A. Equipment List for Fire Fighting System for Fire Alarm Panels

KKS CODE	TYPE	MANUFACTURE	DESCRIPTION	LOCATION	QUANTITY
00SGY04GH100	NFS2-640E	NOTIFIER - USA	Fire Alarm Central Station	Central Control Room - Central Control Building - Operating Floor	1 Unit
00SGY09GH001	NFS-320E	NOTIFIER - USA	Fire Alarm Station for Steam Turbine Building	Steam Turbine Building - Operating Floor	1 Unit
50SGC06GH001	NFS-320E	NOTIFIER - USA	Fire Alarm Station Water Spray System for Unit-5 Lube Oil Tank	Lube Oil Tank - Steam Turbine Building - Mezzanine Floor - Unit 5	1 Unit
60SGC06GH001	NFS-320E	NOTIFIER - USA	Fire Alarm Station Water Spray System for Unit-6 Lube Oil Tank	Lube Oil Tank - Steam Turbine Building - Mezzanine Floor - Unit 6	1 Unit
50SGC05GH001	NFS-320E	NOTIFIER - USA	Fire Alarm Station Water Spray System for Unit-5 Seal Oil Pump	Seal Oil Pump - Steam Turbine Building - Mezzanine Floor - Unit 5	1 Unit
60SGC05GH001	NFS-320E	NOTIFIER - USA	Fire Alarm Station Water Spray System for Unit-6 Seal Oil Pump	Seal Oil Pump - Steam Turbine Building - Mezzanine Floor - Unit 6	1 Unit
50SGC00GH001	NFS-320E	NOTIFIER - USA	Fire Alarm Station Water Spray System for Unit-5 Transformer Area	Transformer Yard - Unit 5	1 Unit
60SGC00GH001	NFS-320E	NOTIFIER - USA	Fire Alarm Station Water Spray System for Unit-6 Transformer Area	Transformer Yard - Unit 6	1 Unit
00SGE01GH001	NFS2-3030	NOTIFIER - USA	Fire Alarm Station Water Mist System	Inert Gas Room - Central Control Building - Ground Floor	1 Unit
00SGK01GH001	NFS-320E	NOTIFIER - USA	Fire Alarm Station Inert Gas System	inert Gas Room - Central Control Building - Ground Floor	1 Unit
50SGJ01GH001	NFS-320E	NOTIFIER - USA	Fire Alarm Station CO2 System for Unit-5	Exciter Housing - Steam Turbine Building - Operating Floor - Unit 5	1 Unit
60SGJ01GH001	NFS-320E	NOTIFIER - USA	Fire Alarm Station CO2 System for Unit-6	Exciter Housing - Steam Turbine Building - Operating Floor - Unit 6	1 Unit
00SGY16GH001	NFS-320E	NOTIFIER - USA	Fire Alarm Station for Hydrogen Yard	Hydrogen Plant Building	1 Unit
00SGY18GH001	NFS-320E	NOTIFIER - USA	Fire Alarm Station for Switch Yard	Switch Yard Control Building	1 Unit
-	NCA-2	NOTIFIER - USA	Layout Display Board at Gate House and Inside Central Control Room	Gate House and Central Control Room - Central Control Building - Operating Floor	2 Unit
50SGE03GC001	N/A	N/A	Junction Box Fire Alarm for Steam Turbine Building	Boiler Feed Pump - Steam Turbine Building - Ground Floor - Unit 5	1 Unit
60SGE03GC001	N/A	N/A	Junction Box Fire Alarm for Steam Turbine Building	Boiler Feed Pump - Steam Turbine Building - Ground Floor - Unit 6	1 Unit
50SGE05GC001	N/A	N/A	Junction Box Fire Alarm for Steam Turbine Building	Turbine Bearing Area - Steam Turbine Building - Operating Floor - Unit 5	1 Unit
60SGE05GC001	N/A	N/A	Junction Box Fire Alarm for Steam Turbine Building	Turbine Bearing Area - Steam Turbine Building - Operating Floor - Unit 6	1 Unit
50SGK05GC001	N/A	N/A	Junction Box Fire Alarm for Steam Turbine Building	MV Switchgear Room - Steam Turbine Building - Mezzanine Floor - Unit 5	1 Unit
60SGK05GC001	N/A	N/A	Junction Box Fire Alarm for Steam Turbine Building	Common MV Switchgear Room - Steam Turbine Building - Mezzanine Floor - Unit 6	1 Unit
50SGY06GC001	N/A	N/A	Junction Box Fire Alarm for Steam Turbine Building	Steam Turbine Building - Basement Floor - Unit 5	1 Unit
60SGY06GC001	N/A	N/A	Junction Box Fire Alarm for Steam Turbine Building	Steam Turbine Building - Basement Floor - Unit 6	1 Unit
50SGY07GC001	N/A	N/A	Junction Box Fire Alarm for Steam Turbine Building	Steam Turbine Building - Ground Floor - Unit 5	1 Unit
60SGY07GC001	N/A	N/A	Junction Box Fire Alarm for Steam Turbine Building	Steam Turbine Building - Ground Floor - Unit 6	1 Unit
50SGY08GC001	N/A	N/A	Junction Box Fire Alarm for Steam Turbine Building	Steam Turbine Building - Mezzanine Floor - Unit 5	1 Unit
60SGY08GC001	N/A	N/A	Junction Box Fire Alarm for Steam Turbine Building	Steam Turbine Building - Mezzanine Floor - Unit 6	1 Unit
50SGY09GC001	N/A	N/A	Junction Box Fire Alarm for Steam Turbine Building	Steam Turbine Building - Operating Floor - Unit 5	1 Unit
60SGY09GC001	N/A	N/A	Junction Box Fire Alarm for Steam Turbine Building	Steam Turbine Building - Operating Floor - Unit 6	1 Unit
00SGK04GC001	N/A	N/A	Junction Box Fire Alarm for Central Control Building	Control Equipment Room - Central Control Building - Operating Floor	1 Unit
00SGY04GC001	N/A	N/A	Junction Box Fire Alarm for Central Control Building	Central Control Building - Operating Floor	1 Unit
00SGE02GC001	N/A	N/A	Junction Box Fire Alarm for Central Control Building	Cable Flat - Central Control Building	1 Unit
00SGK03GC001	N/A	N/A	Junction Box Fire Alarm for Central Control Building	LV Switchgear Room - Central Control Building - Mezzanine Floor	1 Unit
00SGY03GC001	N/A	N/A	Junction Box Fire Alarm for Central Control Building	Central Control Building - Mezzanine Floor	1 Unit
00SGK02GC001	N/A	N/A	Junction Box Fire Alarm for Central Control Building	LV Switchgear Room - Central Control Building - Ground Floor	1 Unit
00SGY02GC001	N/A	N/A	Junction Box Fire Alarm for Central Control Building	Central Control Building - Ground Floor	1 Unit

