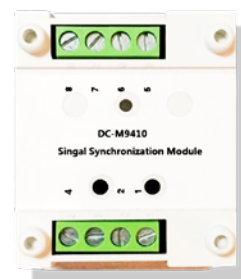
- Small in size, can be installed into single-gang box.
- Provides synchronization circuit for strobes to comply with the latest requirements of UL 1971 Signaling Devices for the Hearing Impaired.
- The Module only synchronizes sounder and strobes that are electrically connected to it and are electrically downstream of it.

Certificates and Compliance

- UL listed
- WEEE & RoHS Compliant
- Standards: UL464, UL1638, UL1971

Technical Specification

Operation Voltage	24 VDC or 24 VFWR nominal
Output Rating	Max. 3.0A Limited by NAC and power output.
Synchronization	1/s within 10 ms, indefinitely 20 Ω max.
Operating Temperature	32 to 120°F (0 to 49°C)
Relative Humidity	0 to 93% noncondensing



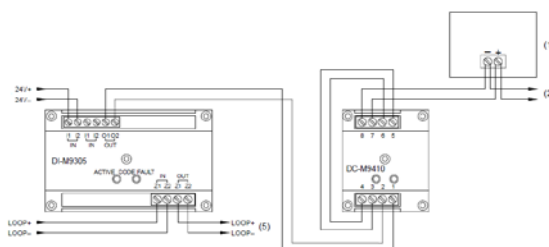
Terminals & Typical Connection

Cable acceptance: 12 to 18 AWG (0.75 to 2.50 mm²)

- 1.Strobe / Sounder Strobe
- 2.To next strobe or EOLR

Terminals:

1	Sounder IN+
2	Sounder IN-
3	Sounder OUT+
4	Sounder OUT-
5	Strobe IN+
6	Strobe IN-
7	Strobe OUT+
8	Strobe OUT-



60102326 DC-M9410 Signal Synchronization Module

- p. 37 Master Panels
- p. 37 Distributed Panels
- p. 38 System Components



GST-VES

Emergency Voice Evacuation System

GST Voice Evacuation System (GST-VES) is used to make emergency voice announcements to people inside a building. The system operates when a fire condition is detected, telling people to evacuate from the building. The GST-VES equipment meets National Fire Protection Association (NFPA) standard and is UL listed. Accomplished with a microphone, amplifier, and speakers, the building manager or fire department keys the microphone and broadcasts instructions in emergency condition.

The GST-VES system consist one GST-MP panel and several GST-DP panels. The GST-MP Master Panel operates in conjunction with the Fire Alarm Control Panel (FACP) in a building to provide an automatic response to life safety emergencies.

The GST-MP includes all the necessary features to provide an effective voice evacuation system.

The GST-MP can be custom configured to satisfy the needs of any high rise application. The GST-MP system includes capacity for 6 channels of simultaneous audio. This provides for evacuation, alert stay-in-place, or other public address announcements and automatic messages.

GST-DP Distributed Panel is connected to GST-MP in a voice evacuation system, receiving the command and voice signal from GST-MP, amplifying, and to provide 25V or 70V audio source to the speaker directly. GST-DP may be located either in the fire alarm control room or distributed on the floors in the building where is closer to the speakers.

Features

- True Multiplex 6 Channel Audio
- Integrated Fire Phone
- Integrated 2 Channel Digital Message Repeater
- Live Microphone Page to any zone
- Fast RS-485 Communication Protocol
- Fully Supervised
- Easy Installation and Operation
- Natural Sound Voice Recordings
- Built in Alarm and Alert Signals
- Up to 4 Minute Message Capacity
- Integrates with GST Fire Alarm Panel
- Interfaces with non GST Addressable and Microprocessor based Fire Alarm Panels
- 2 Minute Message Restart on Microphone Key

Master Panels

GST-MP16/GST-MP16x Master Panel

GST-MP is the Master Panel of GST voice evacuation system. The GST-MP provides the operating interface, control and audio signals, and supervision to the distributed panels. GST-MP also provides interface to the FACP either by RS232 or dry contact. GST provides two models of basic master panels.

GST-MP16 has all basic features with 16 switches/LEDs and 16 inputs for FACP.

GST-MP16x is same as GST-MP16 without cabinet.

Both GST-MP16 and GST-MP16x does not include the fire phone. You may order the accessories to add fire phone, more switch/LED and input as you desire. GST-MP16 can be mounted next to the fire alarm control panel, and GST-MP16x shall be mounted into GST-IFP8-VT fire alarm control panel.



60102155 GST-MP16 Master panel, with 16 inputs, 16 Switches/EDs, with Cabinet

60102228 GST-MP16x Master panel, with 16 inputs, 16 Switches/EDs, without Cabinet

Distributed Panel

GST-DP Distributed Panel

GST-DP is the Distributed Panels in the system. All GST-DP are connected to a master panel via RS485 line and provide the supervised 25V or 70V speaker circuit and fire phone circuits on the fields.

Each GST-DP is powered individually and with backup battery.

GST provides 4 basic models:

GST-DPS50, single channel, 50W

GST-DP50, dual channel, 50W

GST-DPS100, single channel, 100W

GST-DP100, dual channel, 100W

All these models have 4 class B circuits, and do not have the fire phone option.

All these models can be expanded for

4 to 16 fire phone circuits.

4 class A or 8 class B speaker circuit.



