

Siemens Building Technologies

Designo FS Modular MP1 (XLS) features

Date: Sep-2018 BT India-TCG

Desigo Fire Safety Modular MP1 – Features UL panel.



- It is an addressable fire alarm panel.
- It can work as standalone or networkable.
- It supports Integrated voice evacuation system.
- It supports max 2500 addressable devices per Panel.
- Polarity Insensitive loop wiring.
- Flexible in design. From one loop card to 50 loop card.
- Using remote cabinet, we can add more loop cards and reduce loop cable wiring.
- 252 Devices per DLC card and can be connected in 2 zones. 2 class A or 2 class B- Using DLC Card
- **252 Devices per loop card with 4 Nos class A and 8 Nos class B – using XDLC card.**

Inbuilt addressable Short circuit Isolator modules are available.

190 Isolator Modules can be connected in a loop.

Also Class A wiring -Polarity insensitive and with Inbuilt isolators connections.

Between Inbuilt isolators we can connect 30 devices.

- Degraded mode operation. Loop cards will work as conventional Zones.
- 32 bit Central Processor Unit
- PMI- Colour Graphics display. 5 Events at a time. (640 character + LCD display)_Refer slide27
- Guided key buttons are there for operators to ack, silence, Unsilence and Reset.
- Touch Screen for Report & Maintenance Modes



Desigo Fire Safety Modular MP1 – Features UL panel.

- More info for critical information
- 6 inch Large LCD color display.
- 6 nos Floor images for Graphical Representation of fire alarm occurrence. If it goes beyond, Desigo CC
- Fire graphics software can be used for graphical view of fire location.
- History events: 5000 In Fixed mode. 4500 in Circular mode.

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- NFPA Fire Safety Symbols for Fire Fighting Equipment & Hazardous Materials content in Risk area
- Useful diagnostic LEDs are available on all cards.
- Online printout / reports can be taken by connecting a dotmatrix printer.
- Alarm verification.
- Programming using Logic gates to program any kind of cause and effect.
- Loop power sounder bases.
- Sounder bases for sleeping rooms.
- Multi tone sounders.
- Global PMIs with control is available.
- Remote annunciator for each Panel with control or monitor only (4 x 40 character LCD display)
- 3rd Party integration. (Modbus over Serial, TCP/IP or BACNET over IP) using RPM and Field Server
- Inbuilt Gas release operation.
- Detectors are intelligent with Microprocessors.
- Electronic addressing of detectors using Device programming unit.
- 6 Loop card panel (1512 Devices) in CAB1
- 10 Loop cards (2500) in CAB2
- Automatic environmental compensation for smoke detectors dust monitoring.
- The panels can be networkable. Maximum 64 Nodes can be networked. (Using Ring or NIC-C XNET)



Desigo Fire Safety Modular – Features UL panel.



Detectors (FDOOT441) :

Two (2) optical transmitters , One (1) optical receiver, Two (2) thermal sensors

- 360 Degree LED view.
- 22Nos Application specific profiles.
- Superior nuisance alarm immunity.
- Forward and backward light scattering technology. This helps to detect both flaming and smoldering fire signatures and replaces ionization detectors
- 5 fixed temperatures. 57, 63, 68, 74, 79 Deg.C
- 4 nos fixed and ROR temperature settings.
- NFPA 76 VEWFD standard which specifies the spot type detection criteria for telecommunications facilities requires that a "pre-alarm" condition be generated @ 0.2%/ft. Likewise it also specifies that an "alarm" condition is generated @ 1.0%/ft.
- Operates upto 49DegC
- RoHS compliant. (Restriction of Hazardous Substances
- Air Velocity — (Open Area): 0–4,000 feet-per-minute (fpm), Direct-in-Duct: 0–4,000 (fpm)
- Intelligent Environment compensation.
- Has detector with CO Detection. ie, Smoke, Heat and CO.



What is new in Desigo FS Modular MP1 while comparing XLS.



The PMI model is [FCM2041-U2](#)

XDLC card has been released for support of X- Modules with Inbuilt Isolator.

X-TRI-R module with Inbuilt isolation (It is an output Module + Short Circuit Isolator).

X-TRI-S module with Inbuilt isolation. (It is an input Module + Short Circuit Isolator).

In this case, HLIMs are not required in XDLC.

Note for Project & Comm Engineer:

However, After inbuilt Isolator connection, DPU will not do loop test and find ground fault

In XDLC card.

DLC cards can be used as usual with Desigo FS Modular, with HLIM Short circuit Isolator.

Detectors and Modules

S-Line: Can be used in mission critical applications are incorporated with state of the art advanced signal analysis (ASA) for unprecedented early detection and Highest immunity to deceptive phenomena and nuisance alarms.

High Sensitive Detectors for Clean Room

C-Line detectors are economical, reliable solution for to work in moderate environments like office buildings, commercial Buildings, hospitals, hotels and warehouses.

Bases:

DB-11

DB-11 E

ABHW-4B Sounder base.

ABHW-4S : Sleeping Room Bases:

DB2-HR Relay base

Duct Detectors:

Note: ADBH-11 & DB-HR is suitable for HFP11.

Compatible:

Are compatible XLS, Desigo FS Modular and Desigo Fire Safety (FC2025/FC2050 and FC2005)

Note: While connecting in XLS or Desigo FS Modular, DLC HW version should be HW-Rev-2.

Zeus version should be 10.04.0007 or latest.

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S-Line Detectors features

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FDOOT441

Mission critical applications like, clean rooms, data centers, HUB Room, Telco facilities.
Hotels, motels, condos, Hospital rooms, dormitories, warehouses parking garage.
For unprecedented early detection and highest immunity to deceptive phenomena and nuisance alarms.
Alternative for Ionization detector.

Dual Optical IR LED and Dual Thermal Sensors.

Superior nuisance alarm immunity.
Forward and backward light scattering technology. This helps to detects both flaming and smoldering fire signatures and replaces ionization detectors

5 fixed temperatures. 57, 63, 68, 74, 79 Deg.C
4 nos fixed and ROR temperature settings.

22 ASD profiles. Fire print algorithm.

NFPA 76 VEWFD standard which specifies the spot type detection criteria for telecommunications facilities requires that a "pre-alarm" condition be generated @ 0.2%/ft. Likewise it also specifies that an "alarm" condition is generated @ 1.0%/ft.

