Harnett COUNTY NORTH CAROLINA

Emergency Services Department
www.harnett.org

Reviewed for Fire Code Compliance
Harnett COUNTY
Leslie Jackson
11/19/2025 12:54:15 PM

Fire Marshal Division
P.O. Box 370
Lillington, NC 27546
910-893-7580

Application for Plan Review

Permit Type: Fire Alarm Detection System/Related Equipment

Date Received: _____ Received By:_____

Name of Project: Town of Angier Police Headquarters Building

Physical Address of Project: 29 W. McIver Street

Plans Submitted By: BFPE Internaitional

Project Phone: (_____)-_____-_____

Contact Person/Address: Jean-Paul Foisy
115 Bestwood Drive Clayton, NC 27520

Contact Phone: (919)-550-2699 (_____)-_____-_____

Contractor's Name/Info: BFPE International
115 Bestwood Dr. Clayton, NC 27520

Contractor's Phone: (919)-550-2699

Contact Email: jfoisy@bfpe.com

- **Plans that are submitted will be reviewed as quickly as possible with an average time of review between 7-10 working days.**
- **Status checks may be conducted on plan reviews by visiting the website http://hteweb.harnett.org/Click2GovBP/Index.jsp or by calling the Harnett County Central Permitting Office (910-893-7525 : Opt. 2), or the Harnett County Fire Marshal's Office (910-893-7580).**
- **Approved plans must be picked up from the Central Permitting Office and all fees paid before any required inspections can be conducted.**

FIRST FLOOR LAYOUT
SCALE: 1/8" = 1'-0"

SECOND FLOOR LAYOUT
SCALE: 1/8" = 1'-0"

SYMBOL LEGEND	
SYMBOL	DESCRIPTION
	HEAT DETECTOR
DM	DUAL MONITOR MODULE X-SER.
M	MONITOR MODULE X-SER.
P DA	PULL STATION – DUAL ACTION
RM	INPUT/OUTPUT MODULE X-SER.
	SMOKE DETECTOR
	HORN/STROBE – WALL
WP	HORN/STROBE – WALL – WEATHERPROOF
	STROBE – WALL
C	STROBE – CEILING
FACU	FIRE ALARM CONTROL PANEL
ANN	REMOTE ANNUNCIATOR

5' 0' 5' 10'
GRAPHIC SCALE
SCALE: 1/8" = 1'-0"

MARK	REVISION	BY	DATE

REVISIONS:

Seal

NATIONAL INSTITUTE FOR CERTIFICATION IN ENGINEERING TECHNOLOGIES
JEAN-PAUL P. FOISY
CERTIFICATION # 132390
LEVEL IV FIRE ALARM SYSTEMS
Jean-Paul Foisy DATE: 11/12/25

SHOP DRAWINGS

Fire Alarm System Shop Drawings
Town of Angier
Police Headquarters Building
29 W. McIver Street
Angier, North Carolina

BFPE INTERNATIONAL
FIRE·SAFETY·SECURITY
116 BESTWOOD DRIVE
CLAYTON, NC 27520
Ph: 919-550-2699 • Web: www.bfpe.com
BFPE International NC Firm License No.: D-0205

DRAWN BY:	JPF
CHECKED BY:	
SCALE:	As Noted
SHEET NO.	1 OF 5 SHEETS
DATE:	11-13-2025
PROJECT NO:	RA-A7854-A-25

Sheet Contents:
Fire Alarm System Layout

DRAWING NO.:
FA101

Town of Angier Police Station
29 W. McIver Street
Angier, North Carolina

Fire Alarm System Sequence of Operation Matrix

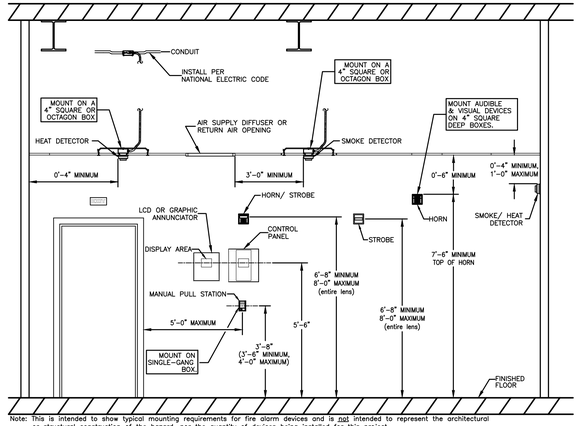
	MANUAL PULL STATION	SMOKE DETECTOR	HEAT DETECTOR - ELEVATOR PIT	SMOKE DETECTOR - FIRST FLOOR ELEVATOR LOBBY	SMOKE DETECTOR - SECOND FLOOR ELEVATOR LOBBY	SMOKE DETECTOR - MACHINE AREA, TOP OF SHAFT	WATERFLOW SWITCH	MONITOR: TAMPER SWITCH (WET & BACKFLOW)	TROUBLE CONDITION ON FACP	TROUBLE CONDITION ON PADS	AC POWER LOSS	GROUND FAULT	OPEN CIRCUIT
ACTIVATE HORN/ STROBES GENERAL ALARM	X	X	X	X	X	X	X	X					
DISPLAY DEVICE ACTUATED ON FACP.	X	X	X	X	X	X	X	X					
DISPLAY DEVICE ACTUATED ON REMOTE ANNUNCIATOR.	X	X	X	X	X	X	X	X					
ACTIVATE SYSTEM ALARM LED ON FACP.	X	X	X	X	X	X	X	X					
ACTIVATE SYSTEM ALARM LED ON REMOTE ANNUNCIATOR.	X	X	X	X	X	X	X	X					
SEND ALARM SIGNAL TO DIGITAL COMMUNICATOR.	X	X	X	X	X	X	X	X					
ACTIVATE SYSTEM TROUBLE LED ON FACP.									X	X	X	X	X
ACTIVATE SYSTEM TROUBLE LED ON REMOTE ANNUNCIATOR.									X	X	X	X	X
SEND TROUBLE SIGNAL TO DIGITAL COMMUNICATOR.									X	X	X	X	X
ACTIVATE SYSTEM SUPERVISORY LED ON FACP.							X						
ACTIVATE SYSTEM SUPERVISORY LED ON REMOTE ANNUNCIATOR.							X						
SEND SUPERVISORY SIGNAL TO DIGITAL COMMUNICATOR.							X						
ACTIVATE AHU SHUTDOWN ON FACP.	X	X	X	X	X		X						
RECALL ELEVATOR PRIMARY				X	X	X							
RECALL ELEVATOR SECONDARY						X							
ELEVATOR HAT													
ACTIVATE ELEVATOR SHUNT TRIP			X										

MINIMUM SIEMENS WIRE NOTES

THIS CHART IS TO PROVIDE GUIDANCE IN SIZING WIRE BASED ON THE ALLOWABLE LENGTH TO BE USED IF OTHERWISE NOT SPECIFIED.

CIRCUIT TYPE	CIRCUIT FUNCTION		DISTANCE FT.	TYPICAL WIRE TYPE
1. SLC CIRCUIT (POWER LIMITED)	UNSHIELDED PAIR 150 OHMS MAXIMUM 50 OHMS FOR FULL LOOPS (RESISTANCE PER ZONE)			14 AWG THHN 16 AWG THHN 0.5 microFARAD LINE TO LINE 1.0 microFARAD LINE TO GROUND
2. HNET/ XNET	TWISTED SHIELDED PAIR 80 OHMS MAX BOTH WIRES.			14 AWG BELDEN 9581 WPW 995 16 AWG BELDEN 9575 WPW 991 0.4 microFARAD LINE TO LINE 0.8 microFARAD LINE TO GROUND
3. HZM, TRI MODULE	INITIATING DEVICE	HZM	TO MEET 35 OHMS MAX	14 AWG SOLID THHN 16 AWG SOLID THHN
		TRI MODULE		0.4 microFARAD LINE TO LINE 0.8 microFARAD LINE TO GROUND
4. NAC CIRCUIT (POWER LIMITED)	NOTIFICATION APPLIANCE CIRCUIT		TO MEET 2.0 OHMS MAX 2.7 OHMS MAX	14 AWG SOLID THHN FOR 2.0 AMP DRAW FOR 1.5 AMP DRAW
5. 24VDC POWER RUN (POWER LIMITED)	SYSTEM DEVICE POWER		TO MEET 4V MAX LINE DROP	14 AWG SOLID THHN 16 AWG SOLID THHN

NFPA 72 AND ADA DEVICE INSTALLATION REQUIREMENTS



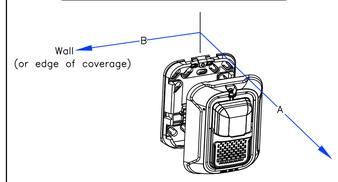
Note: This is intended to show typical mounting requirements for fire alarm devices and is not intended to represent the architectural or structural construction of the hazard, nor the quantity of devices being installed for this project.

*2013 Edition, NFPA 72

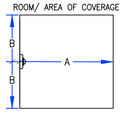
SYSTEM BATTERY CALCULATIONS

	Calculation Basis	Standby time	24 hours	Alarm time	0.084 hours			
PANEL/ P.S.	Standby Load (Amps)	Standby subtotal (AmpHours)	Alarm Load (Amps)	Alarm subtotal (AmpHours)	Secondary Load (AmpHours)	Safety derating factor	Required Battery (AmpHours)	Battery Size Supplied (AmpHours)
FC922	0.529	12.70	1.74	0.14	12.85	x1.25	16.06	18

WALL MOUNT DEVICE STROBE SPACING



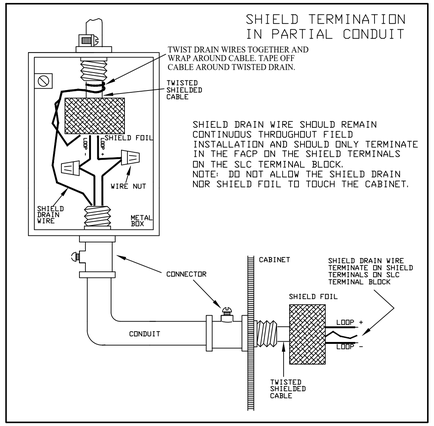
ROOM/ AREA OF COVERAGE



Candela Rating	Dimension "A" (ft)	Dimension "B" (ft)
15	20	10
30	28	14
75	45	22.5
95	50	25
110	54	27
135	60	30
185	70	35

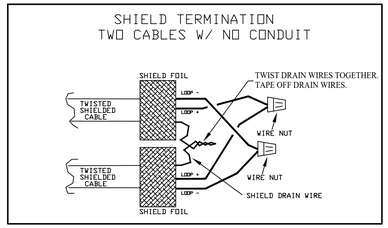
SOURCE: NFPA 72, 2103 EDITION
TABLE 18.5.5.4.1 (a)
N.T.S.

SHIELD TERMINATION IN PARTIAL CONDUIT



*Annunciator Only.

SHIELD TERMINATION TWO CABLES W/ NO CONDUIT



PROJECT SPECIFIC INSTALLATION NOTES

A.) FIRE ALARM DEVICES IN PIT SHALL BE MOUNTED AT 48" FROM THE BOTTOM OF THE PIT, DUE TO THEIR RATING. THEREFORE, THE SPRINKLER HEAD MUST BE MOUNTED AT 24" FROM THE BOTTOM OF THE PIT TO MEET NCDOL REQUIREMENTS.

B.) THE DETECTORS MUST BE WITHIN TWO FEET OF EACH OTHER AND SPRINKLER HEADS (IN THE PIT, SHAFT AND ELEV. MACHINE ROOM.)

C.) THE SMOKE DETECTOR FOR THE MACHINE SPACE SHOULD FIT AT THE TOP OF THE SPACE. IF NOT, INSTALL THE DETECTOR IN CORRIDOR WITHIN THREE FEET OF MACHINE SPACE DOOR. ALSO, INSTALL THE RELAYS WITHIN THREE OF DOOR IF THEY DO NOT FIT IN THE SPACE.

D.) ALL PROJECT SPECIFIC NOTES SHALL TAKE PRECEDENCE OVER ANY AND ALL NOTES CONTAINED WITHIN THESE PLANS.

ITEM	QTY	PART NO.	MATERIAL DESCRIPTION W/ SPARE PARTS	MANU
1	1	FC922-US	Fire Alarm Panel Kit (w/ FCM2018, FP2011, FCI2016)	Siem
2	1	FHK2002-U3	2 Height Unit System Enclosure (FHB2002, FHD2004, FHD2006)	Siem
3	1	FCA2015-U1	Dact	Siem
4	1	FCA2016-U1	RS485 Class A Module	Siem
5	1	FT2014-U3	Remote Terminal Display	Siem
6	2	XMS-D	Addressable Pull Station, Dual Action	Siem
7	1	XTRI-S	Addressable Monitor Module	Siem
8	2	XTRI-D	Addressable Dual Monitor Module	Siem
9	5	XTRI-R	Addressable Relay Module	Siem
10	5	OP921	Addressable Optical Photo Detector	Siem
11	2	HI921	Addressable Heat Detector	Siem
12	7	DB-11	Detector Base	Siem
13	17	SC-HS-CW-F	Candela Selectable Horn/Strobe, Ceiling Mount, White	Siem
14	1	SC-HS-WW-F	Candela Selectable Horn/Strobe, Wall Mount, White	Siem
15	12	SC-ST-WW-F	Candela Selectable Strobe, Wall Mount, White	Siem
16	1	SC-ST-CW-F	Candela Selectable Strobe, Ceiling Mount, White	Siem
17	1	SL24XST-FW	Candela Selectable Strobe, Wall Mount, White, Weatherproof	Siem
18	2	PS-12180	18 AmpHour, 12 VDC Battery	P.S
19	1	DTK-2MHLP24BWB	24V VDC Surge Suppressor	Ditek
20	2	TA-1	Low Temperature Switch	ADI
21	1	2500-205FM	Area of Refuge 5 Zone Base Station, flush mount	Rath
22	1	2500-PWR24	Area of Refuge Power Supply	Rath
23	1	2100-958NSR	Area of Refuge Call Station	Rath
24	1	7087	Area of Refuge Luminescent Wall Sign	Rath
25	1	7049	Area of Refuge Directions for Call Boxes	Rath

CLASS 'A' (SLC) WIRING NOTES

1.) ALL WIRING SHALL BE IN ACCORDANCE WITH LOCAL AND NATIONAL CODES, INCLUDING NFPA 72 (2013 EDITION), NEC, AND ADA.

2.) ALL WIRING FROM CONTROL PANEL TO ANY DEVICE SHALL BE RUN IN MINIMUM 3/4" CONDUIT. SURFACE METAL RACEWAY IS ACCEPTABLE. FPLP CABLE IS ACCEPTABLE IN AREAS OTHER THAN WHERE WATERPROOF DEVICES ARE REQUIRED. CONDUIT SHALL BE USED TO DROP TO WALL MOUNTED DEVICES AND PENETRATIONS IN RATED WALLS SHALL BE MADE IN CONDUIT PER APPROPRIATE U.L. SYSTEM.

3.) DETECTORS ARE TO BE MOUNTED ON A STANDARD 4" OCTAGON BOX, SEE TYPICAL SUBFLOOR MOUNTING DETAILS IF APPLICABLE.

4.) NO PARALLEL BRANCHING OF WIRES ON SUPERVISED CIRCUITS IS PERMISSIBLE, AND POLARITY MUST BE OBSERVED. NO SPLICES SHALL BE MADE OTHER THAN AT TERMINAL BLOCKS. WIRE NUTS AND CRIMP SPLICES SHALL NOT BE PERMITTED.

5.) ALL FIELD WIRING SHALL BE CHECKED FOR SHORTS, OPENS, AND GROUNDS BEFORE CONNECTING TO THE CONTROL PANEL.

