Honeywell

Q7055C1034, Q7055C1035 Fire Network Adapters (FNA3)

INSTALLATION INSTRUCTIONS

GENERAL

The Q7055C1035 and Q7055C1034 Fire Network Adapters (FNA3) provide a UL 864-9th edition listed interface between the Honeywell XLS140 and XLS3000 fire alarm systems and Honeywell Enterprise Buildings Integrator™ (EBI) servers and workstations via a Local Area Network (LAN). They allow seamless fire alarm point display, command, and control via the EBI. The FNA3 supports two types of connections to the XLS140 and XLS3000 fire alarm systems. A single XLS140/3000 fire alarm control panel can be directly connected to an FNA3 to interface it with EBI via a LAN. Multiple (up to 100) XLS140/3000 panels (including XLS NCA devices) networked via XLS-NET can connect to an FNA3 via a Network Communication Module (NCM), so as to interface with the EBI via the LAN.

24 Vdc power for the Q7055C1035 can be provided from an auxiliary output of the XLS140 or XLS3000 fire alarm control panel. An optional 120/240 Vac input power supply is also available for stand-alone applications. The Q7055C1035 mounts directly on a 14006090-555151 series communications panel using the FNA3 mounting ears (mounting ears are included with the Q7055C1035). The Q7055C1034 mounts inside an XLS140 or XLS3000 panel and uses the panel's power supply.

Status information, like *LAN communication activity*, *field bus traffic communication* and *system Heartbeat* of the FNA3 is indicated by LEDs on the device front.

Ground fault detection is provided by the Honeywell® GFD ground fault detection module. Refer to Fig. 10.

SPECIFICATIONS

Model:
Q7055C1035 Fire Network Adapter (FNA3).
Q7055C1034 Fire Network Adapter (FNA3-XLS).

Electrical Ratings:
Supply Voltage: 24 Vac, 50 to 60 Hz, 24 Vdc (external power supply required).

NOTE: The power supply must be regulated, power limited and listed for use in fire alarm systems.

Power Consumption: 8 VA.
XLS FACP power supply/standby battery load: 24 Vdc @ 300 mA.

Temperature Ratings:
Operating: 32 ° to 120 °F (0 ° to 49 °C).
Storage: -31 ° to +160 °F (-35 ° to +70 °C).

Humidity Ratings: 5 to 93% RH, non-condensing.

System Data:
Processor: 32 bit high speed microprocessor.
Data Transfers: 10/100 Mbit/sec., 802.3 Ethernet.
LAN Interfaces: 10/100BaseT (RJ-45).
Field Bus and Device Interface: Serial EIA/RS-232.
Memory Type: SDRAM, NOR & NAND flash.
MTBF: > 100,000h.
Safety:
Protection Standard: IP20 acc. to EN60529.
Protection Class: II acc. to EN60730-1.
Flame Retardant: V0 acc. to UL 94.

Dimensions (W x H x D):
FNA3: 8-13/16 in. (224 mm) x 2-13/16 in. (72 mm) x 7-13/16 in. (199 mm).
FNA3-XLS: 19 in. (483 mm) x 8 in. (203 mm) x 2 1/8 in. (54 mm)

Weight:
FNA3: 2.0 lb (0.9 kg)
FNA3-XLS: 4.3 lb. (2.0 kg)

Approvals:
Electromagnetic Compatibility (EMC): EN50081-1, EN50082-2, and EN50130-4.
Electromagnetic Emission (EME): FCC Class A.
Control Units and Accessories for Fire Alarm Systems (UL 864-9th), Energy mgt. (UL 916), Proprietary Burglar Alarm Units and Systems (UL 1076), Central Station Burglar Alarm Units and Systems (UL1610), General Purpose. Sig. (UL 2017).
Fire Alarm: (ULC-S527-99); requirements of Canadian province and local building codes; CEC 22.1 Canadian Electrical Code; ULC S559-04, Equipment for Fire Signal Receiving Centres and Systems.
Mass Notification Systems (UL 2572).

Additional Equipment:
DC Power supply: 50017367-001 - Jameco® Model No. DDU240050, 120 Vac, 60 Hz input, 24 Vdc, 0.500 A output, wall mounted power cube 15 VA Class 2 (Ever Glow, UL File number E135456).
DC Power supply: CUI Model No. EMS240075-P5P-SZ 120/240 Vac, 50/60 Hz input, 24 Vdc, 0.75 A output, Class 2.

DC Power supply: CUI Model No. SMI18-24-V-P5, 120/ 240 Vac, 50/60 Hz input, 24 Vdc, 0.8 A output, Class 2.

AC Power Supply: 120 Vac, 50/60 Hz 24 VA input, 24 Vac output, Honeywell 14507287 series or 14507350-002 listed.
75554 NUP-DB9 Data Cable (Included).
75583 NCM Power Cable.
NCM-W Network Communications Module - wire type
NCM-F Network Communications Module - fiber type
HS-NCM-W Network Communications Module - wire type
HS-NCM-F Network Communications Module - fiber type
XLS-NCM-EBI-F PC Mounted NCM device- fiber type (contains 75557 RS-232 NCS-NCW cable).
XLS-NCM-EBI-W PC mounted NCM device- wire type (contains 75557 RS-232 NCS-NCW cable).
XLS-HS-NCM-EBI-F PC mounted NCM device- fiber type (contains 75557 RS-232 NCS-NCW cable).