Operates Upto 49DegC
RoHS compliant. (Restriction of Hazardous Substances)

Air Velocity — (Open Area): 0–4,000 feet-per-minute (fpm)
Direct-in-Duct: 0–4,000 (fpm)

Intelligent Environment compensation.
Restricted © Siemens Industry, Inc. 2018

FDOOTC 441

All the features of FDOOT441 with CO Detection



| |
|----------------------|
| Fixed 135F |
| Fixed 145F |
| Fixed 155F |
| Fixed 165F |
| Fixed 175F |
| Fixed 135F + ROR 15F |
| Fixed 175F + ROR 15F |
| Fixed 135F + ROR 20F |
| Fixed 175F + ROR 20F |

C-Line Detectors– Features.



| FDOT421 | FDO421 | FDT421 |
|--|--|---|
| <p>This is a smoke and Heat detector. Operates Upto 38 Deg C RoHS compliant. (Restriction of Hazardous Substances Can be programmable using DPU</p> <p>One fixed temp @ 57 Deg.C only and one ROR setting</p> <p>Sensitivity Settings</p> <p>Sensitive Computer Room, Healthcare and Precious Storage –</p> <p>Standard (default) Office, Lobby, Dormitory and Utility Room</p> <p>Robust Warehouse, Parking Garage and Hostile Environment -</p> <p>Intelligent Environment compensation +32°F (0°C) to 100°F (38°C)</p> | <p>This is a photo electric smoke Detector.</p> <p>Selective sensitivities :</p> <p>Sensitive, Standard , Robust Duct.</p> <p>Sensitive Computer Room, Healthcare and Precious Storage –</p> <p>Standard (default) Office, Lobby, Dormitory and Utility Room</p> <p>Robust Warehouse, Parking Garage and Hostile Environment -</p> <p>Duct - Airduct +32°F (0°C) to 120°F (49°C)</p> <p>Intelligent Environment compensation</p> | <p>This is a Heat Detector, having fixed and rate of rise detection.</p> <p>Fixed temperature alarm threshold starts from 57 Deg C to 79 degree C</p> <p>Rate of rise 8.3 Deg C / per minute.</p> <p>The below shows in Fahrenheit.</p> <p>Fixed temperature 135°F</p> <p>Fixed temperature 145°F</p> <p>Fixed temperature 155°F</p> <p>Fixed temperature 165°F</p> <p>Fixed temperature 174°F</p> <p>Fixed temperature 135°F + ROR 15°F</p> <p>Fixed temperature 174°F + ROR 15°F</p> <p>+32°F (0°C) to 100°F (49°C)</p> <p>When we set for 79 Degree Fixed temp alarm</p> |



QUAD device – FDCIO422

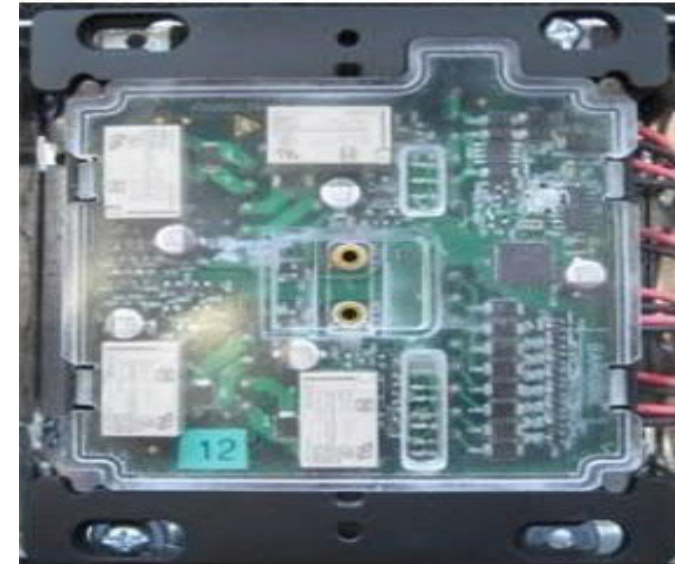
4 separate inputs and 4 separate outputs
with LED indication.

Class B wiring . Only one address.
EOL 470 Ohm resistor

Inputs can be configurable as Alarm,
Supervisory, Trouble.

Inputs can be class A wiring also. Due to
this inputs will reduce to 2Nos

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Operating Temperature of detectors at a glance

FDO421 : +32°F (0°C) to 120°F (49°C)

FDOOTC441 : +32°F (0°C) to 120°F (49°C)

FDOOT441 : +32°F (0°C) to 120°F (49°C)

H-Series : +32°F (0°C) to 100°F (38°C)

FDOT421 : +32°F (0°C) to 100°F (38°C)

FDT421 : +32°F (0°C) to 100°F (38°C)
When we set for 57Degree Fixed temp alarm

FDT421 : +32°F (0°C) to 100°F (49°C)
When we set for 79 Degree Fixed temp alarm

Normal Bases / Loop powered Sounder base / Sleeping room sounder base



Bases:

FD Series Detectors are compatible to DB11E, DB11, ABHW-4B or ABHW-4S.

For Loop powered Sounder base: ABHW-4B

ABHW-4B will work as loop powered sounder base along with FD Series detectors only.
While using with HFP11 devices, we need to use external powersupply and HCP module.

Sleeping Room Sounder base: ABHW-4S

Note: It needs external supply and HCP module. Doesn't work as Loop powered sounder base.
Refer Installation sheet for current ratings.

ABHW-4B – Sounder base.

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Can work as NAC powered sounder base. (Both FD and HFP)
Can work as loop powered sounder base. (Only for FD Series)

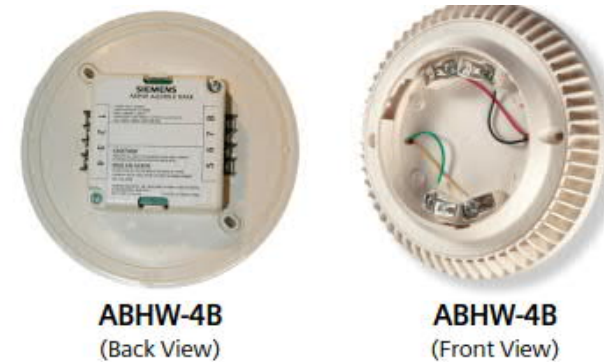
Maximum nos for ABHW-4B while using as Loop powered sounder base in a loop card.

20 Nos per DLC card when High dBA is set.
35 Nos per DLC card when Medium dBA is set.

While externally powered, Use HCP Module and can use 50 Nos ABHW-4B. (Works for HFP11 and FD Series)

Using HCP helps to monitor the 24VDC and Sounder base cable.