6.) A.C. WIRES SHALL BE RUN IN SEPARATE CONDUIT FROM D.C. WIRING, SUCH THAT A SYSTEM ALARM DOES NOT DE-ENERGIZE THE CONTROL PANEL. MINIMUM SIZE WIRE TO BE AWG 12 THHN. PROTECTION AGAINST VOLTAGE TRANSIENTS AND SURGES SHALL BE INSTALLED AT THE ELECTRICAL PANELBOARD AND INSTALLED BY THE ELECTRICAL CONTRACTOR. ALL AC POWER TO FIRE ALARM EQUIPMENT (i.e. CONTROL PANEL, REMOTE POWER SUPPLY, ETC.) SHALL BE A DEDICATED CIRCUIT. CIRCUIT DISCONNNECTING MEANS SHALL BE PERMANENTLY IDENTIFIED BY THE SYSTEM TYPE;
i.e. 'FIRE ALARM', 'EMERGENCY COMMUNICATIONS', 'FIRE ALARM/ECS'.

7.) NO POWER, INCLUDING EMERGENCY BATTERY SUPPLY, SHALL BE CONNECTED TO THE CONTROL PANEL UNTIL BFPE INTERNATIONAL'S TECHNICIAN IS ON THE JOB SITE.

8.) SEE MANUFACTURER'S DATA SHEETS FOR MOUNTING DETAILS.

9.) ALL JUNCTION BOX COVERS SHALL BE RED IN COLOR. THOSE IN FINISHED AREAS ARE PERMITTED TO MATCH THE FINISH COLOR.

10.) ALL ADDRESSABLE LOOP WIRE SHALL BE AWG 16 MINIMUM, LOW CAPACITANCE, TWISTED UNSHIELDED COPPER PAIR. TYPE TO BE FPL, FPLR, OR FPLP SOLID OR STRANDED COPPER. CABLE JACKET COLOR SHALL BE RED (+) AND BLACK (-) CONDUCTOR INSULATION. REFER TO THE MINIMUM WIRE NOTES REQUIREMENTS NOTE TO DETERMINE MINIMUM REQUIREMENTS OF SIZE AND LENGTH.

11.) ALL NON-ADDRESSABLE WIRE SHALL BE AWG 14 MINIMUM SOLID OR STRANDED COPPER, TYPE THHN/THWN.

12.) ALL ADDRESSABLE SIGNALING LINE CIRCUITS SHALL BE A CLASS 'A' PATHWAY AS DEFINED IN TABLE A.12.3 (b) OF NFPA 72; WHERE A SINGLE GROUND, SINGLE OPEN, AND AN OPEN AND GROUND SHALL NOT PREVENT THE RECEIPT OF AN ALARM AT THE FACP. THESE CONDITIONS AS WELL AS A SHORT, A SHORT AND OPEN, OR A SHORT AND GROUND SHALL SIGNAL A TROUBLE CONDITION AT THE FACP. NO "T" TAPS SHALL BE MADE. OUTGOING AND RETURN CONDUCTORS SHALL BE ROUTED SEPARATELY, i.e. FROM THE FACP AND EACH DEVICE SHALL ENTER AND LEAVE IN SEPARATE CONDUIT.
THE NFPA 72 RECOMMENDED MINIMUM SEPARATIONS ARE 12 INCHES FOR VERITICAL RUNS AND 48 INCHES FOR HORIZONTAL RUNS.

EXCEPTIONS IN NFPA 72 TO THE REQUIREMENT THAT OUTGOING AND RETURN CONDUCTORS MUST BE ROUTED SEPARATELY:
A.) FOR DISTANCE UP TO 10 FEET WHERE BOTH CONDUCTORS ENTER OR EXIT A DEVICE OR CONTROL UNIT ENCLOSURES.
B.) SINGLE CONDUIT/ RACEWAY DROPS TO INDIVIDUAL DEVICES.
C.) SINGLE CONDUIT/ RACEWAY DROPS TO MULTIPLE DEVICES WITHIN A SINGLE ROOM NOT TO EXCEED 1,000 SQUARE FEET IN AREA.

13.) ISOLATION MODULES OR BASES SHALL BE PROVIDED AFTER A QUANTITY OF ADDRESSABLE DEVICES NOT EXCEED THE MANUFACTURER'S REQUIRED MAXIMUM (SEE PROJECT SPECIFIC NOTES). AN ISOLATOR SHALL PROVIDED BEFORE THE FIRST DEVICE ON EITHER END OF THE SLC IF THAT DEVICE IS MORE THAN 20 FEET FROM THE FACP. ISOLATORS SHALL BE WITHIN 20 FEET OF A DEVICE. THE MODULES MUST BE MOUNTED IN VISIBLE, ACCESSIBLE LOCATIONS; CLEARLY LABELED, AND SHOWN ON THE AS-BUILT DRAWINGS.

14.) THE AUDIBLE EVACUATION SIGNAL SHALL BE THE ANSI S3.41 THREE-PULSE TEMPORAL PATTERN AS DESCRIBED IN NFPA 72.

15.) ALARM NOTIFICATION CIRCUITS SHALL BE A CLASS 'B' PATHWAY AS DEFINED IN TABLE A.12.3 (c) OF NFPA 72; WHERE A SINGLE GROUND SHALL NOT PREVENT THE RECEIPT OF AN ALARM AT THE FACP. A SINGLE OPEN, SINGLE GROUND, OR A WIRE TO WIRE SHORT SHALL SIGNAL A TROUBLE CONDITION AT THE FACP. EACH CIRCUIT SHALL NOT EXCEED ITS RATED OUTPUT. CIRCUITS SHALL NOT EXCEED 3 FLOORS OF COVERAGE.

16.) ALL WIRE COLORS SHALL BE MAINTAINED FROM DEVICE TO DEVICE AND SHALL NOT BE TRANSPOSED NOR CHANGED AT ANY DEVICE OR TERMINAL BLOCK. PERMANENT WIRE MARKERS SHALL BE USED TO IDENTIFY ALL CONNECTIONS AT THE FACP, OTHER CONTROL EQUIPMENT, POWER SUPPLIES, AND TERMINAL CABINETS.

17.) ALL RIGID OR IMC CONDUIT TERMINATING AT SHEET METAL BOXES OR CABINETS SHALL UTILIZE INSULATING BUSHINGS AND DOUBLE LOCK NUTS. EMT CONNECTORS MUST BE STEEL COMPRESSING TYPE WITH INSULATING THROATS.

18.) NOTIFICATION CIRCUIT BOOSTER POWER SUPPLIES OR 24 VDC POWER CIRCUITS SERVING ADDRESSABLE CONTROL RELAYS SHALL BE INDIVIDUALLY MONITORED FOR INTEGRITY.

19.) SPOT TYPE DETECTOR MUST HAVE THE DETECTOR ADDRESS LOOP AND DEVICE NUMBERS PERMANENTLY MOUNTED TO THEIR BASES, SO IT IS READABLE FROM THE FLOOR. THE ADDRESS MUST BE SHOWN ON THE AS-BUILT PLANS.

20.) DUCT DETECTOR SAMPLING TUBES SHALL EXTEND THE FULL WIDTH OF THE DUCT. ANY TUBES EXCEEDING 36 INCHES SHALL PROTRUDE THROUGH THE FAR END AND ANY TUBES EXCEEDING FIVE FEET SHALL BE SUPPORTED IN THE MIDDLE. INSTALL DETECTOR HOUSING AND SAMPLING TUBES PER MANUFACTURER'S RECOMMENDATIONS.

21.) SPOT TYPE SMOKE DETECTORS SHALL HAVE THEIR SENSITIVITIES SET TO NORMAL/MEDIUM UNLESS OTHERWISE DIRECTED BY THE AHJ OR ENGINEER'S SPECIFICATION.

22.) SMOKE DETECTORS SHALL BE A MINIMUM OF THREE FEET FROM ANY AIR SUPPLY DIFFUSER OR AIR RETURN OPENINGS.

23.) SURGE SUPPRESSORS SHALL BE USED ON A CIRCUIT ANYTIME IT EXITS (OR ENTERS) A BUILDING TO/ FROM THE OUTSIDE.

24.) ALL PENETRATIONS THROUGH RATED WALLS SHALL BE SEALED USING THE APPROPRIATE U.L. SYSTEM.

25.) PERMANENT WIRE MARKERS SHALL BE USED TO IDENTIFY ALL TERMINATIONS AND SPLICES FOR EVERY CIRCUIT.

26.) ALL ADDRESSABLE DEVICES SHALL BE LOCATED INSIDE THE BUILDING, NOT OUTSIDE WHERE THEY WOULD BE EXPOSED TO EXTREME TEMPERATURE AND HUMIDITY. (i.e. THOSE WHICH ARE TO MONITOR DEVICES OR PERFORM SHUTDOWNS.)

27.) DO NOT INSTALL CONDUIT INTO THE BOTTOM OF THE FIRE ALARM CONTROL PANEL(S).

28.) THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR METERING ALL WIRES TO ENSURE ALL OF THE CIRCUITS ARE CLEAR OF TROUBLES, i.e. GROUNDS, SHORTS, ETC, AND THAT THE PROPER END OF LINE RESISTANCE IS PRESENT. CHECK MANUFACTURER'S WIRE NOTES FOR OTHER CIRCUIT REQUIREMENTS. BFPE INTERNATIONAL WILL NOT CONNECT THE CIRCUIT TO THE FIRE PANELS UNTIL THE CIRCUITS(S) ARE CLEAR OF ALL TROUBLES.

29.) THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR LABELING ALL EOL'S AND ADDRESSABLE DEVICES WITH THEIR DEVICE ADDRESS. THE LABELS SHALL BE SELF-ADHEVISE TAPE, BLACK LETTERING ON WHITE OR CLEAR BACKGROUND AND LEGIBLE FROM THE FLOOR.

30.) ALL WIRE SHALL BE INSTALLED PER THE WIRE SCHEDULE IN THESE PLANS.

31.) PER 23.6 IN NFPA 72, SIGNALING LINE CIRCUITS SHALL BE CONFIGURED SO THAT A SINGLE FAULT ON THE PATHWAY SHALL NOT CAUSE THE LOSS OF MORE THAN 50 ADDRESSABLE DEVICES. REFER TO THE WIRING DIAGRAMS/RISER, PROJECT SPECIFIC NOTES, AND NOTES ON THE LAYOUT SHEETS IN THIS PLAN SET AS DESIGNED TO MAKE SLC INSTALLATION COMPLY WITH THIS NFPA 72 REQUIREMENT.

MARK	REVISIONS:	DATE	BY

Seal

NATIONAL INSTITUTE FOR CERTIFICATION IN ENGINEERING TECHNOLOGIES
JEAN-PAUL P. FOISY
CERTIFICATION # 132390
LEVEL IV FIRE ALARM SYSTEMS
Jean-Paul Foisy DATE: 11/17/25

SHOP DRAWINGS

Fire Alarm System Shop Drawings
Town of Angier
Police Headquarters Building
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DRAWN BY: JPF
CHECKED BY:
SCALE: N.T.S.
SHEET NO. 2 OF 5 SHEETS
DATE: 11-13-2025
PROJECT NO: RA-A7854-A-25

Sheet Contents:
Fire Alarm System Installation Notes

DRAWING NO.:
FA201

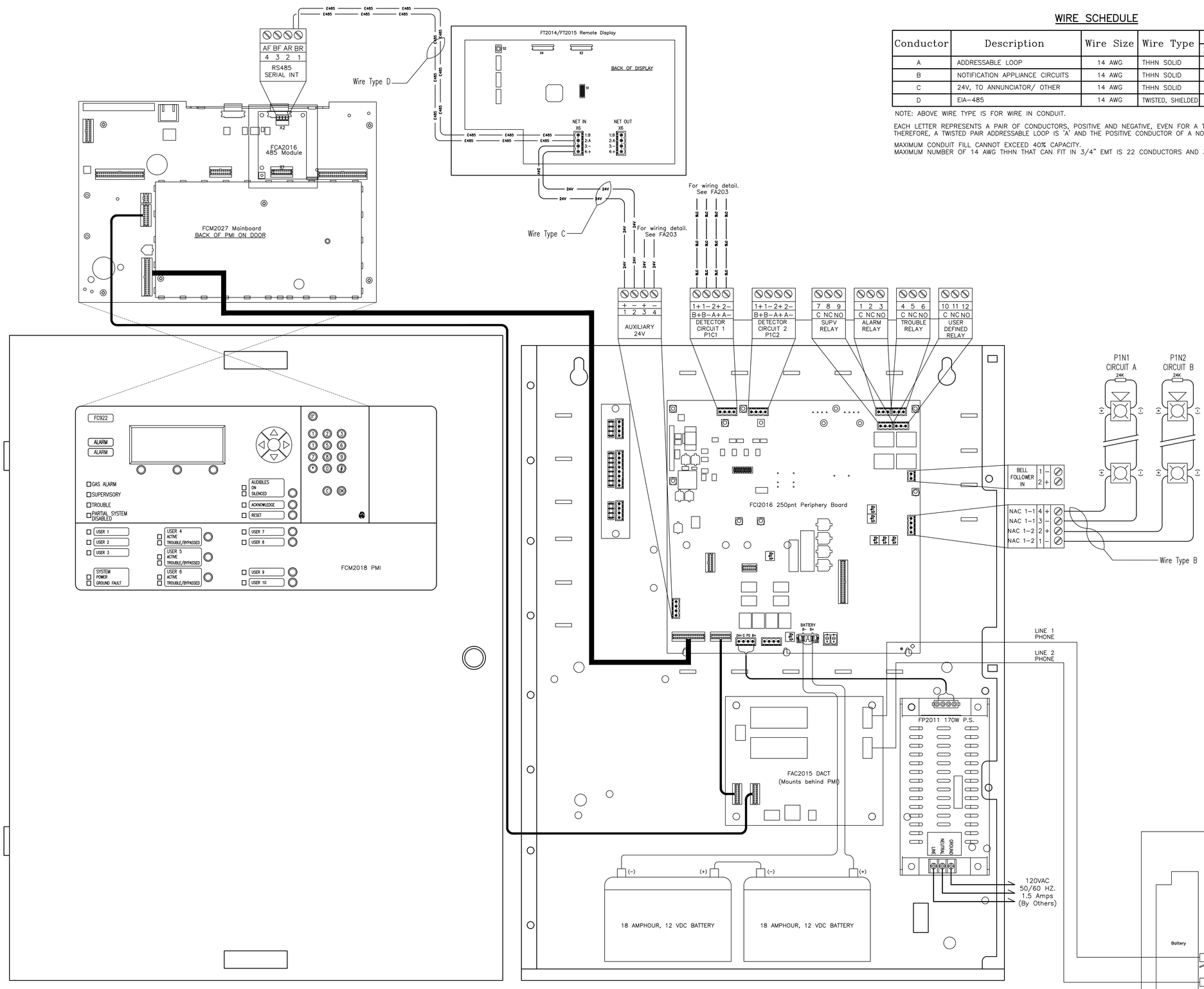
WIRE SCHEDULE

Conductor	Description	Wire Size	Wire Type	Wire Color	
				Positive(+)	Negative(−)
A	ADDRESSABLE LOOP	14 AWG	THHN SOLID	RED	BLACK
B	NOTIFICATION APPLIANCE CIRCUITS	14 AWG	THHN SOLID	BLUE	BLACK
C	24V, TO ANNUNCIATOR/ OTHER	14 AWG	THHN SOLID	YELLOW	BROWN
D	EIA−485	14 AWG	TWISTED, SHIELDED	RED	BLACK

NOTE: ABOVE WIRE TYPE IS FOR WIRE IN CONDUIT.