Reference Drawing

NO.	TITLE	PROJECT DOC NO.	PTS NO.
1	System Design Description for Turbine Island Fire Fighting System	TJB56-L1-OFF-C-SGA-M-FSP-2048	DSC-GMH-XIT05-0009
2	Wiring Schematic for Fire Alarm System for Turbine Island Fire Fighting System	TJB56-L1-OFF-C-SGY-E-DWD-3711	B-FF-E-TS-0204
3	Schematic Diagram for Fire Alarm System for Turbine Island Fire Fighting System	TJB56-L1-OFF-C-SGY-I-DSD-3727	B-FF-E-TS-0205
4	General Arrangement for Steam Turbine Building for Turbine Island Fire Fighting System	TJB56-L1-OFF-C-SGA-M-DGA-3101	B-FF-O-TS-0206
5	General Arrangement for Central Control Building for Turbine Island Fire Fighting System	TJB56-L1-OFF-C-SGA-M-DGA-3104	B-FF-O-TS-0207
6	General Arrangement for Hydrogen Gas Generating Building for Turbine Island Fire Fighting System	TJB56-L1-OFF-C-SGA-M-DGA-3105	B-FF-O-TS-0208
7	General Arrangement for Switch Yard for Turbine Island Fire Fighting System	TJB56-L1-OFF-C-SGA-M-DGA-3106	B-FF-O-TS-0209
8	Site Test & Commissioning Program for Turbine Island Fire Fighting System	TJB56-L1-OFF-C-SGA-Q-SCH-3931	B-FF-K-TS-0020
9	Shop Individual Inspection and Test Program for Turbine Island Fire Fighting System	TJB56-L1-OFF-C-SGA-Q-SCH-3909	B-FF-K-TS-0021