High dBA and Medium dBA setting can be done through Zeus.



| | |
|------------------------------------|-------------|
| Audible Base Power | NAC powered |
| Audible Base High Priority Usage | Silenceable |
| Audible Base High Priority Tone | Steady on |
| Audible Base High Priority Volume | Maximum |
| Audible Base Medium Priority Usage | Maximum |
| Audible Base Medium Priority Tone | Medium |

ABHW-4S Sleeping room sounder base.



ABHW-4S

Can work as NAC powered sounder base.

ABHW-4S is for sleeping rooms. It needs external supply and HCP module. Doesn't work as Loop powered sounder base. (Works with HFP and FD Series)

Number of ABHW-4S per HCP:

Since, HCP's max load current is 1.5A.

Connect upto 10 Nos for High dBA.

Connect upto 25Nos for Medium dBA.

High dBA:
90 mA @ 24Vdc
High: + 85dB

Low dBA:
33 mA @ 24Vdc
Low: + 75dB

We follow the practice of connecting HCP module since, to monitor the 24VDC and Sounder base cable.

High dBA and Medium dBA setting can be done through Zeus.

Connections and programming are same as ABHW-4B



| | |
|------------------------------------|-------------|
| Audible Base Power | NAC powered |
| Audible Base High Priority Usage | Silenceable |
| Audible Base High Priority Tone | Steady on |
| Audible Base High Priority Volume | Maximum |
| Audible Base Medium Priority Usage | Maximum |
| Audible Base Medium Priority Tone | Medium |

| | |
|-------------------------------------|--------------------------|
| 2 FDOOTC441 "FDOOTC441@address 1-2" | Zone Code Priority Level |
| 5 NIC-C(XNet) "NIC_Xnet 5" | Zone Code Output Pattern |
| 3 NIC-C(HNet) "NIC @ address 3" | Detector Base Type |
| 6 PSC-12 "PSC-12 @ 6" | Detector Lamp Type |

Duct Detectors

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1 FDBZ492-PR (Stand alone Detector - (Will give relay output).

It works in 24V DC or 230V ac. Using this, it can be interfaced with BMS system via relay contact
Fire pane is not required at site

2 FDBZ492-R (Conventional only). (Will give relay output also.)

Compatible detectors: PE-11/-11C, OP121. HZM module is required to interface with fire panels.

Compatible fire panels: XLS / Desigo FS Modular or Desigo Fire Safety panel.

3 FDBZ492-HR (Addressable only) (Will give relay output also) Connects with Fire panel directly)

Compatible detectors: HFP-11, HFPO-11, FDO421, FDOOT441, FOOTC441, FP-11/-11C,

4 FDBZ492 (Conventional and Addressable) (No relay output)

While using as conventional: PE-11/-11C, OP121, - HZM module is required to interface with fire panels.

Compatible fire panels: XLS / Desigo FS Modular or Desigo Fire Safety panel.

While using as addressable: Following detectors can be connected to respective panel's loop directly

FP-11/-11C,

HFP-11, HFPO-11

FDO421,

FDOOT441, FDOOTC441,



Remote alarm
indicator
(Model FDBZ492-RTL)



FDBZ-series of air-duct housings
(FDBZ492, FDBZ492-HR, FDBZ492-R and FDBZ492-RP)



Watertight housing
(Model FDBZ-WT)



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XDLC

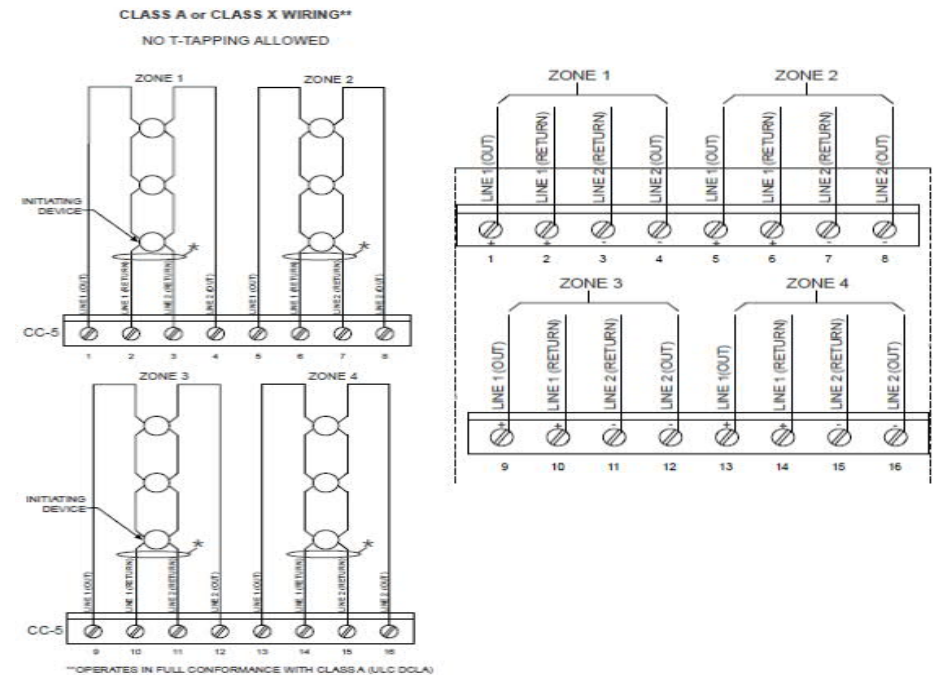
A new loop card to support in built Isolators.

June 2018, Rev-5

XDLC card USPs

- This card can support 252 devices.
- This can support 4 class A or 8 Class B circuits
- In one loop we can connect max 252 devices or any combination.
- This card supports X Series Devices and FD Series, HFP Series Devices.
- It supports sounder bases ABHW-4B, ABHW-4S.
- XDLC will start work from Desigo Fire Safety Modular MP1.
- 190 Isolators are allowed. In between Isolators, 30 devices are allowed.
- Field upgradable firmware is available for existing DPU's
- Supports Class A wiring and Class B wiring.
- Supports class X wiring (Can support only XTRI-R, XTRI-S Modules)
- HLIMs are no more required and does not support HLIM.