SYSTEM OVERVIEW

Fig. 1 shows an application example of the FNA3 device in a Building Management System.

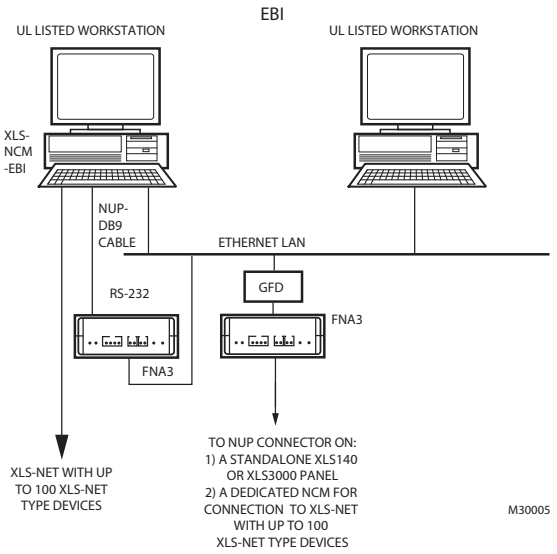


Fig. 1. Application Block Diagram.

Typical characteristics of the FNA3 components are as follows (See Fig. 2):

FNA3: The FNA3 contains a high-speed state-of-the-art 32-bit microprocessor including a communication coprocessor designed for maximum performance. It is designed for reliable and robust operation under a wide range of operating conditions.

10/100BaseT: 10/100Base RJ-45 Ethernet LAN connector meets the requirements of ANSI/TIA/EIA 586 Category 5 for unshielded twisted pair connections.

Field Bus: 9-pin SUB-D EIA/RS-232 connector for XLS-NET field bus connection electrically isolated, meets the EMC and FCC requirements. This connector can also be used to configure the device by following a HyperTerminal connection procedure during device boot-up.

Power: 3-pole Phoenix power connector for 24 Vac/dc power supplies.

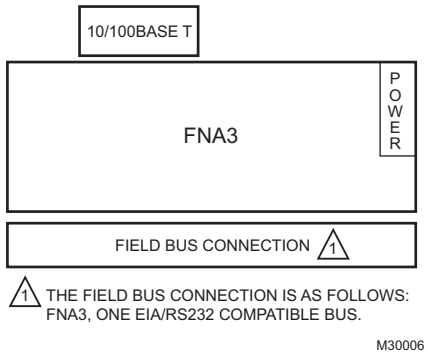


Fig. 2. FNA3 Components.

BEFORE INSTALLATION

Perform the following steps prior to installing the FNA device:

1. Verify that the product has been received without damage.
2. Verify that the correct FNA device has been delivered.
3. Check the package contents. The following items are included in each product package:
   - Fire Network Adapter device.
   - 50017367-001 or CUI Model No. EMS240075-P5P-SZ Power Supply
     or
     SMI18-24-V-P5 Power Supply.
   - Ground wire with lug.
   - 75554 NUP-DB9 Data cable.
   - Fire Network Adapter Installation Instructions.
   - Bag of installation materials as follows: one 3-pole Phoenix power connector, and mounting hardware.
4. Study the wiring diagrams carefully prior to connecting power, ground, and data interface cables to the FNA.

FNA3 INSTALLATION WITH XLS-NET

The FNA3 will use an EIA/RS-232 cable to connect either directly to an XLS panel CPU, or to an XLS-NET NCM located in an XLS panel, or to an XLS-NCM-EBI device mounted in the EBI computer.

When the FNA3 is located next to a standalone XLS CPU, it can use the DB9-NUP connector cable P/N 75554 to connect directly to the XLS PANEL NUP network service connection on the CPU.

When the FNA3 needs to be connected with a networked XLS CPU (or another networked XLS device) it requires its own NCM and the 75583 power cable. In this case, the NCM

device is powered via the 75583 cable, and connects to the XLS-NET. The FNA3 uses the 75554 DB9-NUP cable to connect to the NUP connector on the NCM device.

If the FNA3 is located in the same room as the EBI, then GFD and Ethernet port surge protection devices are not required for monitoring and protecting the Ethernet cables between FNA3 and EBI computer.

When the FNA3 is in the same room with EBI computer but not with the XLS CPU, it can be connected to XLS-NET with the use of an XLS-NCM-EBI device installed inside the EBI computer. The XLS-NET can be wired directly to the XLS-NCM-EBI via an edge-mounted connector. The FNA3 can be connected to the EIA/RS-232 port on the XLS-NCM-EBI with cable P/N 75557 (supplied with XLS-NCM-EBI).

A hub or a switch between FNA3 and EBI computer LAN ports is required only if additional network devices are to be connected.