DN-7070:P • A-10

NFS2-3030

Intelligent Addressable Fire Alarm System

NOTIFIER® by Honeywell

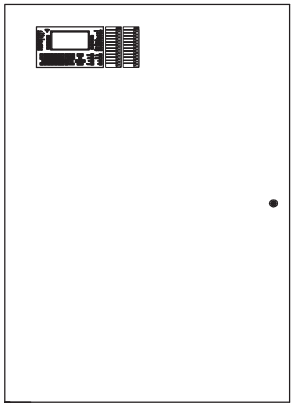
Intelligent Fire Alarm Control Panels

General

The NFS2-3030 is an intelligent Fire Alarm Control Panel (FACP) designed for medium- to large-scale facilities. Fire emergency detection and evacuation are extremely critical to life safety, and the NFS2-3030 is ideally suited for these applications. The NFS2-3030 is part of the ONYX® Series of products from NOTIFIER. The NFS2-3030 is ideal for virtually any application because it features a modular design that is configured per project requirements. With one to ten Signaling Line Circuits (SLCs), the NFS2-3030 supports up to 3,180 intelligent addressable devices.

Information is critical to fire evacuation personnel, and the NFS2-3030's large 640-character Liquid Crystal Display (LCD) presents vital information to operators concerning a fire situation, fire progression, and evacuation details.

A host of other options are available, including single- or multi-channel voice; firefighter's telephone; LED, LCD, or PC-based graphic annunciators; networking; advanced detection products for challenging environments; wireless fire protection; and many additional options.



NFS2-3030

Features

- Certified for seismic applications when used with the appropriate seismic mounting kit.
- Approved for Marine applications when a marine-listed version is used with marine-listed compatible equipment. *See DN-60688.*
- Complies with UL 2572 Mass Notification Systems (NFS2-3030 version 20 or higher).
- One to ten isolated intelligent Signaling Line Circuits (SLC) Style 4, 6 or 7.
- Wireless fire protection using SWIFT Smart Wireless Integrated Fire Technology. See DN-60820.
- Up to 159 detectors and 159 modules per SLC; 318 devices per loop/3,180 per FACP or network node.
  - Detectors can be any mix of ion, photo, thermal, or multi-sensor; wireless detectors are available for use with the FWSG.
  - Modules include addressable pull stations, normally open contact devices, two-wire smoke detectors, notification, or relay; wireless modules are available for use with the FWSG.
- Large 16 line, 640 character LCD backlit display or use display-less as a network node.
- Network options:
  - High-speed network for up to 200 nodes (NFS2-3030, NFS2-640, NFS-320(C), NFS-320SYS, NCA-2, DVC-EM, ONYXWorks, NFS-3030, NFS-640, and NCA).
  - Standard network for up to 103 nodes (NFS2-3030, NFS2-640, NFS-320(C), NFS-320SYS, NCA-2, DVC-EM, ONYXWorks, NCS, NFS-3030, NFS-640, NCA, AFP-200, AFP-300/400, AFP-1010, and AM2020). Up to 54 nodes when DVC-EM is used in network paging.
- Built-in Alarm, Trouble, Security, and Supervisory relays.
- VeriFire® Tools online/offline program option.
- With built-in Degraded Mode operation, the system is capable of general alarm if a fire alarm condition is present even if the central processing unit (CPU) fails.
- Weekly Occupancy Schedules allow changing sensitivity by time of day and day of week.
- EIA-485 annunciators, including custom graphics.
- History file with 4000-event capacity in nonvolatile memory, plus separate 1000-event alarm-only file.
- Advanced history filters allow sorting by event, time, date, or address.
- Alarm Verification selection per point, with automatic counter.
- Autoprogramming and Walk Test reports.
- Multiple central station communication options:
  - Standard UDACT
  - Internet
  - Internet/GSM
- Positive Alarm Sequence (PAS) Presignal.
- Silence Inhibit and Auto Silence timer options.
- Field-programmable on panel or on PC, with VeriFire Tools program, also check, compare.
- Non-alarm points for lower priority functions.
- Remote ACK/Signal Silence/System Reset/Drill via monitor modules.
- Up to 1000 powerful Boolean logic equations.
- Supports SCS Series smoke control system in both HVAC and FSCS modes.
- FM6320 approved Gas Detection System with FMM-4-20 module and any FM listed gas detector.
- EIA-232 printer port.
- EIA-485 annunciator port.