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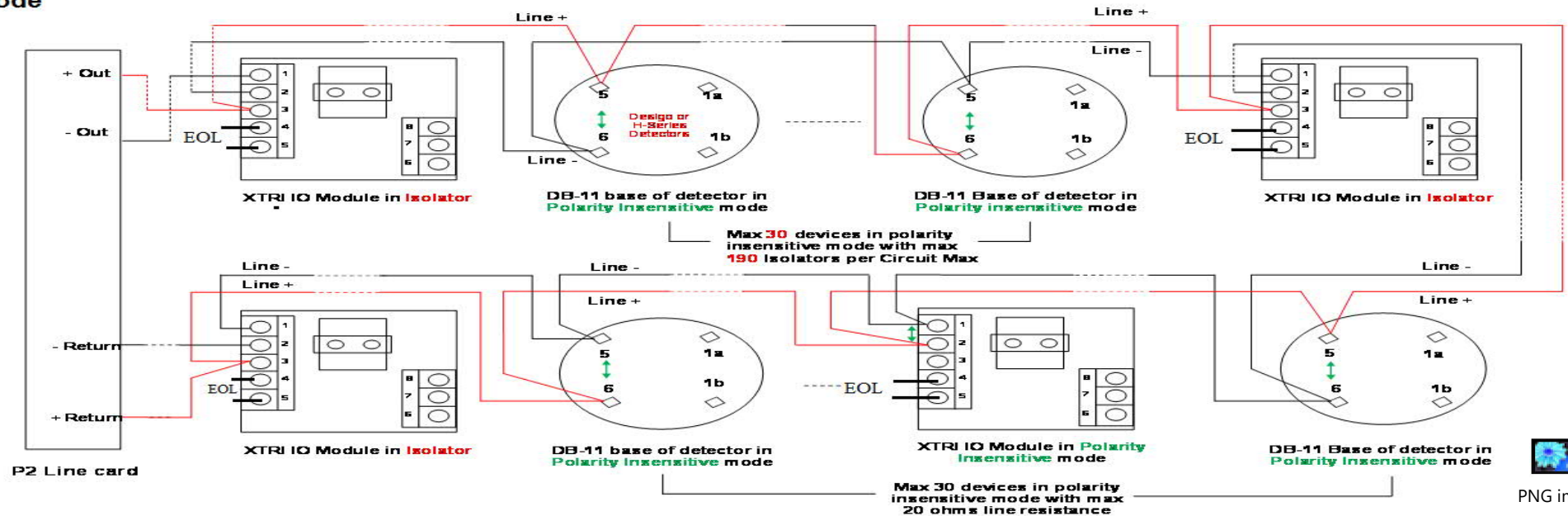
XDLC card– Class A wiring connections. (Mix of X, HFP and FD Series **SIEMENS** Devices)

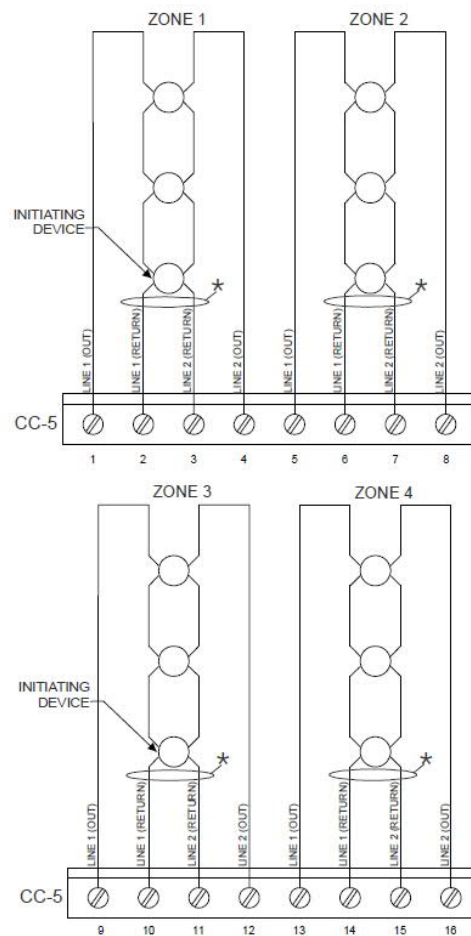
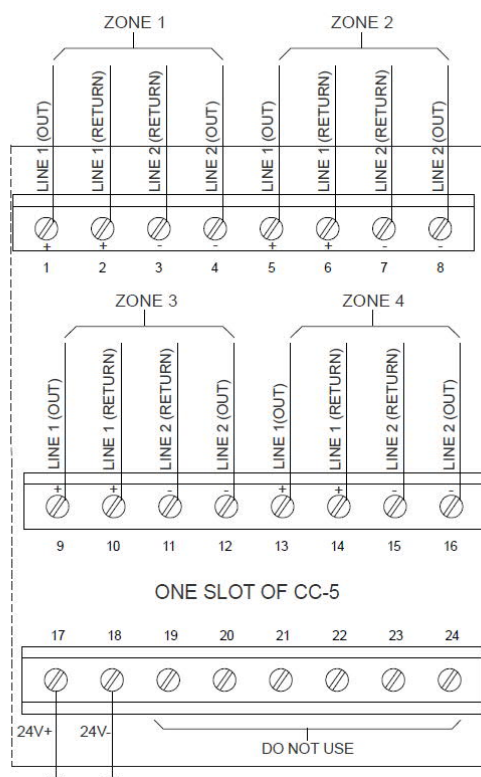
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Class A wiring : In this we can connect Class X devices, FD Series. This is called mixed mode wiring. Class X Devices can be used as Inbuilt Isolators. Other devices can be connected as usual. HLIMS need not be connected. Also HLIM can not be connected with XDLC.