EACH LETTER REPRESENTS A PAIR OF CONDUCTORS, POSITIVE AND NEGATIVE, EVEN FOR A TWISTED PAIR.
THEREFORE, A TWISTED PAIR ADDRESSABLE LOOP IS 'A' AND THE POSITIVE CONDUCTOR OF A NOTIFICATION CIRCUIT IS (1/2)'B'.

MAXIMUM CONDUIT FILL CANNOT EXCEED 40% CAPACITY.
MAXIMUM NUMBER OF 14 AWG THHN THAT CAN FIT IN 3/4" EMT IS 22 CONDUCTORS AND 35 CONDUCTORS IN 1" EMT.



FC922(P1) PANEL WIRING DIAGRAM

SCALE: N.T.S.

MARK	REVISIONS	BY	DATE

Seal

NATIONAL INSTITUTE FOR CERTIFICATION IN ENGINEERING TECHNOLOGIES
JEAN−PAUL P. FOISY
CERTIFICATION # 132390
LEVEL IV FIRE ALARM SYSTEMS
Jean-Paul Foisy DATE: 11/17/25

SHOP DRAWINGS

Fire Alarm System Shop Drawings
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Police Headquarters Building
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BFPE INTERNATIONAL
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DRAWN BY: JPF
CHECKED BY:
SCALE: N.T.S.
SHEET NO. 3 OF 5 SHEETS
DATE: 11−13−2025
PROJECT NO: RA−A7854−A−25

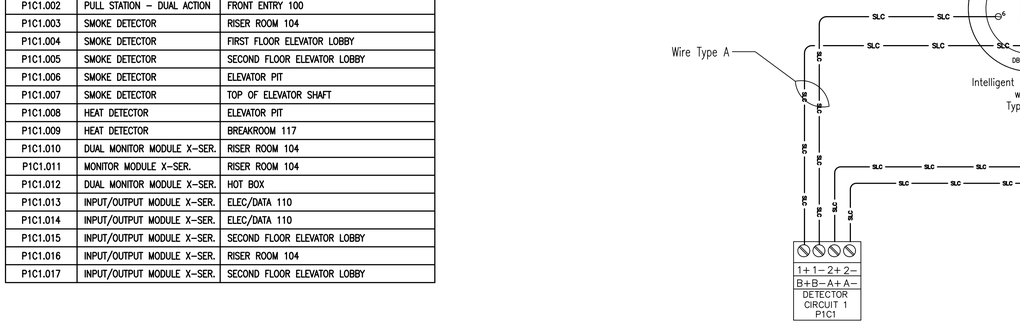
Sheet Contents:
Fire Alarm System
Detailed Riser
~FACP~

DRAWING NO.:
FA202

CIRCUIT NAME: P1C1		
DEVICE ADDRESS	DEVICE LABEL	LOCATION
P1C1.001	PULL STATION – DUAL ACTION	RISER ROOM 104
P1C1.002	PULL STATION – DUAL ACTION	FRONT ENTRY 100
P1C1.003	SMOKE DETECTOR	RISER ROOM 104
P1C1.004	SMOKE DETECTOR	FIRST FLOOR ELEVATOR LOBBY
P1C1.005	SMOKE DETECTOR	SECOND FLOOR ELEVATOR LOBBY
P1C1.006	SMOKE DETECTOR	ELEVATOR PIT
P1C1.007	SMOKE DETECTOR	TOP OF ELEVATOR SHAFT
P1C1.008	HEAT DETECTOR	ELEVATOR PIT
P1C1.009	HEAT DETECTOR	BREAKROOM 117
P1C1.010	DUAL MONITOR MODULE X-SER.	RISER ROOM 104
P1C1.011	MONITOR MODULE X-SER.	RISER ROOM 104
P1C1.012	DUAL MONITOR MODULE X-SER.	HOT BOX
P1C1.013	INPUT/OUTPUT MODULE X-SER.	ELEC/DATA 110
P1C1.014	INPUT/OUTPUT MODULE X-SER.	ELEC/DATA 110
P1C1.015	INPUT/OUTPUT MODULE X-SER.	SECOND FLOOR ELEVATOR LOBBY
P1C1.016	INPUT/OUTPUT MODULE X-SER.	RISER ROOM 104
P1C1.017	INPUT/OUTPUT MODULE X-SER.	SECOND FLOOR ELEVATOR LOBBY

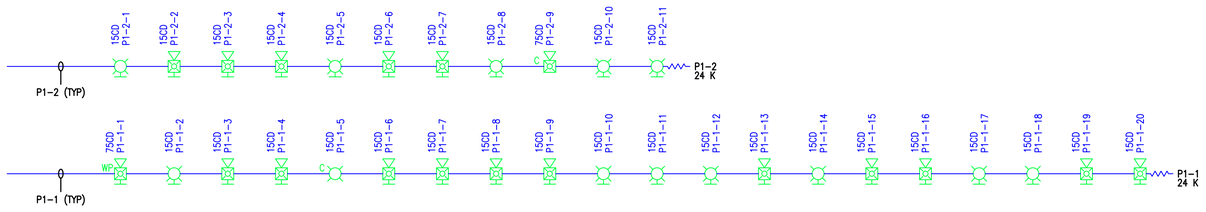
CIRCUIT NAME: P1-1			
DEVICE ADDRESS	DEVICE LABEL	LOCATION	RATING
P1-1-1	HORN/STROBE	RISER ROOM 104	75CD
P1-1-2	STROBE	TOILET 103	15CD
P1-1-3	HORN/STROBE	FRONT ENTRY 100	15CD
P1-1-4	HORN/STROBE	LOBBY 101	15CD
P1-1-5	STROBE	ADMIN 105	15CD
P1-1-6	HORN/STROBE	O/S ADMIN 107	15CD
P1-1-7	HORN/STROBE	ADMIN 107	15CD
P1-1-8	HORN/STROBE	WOMEN'S LOCKER 111	15CD
P1-1-9	HORN/STROBE	ELEC/DATA 110	15CD
P1-1-10	STROBE	WOMEN'S LOCKER 111	15CD
P1-1-11	STROBE	WOMEN'S LOCKER 111	15CD
P1-1-12	STROBE	MEN'S LOCKER 112	15CD
P1-1-13	HORN/STROBE	MEN'S LOCKER 112	15CD
P1-1-14	STROBE	MEN'S LOCKER 112	15CD
P1-1-15	HORN/STROBE	O/S PROCESSING 114	15CD
P1-1-16	HORN/STROBE	PROCESSING 114	15CD
P1-1-17	STROBE	INTAKE TOILET 113	15CD
P1-1-18	STROBE	INTERVIEW ROOM 115	15CD
P1-1-19	HORN/STROBE	O/S EVIDENCE ROOM 116	15CD
P1-1-20	HORN/STROBE	BREAKROOM 117	15CD

CIRCUIT NAME: P1-2			
DEVICE ADDRESS	DEVICE LABEL	LOCATION	RATING
P1-2-1	STROBE	ADA TOILET 213	15CD
P1-2-2	HORN/STROBE	O/S STAIR S-116	15CD
P1-2-3	HORN/STROBE	O/S CAPTAIN OFFICE 203	15CD
P1-2-4	HORN/STROBE	O/S LT. ROOM 205	15CD
P1-2-5	STROBE	TOILET 217	15CD
P1-2-6	HORN/STROBE	Q. MASTER STORAGE 207	15CD
P1-2-7	HORN/STROBE	SECOND FLOOR ELEVATOR LOBBY	15CD
P1-2-8	STROBE	INVEST. TOILET 211	15CD
P1-2-9	HORN/STROBE	INVESTIGATION 210	75CD
P1-2-10	STROBE	INVEST INTERVIEW 209	15CD
P1-2-11	STROBE	INVEST. PROCESSING 208	15CD



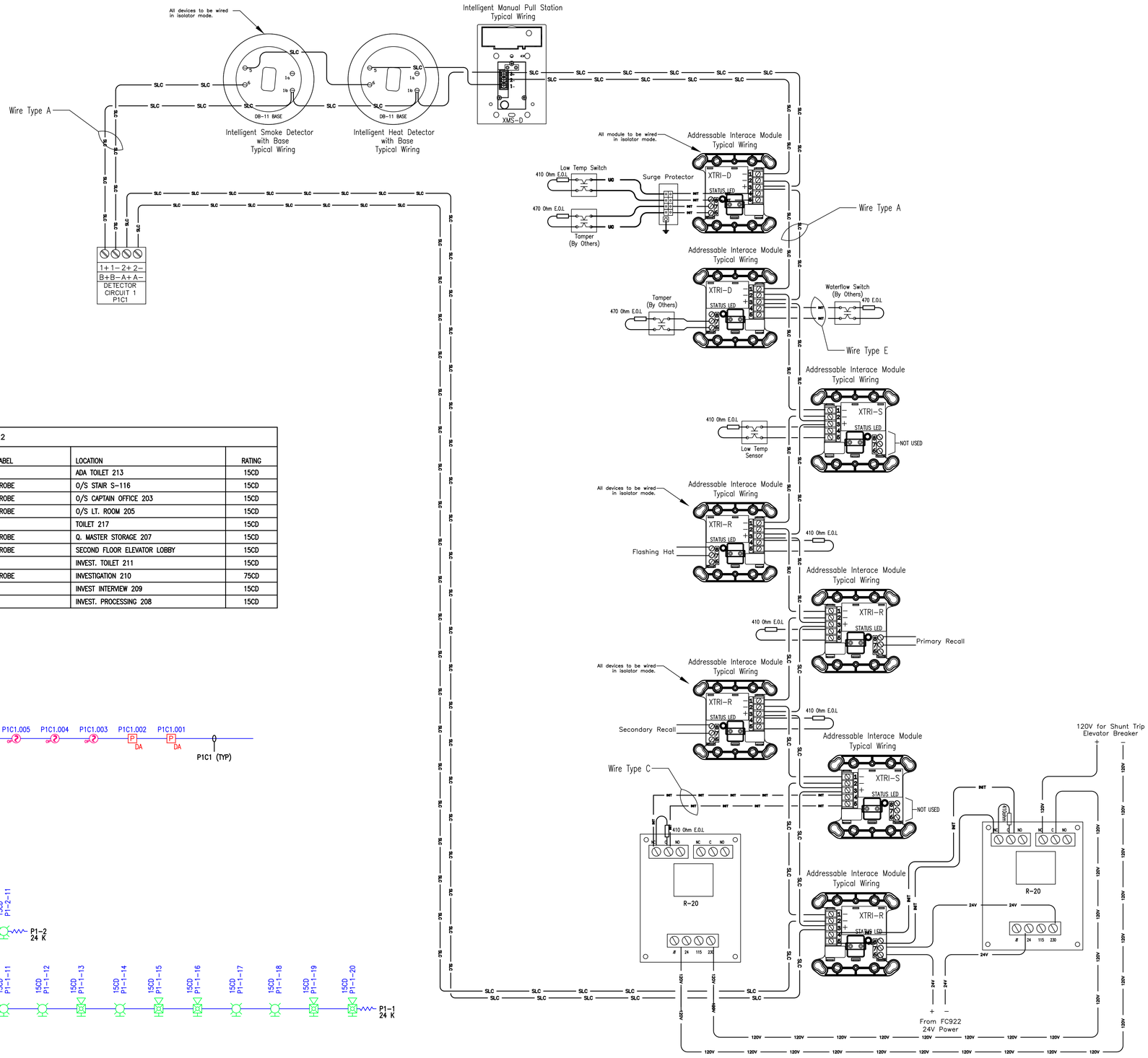
INITIATING ZONE SUMMARY

SCALE: N.T.S.



NOTIFICATION ZONE SUMMARY

SCALE: N.T.S.



DETECTOR CIRCUIT #1 TYPICAL WIRING CONFIGURATION

SCALE: NONE

MARK	
REVISION	
BY	
DATE	

REVISIONS:

Seal

NATIONAL INSTITUTE FOR CERTIFICATION IN ENGINEERING TECHNOLOGIES
JEAN–PAUL P. FOISY
CERTIFICATION # 132390
LEVEL IV FIRE ALARM SYSTEMS
Jean-Paul Foisy DATE: 11/17/25

SHOP DRAWINGS

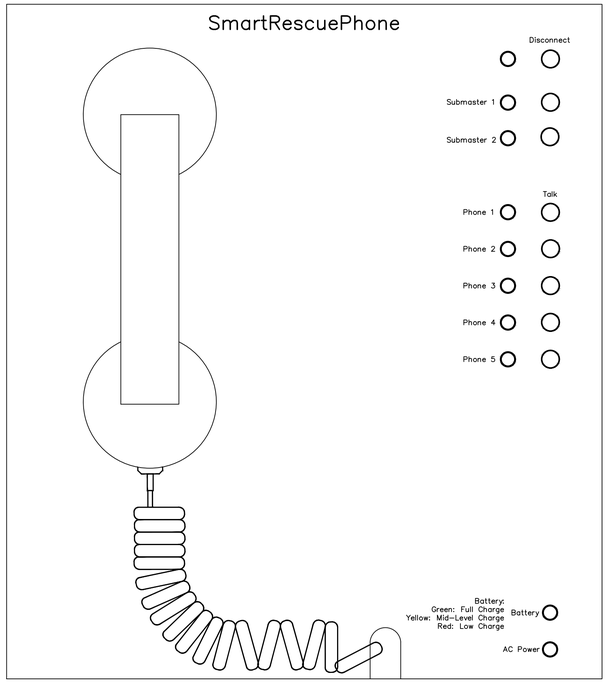
Fire Alarm System Shop Drawings
Town of Angier
Police Headquarters Building
29 W. Mclver Street
Angier, North Carolina

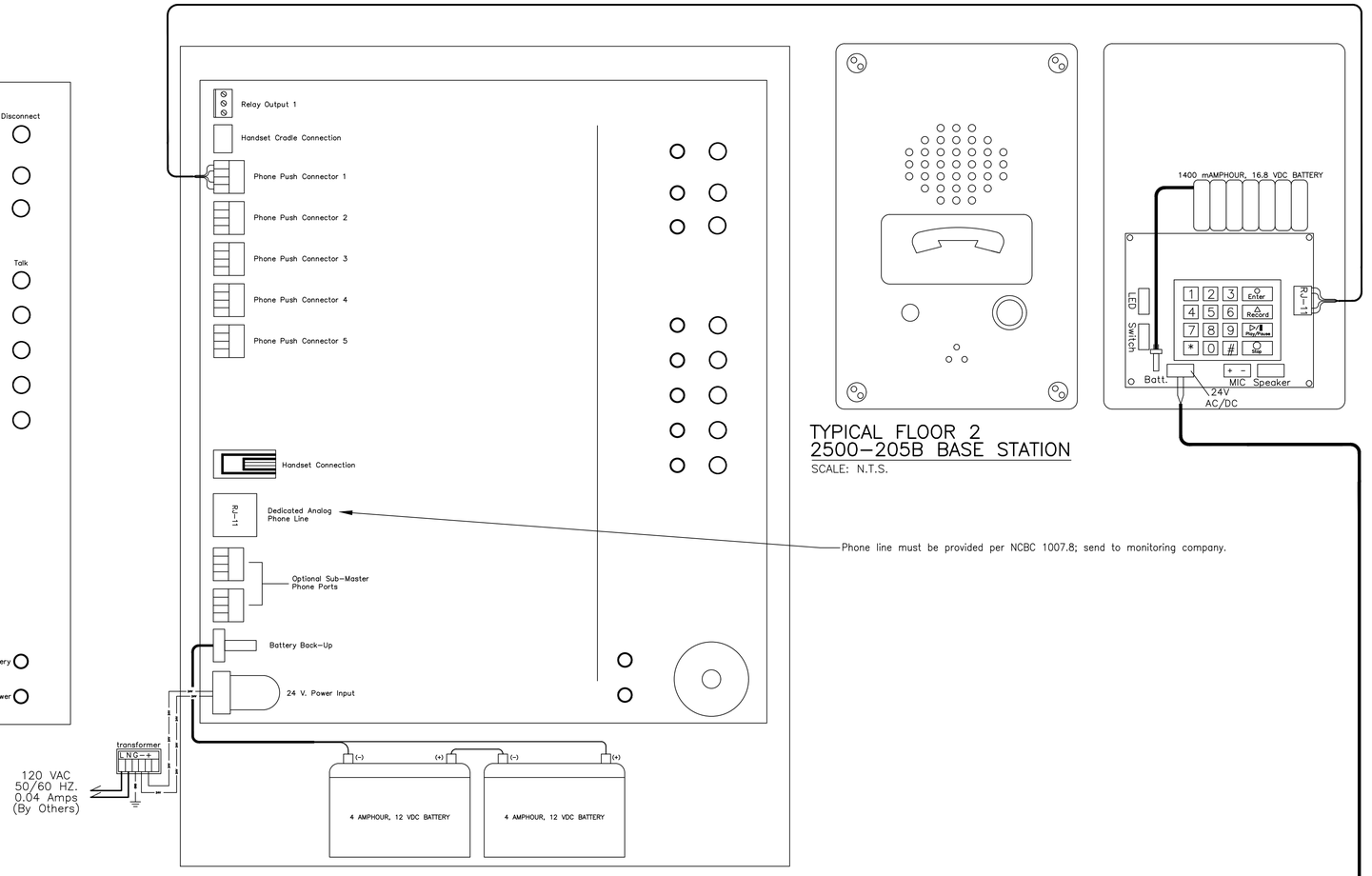
BFPE INTERNATIONAL
FIRE·SAFETY·SECURITY
116 BESTWOOD DRIVE
CLAYTON, NC 27520
Ph: 919-550-2699 • Web: www.bfpe.com
BFPE International NC Firm License No.: C-0205