640-Character Display Features

- Backlit, 640-character display.
- Program keypad: full QWERTY keypad.
- Up to nine users, each with a password and selectable access levels.
- **11 LED indicators:** Power; Fire Alarm; Pre-Alarm; Security; Supervisory; System Trouble; Other Event; Signals Silenced; Point Disabled; CPU Failure; Controls Active.
- **Membrane Switch Controls:** Acknowledge; Signal Silence; Drill; System Reset; Lamp Test.
- **LCD Display:** 640 characters (16 lines x 40 characters) with long-life LED backlight.

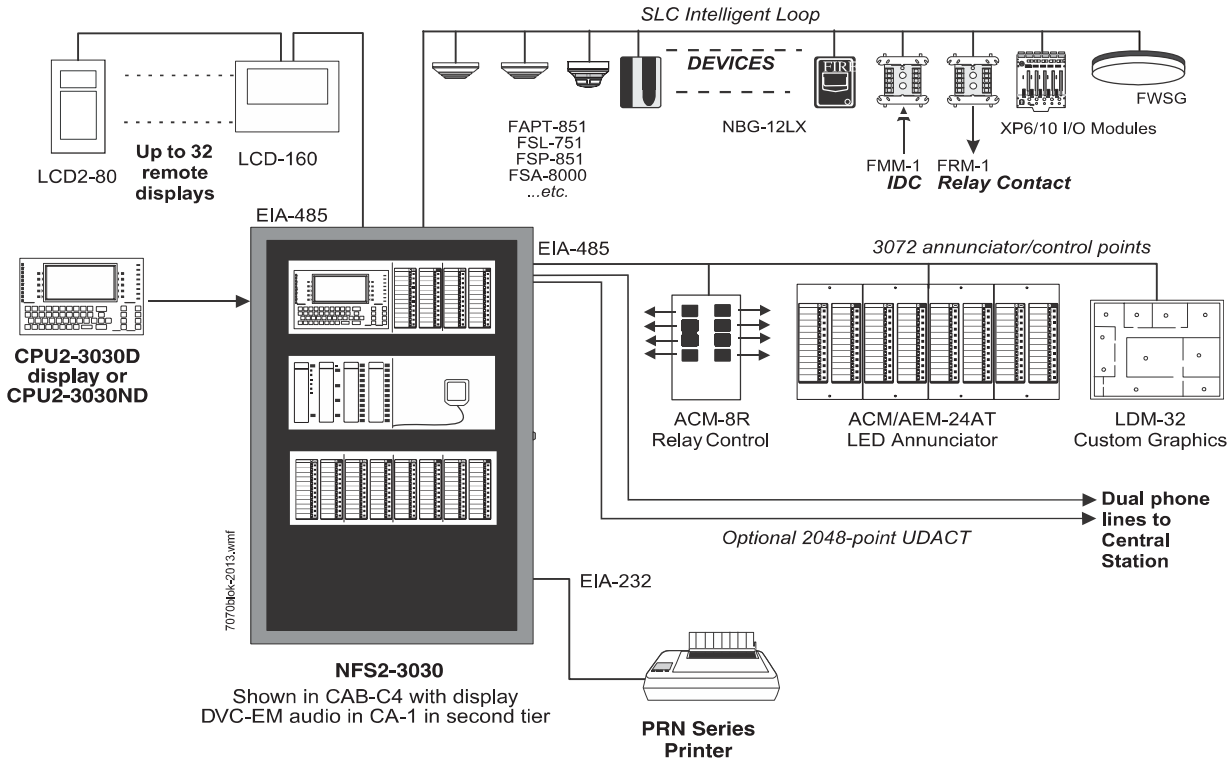
FlashScan® Intelligent Features

- Polls up to 318 devices on each loop in less than two seconds.
- Activates up to 159 outputs in less than five seconds.
- Multicolor LEDs blink device address during Walk Test.
- Fully digital, high-precision protocol (U.S. Patent 5,539,389).
- Manual sensitivity adjustment — up to nine levels.
- Pre-alarm ONYX intelligent sensing — up to nine levels.
- Sensitivity levels:
  - **– Ion –** 0.5 to 2.5%/foot obscuration.
  - **– Photo –** 0.5 to 2.35%/foot obscuration.
  - **– Laser (VIEW®) –** 0.02 to 2.0%/foot obscuration.
  - **– Acclimate Plus™ –** 0.5 to 4.0%/foot obscuration.
  - **– IntelliQuad** – 1.0 to 4.0%/foot obscuration.
  - **– IntelliQuad™ PLUS –** 1.0 to 4.0%/foot obscuration
- Drift compensation (U.S. Patent 5,764,142).
- Multi-detector algorithm involves nearby detectors in alarm decision (U.S. Patent 5,627,515).
- Automatic detector sensitivity testing (NFPA-72 compliant).
- Maintenance alert (two levels).
- Self-optimizing pre-alarm.
- Programmable activation of sounder/relay bases during alarm or pre-alarm.
- Read Status displays the level of detector cleanliness.

FSL-751 VIEW® (Very Intelligent Early Warning) Smoke Detection Technology

- Advanced ONYX intelligent sensing algorithms differentiate between smoke and non-smoke signals (U.S. Patent 5,831,524).
- Addressable operation pinpoints the fire location.
- Early warning performance comparable to the best aspiration systems at a fraction of the lifetime cost.

Sample System Options



NOTE: *CPU2-3030 firmware version 14.0 (and higher) can support LCD-160 on the RDP port, or LCD2-80 in terminal mode, but not both at the same time.*

Field Programming Options