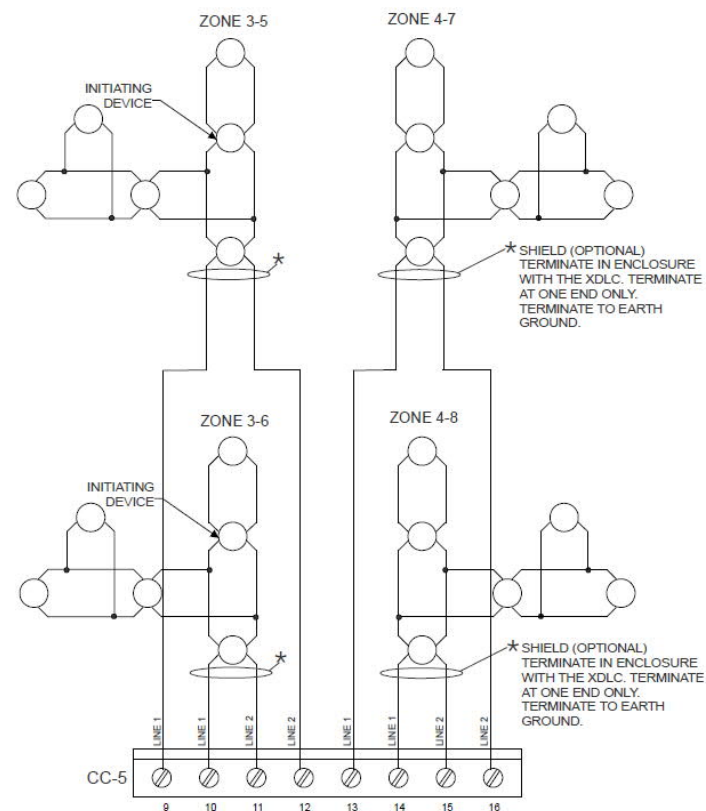
Class A wiring with Inbuilt Isolators

Mixed loop with some devices (detectors and IO modules) in **Polarity Insensitive mode** and some XTRI modules in **Isolator mode**





**OPERATES IN FULL CONFORMANCE WITH CLASS A (ULC DCLA)



***OPERATES IN FULL CONFORMANCE WITH CLASS B (ULC DCLB)

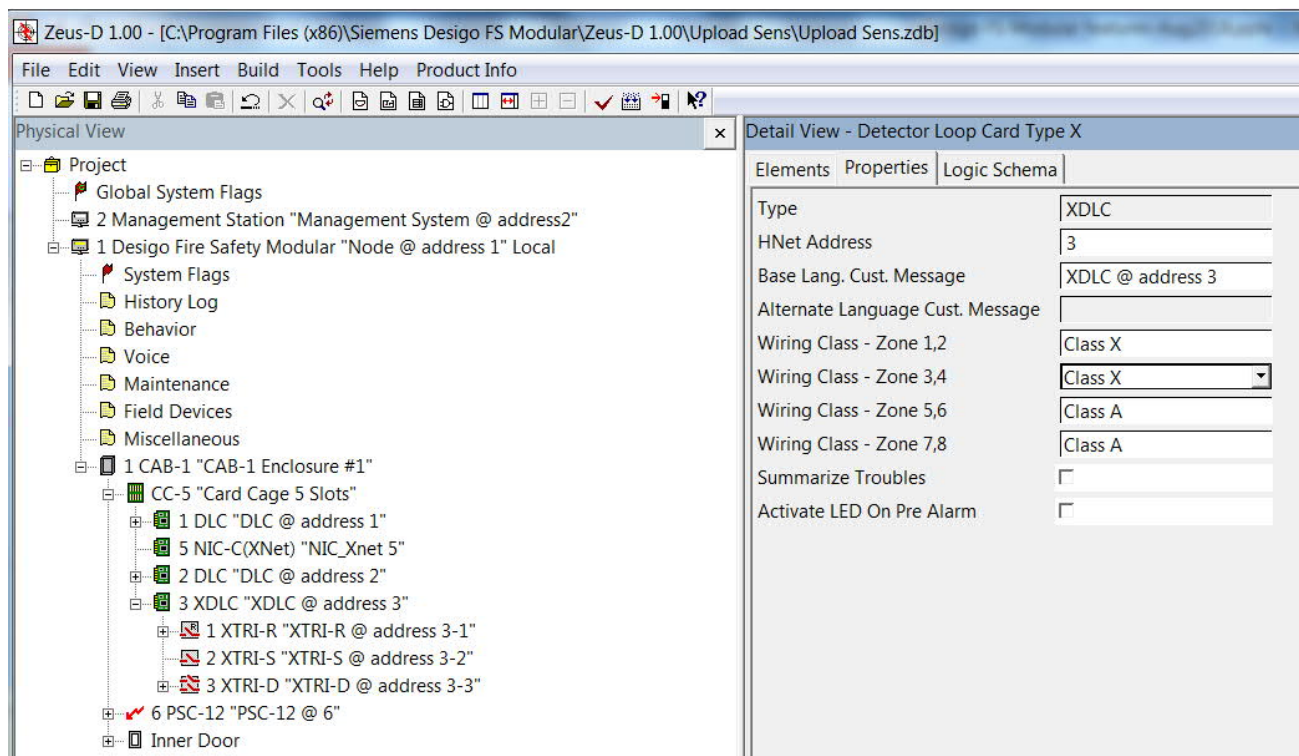
Class X wiring. (With all the devices are in Inbuilt isolation)



Class X wiring : We can connect only Inbuilt isolation devices in this wiring.

Refer modules which can be wired for class X wiring.

HFP or FD Series devices will not appear under X wiring.



