NX-8-CF COMMERCIAL FIRE ADDENDUM (To Revision A Installation Manual)

Type	Type Service	Type Signaling	Model
L	A, M, SS, WF	NC	NX–8-CF
RS	A, M, SS, WF	NC	NX–8-CF
CS (protected premise unit)	A, M, SS, WF	NC	NX–8-CF

☐ **Compatible listed devices: (Special Applications)**
   o Bell Output (Sirens): Wheelock models NS–1215W, NS–121575W, NS4–1215W, NS4–121575W, AS–1215W, AS–121575W
   o Smoke Output (4 wire detectors): ESL 500N series; ESL 449CTE series; ESL 521 series; ESL 541 series

☐ **Location 37, Segment 5, Option 2**
   "On" enables NX–870E siren output to activate for FIRE ONLY. Default is off (disabled).

☐ **For 24 hours of standby power using a 17.2 AH battery, limit auxiliary power load to 400mA; Limit bell load to 600mA.**

☐ **For 60 hours of standby power using two 17.0 AH batteries in parallel, limit auxiliary power load to 400mA; Limit bell load to 600mA.**

☐ **AC Failure Report delay must be 6-12 hours for central station and 15-30 hours for remote station.**

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BATTERY CALCULATION WORKSHEET

❶ TOTAL STANDBY CURRENT

System Component	Qty		Standby Current		TOTAL STANDBY CURRENT
NX-8-CF	1	X	60mA	=	**60mA**
NX-870E	1	X	20mA	=	**20mA**
NX–148E		X	75mA	=	
NX–216E		X	30mA	=	
NX–320E		X	70mA	=	
NX–507E		X	10mA	=	
			TOTAL	**=**	

❷ TOTAL ALARM CURRENT

System Component	Qty		Device Alarm Current		TOTAL ALARM CURRENT
NX-8-CF	1	X	210mA	=	**210mA**
NX-870E	1	X	110mA	=	**110mA**
NX–148E		X	110mA	=	
NX–216E		X	60mA	=	
NX–320E		X	320mA	=	
NX–507E		X	310mA	=	
			TOTAL	**=**	

❸ STANDBY AMP HOURS

$$\frac{\text{mA}}{\text{Total Standby Current (Step 1)}} \times \frac{\text{.001 Amp/mA}}{\text{Conversion Factor}} \times \frac{\text{Hrs}}{\text{Required Hours in Standby}} = \frac{\text{Ah}}{\text{Standby Amp Hours}}$$

❹ ALARM HOURS

$$\frac{\text{mA}}{\substack{\text{Total Alarm} \\ \text{Current (Step 2)}}} \times \frac{\text{.001 Amp/mA}}{\substack{\text{Conversion} \\ \text{Factor}}} \times \frac{\text{Mins}}{\substack{\text{Required Minutes in} \\ \text{Standby}}} \times \frac{\text{.0167 Hr/Min}}{\substack{\text{Conversion} \\ \text{Factor}}} = \frac{\text{Ah}}{\text{Alarm Hours}}$$

❺ MINIMUM BATTERY POWER REQUIRED

$$\frac{\text{mA}}{\text{Standby Amp hours (Step 3)}} + \frac{}{\text{Alarm Amp Hours (Step 4)}} = \frac{\text{Ah}}{\text{Minimum Battery Power Required}}$$

❻ TOTAL STANDBY BATTERY POWER

$$\frac{}{\text{Minimum Battery Power (Step 5)}} + \frac{\text{1.15}}{\text{Battery Derating Factor}} = \frac{}{\text{Total Standby Battery Power}}$$

WIRING DIAGRAM

#28-0435 V2

FOR BURGLARY USE ONLY

E.O.L RESISTORS

DOUBLE E.O.L. ZONES 1 - 8.
BRN
BRN
YEL
VIOLET
ORG
3.74K

DOUBLE E.O.L. ZONES 9 - 16.
BRN
BRN
GRAY
WHT
BLUE
6.98K

2 WIRE SMOKE E.O.L.
For UL Systems, use
Caddx #EOL68
GOLD
GRAY
BLUE
680

SINGLE ZONE E.O.L.
For UL Systems, use
Caddx #EOL33
GOLD
RED
ORG
ORG
3.3K

ANY COM TERMINAL
TAMPER CONTACT

ANY ZONE TERMINAL
3.3K E.O.L.
3.3K E.O.L.