DRAWN BY:	JPF
CHECKED BY:	
SCALE:	N.T.S.
SHEET NO.	4 OF 5 SHEETS
DATE:	11–13–2025
PROJECT NO:	RA–A7854–A–25

Sheet Contents:
Fire Alarm System
Detailed Riser
~SLC Loop~

DRAWING NO.:
FA203

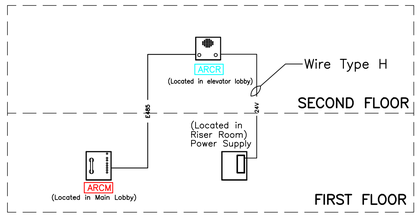




2500-205B BASE STATION
SCALE: N.T.S.

TYPICAL FLOOR 2
2500-205B BASE STATION
SCALE: N.T.S.

Phone line must be provided per NCBC 1007.8; send to monitoring company.



DETAILED ONE LINE RISER DIAGRAM

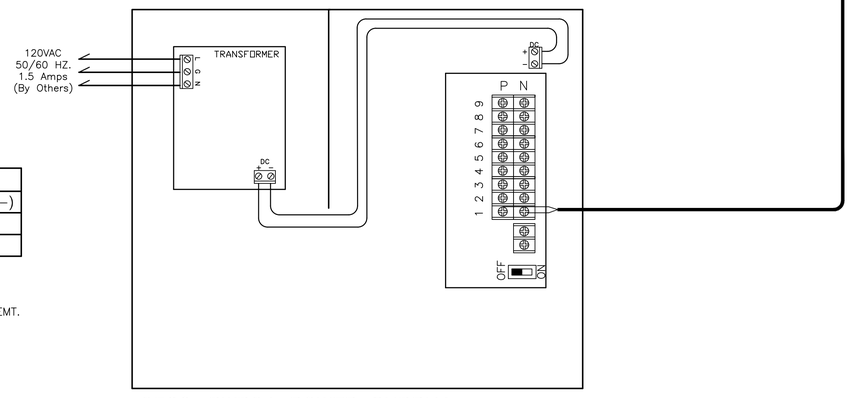
WIRE SCHEDULE

Conductor	Description	Wire Size	Wire Type	Wire Color	
				Positive(+)	Negative(-)
H	24 V POWER	14 AWG	THHN SOLID	BLUE	BLACK
i	COMMUNICATION CABLE	22 AWG	CAT 5E		

NOTE: ABOVE WIRE TYPE IS FOR WIRE IN CONDUIT.

MAXIMUM CONDUIT FILL CANNOT EXCEED 40% CAPACITY.
MAXIMUM NUMBER OF 14 AWG THHN THAT CAN FIT IN 3/4" EMT IS 22 CONDUCTORS AND 35 CONDUCTORS IN 1" EMT.

SCALE: N.T.S.



2500-PWR24 POWER SUPPLY
SCALE: N.T.S.

MARK	REVISION	BY	DATE

REVISIONS:

Seal

NATIONAL INSTITUTE FOR CERTIFICATION IN ENGINEERING TECHNOLOGIES
JEAN-PAUL P. FOISY
CERTIFICATION # 132390
LEVEL IV FIRE ALARM SYSTEMS
Jean-Paul Foisy DATE: 11/12/25

SHOP DRAWINGS

Fire Alarm System Shop Drawings
Town of Angier
Police Headquarters Building
29 W. McIver Street
Angier, North Carolina

BFPE INTERNATIONAL
FIRE · SAFETY · SECURITY
115 BESTWOOD DRIVE
CLAYTON, NC 27520
Ph: 919-550-2699 • Web: www.bfpe.com
BFPE International NC Firm License No.: C-0205

DRAWN BY: JPF
CHECKED BY:
SCALE: N.T.S.
SHEET NO. 5 OF 5 SHEETS
DATE: 11-13-2025
PROJECT NO: RA-A7854-A-25

Sheet Contents:
Two-Way Elevator
Communication System
Detailed Riser

DRAWING NO.:
FA204

A WOMAN OWNED BUSINESS

7512 CONNELLEY DRIVE ⁂ HANOVER, MD 21076
410-768-2200 ⁂ 800-966-2212 ⁂ FAX 410-768-5649

CHESAPEAKE, VA
757-436-1301 ⁂ 800-394-2373
FAX 757-436-3176

CLAYTON, NC
919-550-2699 ⁂ 800-849-8886
FAX 919-550-0719

MYRTLE BEACH, SC
843-448-9075
FAX 843-448-9020

STERLING, VA
703-834-5399 ⁂ 888-834-5008
FAX 703-834-5396

LAURINBURG, NC
910-276-1112
FAX 910-276-5811

LANCASTER, PA
717-464-7440
FAX 717-464-1011

DOVER, DE
302-527-2373 ⁂ 888-553-2373
FAX 302-346-4806

WILMINGTON, NC
910-762-5418 ⁂ 800-948-5489
FAX 910-762-9279

YORK, PA
717-741-9980 ⁂ 866-922-2373
FAX 717-741-9981

FIRE ALARM SYSTEM SHOP DRAWINGS
TOWN OF ANGIER HEADQUARTERS BUILDING
29 MCIVER STREET
ANGIER, NORTH CAROLINA

FIRE ALARM SYSTEM SHOP DRAWINGS

TOWN OF ANGIER POLICE HEADQUARTERS BUILDING

29 MCIVER STREET

ANGIER, NORTH CAROLINA

Electrical Contractor:	Allen R. Wood & Co. 86 Allen Wood Lane Benson, NC 27504
Fire Alarm Contractor:	BFPE International 115 Bestwood Drive Clayton, NC 27520
Project No.:	RA-A7854-A-25
Date:	November 17, 2025

SIEMENS

Cerberus® PRO

252-Point and 504-Point Addressable Fire Alarm Control Panel

Models FC922 | FC924

Architect & Engineer Specifications

- ☐ Addressable fire alarm control panel (FACP) intended for mid-size building applications
- ☐ Comprised of the following system components:
  - Operating units
  - Periphery boards
  - Power supplies
  - System enclosures 'Walk Test'
- ☐ System features:
  - Supports 252-to-504 addressable devices:
    - One (1) to four (4) 'Class B'; one (1) to two (2) 'Class A' for Model FC922
    - One (1) to eight (8) 'Class B'; one (1) to four (4) 'Class A' for Model FC924
- ☐ 10,000-event history-logging capability
- ☐ Includes one (1) 'Class A' or two (2) 'Class B' notification appliance circuits (NACs)
- ☐ Resettable and non-resettable 24VDC, [nominal] auxiliary power
- ☐ Connectivity to a leased-line / city-tie module
- ☐ Releasing module supports activation of releasing valves in pre-action / deluge systems / agent release
- ☐ Off-normal warning message prior to reset
- ☐ Fast and easy set-up with auto-configuration feature
- ☐ Networkable up to 32 panels using CV Web or up to 16 panels using SafeDLink
- ☐ Cerberus® DMS Danger Management Station can monitor and control up to 32 Models FC922 and FC924 FACPs
- ☐ Supports multiple global displays
- ☐ Digital alarm communication transmitter (DACT)
- ☐ UL 864 10th Edition Listed, ULC-S527 Listed
- ☐ FM, CSFM & NYC Fire Department Approved

Product Overview

The Cerberus PRO 252-point (Model FC922) / 504-point (Model FC924) addressable FACP is designed to meet the fire-protection needs of mid-size buildings. This advanced FACP offers features typically required in mid-size buildings in a package that is easy to install and competitively priced.

Additionally, Models FC922 and FC924 are networkable, allowing the systems to fulfill the growing fire-protection needs of the building. The programming software for the 252/ 504-point fire systems is held in flash electrically erasable programmable read-only memory (EEPROM).

The following Cerberus PRO system components are used in the 252-point / 504-point FACP:

- Operating units
- Periphery boards
- Power supplies
- System enclosures

Other options are available to meet specific needs.

Models FC922 and FC924 are FM (#3010); CSFM(#7165-0067:0259) and FDNY (#6104) Approved.

Model FC922

Specifications

Operating Interface Unit

The Operating Interface Unit (Model FCM2018-U3 or Model FCM2019-U3) functions as the operating interface and central microprocessor for Models FC922 and FC924 with up to 10,000 event history log.

Either operating interface unit provides multi-use capability for each end-user to efficiently 'Acknowledge' events; to quickly control the NACs of the FACP, and to permit a manual reset of the respective system. Detailed data about the nature and location of the events can also be displayed, via a backlit, 2" —x— 4-3/4" (5.1 cm. —x— 12.1 cm.) LCD screen and the four-way navigation push button at the top of the FACP.

Note: For applications in Canada that require a Desigo operating unit with LEDs, Model FCM2035-U3 must be ordered.

Periphery Boards

The periphery boards (Models FCI2016-U1 and FCI2017-U1) serve as the main operating components for the 252 / 504-point FACP. Each module operates and monitors input-device identity; as well as controls the signaling-line circuits that communicate with smoke detectors and other field devices (i.e. –C-NET).

Power Supplies

All functions are supported by the power supplies (Model FP2011-U1 or Model FP2012-U1), which therefore eliminate the need for external power supplies.

Further, the 170-Watt power supply (Model FP2011-U1) and 300-Watt power supply (Model FP2012-U1) provide primary, 24VDC nominal power for normal operation to Models FC922 and FC924. Both power supplies are filtered and regulated. Model FP2011-U1 is rated at 6.5 Amps, and the rating for Model FP2012-U1 is 11.5A.

The 170-Watt power supply incorporates a 4.0A, non-resettable slow-blow fuse on the primary input, and includes a built-in AC-line filter for surge and noise suppression. Model FP2011-U1 mounts in the FACP enclosure, and there are no serviceable Cerberus PRO parts to be maintained.

The 300-Watt power supply incorporates two (2) 6.3A replaceable, non-resettable slow-blow fuses on the primary input and includes a built-in AC line filter for surge and noise suppression. Model FP2012-U1 mounts in the FACP's enclosure, and there are no serviceable Cerberus PRO parts to be maintained.

System Enclosures

The Cerberus PRO fire-alarm enclosures and their accessories provide a complete set of hardware for mounting all Cerberus PRO main-system and remote terminal cards and modules.

The hardware allows this Cerberus PRO system to be configured for a variety of applications, as well as for future system upgrades. Included in the enclosure series are back box and door sets; removable mounting plates and clear lenses, as well as blank plates for use with the enclosure doors.

All enclosures come with ground straps for the inner and outer doors, shield termination lugs, grounding lugs, and tie wrap lances for securing wire. All Cerberus PRO two height-unit (2HU) enclosures can also mount system back-up batteries to 33AH in capacity.

Models FC922 and FC924 utilize a two-height-unit enclosure. The following components comprise a complete two-height-unit enclosure:

- One (1) back box, (Model FHB2002-U1 / R1)
- One (1) or two (2) inner doors, (Models FHD2004-U1 or FHD2005-U1)
- One (1) outer door, (Model FHD2002-U3 / R3 or FHD2003-U3 / R3)
- One (1) or two (2) clear windows, (Model FHD2006-U1)

The approximate size for each two-height-unit enclosure is: 27.5" (70cm.) high; 21.5" (54.6cm.) wide, and 5.75" (14.6cm.) deep. The weight, without any attached components, is approximately 6.3 Lbs. (2858 g).

Note: One (1) window is installed for Model FHD2002-U3 / R3 outer door, and two (2) windows are required for Model FHD2003-U3 / R3

Additionally, the two-height-unit enclosure supports the following optional components:

- Enclosure trim kit (for flush-mounting)
- Battery bracket (to comply with seismic certification)
- DIN rail kit (provides connection between internal-system wiring and field wiring

Optional Accessories

Digital Alarm Communication Transmitter (DACT)

The DACT is used to provide communication between Models FC922 and FC924 and with either a central or remote monitoring station. The Model FCA2015-U1 module mounts directly on the back enclosure and connects to the periphery boards. The DACT enables remote transmission of alarms and events via a public telephone line.

Releasing Module

The releasing module (Model XCI2001-U1) supports activation of releasing valves in pre-action / deluge systems (including double-interlock pre-action systems, or Sinorix® Engineered Fire Suppression systems). Activation can be event-controlled or performed by addressable manual pull stations. The releasing module is installed on the periphery board and supports `Class B' releasing circuits.

When installed on Models FC922 / FC924, the releasing module contains an integral manual-disconnect switch for releasing circuits. This essential feature protects the releasing circuits from accidental discharge during maintenance.

Leased-Line / City-Tie Module

The Leased-Line / City-Tie module (Model FCI2020-U1) is used as an optional module, providing a local-energy output for municipal call-box connection.
Model FCI2020-U1 also gives a reverse-polarity output for leased-line connection. Model FCI2020-U1 is installed on the periphery board for Models FC2025 and FC2050 FACPs.
When used for connection to a municipal call box, the city-tie function supports Alarm-event transmission. When used for leased-line connection, the module supports two (2) leased telephone lines for transmitting *Alarm, Trouble* and *Supervisory* events.

Battery Disconnect Module

The Battery Disconnect Module (Model FCA2032-U1)is specifically designed to disconnect the backup battery on the Cerberus PRO 252 / 504-point addressable FACP when its voltage drops below 19VDC. Model FCA2032-U1's cut-off capability prevents the battery from operating beyond its normal power level for basic system operation.

Hardware Migration Kit

The Cerberus PRO 922/924 panel offers support for Siemens legacy addressable and conventional systems. Model FHA2056-series kits are specifically designed for the seamless transition of an existing Siemens FS-250 (FireSeeker) or MPC6000 control panel into a fully operational 50 | 252 or 504-point addressable Cerberus PRO fire-alarm FACP, [FC901 | FC922 or FC924], respectively.
Each shipment of the Model FHA2056-series kits contains the following pieces of equipment:

- One (1) outer door
- One (1) inner door
- One (1) hinge-assembly bracket
- One (1) back plate
- One (1) inner-door bracket

NOTE: The five (5) items that comprise one (1) Model FHA2056-series hardware-migration kit cannot be ordered individually.