Class X Devices

XTRI-S
XTRI-D
XTRI-R
XTRI-M

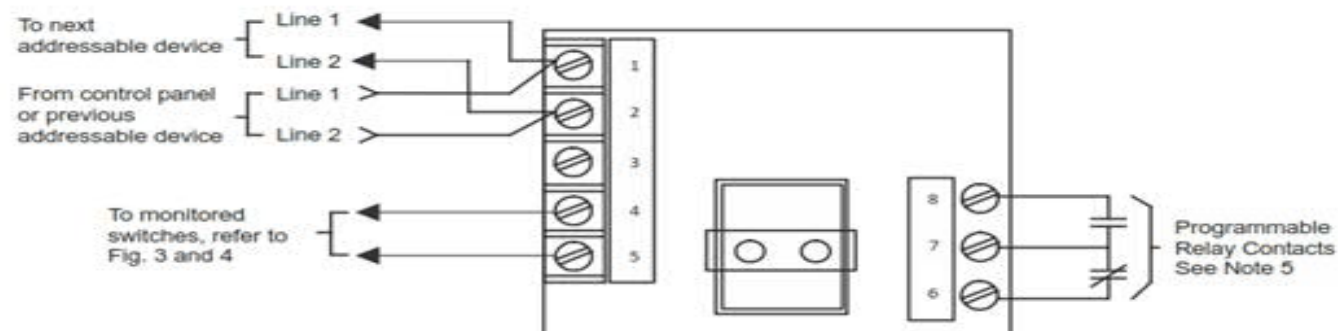
TSM-1X

ILED-XW

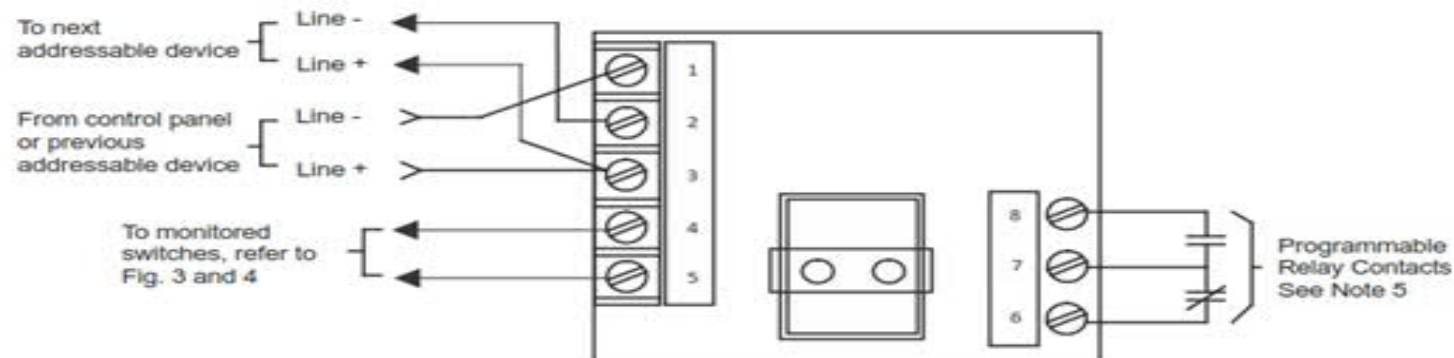
ILED-XC

Wiring at XTRI-Module.

XTRI-R Polarity Insensitive Mode Wiring

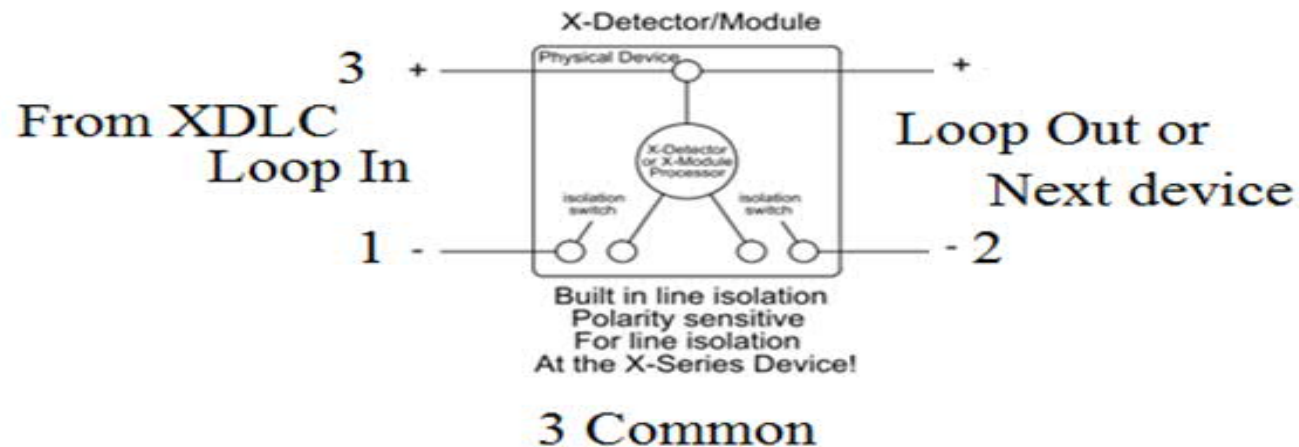


XTRI-R Isolator Mode Wiring



In built isolation switching.