IMPORTANT

- *— The DB-9 NUP EIA/RS-232 Field Bus cable must not exceed 20 ft (6.1 m) in length, and must be installed in conduit.*
- *— The FNA3 and XLS PANEL or NCM must be located within the same room.*

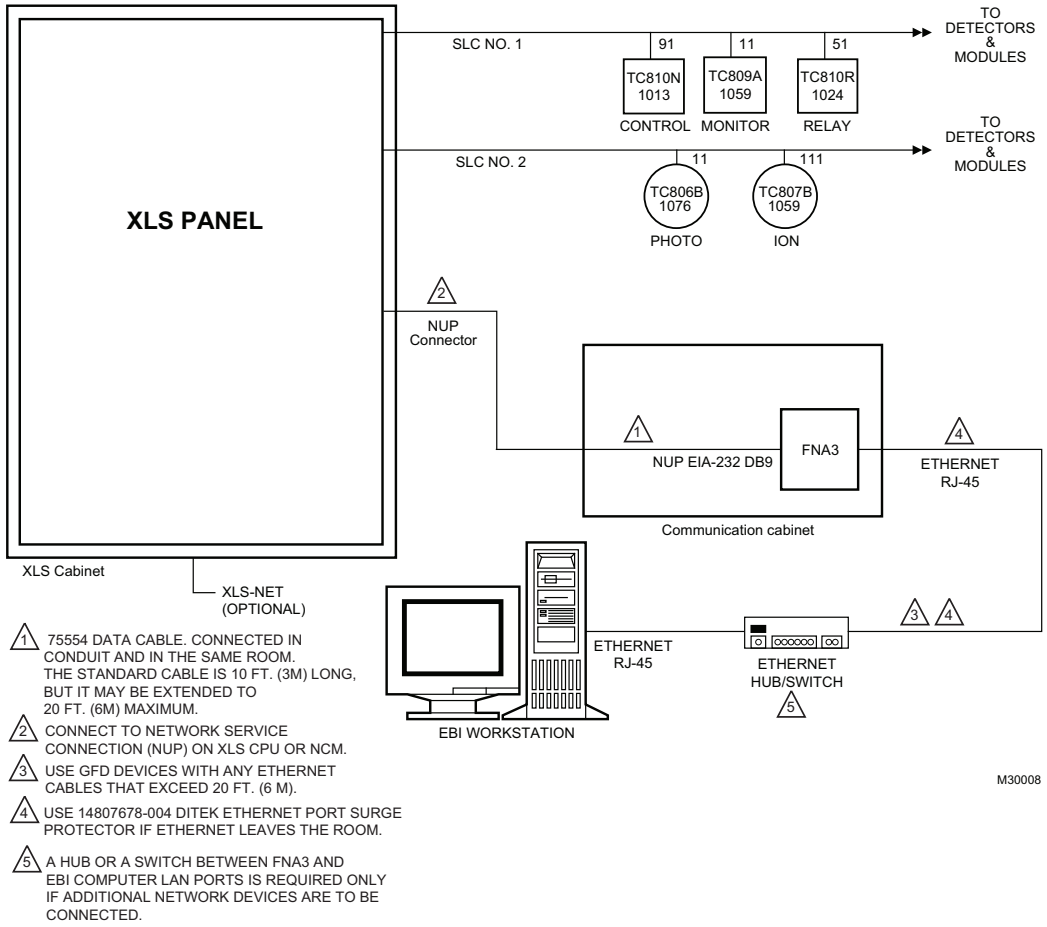


Fig. 3. Typical External Q7055C1035/XLS Panel Connect Block Diagram.

Table 1. Field Bus 9 Pin Sub D Bus Connector Terminal Specifications

Connector Terminal	Pin	Signal Type	Input/ Output	Voltage Type	Max. Voltage	Max. Current	Max. Frequency	Max. Line Impedance
Field Bus 9 Pin Sub D	3	RXD	Input/ Output	SIGNAL	± 12 V	± 12 mA	115.2 k baud	100 ohms
Field Bus 9 Pin Sub D	5	TXD	Input/ Output	SIGNAL	± 12 V	± 12 mA	115.2 k baud	100 ohms
Field Bus 9 Pin Sub D	2	SCOM	--------	-------	-------	-------	-------	-------