Autoprogram is a timesaving feature. The FACP "learns" what devices are physically connected and automatically loads them in the program with default values for all parameters. Requiring less than one minute to run, this routine allows the user to have almost immediate fire protection in a new installation, even if only a portion of the detectors are installed.

Keypad Program Edit. The NFS2-3030, like all NOTIFIER intelligent panels, has the exclusive feature of program creation and editing capability from the front panel keypad, while continuing to provide fire protection. The architecture of the NFS2-3030 software is such that each point entry carries its own program, including control-by-event links to other points. This allows the program to be entered with independent per-point segments, while the NFS2-3030 simultaneously monitors other (already installed) points for alarm conditions.

VeriFire® Tools

VeriFire® Tools is an offline programming and test utility that can greatly reduce installation programming time, and increase confidence in the site-specific software. It is Windows® based and provides technologically advanced capabilities to aid the installer. The installer may create the entire program for the NFS2-3030 in the comfort of the office, test it, store a backup file, then bring it to the site and download from a laptop into the panel.

Product Line Information

Configuration Guidelines

Stand-alone and network systems require a main display. On single-FACP systems (one NFS2-3030D), the display option is the CPU2-3030D. On network systems (two or more networked fire panel nodes), at least one NCA-2, NCS, or ONYXWorks annunciation device is required. Options listed as follows.

Main System Components

CPU2-3030D: NFS2-3030 Primary Display. CPU2-3030D ships with keypad/display installed; includes 640-character backlit LCD display, QWERTY programming and control keypad. CPU2-3030 is a central processing unit and requires an AMPS-24(E) power supply. For English ULC applications, use CPU2-3030DC. Non-English versions are available: CPU2-3030D-FR, CPU2-3030D-HE, CPU2-3030D-KO, CPU2-3030D-PO, CPU2-3030D-SC, CPU2-3030D-SP, CPU2-3030D-TC, and CPU2-3030D-TH. For English Marine applications order CPU2-3030D-M; for non-English Marine applications order CPU2-3030D-M and the appropriate KP-KIT-XX. (See DN-60688.)