Model FHA-MIQKIT-04/-05 offers support for legacy MXL and MXL-IQ peripherals using the FCL2004 device interface module.

Specifications (cont.)

Hardware Migration Kit (cont.)

This allows the user to configure a Cerberus PRO panel to communicate to older addressable devices, offering a seamless migration solution to the latest technology system.

Network Module

The C-WEB network module (Model FN2001-U1) is used to network up to 16 FACPs, or one (1) fire terminal, via the C-NET system bus.

Model FN2001-U1 is plugged into the Operating Units (Models FCM2018-U3 /R3 and FCM2019-U3 /R3). Model FN2001-U1, which connects to a system input / output bus, has ground-fault monitoring, as well as an integrated degrade-mode feature. Redundant networking is done with one (1) network module per FACP [Simple-Loop Trouble].There is electrical isolation between the system bus and FACP.

Remote Display Terminals

The Remote Display Terminals (Models FT2014-U3 /R3and FT2015-U3 /R3) are remote annunciators that's how the existing status of Models FC922 / FC924. The remote display terminals (Models FT2014-U3/R3 and FT2015-U3/R3) are remote annunciators which can be configured as global displays, and indicate real-time system status.

Light-emitting diodes (LEDs) will illuminate for any given *Alarm, Supervisory and Trouble* Cerberus PRO-system event. The LCD screen will give details of the event in alphanumeric form. The display screen can be scrolled, via the four-way navigation button, to reveal additional events.

Model FT2014-U3 /R3 is a display-only remote annunciator that has one (1) button used to silence the local sounder. Model FT2015-U3 /R3 has three (3) control buttons for `acknowledging' events, `silencing' audible circuits and `resetting' the system. Additionally, there are three (3) user-programmable buttons available. Model FT2015-U3 /R3 has an integral key switch that enables the control buttons to operate.

The remote display terminals are remotely connected to Models FC922 and FC924, via the RS—485 interface. Models FC922 and FC924 require the Model FCA2016-U1 RS—485 module to provide communication to the remote display terminals. Model FCA2016-U1 supports Style 4 or Style 6 wiring. Up to eight (8) modules can be supported on a RS—485 bus.

The remote display terminals require 24VDC [nominal] power, and the necessary power can be provided from this Cerberus PRO FACP or from another UL / ULC Listed, 24VDC power source.

Note: A Model FHD2012-U1 inner door can be optionally purchased in UL markets. The inner door mounts with the optional Model FT201x Series Remote Display terminals. Having a Model FHD2012-U1 inner door installed can assist in preventing unauthorized access to the RDT.

S-series License Keys

The S1 license key (Model FCA2033-A1) allows for virtual monitoring and control between a 252 / 504-point addressable fire-only panel and a personal computer.

The S2 license key (Model FCA2034-A1) is a BACnet output, and is used for monitoring-only purposes by a 3rd-party system for life-safety objects.

The S3 license key (Model FCA2035-A1) is a combination license key that allows for virtual monitoring and control, as well as for distribution of BACnet (monitoring-only).

S-series License Keys (cont.)

A four-digit personal identification number (PIN) must be used in order to prevent unauthorized access.

Tabular Annunciators

Tabular annunciators allow system events sent from Cerberus PRO addressable panels to be displayed remotely in real-time.

The Model FT2008 series of tabular annunciators has 16 zones, and the Model FT2009 series uses 96 LEDs for 32 zones.

Up to two(2) light-emitting diodes (LEDs) can be used per zone. Tabular annunciators provide outputs for system and zone status, and are orderable in either black or red.

Remote Peripheral Module

The Remote Peripheral Module (Model FCA2018-U1) provides a means of connecting a Desigo FACP to a parallel printer (Model PAL-1) for creating hard copies of system-status and configuration reports.

Model FCA2018-U1 is a supervised, intelligent module that has built-intransient protection and plain-decimal addressing.

Model FCA2018-U1 is remotely connected to the Model FCA2016-U1 RS—485 communication bus from any Desigo Fire Safety system enclosure. Model FCA2018-U1 uses 'Class B' (Style 4) or 'Class A' (Style 6) wiring, and provides two (2) RS—232 serial ports and a one (1)parallel port, thus connecting to Model PAL-1.

LED Annunciator Driver

The Model FT2007-U1 LED Annunciator Driver provides custom graphic annunciators on addressable Cerberus PRO FACPs. This optional system module provides 96highly programmable outputs to drive LED indicators. There are 16 inputs to accommodate user-system commands: *Silence*, *Unsilence*, *Reset*, *Acknowledge* and *Lamp Test*.

Model FT2007-U1 is supervised via aRS–485 interface. A maximum eight (8) modules are allowed on each RS–485 communication bus.

Graphics Input / Output Driver

The Graphics Input / Output (I/O) Driver (ModelFT2003-U1) is a fire-system accessory on the RS–485(Model FCA2016-U1) interface circuit. Model FT2003-U1, which serves as a combination standalone remote display / operating unit, provides the ability to build a graphic annunciator for the Desigo Fire Safety 252 /504-point addressable FACPs.

Model FT2003-U1, which comes without an enclosure or display panel, consists of an indicator printed circuit board (PCB) and a driver PCB that are screwed together.

Each I/O driver has 32 outputs to drive highly programmable LEDs, and also contains 16 inputs to accommodate user-defined system commands, such as: *Acknowledge; Silence or Reset.*

NAC Expansion Module

The NAC expansion module (Model FCI2011-U1) provides either of the following additional NACs to a Cerberus PRO 252 / 504-point FACP:

- one (1)`Class A', or
- two (2)`Class B' NACs

Each NAC is rated at 3 Amps. Each NAC expansion module is monitored for open-line and short-circuit conditions.

Temperature and Humidity Range

Models FC922 and FC924 are UL 86410th Edition and ULC-S527 Listed for indoor dry locations within a temperature range of 120+/ 3°F (2°C) to 32+/ 3°F (0+/ 2°C) and a relative humidity of 93+/ 2% at a temperature of 90+/ 3°F (32+/ 2°C).

Details for Ordering

MODEL OR TYPE	PART NUMBER	PRODUCT
FCI2020-U1	S54400-A57-A1	Leased-Line / City -Tie Module
FCM2018-U3	S54400-C40-A2	Operating Interface Unit
FP2011-U1	500-450222	170-Watt Power Supply
FP2012-U1	S54400-Z60-A1	300-Watt Power Supply
FT2007-U1	S54400-A142-A1	LED Annunciator Driver
FT2008-U1	S54400-A143-A1	16-Zone Tabular Annunciator, Black
FT2008-R1	S54400-A144-A1	16-Zone Tabular Annunciator, Red
FT2009-U1	S54400-A145-A1	32-Zone Tabular Annunciator, Black
FT2009-R1	S54400-A146-A1	32-Zone Tabular Annunciator, Red
FT2014-U3	S54400-B80-A1	Remote Display Terminal, Black
FT2014-R3	S54400-B73-A1	Remote Display Terminal, Red
FT2015-U3	S54400-B88-A1	Remote Display Terminal, Black
FT2015-R3	S54400-B16-A1	Remote Display Terminal, Red
FTI2001-U1	S54400-A58-A1	Fire Terminal Board
FCA2015-U1	S54400-A63-A1	Digital Alarm Communication Transmitter
FN2001-U1	S54400-A60-A1	C-WEB Network Module
FCA2016-U1	S54400-A39-A1	RS—485 Interface
FCA2018-U1	S54400-A65-A1	Remote Peripheral Module
FCA2032-U1	S54400-B145-A1	Battery Disconnect Module
FCA2033-U1	S54400-P154-A1	License Key (S1) for remote access | remote view | remote operation
FCA2034-U1	S54400-P155-A1	License Key (S2) for BACnet output (monitoring only)
FCA2035-U1	S54400-P156-A1	License Key (S3) for remote access | remote view | remote operation | BACnet output
FCI2011-U1	S54400-A54-A1	NAC Expansion Module
FCI2016-U1	S54400-A55-A1	252-Pt. Periphery Board
FCI2017-U1	S54400-A56-A1	504-Pt. Periphery Board
XCI2001-U1	S54400-A69-A1	Releasing Module
FCM2019-U3	S54400-C41-A2	Operating Interface Unit [with LED]
FCM2022-U3	S54400-C44-A2	Blank Option Module
FCM2023-U3	S54400-C45-A2	LED Option Module [Red / Yellow bi-color LED; one (1)Yellow LED]
FCM2034-U3	S54400-C138-A1	LED Option Module: [Red / Yellow bi-color LED; one (1)Yellow LED]

Details for Ordering (cont.)

MODEL OR TYPE	PART NUMBER	PRODUCT
FN2006-U1	S54400-A61-A1	Single-Mode Fiber-Optic Module
FN2007-U1	S54400-A62-A1	Multi-Mode Fiber-Optic Module
FHB2001-U1	S54400-B47-A1	One-Height-Unit Back Box, Black
FHB2001-R1	S54400-B47-A2	One-Height-Unit Back Box, Red
FHB2002-U1	S54400-B48-A1	Two-Height-Unit Back Box, Black
FHB2002-R1	S54400-B48-A2	Two-Height-Unit Back Box, Red
FHD2001-U3	S54400-B45-A1	One-Height-Unit Outer Door, Black
FHD2001-R3	S54400-B40-A1	One-Height-Unit Outer Door, Red
FHD2002-U3	S54400-B32-A1	Two-Height-Unit Outer Door [with one (1) window], Black
FHD2002-R3	S54400-C53-A1	Two-Height-Unit Outer Door [with one (1) window], Red
FHD2003-U3	S54400-C42-A1	Two-Height-Unit Outer Door [with two (2) windows], Black
FHD2003-R3	S54400-B46-A1	Two-Height-Unit Outer Door [with two (2) windows], Red
FHD2004-U1	S54400-B52-A1	Inner door, Black
FHD2005-U1	S54400-B53-A1	Inner door, Solid Black
FHD2006-U1	S54400-C46-A1	Clear-lens window
FHD2012-U1	S54400-C135-A1	Optional inner door [for housing a Model FT201-series display terminal], Black
FHA2056-U1	S54400-B18-A1	Cerberus PRO Hardware Migration Kit, Black
FHA2056-R1	S54400-B19-A1	Cerberus PRO Hardware Migration Kit, Red
FHAMIQKIT-04	S54400-C24-A1	MXL-IQ Mechanical Migration Kit, Black
FHAMIQKIT-05	S54400-C25-A1	MXL-IQ Mechanical Migration Kit, Red
FHAMIQKIT-03	S54400-K1-A1	One (1) PMI cable & One (1) Expansion Cable
FHAMIQKIT-01	S54400-A66-A1	One (1) FCL2004 Module with PMI Cable
FHAMIQKIT-02	S54400-A67-A1	One (1) FCL2004 Module with Expansion Cable
FCL-MXLPLATE	S54400-B153-A1	Mounting Bracket for FCL2004 (2HU/USCG)
FH2072-UA	S54433-A5- A1	Universal Battery Cabinet
FTH2073-UA	S54433-A6- A1	Universal Annunciator Cabinet
FH2072-UA	S54433-A5- A1	Universal Battery Cabinet
FTH2073-UA	S54433-A6- A1	Universal Annunciator Cabinet

Electronics Package

MODEL OR TYPE	PART NUMBER	PRODUCT
FC922-US	S54400-C14-A1	252-Point Fire System with 170 Watt Power Supply and standard operator interfaces. Includes: ▪ FP2011-U1 (1 Qty.) ▪ FCI2016-U1 (1 Qty.) ▪ FCM2018-U3 (1 Qty.)
FC924-US	S54400-C15-A1	504-Point Fire System with 170 Watt Power Supply and standard operator interfaces. Includes: ▪ FP2011-U1 (1 Qty.) ▪ FCI2017-U1 (1 Qty.) ▪ FCM2018-U3 (1 Qty.)
FC922-UE	S54400-C16-A1	252-Point Fire System with 170 Watt Power Supply and standard operator interfaces. (with 24-zone LEDs) Includes: ▪ FP2011-U1 (1 Qty.) ▪ FCI2016-U1 (1 Qty.) ▪ FCM2019-U3 (1 Qty.)
FC924-UE	S54400-C17-A1	504-Point Fire System with 170 Watt Power Supply and standard operator interfaces. (with 24-zone LEDs) Includes: ▪ FP2011-U1 (1 Qty.) ▪ FCI2017-U1 (1 Qty.) ▪ FCM2019-U3 (1 Qty.)
FT924-US	S54400-C18-A1	Network Terminal w/ standard operator interface Includes: ▪ FTI2001-U1 (1 Qty.) ▪ FCM2018-U3 (1 Qty.)
FT924-UE	S54400-C19-A1	Network Terminal w/ standard operator interface (with 24-zone LEDs) Includes: ▪ FTI2001-U1 (1 Qty.) ▪ FCM2019-U3 (1 Qty.)
FC922-UT	S54400-C20-A1	252-Point Fire System with 300 Watt Power Supply and standard operator interfaces Includes: ▪ FP2012-U1 (1 Qty.) ▪ FCI2016-U1 (1 Qty.) ▪ FCM2018-U3 (1 Qty.)
FC924-UT	S54400-C21-A1	504-Point Fire System with 300 Watt Power Supply and standard operator interfaces Includes: ▪ FP2012-U1 (1 Qty.) ▪ FCI2017-U1 (1 Qty.) ▪ FCM2018-U3 (1 Qty.)

Electronics Package (Cont.)

MODEL OR TYPE	PART NUMBER	PRODUCT
FC922-UF	S54400-C22-A1	252-Point Fire System with 300 Watt Power Supply and standard operator interfaces(with 24-zone LEDs) Includes: ▪ FP2012-U1 (1 Qty.) ▪ FCI2016-U1 (1 Qty.) ▪ FCM2019-U3 (1 Qty.)
FC924-UF	S54400-C23-A1	504-Point Fire System with 300 Watt Power Supply and standard operator interfaces(with 24-zone LEDs) Includes: ▪ FP2012-U1 (1 Qty.) ▪ FCI2017-U1 (1 Qty.) ▪ FCM2019-U3 (1 Qty.)
Canadian-Specific Applications:		
FCM2035-U3	S54400-C140-A1	Enhanced Operating Unit (with LEDs)

Note: Refer to Data Sheet# 9800 for Canadian-Specific Electronics Package.

Related Documentation

Product	Datasheet Number
Cerberus PRO Operating Interface Units	9801
Cerberus PRO System Periphery Boards	9802
Cerberus PRO Fire Terminal and Equipment	9803
Cerberus PRO Digital Alarm Communicator Transmitter (DACT)	9804
C-WEB Network Module	9805
170-Watt and 300-Watt Power Supplies	9806
Cerberus PRO Fire-Alarm Enclosures and Equipment	9807
NAC Expansion Module	9808
Releasing Module	9809
Leased-Line / City-Tie Module	9810
Cerberus PRO Remote Peripheral Module	9811
Cerberus PRO Remote Display Terminals	9812
Single / Multi-Mode Fiber-Optic Modules	9814
LED / Blank Option Modules	9816
Battery Disconnect Module	9819
S-series license keys	9820
Cerberus PRO Marine Fire and Detection Equipment	9822
Cerberus PRO LED Annunciator Driver	9824
Cerberus PRO 16 & 32 -Zone Tabular Annunciators	9825
Cerberus PRO Migration Hardware Kit	9826

NOTICE – The information contained in this data-sheet document is intended only as a summary, and is subject to change without notice.
The product(s) described here has/have a specific instruction sheet(s) that cover various technical, limitation and liability information.