Max. wiring distance 20 ft. (6.1 m.), 24 AWG min

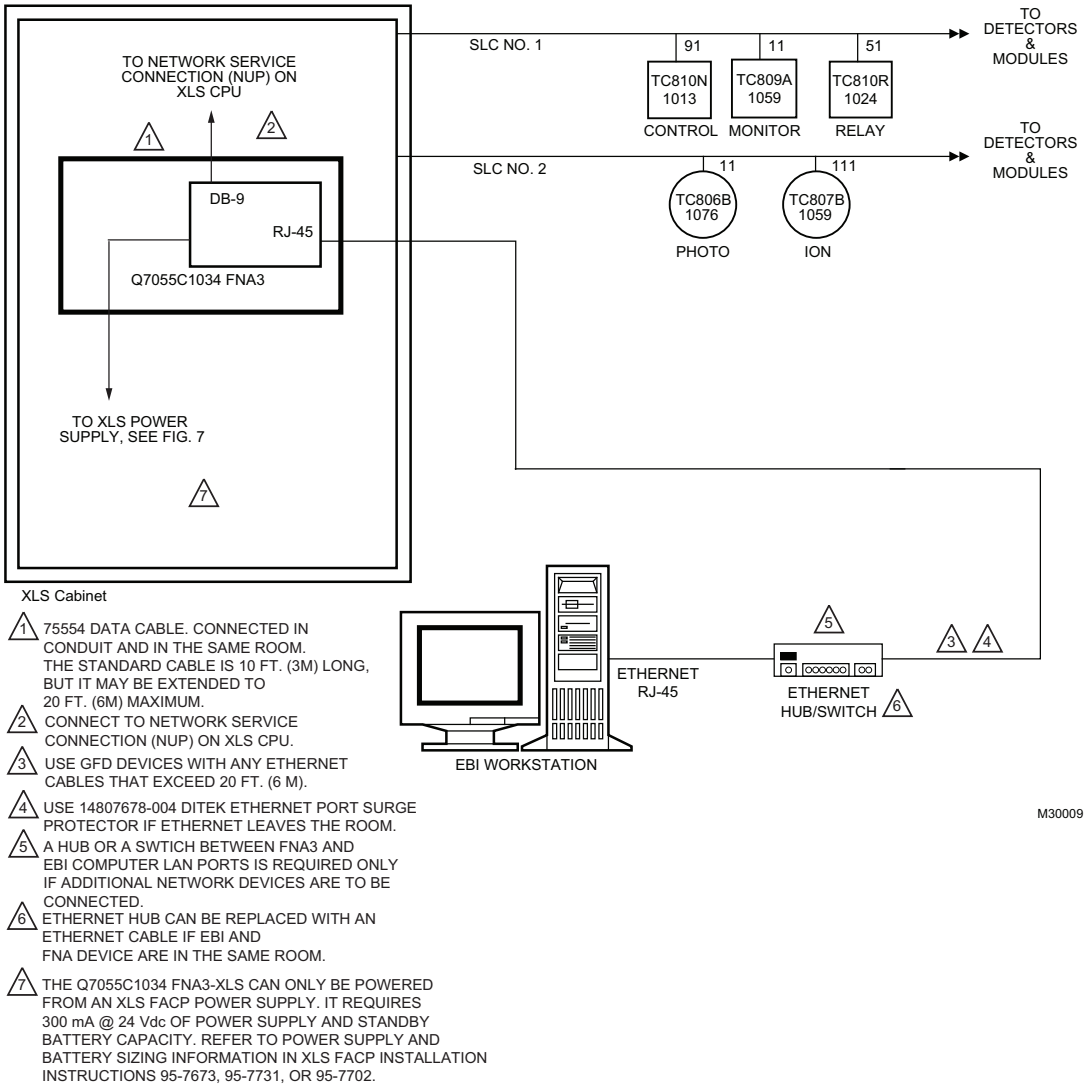


Fig. 4. Typical Internal Q7055C1034/XLS Panel Connect Block Diagram for standalone panels.

Table 2. LAN Connector Terminal Specifications.

Connector Terminal	Pin No.	Signal Type	Input/ Output	Voltage Type	Maximum Voltage	Minimum Current	Maximum Frequency	Maximum Impedance
Ethernet	1	TD+	Output	SIG	±5 V	± 100 mA	100 Mbps	100 ohms
	2	TD-	Output	SIG	±5 V		100 Mbps	100 ohms
	3	RD+	Input	SIG	±5 V		100 Mbps	100 ohms
	4	Not Used						
	5	Not Used						
	6	RD-	Input	SIG	±5 V	± 100 mA	100 Mbps	100 ohms
	7	Not used						
	8	Not Used						