60102165 GST-DP50 Distributed panel, Dual channels 50 Watts, 4 Class B speaker circuits

60102162 GST-DPS50 Distributed panel, Single channel 50 Watts, 4 Class B speaker circuits

60102166 GST-DP100 Distributed panel, Dual channels 100 Watts, 4 Class B speaker circuits

60102163 GST-DPS100 Distributed panel, Single channel 100 Watts, 4 Class B speaker circuits

System Components

MFP Master Fire Phone Card

Accessory on master panel for fire phone. Add 1 MFP to GST-MP16 or GST-MP16X if the fire phone is required.



☐ MFP Master Fire Phone Card



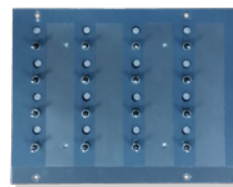
GST-MFH-A Master Fire Phone Handset Assembly

Accessory on master panel for fire phone. Add 1 MFH to GST-MP16 or GST-MP16X if the fire phone is required.

☐ 60102285 GST-MFH-A Master Fire Phone Handset Assembly

SLC Switch LED Card

Accessory on master panel. One SLC card provides 16 switches and LED's for manual control at Master Panel. Add SLC cards if more than 16 switch/LED are required. Optional components for Master Panel, More than 16 switches and LED's required, another SLC is needed.



☐ 60102174 SLC Switch LED Card



SSC Switch Scan Card

Accessory on master panel. Each SSC card controls up to 8 switch/LED cards. One SSC card is included in the basic GST-MT master panel. Optional components for Master Panel ,Every 8 SLC needs one SSC.

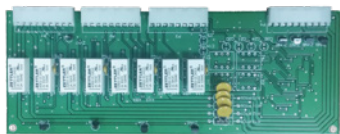
☐ 60102171 SSC Switch Scan Card

GST-XI Extended Input Interface card

Accessory on master panel. One XI card provides 16 additional inputs to master panel. Maximum 7 XI can be connected to one II card. Optional components for Mater panel, connect, connect with II Input Interface card, provides additional 16 inputs per XI card



☐ 60102229 GST-XI Extended Input Interface card



MBK Mother Board Relays

One MBK card provides 4 class "B" speaker circuits. And two MBK cards provide 8 "class B" or 4 "class A" speaker circuits in one distributed panel. One MBK card is included in basic GST-DP panel. Optional components for Distributed Panel, One additional MBK needed for 8 Class "B" or 4 Class "A" Speaker Circuits on Distributed Panel.

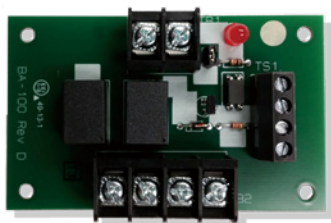
☐ 60102179 MBK Mother Board Relays

FPI Fire Phone Interface

Each FPI provides 4 supervised class "B" fire phone circuits in DP panel. Maximum 2 FPI (8 phone circuits) can be installed in one GST-DP. Optional components for Distributed Panel, 4 supervised Class "B" Fire Phone circuits per FPI.



60102178 FPI Fire Phone Interface



GVX-BA Backup amplifier switching relay

One required for each Distributed Amp when automatic switching / redundant amplification is needed. On a single Channel system the backup amplifier can be located in any GST- DP panel. On a Dual Channel system an additional AMI card, and EVX #E Amplifier assembly is required (the # represents the largest power amplifier in the system 50/100).

60102183 GVX-BA Backup amplifier switching relay

FPO2 Fire Phone Interface Terminal

One FPO2 provides 4 additional terminals for fire phone circuits. It is required for the 2nd, 3rd and 4th FPI Fire Phone Interface in GST-DP. Optional components for Distributed Panel, More than 1 FPI is required in a Distributed Panel, one FPO2 card is needed for each.



60102206 FPO2 Fire Phone Interface Terminal



GVX-50E/GVX-100E Amplifier Module

GVX-50E is 50W amplifier module and GVX-100E is amplifier module. The amplifier module is included in basic GST-DP. Amplifier module may be ordered as spare or adding extra output power to GST-DP. Max 2 amplifier modules can be mounted in one GST-DP. GVX-50E is optional components for GST-DPS50, if converts from GST-DPS50 to GST-DP50,one GVX-50E is needed. GVX-100E is optional components for GST-DPS100, if converts from GST-DPS100 to GST-DP100,one GVX-100E is needed.

60102148 GVX-50E Amplifier Module

60102150 GVX-100E Amplifier Module

XFMR Transformer

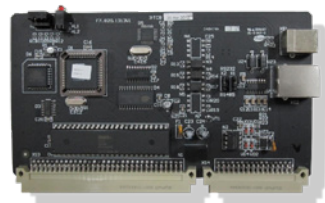
This transformer is for amplifier module. 220VAC, 50Hz. It is required if additional amplifier is added to GST-DP. Optional components for convert single channel Distributed panel to dual channels Distributed panel. One transformer required per amplifier.



60101498 XFMR Transformer

P-9935EVAX Communication Card

This card provides interface between GST-IFP8-VT FACP and GST-MP via RS232 port. It is not required if the dry contact interface is employed. Interface card between GST-IFP8 or GST-IFP8-VT and Master panel, Provides communication between GST-IFP8 panel and GST-MP.



P-9935EVAX Communication Card



IMPORTANT: This publication is a generic version in which product information is shown for informational purposes only and does not constitute a specific commitment or guarantee. We are constantly pursuing the improvement of product technology to improve product performance, for which we reserve the right to adjust the configuration and technical information of the related products without notice. In addition, the description of system performance in this publication applies only to the usual situation. As a result, there may be a variety of unpredictable special circumstances in the real world, so the realization of the relevant product performance will depend on the professional investigation and analysis and the design plan. Please contact us and we will be happy to provide you with professional advice.

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