Copies of install-type, instruction sheets – as well as the *General Product Warning and Limitations* document, which also contains important data, are provided with the product, and are available from the Manufacturer.

Data contained in the aforesaid type of documentation should be consulted with a fire-safety professional before specifying or using the product.

Any further questions or assistance concerning particular problems that might arise, relative to the proper functioning of the equipment, please contact the Manufacturer.

SIEMENS

Cerberus® PRO

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SIEMENS

Cerberus® PRO

Digital Alarm Communicator Transmitter

Model FCA2015-U1

Architect & Engineer Specifications

- ☐ Four (4) separate monitoring accounts available
- ☐ Sends serial data to a central monitoring station
- ☐ Two (2) phone lines available
- ☐ Reports in eight (8) standard-communication formats
- ☐ Automatic 24-hour test feature
- ☐ Connects to either a 252-point (Model FCI2016-U1), or 504-point (Model FCI2017-U1) periphery board, and mounts to any of the following:
  - up to 252-point addressable panel: FC922 (fire) or FV922 (voice)
  - up to 504-point addressable panel: FC924 (fire) or FV924 (voice)
  - Cerberus PRO fire terminal, Model FT924
- ☐ All programming is made as part of the Cerberus PRO control panel's set configuration
  - Compatible with built-in Erasable Programmable Read-Only Memory [EEPROM] system firmware
- ☐ UL Listed, ULC Listed
  - for central-station / remote-station monitoring
- ☐ UL 864 9th Edition Listed, ULC Listed
- ☐ FM, CSFM and NYC Fire Dept. Approved

Product Overview

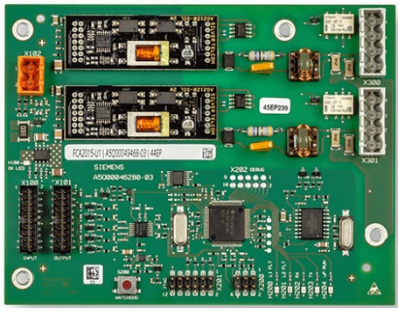
The Digital Alarm Communicator Transmitter (DACT) is used to provide communication between either a 252-point or 504-point addressable Cerberus PRO system; one (1) Fire Terminal (Model FT924), and with either a central or remote monitoring station.

The Model FCA2015-U1 DACT module mounts directly on the back enclosure and connects to the periphery boards. Each DACT enables remote transmission of alarms and events via a public telephone line. Additionally, Model FCA2015-U1 supports two (2) lines and four (4) accounts, and can transmit serial information (including the address of the event) to the monitoring station. Any of the accounts can send Alarm, Gas Alarm, Supervisory, Trouble, Reset, or Trouble-restore data (or any combination) as required.

Each DACT can perform the automatic 24-hour test required by NFPA, Chapter 4. Model FCA2015-U1 is FM (#3010); CSFM (#7165-0067:0259) and FDNY (#6104) Approved.

Available Communication Protocols include:

- SIA DCS 8
- Ademco Contact ID
- 3/1 2300 Hz
- 4/2 2300 Hz
- SIA DCS 20
- 3/1 1400 Hz
- 4/2 1400 Hz



Model FCA2015-U1

Temperature and Humidity Range

The Digital Alarm Communication Transmitter and Dialer-Capture Module are each UL 864 9th Edition Listed for indoor dry locations within a temperature range of 120+/-3°F (49+/-2°C)to 32+/-3°F (0 +/-2°C) and a relative humidity of 93+/-2% at a temperature of 90+/-3°F (32+/-2°C).

Central Station Receiver Compatibility Table

The following table shows a list of central-station receivers that are compatible with Cerberus PRO Models FC922 [252-point] and FC924 [504-point] addressable systems – as well as with Siemens Models FV922 [252-point] and FV924 [504-point] fire-with-voice control panels:

Communication Protocol	Honeywell M8000	Silent Knight 9822	Bosch D6600	Bosch D6100
SIA DCS 8	✓		✓	✓
SIA DCS 20	✓		✓	✓
Ademco Contact ID	✓	✓	✓	✓
3/1 1400 Hz	✓	✓	✓	✓
3/1 2300 Hz	✓	✓	✓	✓
4/2 1400 Hz	✓	✓	✓	✓
4/2 2300 Hz	✓	✓	✓	✓

Notes: Multiple central-station receivers are compatible with the Cerberus PRO 252 / 504-point FACPs, Models FC922 and FC924, respectively. These receivers also work with Cerberus Intelligent Voice Communication: Models FV922 and FV924.

Although the table above illustrates central-station receivers that have been verified by Siemens, additional receivers and formats can also be used with each addressable system.

After completing the installation, communication between the Digital Alarm Communication Transmitter (Model DACT) and Central Station Receiver must be tested and verified.

Table of Compatible Alarm Communicators

Each Model FCA2015-U1 dialer can utilize different communication technologies – including Internet Protocol (IP) and Global System Mobile (GSM) communication technologies on Siemens fire-alarm control panels – in order to connect to compatible central-station receivers for off-premises monitoring:

Communication Technology	Bosch C900V2	DSC 3G3070-CF	DSC TL300CF	Telguard TG7GFS04
IP	✓		✓	
GSM		✓		✓

Technical Data

Electrical Ratings @ 24VDC	Standby Current:		33.5mA
	Active Current:		43.5mA
Connections	System Bus	Design	14 — 22 AWG [American Wire Gauge]
		Admissible Cross-Section Cable	
	Type		14-pin, ribbon-cable connection

Physical Properties

DIMENSIONS: (W –**x**– H –**x**– D)	4" -x- 5" -x- 0.8" (10.2 cm. -x- 12.7 cm. -x- 2.0 cm.)
WEIGHT:	0.44 Lbs. (20g)

Related Documentation

Product	Data Sheet Number
Fire Terminal and Equipment	9803
Cerberus PRO 252-point system / 504-point system	9815
Cerberus PRO Intelligent Voice Communication	9821

Details for Ordering

Model or Type	Part Number	Product
FCA2015-U1	S54400-A63-A1	Cerberus PRO Digital Alarm Communicator Transmitter

SIEMENS
Ingenuity for life

Peripheral and Detection Devices
Initiating Devices

XMS-Series Manual Pull Stations

Models XMS-S | XMS-D | XMS-M

Architect & Engineer Specifications

- ☐ Built-in loop isolation:
  - Meets Class X (Style 7) survivability requirements
  - Supports up to 190 X-Series isolation peripherals per loop and 30 addressable devices
- ☐ Low current draw
- ☐ Polarity insensitive (in non-isolation mode) via SureWire technology
- ☐ Multi-color status LED
- ☐ T-45 reset key
- ☐ Reduced mounting depth for compatibility with single gang electrical boxes for retrofit applications
- ☐ Trouble indication during service and maintenance
- ☐ Single action, double action, and metal versions available
- ☐ Portuguese and Spanish versions available
- ☐ RoHS compliant
- ☐ UL38 Listed

Product Overview

The XMS-Series of manual pull stations are a complete addressable and conventional pull station portfolio that include single action, double action, and metal versions. The addressable versions feature built-in Class X (Style 7) isolation capability for increased system survivability. All models feature a T-45 reset key to match the fire alarm panel enclosure. Addressable models also feature a tri-color status LED to indicate normal, alarm, and trouble status. All modules utilize one address.

The manual stations can be commissioned non-isolation (polarity insensitive) or isolation "X-Series" modes of operation.

Specifications

Models XMS-S, XMS-D, and XMS-M are compatible with Siemens FACPs. The Model XMS-S is a single action pull station in a plastic housing that requires one action by the user to initiate the alarm. The Model XMS-D is a double action pull station in a plastic housing that requires two actions by the user to initiate an alarm. The Model XMS-M is a single action pull station in a metal housing that requires one action by the user to initiate the alarm. These models are field installed addressable devices containing advanced control panel communication technology.

Model XMS-D

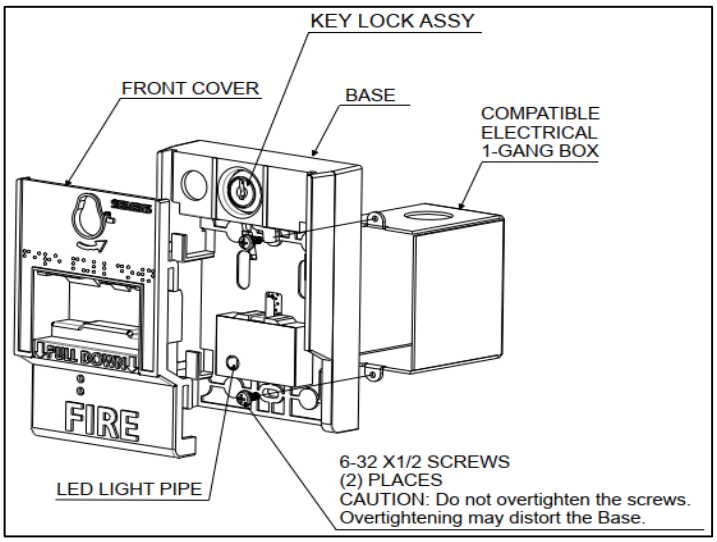
The XMS-Series manual pull stations feature a "maintenance trouble" that places the fire alarm panel into a trouble condition if an XMS is accidentally left in an armed status when the cover is removed for maintenance work.

This technology provides two-direction communication with the control panel. To reset the stations, insert the Siemens T45 key provided into the key lock and turn the key 10-15 degrees counter-clockwise as the arrow shows. The cover will move upward to the normal position. Rotate the key clockwise and remove key from the lock. At Normal position the top of the Cover is flush with the top surface of the Base. Reset the Fire Alarm Control Panel to clear the alarm.

The XMS-S, XMS-D, and XMS-M manual stations operate with the Desigo Fire Safety Modular / Cerberus PRO Modular via the XDLC. These devices can be wired in either Isolation Mode or Polarity Insensitive Mode Wiring. The XMS-S/XMS-M manual station front cover has a recess pocket to pull down and locks in position after the alarm is initiated. The XMS-D manual station has an additional lever labeled "PUSH HERE THEN" to get access to the front cover pocket to initiate the alarm.

UL RoHS

Mounting Diagram



Technical Data

Operating Voltage Range	13 - 32VDC
Max Average Operating Current @ 24v:	500µA
Operating Temperature Range	32° — 120°F (0° — 49°C)
Operating Humidity Range	0 — 95%, RH

Physical Properties

Construction:	High impact polycarbonate plastic
	Aluminum
Shipping weight:	1.0 lbs
Dimensions:	5.50" H x 4.0" W x 1.250" D
Compliance:	ADA
Compatible electrical boxes:	2-1/2" deep 1-gang box

Details for Ordering

Model or Type	Part Number	Description
XMS-S	S54321-F7-A1	Addressable Single Action Manual Pull Station with Isolation
XMS-D	S54321-F8-A1	Addressable Double Action Manual Pull Station with Isolation
XMS-M	S54321-F19-A1	Addressable Single Action Metal Pull Station with Isolation
XMS-SP	S54321-F9-A1	Addressable Single Action Manual Pull Station with Isolation - Portugese Text
XMS-DP	S54321-F10-A1	Addressable Double Action Manual Pull Station with Isolation - Portugese Text
XMS-SE	S54321-F11-A1	Addressable Single Action Manual Pull Station with Isolation - Spanish Text
XMS-DE	S54321-F12-A1	Addressable Double Action Manual Pull Station with Isolation - Spanish Text
XMH-501	S54321-F18-A1	Conventional Double Action Manual Pull Station for Agent Release
XMS-501	S54321-F16-A1	Conventional Double Action Manual Pull Station
XMS-51	S54321-F15-A1	Conventional Single Action Manual Station with Auxiliary Relay and Key Switch
SMBOX-XMP	S54321-F20-A1	Surface Mounting Backbox for X-Series Manual Stations
APLT-XMP	S54321-F21-A1	Adapter Plate for X-Series Manual Stations to Legacy Surface Backboxes
4DGBOX-XMP	S54321-F22-A1	Adapter Plate for X-Series Manual Stations to 4" and Double-Gang Backboxes

Cerberus® PRO
Detectors and Peripherals

Photoelectric Smoke Detector [with ISO*technology*™]
Model OP921

Architect & Engineer Specifications

- ☐ UL 268 7th Edition Listed
- ☐ Built-in ISO*technology*™
- ☐ 252 Isolation devices per SLC
- ☐ Each detector is self-testing:
  - Self-monitored for sensitivity with UL Listed limits
  - complete diagnostics performed every 10 seconds
- ☐ Compatible with Model 8720 | DPU (device programmer / loop tester)
- ☐ Polarity insensitive via *SureWire*™ technology
- ☐ Functions with Model DB-11–series mounting bases
- ☐ Tri-color detector-status light-emitting diode (LED) with 360 ° view
- ☐ Field-selectable application-sensitivity profiles
- ☐ Remote sensitivity-measurement capability
- ☐ Utilizes advanced, microprocessor-based signal processing
- ☐ Extended temperature-and-humidity operating range
- ☐ Automatic environment compensation
- ☐ Superior electromagnetic interference (EMI) and radio-frequency interference (RFI) immunity
- ☐ Restriction of Hazardous Substances (RoHS compliant)
- ☐ UL Listed | FM, CSFM Approved
  - UL 268: `Open Area Smoke Detection'
  - UL 268A (Duct) - `In-duct housing' use
  - UL 268A (Duct) - `Direct-in-Duct' use
  - ULC-S531: `Open Area Smoke Detection'
  - FM 3230 (Duct)
  - CSFM | File: 7272-0067:0258

Product Overview

The Photoelectric Smoke Detector (Model OP921) uses state-of-the-art microcontroller circuitry and surface-mount technology for maximum reliability. Model OP921 incorporates an optical sensor using a light-scattering detection principle. The device utilizes advanced software algorithms to analyze the signals providing highly stable and accurate smoke detection.

Model OP921 is UL 268 7th edition listed incorporating advanced built-in **ISO*technology***™ - True Class-X SLC operation (use is optional) greatly improving system reliability and circuit integrity while providing advanced addressable fault finding.

Each detector fits into one (1) wall-or-ceiling footprint, and only occupies one (1) address on the signal-line circuit (SLC)

Model OP921 is a plug-in, two-wire, addressable photoelectric smoke detector whose value is increased with built-in **ISO*technology*** feature. Model OP921 is Underwriters' Laboratories Listed [UL268A Listed for direct in-air duct usage].

Each detector utilizes a dust-resistant photoelectric smoke chamber and microprocessor-based electronics with a low-profile plastic housing. Every Model OP921 fire detector is shipped with a protective dust cover.

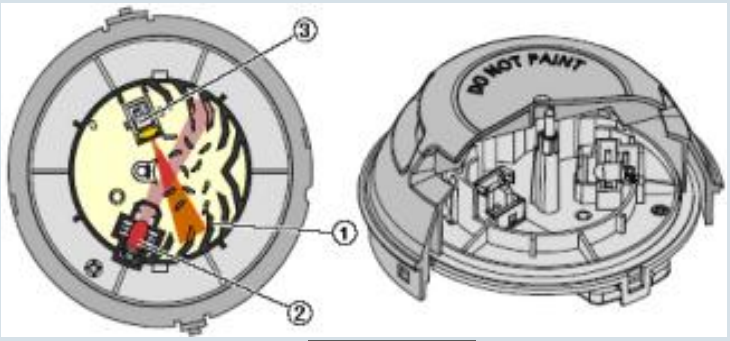
Operation

Model OP921 is a wide-spectrum, photoelectric smoke detector that incorporates an infrared light-emitting diode (IRLED), as well as a light-sensing photodiode. Under normal conditions, light transmitted by the LED is directed away from the photodiode and scattered through the smoke chamber in a controlled pattern.