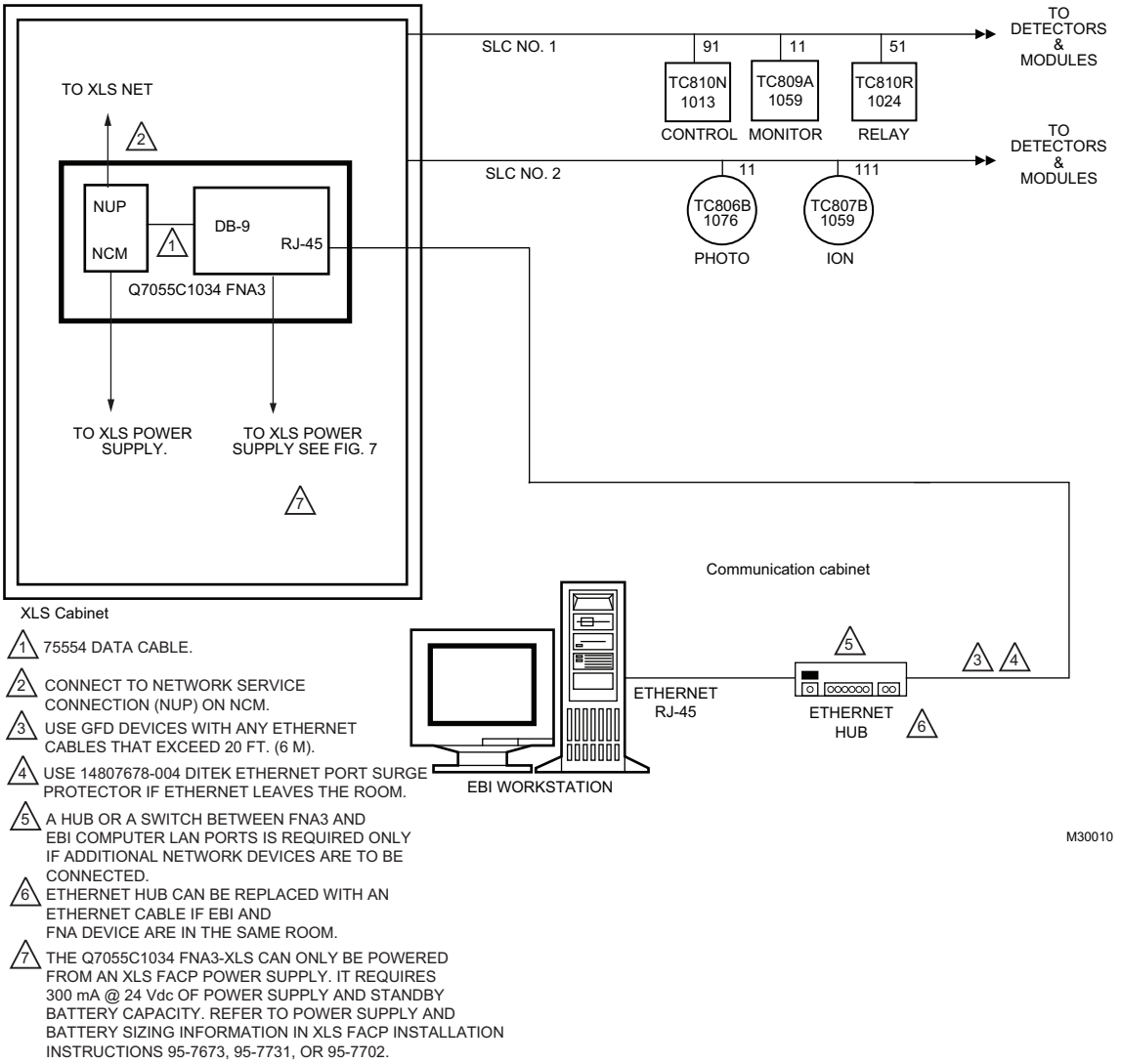


Fig. 5. Typical Internal Q7055C1034/XLS Panel Connect Block Diagram for panels connected to XLS-NET.

Q7055C1034 MOUNTING

Typical Q7055C1034 FNA3-XLS mounting in an XLS cabinet is shown in figure 6. Mounting locations and restrictions are the same as those for the CHS-4L chassis. The space in the middle of the assembly is used for the FNA3 PWB assembly. Space is available on the left side of the Q7055C1034 for mounting an NCM if needed (not included – order separately). The 14507678-004 Ditek LAN transient protector (when it is required), can be installed on one of the Q7055C1034 mounting studs on the upper right of the FNA3. The transient protector's green ground wire should be connected to chassis by terminating it on a Q7055C1034 mounting stud. Be sure to remove any paint from around the stud to insure a good connection. Two nuts and washers are provided in the bag kit for mounting the Q7055C1034 on the XLS cabinet studs. The same stud used for terminating the LAN transient protector's ground wire should also be used to provide a chassis connection for the green ground wire from the FNA3 power connector. The Q7055C1034 FNA3-XLS must be powered directly from an internal XLS FACP power supply. External power supplies, such as those recommended for the Q7055C1035 FNA, cannot be used.