CPU2-3030ND: CPU2-3030 without display. Non-English versions are available: CPU2-3030ND-FR, CPU2-3030ND-HE, CPU2-3030ND-KO, CPU2-3030ND-PO, CPU2-3030ND-SC, CPU2-3030ND-SP, CPU2-3030ND-TC.

LCM-320: Loop Control Module. Provides one SLC. NFS2-3030 supports up to five LCM-320s and five LEM-320 expanders for a total of ten SLCs. *See DN-6881.*

LEM-320: Loop Expander Module. Expands an LCM-320. *See DN-6881.*

SAMPLE SYSTEM: *Four-loop* NFS2-3030 *with display:* CPU2-3030*D, DP-DISP, two BMP-1s, CHS-M3, two LCM-320s, two LEM-320s, AMPS-24, SBB-A4,* DR-A4*, BP2-4, BB-100, batteries.*

Networking Options

NCA-2: Network Control Annunciator, 640 characters. An alternate primary display for CPU2-3030 can be provided by the NCA-2, NCS, or ONYXWorks. Using NCA-2 as primary display enables non-English languages. On network systems (two or more networked fire panel nodes), one network display (either NCA-2, NCS, or ONYXWorks) is required for every system. On network systems, the NCA-2 connects (and requires) a standard Network Communication Module or High-Speed Network Communication Module. Mounts in a row of FACP node or in two annunciator positions. Mounting options include the DP-DISP, ADP-4B, or in an annunciator box, such as the ABS-2D. In CAB-4 top-row applications, a DP-DISP and two BMP-1 blank modules are required for mounting. Non-English versions are available: NCA-2-FR, NCA-2-HE, NCA-2-KO, NCA-2-PO, NCA-2-SC, NCA-2-SP, NCA-2-TC, NCA-2-TH. For English ULC applications, order NCA-2C; for marine applications, order NCA-2-M; for non-English marine applications order NCA-2-M and appropriate KP-KIT-XX. *See DN-7047.*

NCM-W, NCM-F: Standard Network Communications Modules. Wire and multi-mode fiber versions available. *See DN-6861.*

HS-NCM-W/MF/SF/WMF/WSF/MFSF: High-speed Network Communications Modules that can connect to two nodes. Wire, single-mode fiber, multi-mode fiber, and media conversion models are available. *See DN-60454.*

RPT-W, RPT-F, RPT-WF: Standard-network repeater board with wire connection (RPT-W), multi-mode fiber connection (RPT-F), or allowing a change in media type between wire and fiber (RPT-WF). Not used with high-speed networks. *See DN-6971.*

ONYXWorks: UL-listed graphics PC workstation, ONYXWorks GUI software, and computer hardware. *See DN-7048 for specific part numbers.*

NFN-GW-EM-3: NFN Gateway, embedded. (Replaces NFN-GW-EM.) *See DN-60499.*

NWS-3: NOTI•FIRE•NET™ Web Server. *See DN-6928.*

CAP-GW: Common Alerting Protocol Gateway. *See DN-60756.*

VESDA-HLI-GW: VESDAnet high-level interface gateway. *See DN-60753.*

LEDSIGN-GW: UL-listed sign gateway. Interfaces with classic and high-speed NOTI•FIRE•NET networks through the NFN Gateway. *See DN-60679.*

OAX2-24V: UL-listed LED sign, used with LEDSIGN-GW. *See DN-60679.*

Auxiliary Power Supplies and Batteries

AMPS-24(E): One required for each NFS2-3030. Addressable power supply and battery charger with two 24 VDC outputs. Addressable by any FlashScan® or CLIP mode FACP. Charges 7 to 200 AH batteries. Occupies up to five addresses on an SLC, depending on configuration. Primary input power for panel. *See DN-6883.*

APS2-6R: Auxiliary Power Supply. Provides up to 6.0 amperes of power for peripheral devices. Includes battery input and