The smoke chamber is designed to manage light dissipation and extraneous reflections from dust particles or other non-smoke, airborne contaminants in such a way as to maintain stable, consistent detector operation. When smoke enters the detector chamber, light emitted from the IRLED is scattered by the smoke particles and is received by the photodiode (see: images on page 2).

Model OP921
Photoelectric Smoke Detector

1. **Labyrinth**
2. **Optical transmitter**
3. **Optical receiver**



1. **Dust cover**
2. **Photoelectric smoke detector**

Model OP921

Sensitivity Settings

Application Parameter Sets

Model OP921 provides four (4) pre-programmed sensitivity parameter sets that can be selected by the Siemens fire-alarm control panel in order to match the expected application or environmental conditions:

- Sensitive
- Standard
- Robust
- Air-duct

***Sensitive*:** This application parameter set is practically suitable for areas where few misleading sources of false alarm are present, and is appropriate where priority is given to detecting open fires as soon as possible (e.g. – typically a clean application with controlled environmental conditions).

Standard: This application parameter set, which is ideal for normal office | hotel-lobby-type applications, is the default setting.

Robust: This application parameter set offers improved resistance to false alarms in areas where misleading sources, such as cigarette smoke or exhaust fumes, may cause a nuisance alarm.

Air-Duct: This application parameter set is used when the detector is used a UL268A (DI) compliant, direct in-air duct application without a duct housing.

Model OP921 does not require a field sensitivity test. Model OP921 is UL Listed as a self-testing device and complies with NFPA 72 as a self-monitoring detector and control-panel arrangement.
This parameter set is also used when Model OP921 is used in air-duct housings (Models FDBZ492 and FDBZ492-HR).

A quick visual inspection is sufficient to indicate the condition of Model OP921 at any time.
If more detailed information is required, a printed report can be provided from the compatible FACP, indicating the status and settings assigned to each individual detector. When Model OP921 moves to `Alarm' mode, the detector will flash RED and continue flashing until the system is reset at the FACP. At that same time, any user-defined, system-alarm functions programmed into the system are activated.

Model OP921 contains a tri-color LED indicator, capable of flashing any one (1) of three (3) distinct colors: GREEN | YELLOW | RED.
During each flash interval, the microprocessor-based detector monitors the following scenarios:

- Smoke sensitivity is within the range indicated on the nameplate label
- Smoke in its sensing chamber
- Internal sensors and electronics are functional

Sensitivity Settings - (continued)

Based on the results of the monitoring, the LED indicator flashes the following:

FLASH COLOR	CONDITION	FLASH INTERVAL [in seconds]
GREEN*:	Normal supervisory operation. Smoke sensitivity is within rated limits.	10
YELLOW:	Detector is in trouble and needs replacement.	4
RED:	`Alarm' condition	1
NO FLASH:	Detector is not powered.	–

* denotes LED can be turned OFF
Please follow the corresponding description of the panel used.

A quick visual inspection is sufficient to indicate the condition of the detector at any time.
If more detailed information is required, a printed report can be provided from the respective Cerberus PRO Modular | FireFinder XLS/V | FC/FV9–series FACP that indicates the status and settings assigned to each individual detector.

Installation

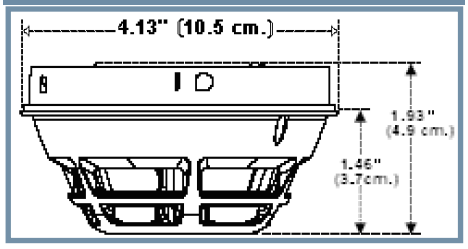
All Model OP921 intelligent, addressable detectors use a surface-mounting base (Model DB-11 or DB-11E), which mounts on a 4-inch (10.2 cm.) octagonal, square or single-gang electrical back box. The base utilizes screw-clamp contacts for electrical connections and self-wiping contacts for increased reliability.

The Model DB-11 detector base can be used with the optional Siemens Model LK-11 detector locking kit, which contains 50 detector locks and an installation tool to prevent unauthorized removal of the detector head. Model DB-11 has aesthetically conducive plugs to cover the outer mounting-screw holes.

Model OP921 may be installed on the same initiating circuit with the Siemens Model `H'-series detectors [when used with Cerberus PRO Modular | FireFinder XLS/V | FC/FV9–series FACPs] –

- XTRI series interface modules
- HTRI series interface modules
- HMS & XMS series manual stations
- HFP-11, HFPT-11 detection devices
- HCP output-control module
- HZM conventional zone module

Dimensional Data



Each detector, which is shipped with a protective dust cover, consists of the following:

- Built-in **ISO*technology*** for True-Class-X SLC performance
- Dust-resistant photoelectric chamber
- Solid-state, non-mechanical thermal sensor
- Microprocessor-based electronics with a low-profile plastic housing

All Model OP921 intelligent, addressable detectors are approved for operation with the Underwriters' Laboratories-specified temperature range of 32° to 120° (0° to 49°C). (See: installation manual P/N — A6V10323928 for further details)

Application Data

Installation of Model OP921 smoke detectors require a two-wire circuit. In many retrofit cases, existing wiring may be used. `T-tapping' is permitted only for Style 4 (Class B) wiring. Model OP921 is polarity insensitive, which can greatly reduce installation and debugging times. When operating in NFPA 72 Class-X applications SLC polarity must be maintained to support up to 252 isolation ready devices per loop. When used in mixed mode a maximum of 30 non-isolated devices between isolation devices (wired in polarity-insensitive mode). See control panel install document for further details.

Model OP921 detectors can be applied within the maximum 30-feet center spacing (900 sq. ft. areas) as referenced in NFPA 72. This application guideline is based on ideal conditions – specifically, smooth ceiling surfaces, minimal air movement, and no physical obstructions between potential fire sources and the actual detector. Do not mount detectors in close proximity to ventilation or heating and air conditioning outlets. Exposed joists or beamed ceilings may also affect safe spacing limitations for detectors.

Should questions arise regarding detector placement, observe NFPA 72 guidelines. Good fire-protection-system engineering and common sense dictate how and when fire detectors are installed and used. Contact your local Siemens – Fire Safety distributor or sales office whenever you need assistance applying Model OP921 in unusual applications. Be sure to follow NFPA guidelines and UL Listed / ULC Listed installation instructions – included with every Siemens – Fire Safety detector – and local codes as for all fire protection equipment.

Field-Device Programmer / Test Unit

Model OP921 is compatible with the Siemens field-device programmer / test unit (Model 8720 | DPU), which is a compact, portable menu-driven accessory for electronically programming and testing these addressable detectors promptly and reliably. For instance, the field technician selects the accessory's program mode, and enters the desired address.

Model DPU eliminates the need for cumbersome, unreliable mechanical programming methods (e.g. – dials and rotary switches), and reduces installation and service costs by electronically programming and testing the detector prior to installation. When set in `test' mode, Model DPU will perform a series of diagnostic tests without altering the address or other stored data, allowing technicians to determine if the detector is operating properly.

Each field-device programmer / test unit operates on AC power or rechargeable batteries, providing flexibility and convenience in the programming / testing of fire-safety equipment from practically any location. Additionally, with the use of a Model DPU unit, there is no longer a cause for concern with any vibration, corrosion and other deteriorating conditions that can accompany the vitality of electro-mechanical-addressing mechanisms.

Each detector fits into one (1) wall-or-ceiling footprint, and only occupies one (1) address on the signal-line circuit (SLC).

Technical Data

OPERATING TEMPERATURE:	+32° – +120°F (0° – +49°C)
RELATIVE HUMIDITY:	0 – 95% (non-condensing)
AIR PRESSURE:	No effect
AIR VELOCITY:	0 – 4,000 feet-per-minute (fpm) (0 – 20 meters-per-second)
INPUT VOLTAGE RANGE:	16VDC – 30VDC
`ALARM' CURRENT, MAX.:	410µA
`STANDBY' CURRENT, MAX.:	250µA
MAXIMUM SPACING:	30–ft. centers (900 sq. ft.), per NFPA 72
DETECTOR WEIGHT:	0.317 Lbs. (0.144 kg.)
MECHANICAL PROTECTION GUARD:	UL and ULC Listed (with STI Guard Model STI-9604)
SENSITIVITY RANGE:	1.41 - 3.76 % ft obs. (Nominal 2.0% / ft. obs.)

Panel Compatibilities

MODEL OR TYPE	DATA SHEET	PANEL
XLS	6300	FireFinder® (fire)
XLSV	6340	FireFinder (fire w/ voice)
Cerberus PRO Modular	8300	System Overview
FC901	9813	Cerberus PRO 50-point addressable
FC922	9815	Cerberus PRO 252-pt. addressable (fire)
FC924		Cerberus PRO 504-pt. addressable (fire)
FV922	9821	Cerberus PRO 252-point addressable (fire w/ Intelligent Voice Communication [IVC])
FV924		504-pt. addressable (fire w/ Intelligent Voice Communication [IVC])

Details for Ordering

MODEL OR TYPE	PART NUMBER	PRODUCT
OP921	S54320-F4-A2	Photoelectric Smoke Detector

Compatible Devices:

MODEL OR TYPE	PART NUMBER	PRODUCT
DB-11	500-094151	Detector Mounting Base
DB-11E	500-094151E	Detector Base, small
DB2-HR	S54370-F12-A1	Detector Mounting Base with Relay
RL-HC	500-033230	Remote Alarm Indicator: 4" (10.2 cm) octagon.-box mount, red
RL-HW	500-033310	Remote Alarm Indicator: single-gang box mount, red
FDBZ492	S54319-B22-A1	Addressable Air-Duct Housing
FDBZ492-HR	S54319-B23-A1	Addressable Air-Duct Detector with Relay
LK-11	500-695350	Base Locking Kit

See: www.STI-USA.com for further details on ordering Model STI-9604

In Canada order:

MODEL OR TYPE	PART NUMBER	PRODUCT
DB-11C	500-095687	Detector Mounting Base, ULC Listed

NOTICE – The information contained in this data-sheet document is intended only as a summary, and is subject to change without notice.
The product(s) described here has/have a specific instruction sheet(s) that cover various technical, limitation and liability information.

Copies of install-type, instruction sheets – as well as the *General Product Warning and Limitations* document, which also contains important data, are provided with the product, and are available from the Manufacturer.

Data contained in the aforesaid type of documentation should be consulted with a fire-safety professional before specifying or using the product.

Any further questions or assistance concerning particular problems that might arise, relative to the proper functioning of the equipment, please contact the Manufacturer.

SIEMENS

Cerberus® PRO

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February - 2021
(Rev. 10)

Cerberus® PRO
Detectors and Peripherals

Thermal (Heat) Detector
Model HI921

Architect & Engineer Specifications

- ☐ Compatible with Siemens Model `H'-series devices on the same loop (with Cerberus PRO Modular | FireFinder XLS/V | FC9–series fire-alarm control panels)
- ☐ Contains seven (7) field-selectable settings in a temperature range of 135°F – 174°F (57.2°C – 78.9°C)
- ☐ Provides a low-temperature warning of 40°F (4.4°C)
- ☐ Field programmable as rate-of-rise or fixed temperature
- ☐ Tri-color detector-status light-emitting diode (LED) with 360 ° view
- ☐ Compatible with Model 8720 | DPU (device programmer / loop tester)
- ☐ Utilizes advanced, microprocessor-based signal processing
- ☐ Each detector is self-testing:
  - complete diagnostics performed every 10 seconds
- ☐ Polarity insensitive via *SureWire™* technology
- ☐ Functions with Model DB-11–series mounting bases
- ☐ Superior electromagnetic interference (EMI) and radio-frequency interference (RFI) immunity
- ☐ Restriction of Hazardous Substances (RoHS compliant)
- ☐ UL 521 Listed, ULC Listed; FM (#3230, #3210), CSFM (#7272-0067:0258) Approved

Product Overview

The Intelligent Thermal (Heat) Detector (Model HI921) provides an advanced method of detection, address programming supervision – combined with sophisticated FACP communication. Model HI921 uses a state-of-the-art thermistor, microprocessor and advanced signal analysis, providing high reliability and accuracy.

Additionally, Model HI921 is a cost-effective, two-wire / addressable thermal detector that provides a distinctive, advanced feature: seven (7) field-selectable temperature settings specially tailored for application-specific detection needs.

The temperature-range settings for each Model HI921 detector is between 135°F (57°C) – 174°F (79°C) with fixed and rate-of-rise programmability. This variance provides the customer with maximum flexibility to program the temperature settings to suit multiple application needs and changing environmental conditions.

Model HI921 can be configured to provide a low-temperature warning signal at 40°F (4.4°C). This feature – along with a compatible FACP (Cerberus PRO Modular | FireFinder XLS/V or with Cerberus PRO FC/FV922 or FC/FV924 FACPs) – serves as prevention of water freezing in pipes for sprinkler systems, meeting NFPA 72

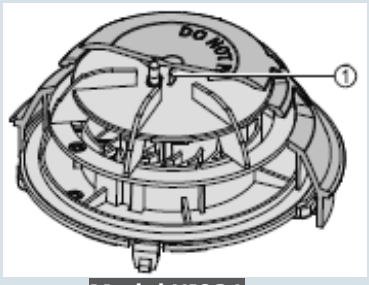
Operation

Model HI921 also utilizes a modern, accurate and shock-resistant thermistor to sense significant changes in temperature.

Each Model HI921 detector has seven (7) pre-programmed parameter sets that can be selected by the Siemens FACP.

Model HI921
Thermal (Heat) Detector

1. **Thermistor**



Model HI921

1. **Dust cover**
2. **Thermal (heat) detector**

NOTE: Each detector consists of a dust-resistant chamber, a solid state, functional internal sensor, and microprocessor-based electronics with a low-profile plastic housing.
Every Model HI921 fire detector is shipped with a protective dust cover.

Detector Supervision and Testing

Model HI921 contains a tri-color LED indicator, capable of flashing any one (1) of three (3) distinct colors: GREEN | YELLOW | RED. During each flash interval, the microprocessor-based detector monitors the following fire-system conditions:

- Temperatures reaching programmed thresholds
- Internal sensors and electronics are functional

Based on the results of the monitoring, the LED indicator flashes the following:

FLASH COLOR	CONDITION	FLASH INTERVAL [in seconds]
GREEN*:	Normal supervisory operation. Temperature has not reached programmed alarm thresholds or set points.	10
YELLOW:	Detector is not operating at normal capacity and needs replacement.	4
RED:	`Alarm' condition	1
NO FLASH:	Detector is not powered.	–

* denotes LED can be turned OFF
Please follow the corresponding description of the panel used.

A quick visual inspection is sufficient to indicate the condition of the detector at any time.
If more detailed information is required, a printed report can be provided from the respective Cerberus PRO Modular | FireFinder XLS/V or Model FC9-series FACPs that indicates the status and settings assigned to each detector.

Installation

All Model HI921 detectors use a surface-mounting base, Model DB2-HR | DB-11 or Model DB-11E, which mounts on a 4-inch (10.2 cm.) octagonal, square or single-gang electrical box. The base utilizes screw-clamp contacts for electrical connections and self-wiping contacts for increased reliability.

The Model DB-11 detector base can be used with the optional Siemens Model LK-11 detector locking kit, which contains 50 detector locks and an installation tool to prevent unauthorized removal of the detector head. Model DB-11 has aesthetically conducive plugs to cover the outer mounting-screw holes.

Model HI921 may be installed on the same initiating circuit with the Siemens Model `H'-series detectors [when used with Cerberus PRO Modular | Model FC9-series | FireFinder XLS/V FACPs] –

- HFP-11, HFPT-11
- Model `XTRI'-series interfaces
- Model `HTRI'-series interfaces
- Model `HMS'-series manual stations
- Model HCP output-control detection devices
- Model `HZM'-series of addressable, conventional zone modules

Application Data

Installation of Model HI921 intelligent, addressable thermal detectors requires a two-wire circuit. In many retrofit cases, existing wiring may be used. `T-tapping' is permitted only for Style 4 (Class B) wiring. Model HI921 is polarity insensitive, which can greatly reduce installation and debugging times.