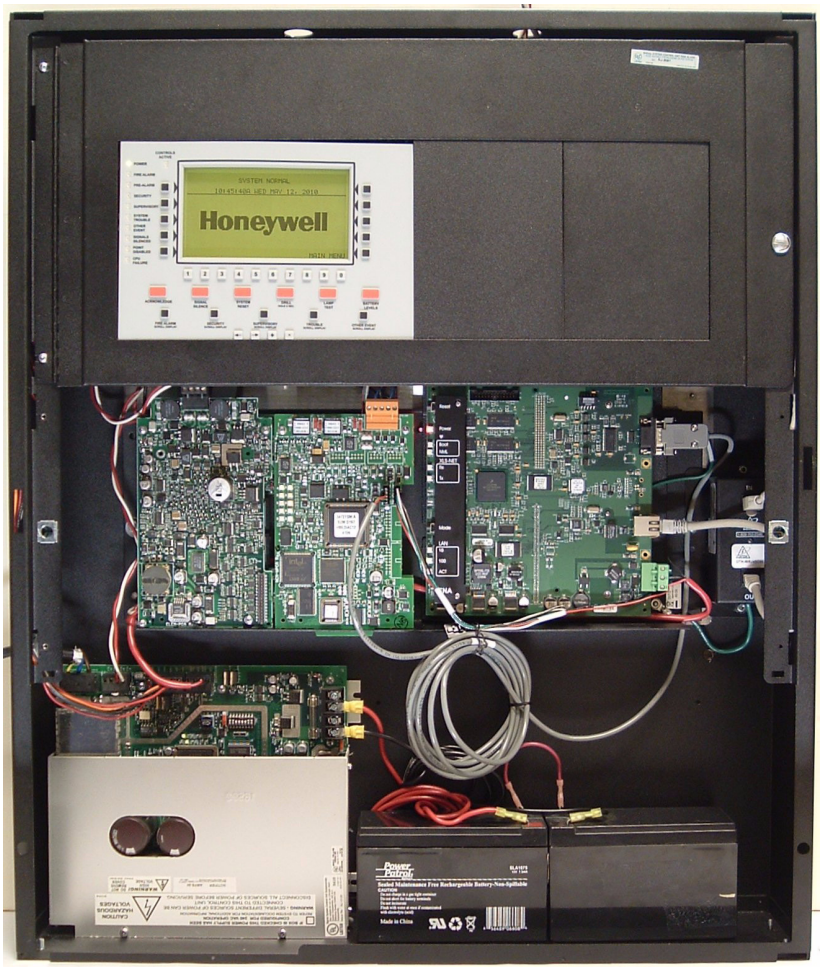


Fig. 6. Typical Q7055C1034 FNA3-XLS mounting in an XLS cabinet.

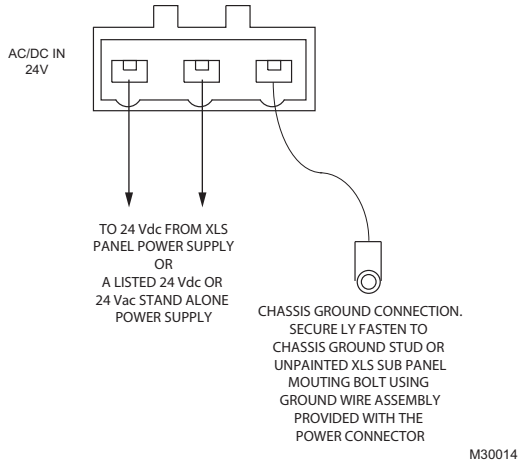


Fig. 7. Typical power connections for all Q7055C FNA3 models.