X-Series devices for Desigo Modular using the XDLC card

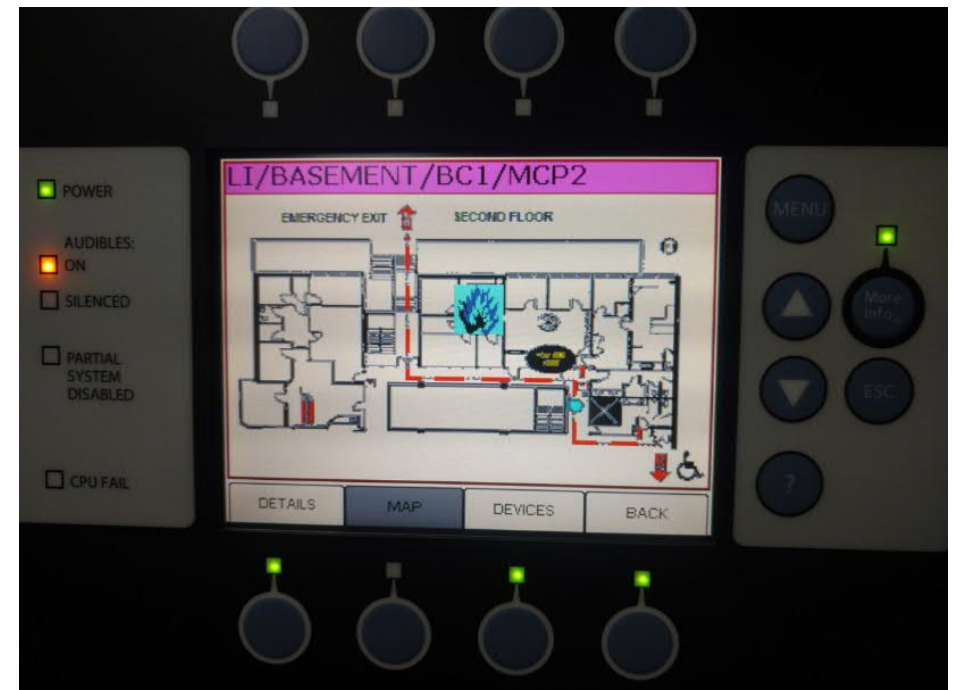


Maps in PMIs

Ariel view



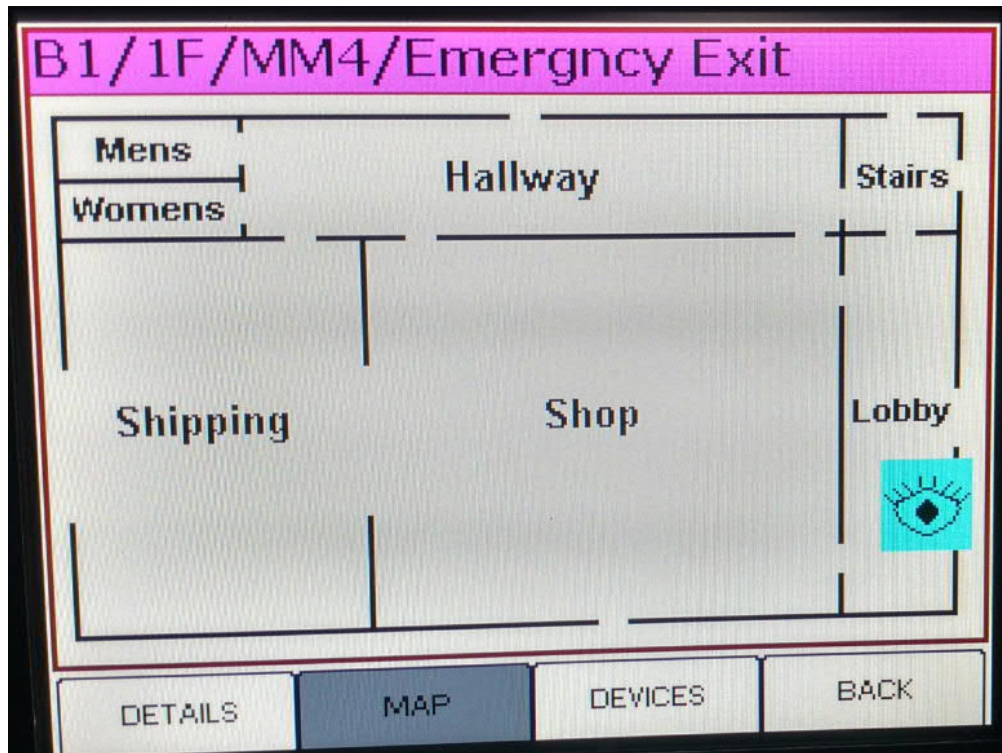
Floor Map



Zone wise alarm and Trouble and map in PMI.

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Supervisory



Trouble

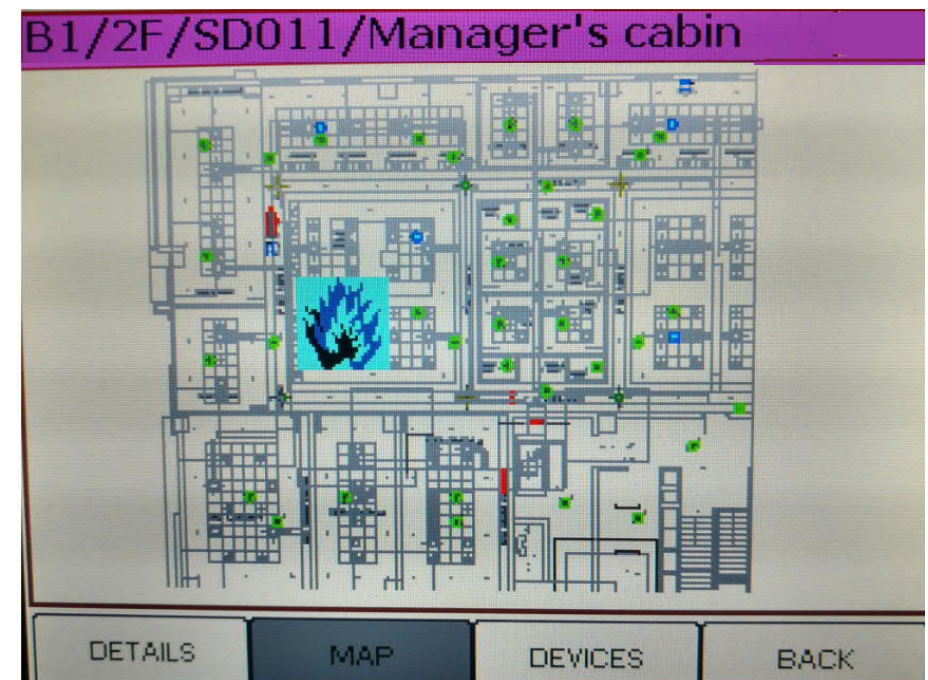


PMI Map

Alarm in a zone











PDF drawing loaded in PMI



Coloured events

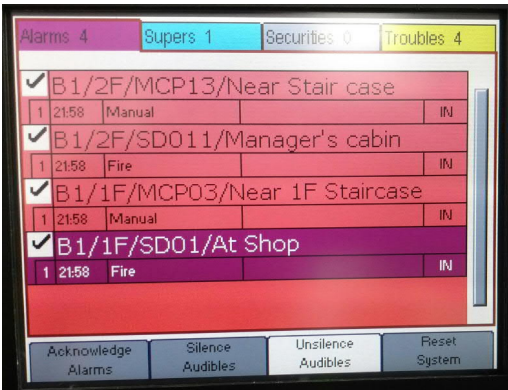
Hazmat symbols and contact detail

| B1/1F/SD01/At Shop | |
|---|--|
| ALARM LOCATION: Building Location: Acme 1F Alarm location: Shop Area Contact Fire officer | AREA FIRE EQUIP:       |
| # Devices in Alarm: 1 ALARM TYPES: Fire | AREA CONTAINS:       |
| Contact: Raghav 022-23457890 | |
| DETAILS | MAP |
| DEVICES | BACK |