EUROPEAN DOUBLE E.O.L. CONFIGURATION.

ANY ZONE TERMINAL
ANY ZONE TERMINAL
ANY COM TERMINAL
6.98K E.O.L. (9 - 16)
3.74K E.O.L. (1 - 8)

DOUBLED ZONE CONFIGURATION. THE 3.74K RESISTOR IS FOR ZONES 1 - 8 THE 6.98K RESISTOR IS FOR ZONES 9 - 16

** BURGLARY USE ONLY** IF A DOUBLED ZONE IS USED AS A FIRE ZONE THE HIGH ZONE (9 - 16) IS NOT USABLE.

ANY ZONE TERMINAL
ANY COM TERMINAL
ANY ZONE TERMINAL
3.3K E.O.L.
3.74K E.O.L.

DOUBLED ZONE CONFIGURATION USED AS A FIRE ZONE.

NORMALLY OPEN CONTACT WITH E.O.L. RESISTOR.

ANY ZONE TERMINAL
ANY COM TERMINAL
ANY ZONE TERMINAL
ANY COM TERMINAL
3.3K E.O.L.
3.3K E.O.L.

NORMALLY CLOSED CONTACT WITH E.O.L. RESISTOR.

2 NORMALLY OPEN CONTACT AND 2 NORMALLY CLOSED CONTACT WITH E.O.L. RESISTOR.

ANY ZONE TERMINAL
ANY COM TERMINAL
3.3K E.O.L.

1 NORMALLY OPEN CONTACT AND 1 NORMALLY CLOSED CONTACT WITH E.O.L. RESISTOR.

NetworX NX-8-CF

LIGHTNING PROTECTION
THE CONTROL PANEL MUST BE EARTH GROUNDED FOR LIGHTNING PROTECTION TO WORK EFFECTIVELY. THE GROUND CONNECTION SHOULD BE TIED TO A VERIFIED COLD WATER PIPE OR A DEDICATED METAL ROD 6' TO 10' LONG. USE MINIMUM 14 GAUGE WIRE.

CURRENT LIMITED TO 2.5 AMP MAXIMUM

FOR VOLTAGE OUTPUT PROGRAM: LOCATION 37, SEGMENT 2, FEATURE 1.

120V AC 60Hz PRIMARY 3.5 AMP MAX.

DO NOT CONNECT 120 VAC TO TERMINAL STRIP.

BASLER ELECTRIC MODEL #BE30614001
UL LISTED CLASS 2 TRANSFORMER
Pri. 120VAC, 60Hz Line
Sec. 16.5VAC, 50VA Load

WARNING
TO PREVENT RISK OF ELECTRIC SHOCK, ALWAYS DISCONNECT THE TELEPHONE LINE PRIOR TO SERVICING.

DO NOT CONNECT TO A RECEPTACLE THAT IS CONTROLLED BY A SWITCH.

NX-870E FIRE SUPERVISION MODULE PROVIDES BELL OUTPUT.

NetworX LCD Keypad NX-148E-CF

Max 8 keypads per partition.
Max 24 keypads per system.
Min 2 keypads per Fire system.

TO ADDITIONAL KEYPADS AND EXPANSION DEVICES.

ALL CIRCUITS ARE CLASS 2 POWER LIMITED, EXCEPT BATTERY CIRCUIT.

MAX TOTAL WIRE RUN IS 2500'.
MAX NUMBER OF DEVICES IS 32.

CONNECT TO NX-870E
DO NOT CONNECT
(Supervised)
(Supervised)
(Supervised)
(Supervised)
(Supervised)

SMOKE+ TERMINAL IS CURRENT LIMITED TO 400mA.

AUX PRW + TERMINAL IS LIMITED TO 400mA.

THE TOTAL STANDBY CURRENT DRAWN FROM TERMINALS SMOKE+, KEYPAD POS AND AUX PRW+, WHEN ADDED TOGETHER, MUST NOT EXCEED 400mA WITH A 50VA TRANSFORMER.