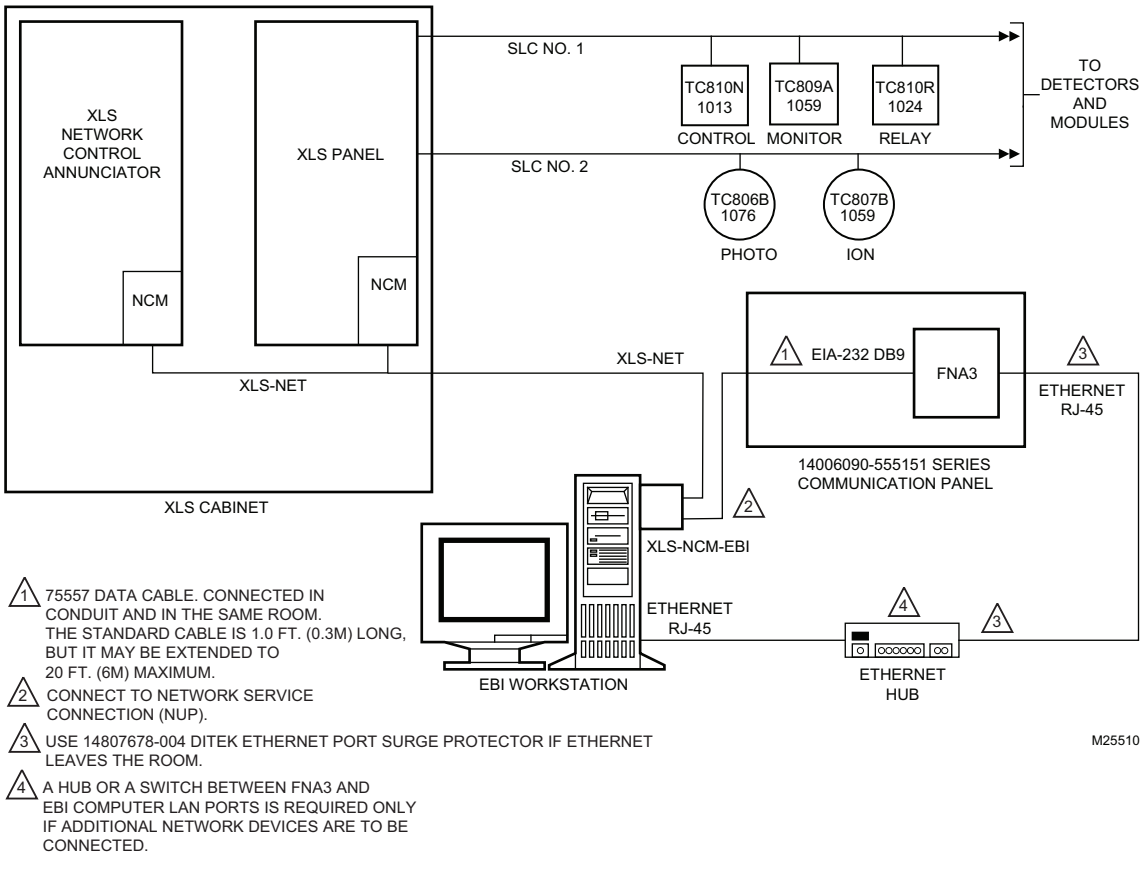
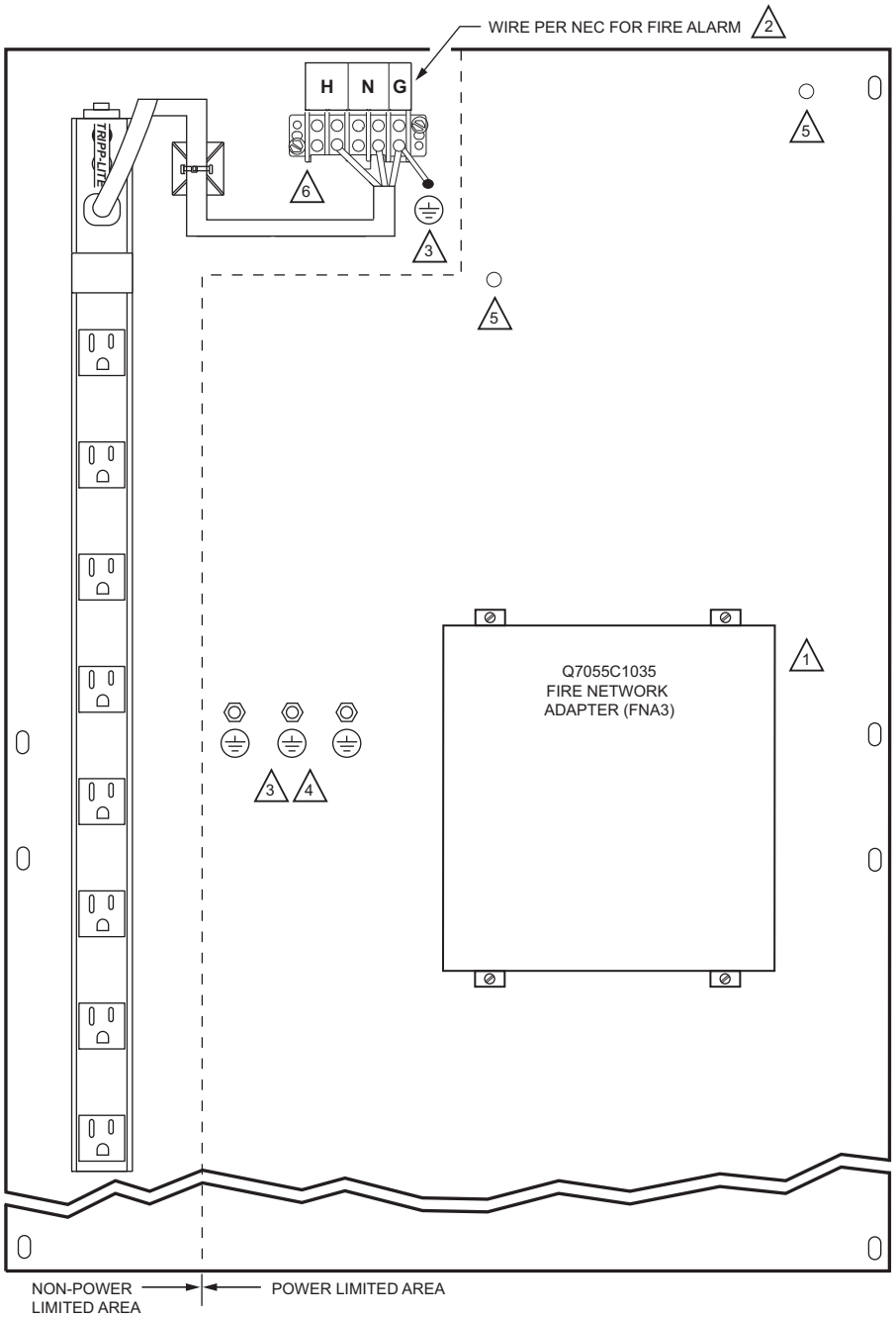


Fig. 8. Typical FNA3/XLS-NCM-EBI Connect Application Block Diagram.



1 TYPICAL MOUNTING LOCATION FOR Q7055C1035 FIRE NETWORK ADAPTER (FNA2).

2 G = GROUNDING CONDUCTOR

3 ⏚ GROUND CONNECTION. 8-32 STUD WITH 8-32 KEPS NUT.

4 GROUND CONNECTION FOR 14507678-004 DITEK ETHERNET PROTECTOR AND OTHER LOW VOLTAGE EQUIPMENT.

5 DRILLED MOUNTING HOLES FOR 14507719-001 8 PORT ETHERNET HUB (IF USED).

6 14503899-002 MOV FACTORY INSTALLED ON TERMINAL STRIP.