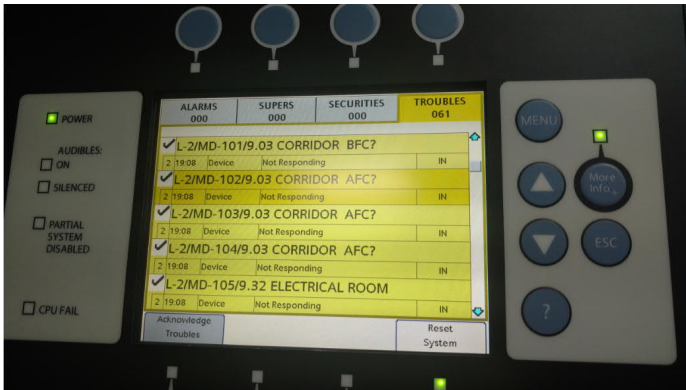
Colored events



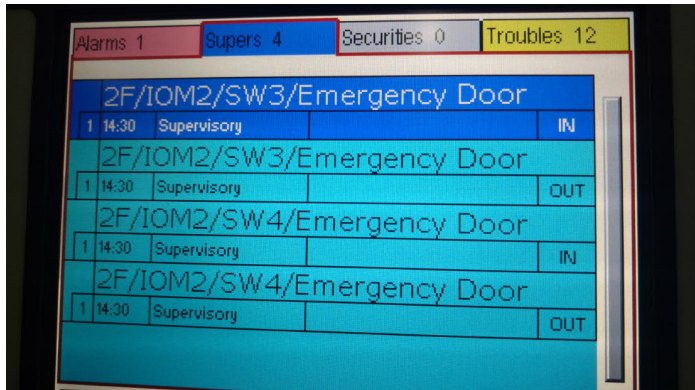
Alarm events



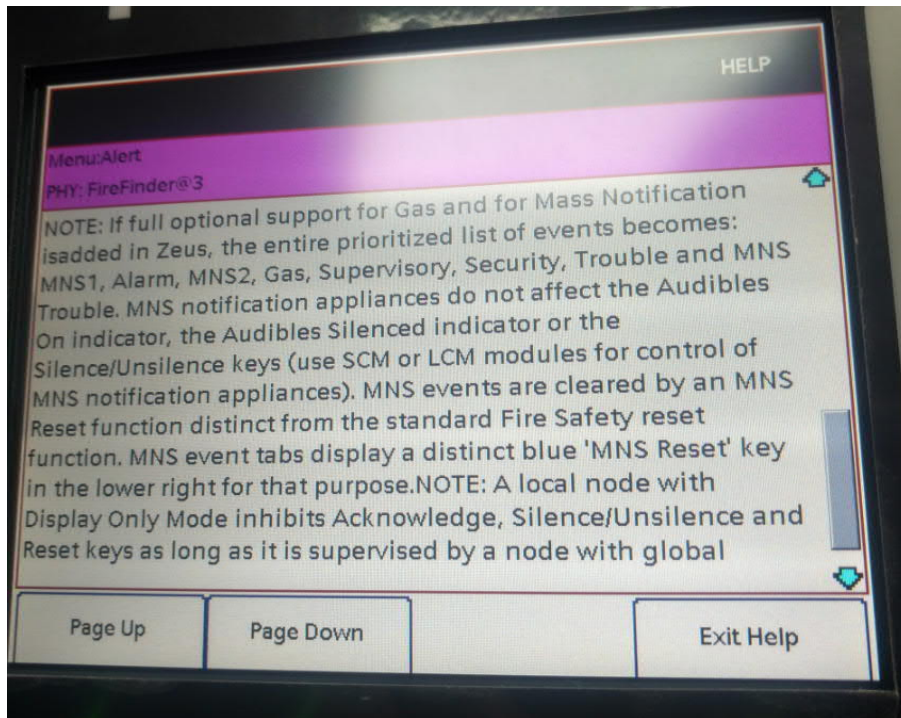
Trouble events



Supervisory Events



640 Character display

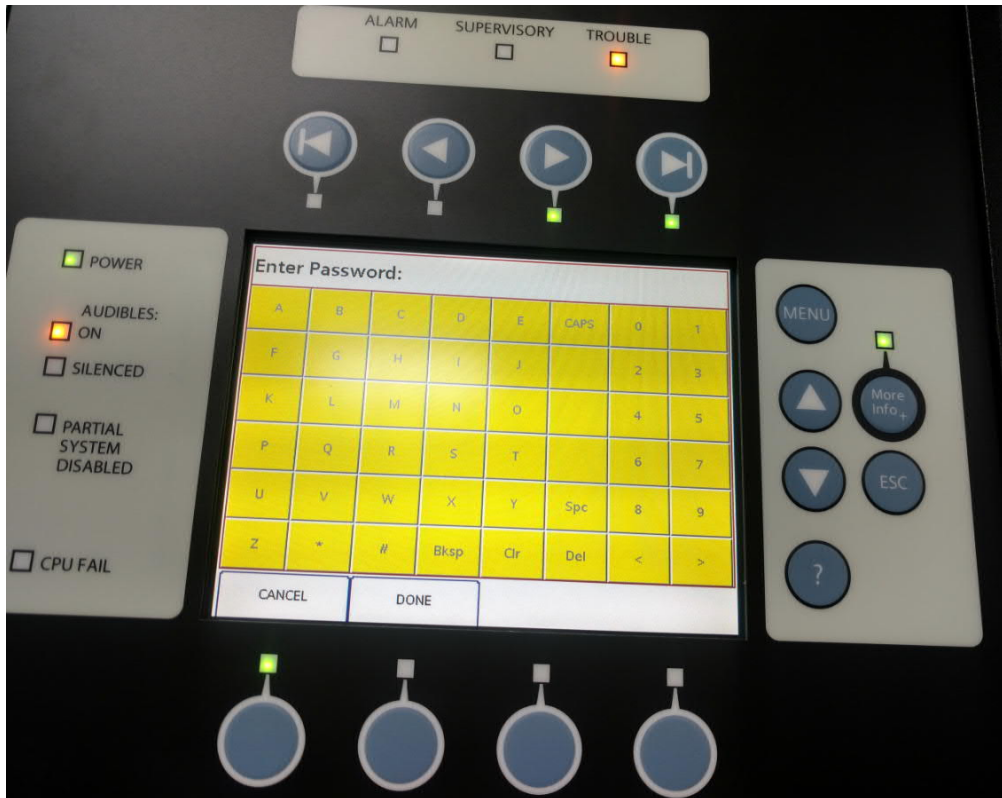


The display on the PMI-2, is a VGA display that is not specified by the number of characters supported.

The display supports graphics as well as text.

Alphanumeric Keypad.

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IP rating of Desigo Modular(XLS) Panel and Detectors



XLS Fire panel can be rated as IP20. (Refer SR 332)

The ratings for the XLS enclosures will be similar to the Desigo. They have not been tested to meet the NEMA requirements, however, they are intended to meet the requirements of NEMA 1.

Detectors are generally not NEMA rated as it is intended for enclosures . That said, all of the detectors above would be considered NEMA Type 1 rating .
Hence the below can be considered as IP 20.

FDxx : FDO421, FDOT421, FDT421, FDOOT441, FDOOTC441, FDCIO-422HFPxx: HFP11, HFPT11, HZM, HCP, HMS-D, HTRI-S, MTH-MCR, HTRI-R, HTRI-S

| IP Code | Min. NEMA Enclosure rating to satisfy IP Code |
|---------|---|
| IP20 | 1 |
| IP54 | 3 |
| IP66 | 4, 4X |
| IP67 | 6 |
| IP68 | 6P |

Contact Details



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