COMPATIBLE SMOKE DETECTOR MODELS:
MAX - 15.1 V MIN - 8.3 V
Sentrol Models: 429AT, 521BXT, 521B (Comp ID 509A)
System Sensor: 1151, 2100, 2100T, 2151 (Comp ID A)
Detection systems: DS250, DS250TH, DS282, DS282TH, DS282THS, DS282THC (Comp ID B)

DO NOT MIX MODELS!

ALL ZONE INPUTS ARE SUPERVISED.

This unit provides Commercial Fire alarm service when installed according to ANSI/NFPA 72-1993 (National Fire Protection Association, Batterymarch Park, Quincy, MA 02269) in conjunction with the NX-003-CF enclosure.
This unit also provides the following Residential and Commercial Burglar alarm service:
Grade A Local, Police Connect with Basic Line Security, and Grades B & C Central Station.
Commercial Fire Use: Local, Central Station (DACT), Remote Station (DACT).
Initiating/Signaling devices: Manual, Automatic, Sprinkler Supervisory, and/or Waterflow.

SPECIAL APPLICATIONS: COMPATIBLE 4-WIRE SMOKE DETECTORS:
Refer to NX-8-CF Installation Instruction manual
Use listed smoke detectors that do NOT employ an integral alarm verification feature.

4 WIRE SMOKE DETECTOR

U.L. LISTED E.O.L. SUPERVISION RELAY (ESL #204A)

USE CADDX PART #EOL33

TO SMOKE + TERMINAL — RED
TO COMMON — BLACK
ANY ZONE TERMINAL — VIOLET
TO ZONE COMMON
3.3K E.O.L. RESISTOR
N.O. ALARM CONTACTS
DETECTOR

TO TELCO NETWORK RJ31X
GRAY — R
RED — R
GREEN — T
BROWN — T

EARTH
AC
AC
BELL+
BELL-
DATA
COM
POS
SMOKE+
COM
AUX PRW+
8
COM
7
6
COM
5
4
COM
3
2
COM
1
RLY 2 N.O.
RLY 2 COM
RLY 1 N.O.
RLY 1 COM
RLY 1 N.C.

KEYPAD
ZONES

U.L. INSTALLATIONS
The Class 2, Class 3, and power-limited fire alarm circuits must be installed using FPL, FPLP, FPLR, CL3, CL3R, or CL3P, or substitute cable permitted by National Electrical Code ANSI/ NFPA 70 and the Class 2, Class 3 and power-limited fire alarm circuit conductors extending beyond the cable jacket must be separated a minimum of 1/4 inch or by non-conductive tubing or non-conductive barrier from all other conductors.

THESE LEDS ARE FOR PROPER CIRCUIT OPERATION ONLY.
LED1
LED3

TRANSMISSION OF THE FIRE ALARM SIGNAL TO A FIRE ALARM HEADQUARTERS OR CENTRAL STATION SHALL BE PERMITTED ONLY WITH THE APPROVAL OF THE LOCAL AUTHORITY HAVING JURISDICTION. THE BURGLAR ALARM SIGNAL SHALL NOT BE TRANSMITTED TO A POLICE EMERGENCY NUMBER. EQUIPMENT IS TO BE INSTALLED IN ACCORDANCE WITH NFPA 72.

THIS LED IS FOR PROPER CIRCUIT OPERATION ONLY.
LED2

ZONE 8 IS A 2 WIRE SMOKE LOOP
W3
W4
ZONE 8 IS A STANDARD ZONE

2 WIRE SMOKE DETECTORS
USE ONLY COMPATIBLE SMOKE DETECTORS AS SPECIFIED IN BOX ON RIGHT.
COMPATIBILITY IDENTIFIER #3800-0001

IF BOX TAMPER IS ENABLED IN LOC. 37, CONNECT A NORMALLY CLOSED SWITCH TO THESE PINS

RED
BLACK
12 VOLT 17.2 AH BATTERY

Maximum battery charging current 300mA

Recommended Mfg:
Yuasa NP18-12B
Power Sonic #PS-12180

MAX NUMBER OF DETECTORS IS 20

680 OHM END OF LINE RESISTOR.

USE CADDX PART #EOL68.

TO ZONE 8
TO COMMON

MAKE SURE TO SET THE JUMPER ON THE PANEL FOR 2 WIRE SMOKE LOOP.

DATA TAP
00000

LED4
LED IS LIT DURING COMMUNICATION.