NOTE: SYSTEM WIRING IS CLASSIFIED AS EITHER POWER LIMITED OR NON-POWER LIMITED PER NEC ARTICLE 760. ALL POWER LIMITED WIRING MUST BE SEPARATED FROM ALL NON-POWER LIMITED WIRING BY A MINIMUM DISTANCE OF 1/4 IN. (6 MM).

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Fig. 9. Typical Mounting of Q7055C1035 FNA3 on 14006090-555151 Communications Panel.

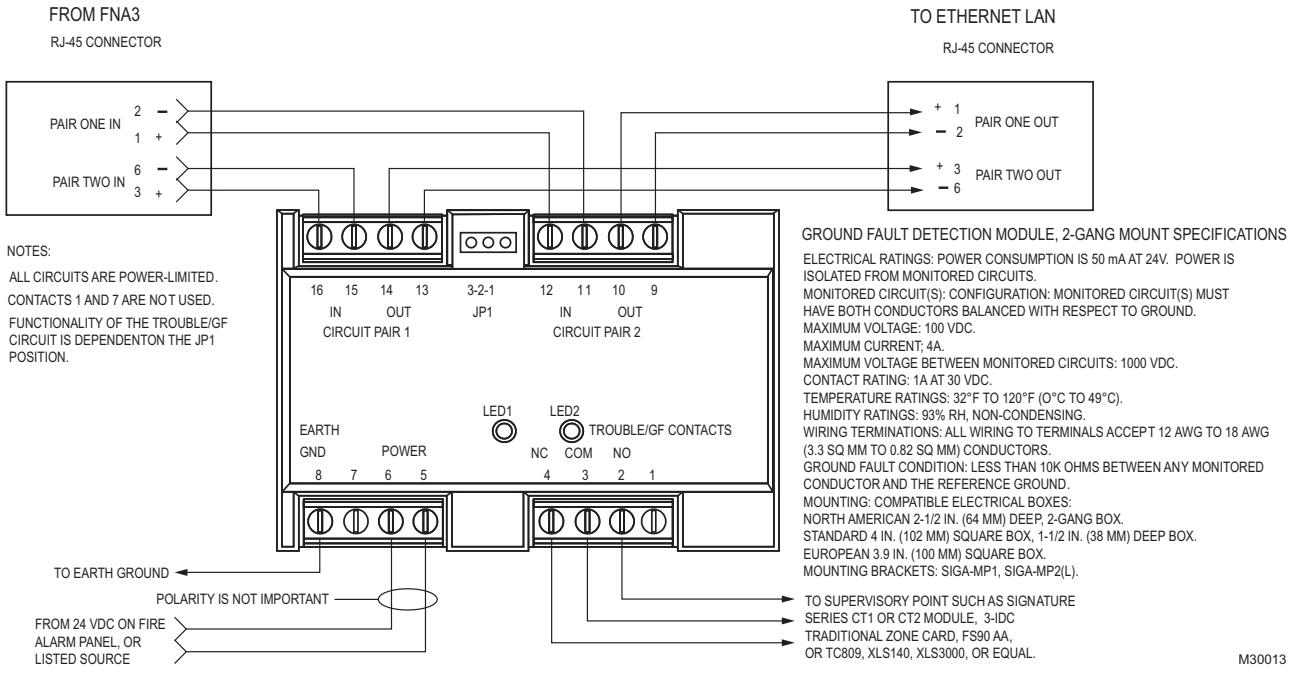

Fig. 10. Typical GFD Wiring.

VOIP COMMUNICATIONS

Voice over Internet Protocol (VoIP) is a packet switched communication platform. Use of VoIP communications may only be used for general paging. It is not intended for use for any fire alarm or emergency signaling/communication purposes.

CE CERTIFICATION REQUIREMENTS (EUROPE ONLY)

CE compliance requires very low levels of radiated and conductive emissions. Therefore, CE certification requires additional emission suppression. All RS-232 field wiring entering the Q7055C1035 FNA3 must be routed through a ferrite suppression core as listed in the Specifications Section, under Additional Equipment.

Ferrite Suppression Core (For All RS-232 Field Wiring)

For each RS-232 field connection terminating in the FNA3, loop both conductors and shield them once through a ferrite suppression core (See Fig. 11). Looping is not required if the field cable diameter is too large to loop. In that case, simply route the field cable through the core without looping. Use one ferrite suppression core for each RS-232 field wiring circuit.

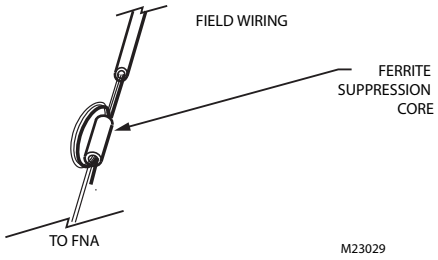

Fig. 11. CE Certification Wiring.

MAINTENANCE PROCEDURES

The system must be maintained in accordance with the system documentation and procedures and practices contained in applicable NFPA and UL standards. The Q7055C FNA3 has no user replaceable fuses. For service, contact your local Honeywell Automation & Control Solutions office as listed in the phone book, or contact a regional office as shown at the end of the document.

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