Model HI921 can be applied within the maximum 50-feet (15.24 m.) center spacing (2,500 sq. ft. [232.3 sq. m.]) per Underwriters' Laboratories. This application guide is based on ideal conditions, specifically, smooth-ceiling surfaces, minimal air movement, and no physical obstructions between potential fire sources and the actual detector. Do not mount detectors in close proximity to heating | ventilation | air-conditioning (HVAC) outlets. Exposed joists or beamed ceilings may also affect safe spacing limitations for detectors.

Should questions arise regarding detector placement, observe NFPA 72 guidelines. Good fire-protection system engineering and common sense dictate how and when fire detectors are installed and used. Contact your local Siemens – Fire Safety distributor or sales office whenever you need assistance applying Model HI921 in unusual applications.

Be sure to follow NFPA guidelines and UL Listed / ULC Listed installation instructions – included with every Siemens – Fire Safety detector – and local codes for all fire-protection equipment.

Specifications

Model HI921 is a plug-in, (2) two-wire thermal (heat) detector, compatible with Cerberus PRO Modular | FireFinder XLS/V and Model FC9-series FACPs. Each Model HI921 detector has microcomputer-chip technology and highly stable, solid-state electronic circuitry. Model HI921 detectors utilize a modern, accurate and shock-resistant thermistor to sense temperature changes. This electronic-sensing method virtually eliminates thermal lag associated with mechanical temperature-sensing devices, and provides almost instantaneous temperature status to the FACP.

Model HI921 provides seven (7) field-selectable, pre-programmed temperature settings:

- Fixed 135°F (57°C)
- Fixed 145°F (63°C)
- Fixed 155°F (68°C)
- Fixed 165°F (74°C)
- Fixed 174°F (79°C)

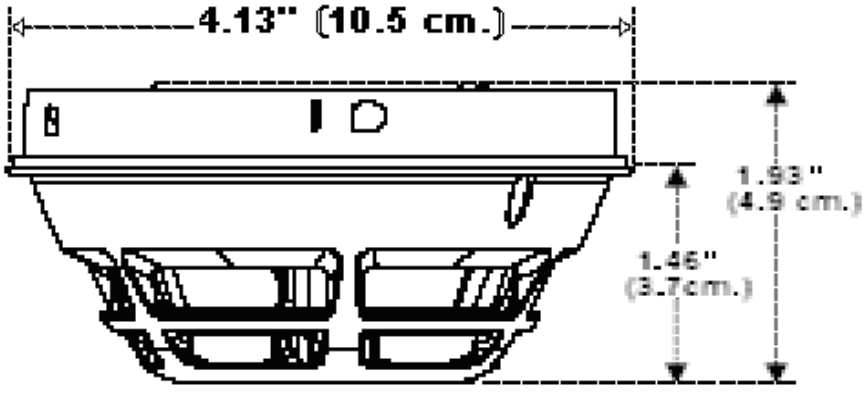
- Rate-of-Rise: 15°F / min. (8.3°C) at fixed 135°F (57°C)
- Rate-of-Rise: 15°F / min. (8.3°C) at fixed 174°F (79°C)

Additionally, the Model HI921 detector has the following optional feature:

- Model HI921 provides indication of potential water freezing for sprinkler systems, via configuration for reporting a low-temperature warning of 40°F (4.4°C).

  This feature is compatible with Cerberus PRO Modular systems, as well as with FireFinder XLS/V and Cerberus PRO FC/FV922 or FC/FV924 FACPs.

Dimensionsal Data



Field-Device Programmer / Test Unit

Model HI921 is compatible with the Siemens field-device programmer / test unit (Model 8720 | DPU), which is a compact, portable and menu-driven accessory for electronically programming and testing these addressable detectors promptly and reliably. For instance, the field technician selects the accessory's program mode, and enters the desired address.

Model DPU eliminates the need for cumbersome, unreliable mechanical programming methods (e.g. – dials and rotary switches), and reduces installation and service costs by electronically programming and testing the detector prior to installation. When set in `test' mode, Model DPU will perform a series of diagnostic tests without altering the address or other stored data, allowing technicians to determine if the detector is operating properly.

Each field-device programmer / test unit operates on AC power or rechargeable batteries, providing flexibility and convenience in the programming / testing of fire-safety equipment from practically any location. Additionally, with the use of a Model DPU unit, there is no longer a cause for concern with any vibration, corrosion and other deteriorating conditions that can accompany the vitality of a mechanical-addressing mechanism.

The encompassing result is an intelligent detector that provides enhanced detection capability to a wide range of products of combustion – while offering unsurpassed rejection to nuisance-alarm sources, including: dust | steam | aerosols and other deceptive phenomena that could cause false alarms.

Technical Data

OPERATING TEMPERATURE:	+32° – +120°F (0° – +49°C) [with 145°F (63°C) | 155°F (68°C) | 165°F (74°C) and 174°F (79°C) alarm-threshold settings] +32° – +100°F, (0° – +38°C) With 135°F (0°– +438°C)) alarm threshold setting
THERMAL RATING:	Model HI921 provides seven (7) field-selectable, pre-programmed temperature settings: • Fixed 135°F (57°C) • Fixed 145°F (63°C) • Fixed 155°F (68°C) • Fixed 165°F (74°C) • Fixed 174°F (79°C) • Rate-of-Rise: 15°F / min. (8.3°C) at fixed 135°F (57°C) • Rate-of-Rise: 15°F / min. (8.3°C) at fixed 174°F (79°C)
RELATIVE HUMIDITY:	0 – 95% (non-condensing)
AIR PRESSURE:	No effect
INPUT VOLTAGE RANGE:	16VDC – 30VDC
`ALARM' CURRENT, MAX.:	410µA
`STANDBY' CURRENT, MAX.:	250µA
MAXIMUM SPACING:	50–ft. (15.24 m.) centers (2500 sq. ft. | 232.3 sq. m.), per NFPA 72 and ULC-S524
DETECTOR WEIGHT:	0.317 Lbs. (0.144 kg.)

Panel Compatibilities

MODEL OR TYPE	DATA SHEET	PANEL
XLS	6300	FireFinder® (fire)
XLSV	6340	FireFinder (fire w/ voice)
CERBERUS PRO MODULAR	8300	Cerberus PRO Modular (overview)
FC901	9813	Cerberus PRO 50-point addressable
FC922	9815	Cerberus PRO 252-pt. addressable (fire)
FC924		Cerberus PRO 504-pt. addressable (fire)
FV922	9821	Cerberus PRO 252-point addressable (fire w/ Intelligent Voice Communication [IVC])
FV924		504-pt. addressable (fire w/ Intelligent Voice Communication [IVC])

Details for Ordering

MODEL OR TYPE	PART NUMBER	PRODUCT
HI921	S54320-F5-A2	Thermal (Heat) Detector

Compatible Devices:

MODEL OR TYPE	PART NUMBER	PRODUCT
ABHW-4B	S54320-F13-A1	Sounder base with Loop-Power Option
ABHW-4S	S54320-F14-A1	Sounder base for Sleeping Areas
ADB-BOX	500-698360	Surface Mount Adapter Box for Audible Base
DB2-HR	S54370-F12-A1	Relay base compatible with Siemens standard and advanced detectors
DB-11	500-094151	Detector Mounting Base
DB-11E	500-094151E	Detector Base, small
RL-HC	500-033230	Remote Alarm Indicator: 4" (10.2 cm) octagon-box mount, red
RL-HW	500-033310	Remote Alarm Indicator: single-gang box mount, red
LK-11	500-695350	Base Locking Kit

See: www.STI-USA.com for further details on ordering Model STI-9604

In Canada order:

MODEL OR TYPE	PART NUMBER	PRODUCT
DB-11C	500-095687	Detector Mounting Base, ULC Listed

Peripheral and Detection Devices Initiating Devices

Intelligent Device Interface Modules

Model XTRI-D | XTRI-R | XTRI-S

SIEMENS
Ingenuity for life

Architect & Engineer Specifications

- ☐ Siemens ISO*technology*™
  - Provides "True Class – X" operation to NFPA 72 SLC field wiring requirements
  - Supports 252 ISO*technology* ready devices per loop, and in mixed mode up to 30 devices between isolated devices
- ☐ Dual input on Model XTRI-D, via a single address
- ☐ Integral single-pole, double-throw (SPDT) relay on Model XTRI-R:
  - Up to 4 Amps.
- ☐ Low current draw
- ☐ Polarity insensitive (in non-isolation mode) via *SureWire*™ technology:
  - Modern technology supports comprehensive system and interface communication
- ☐ Multi-color light-emitting diode (LED) indicates system status:
  - GREEN | AMBER | RED
- ☐ Mounts in a 4-inch (10.2 cm.) square, 2–¼" (5.7 cm.) deep single-gang or double-gang back box
- ☐ Non-obstructive front-end access to programming port and wiring terminals
- ☐ Device Programmer | Test Unit programs and verifies address, as well as tests device functionality
- ☐ Restriction of Hazardous Substances (RoHS) compliant
- ☐ UL864 | UL2572 | UL2017 Listed; CAN/ULC-S527 & CAN/ULC-S576 Listed
  - File S24304, Vol. 3

Product Overview

The Siemens – Fire Safety XTRI-series Intelligent Interface Modules are designed to provide the means of interfacing direct shorting devices to the fire-alarm control panel (FACP) SLC. All modules take up one (1) address on the loop.

Each XTRI-series interface module provides the "built-in" **ISO*technology*** feature - intelligent dual isolation meeting NFPA 72 Class X (Style 7) wiring requirements. Up to 252 isolators per loop and up to 30 devices between isolators (wired in polarity-insensitive mode). Additionally, the devices between isolators can either be 'H'-series or the more contemporary 'X'-series detection devices.

Specifications

The Siemens – Fire Safety XTRI-series Intelligent Interface Modules are available in three (3) individual types:

- ➤ One (1) Dual-Input: XTRI-D
- ➤ Two (2) Single-Inputs: XTRI-R (with relay) | XTRI-S
  - – The single-input versions are each designed to monitor a normally open (N.O) or (N.C) normally closed dry contact

XTRI-D | XTRI-R | XTRI-S incorporates **ISO*technology*** – the configurable, built-in dual isolator function. Additionally, an XTRI-series interface module supports NFPA 72 Class X (Style 7) survivability requirements for shorts while providing reliable alarm communication to the Siemens FACP. The isolation feature found on the XTRI-series Intelligent Interface Modules gives information as to the location of the fault. When a short occurs, the panel can identify the fault automatically, and the module recognizes the short location (in front of the device or behind the device).

Overall, the built-in isolators improve the diagnostics and location of the problem, including a short.

The modules are configurable by a Siemens compatible FACP (or panels) in an isolator (polarity sensitive) or non-isolator (polarity insensitive) mode. When a XTRI-series interface module is configured as an isolator, that module has the capacity of functioning as both an in/out device, as well as an isolator.

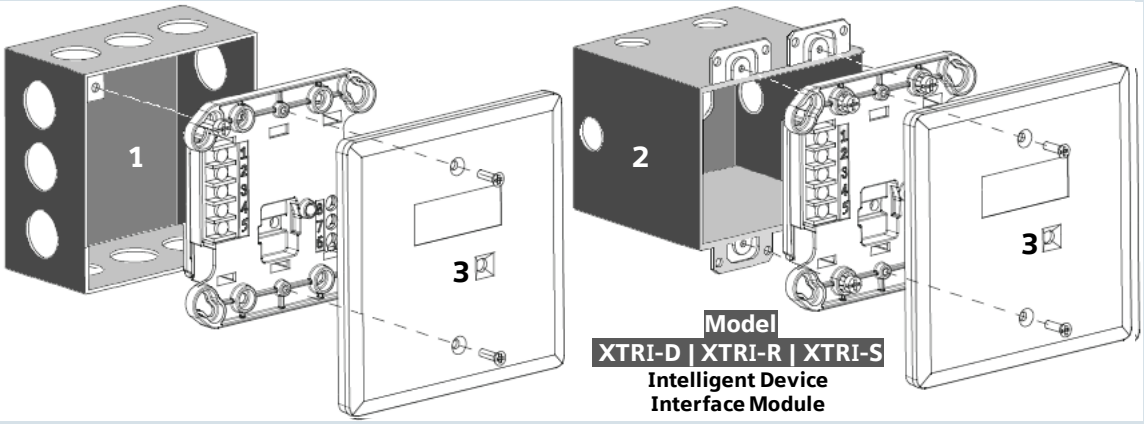
Advanced troubleshooting is provided by compatible panels by identifying when a XTRI-series interface module is configured as an isolator, but is wired incorrectly in a polarity-insensitive mode.

Each Model XTRI-series device has a multi-color LED that flashes when GREEN operating in Normal mode; AMBER if the unit is in a `Trouble' condition, and RED to indicate a change of status.

Model XTRI-S

This single-input interface module can only monitor and report the status of a N.O. or N.C. contact.

Model
XTRI-D | XTRI-R | XTRI-S
Intelligent Device Interface Module



Model
XTRI-D | XTRI-R | XTRI-S
Intelligent Device Interface Module

1. **4" (10.2 cm.) square box | 2– 1/8" (5.4 cm.) back box**
2. **3.5" (8.9 cm.) double -gang back box**
3. **5" (12.7 cm.) square switch plate, (supplied)**

Specifications – (continued)

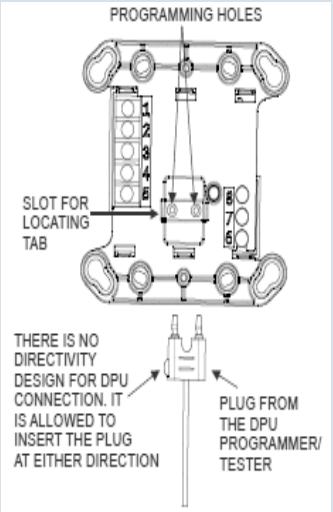
Model XTRI-R

Through the use of an addressable 'Form C' relay, the Model XTRI-R relay and contact device input are controlled at the same address. The relay and input contact can be controlled as a separate function from a Siemens compatible FACP. The relay is typically used where control or shunting of external equipment is required.

Model XTRI-D

Model XTRI-D is a dual-input module that is designed to supervise and monitor two (2) sets of dry contacts. Model XTRI-D only requires one (1) address, but responds independently to each input. Model XTRI-D is ideal for monitoring a water-flow switch and its respective valve tamper switch.

Mounting Data



NOTES: Each interface module mounts directly to a user-supplied switchbox. The electrical boxes, seen above, are supplied-by-others (BO).

Models XTRI-D, XTRI-R and XTRI-S mount directly onto a 4-inch (10.2 cm.) square, 2 ¼'' (5.7 cm.)–deep box back box, or to a user-supplied double-gang 3 ½" deep back box.

A 5" (12.7 cm.) square, off-white faceplate is included in each shipment of a Siemens Model XTRI-series module.

Operation

Field-Device Programmer / Test Unit

Siemens – Fire Safety innovative technology allows Model XTRI-series intelligent interface modules to be programmed via the Siemens field-device programmer / test unit (Model DPU), which is a compact, portable and menu-driven accessory for electronically programming and testing Siemens peripheral modules and devices promptly and reliably. For instance, the field technician selects the accessory's program mode, and enters the desired address.

Model XTRI-series interface module is connected to Model DPU with the programming cable provided with the tester.

NOTE: Since the XTRI-series of interface modules are advanced initiating devices, the latest Model DPU firmware update is required.

Model DPU eliminates the need for cumbersome, unreliable mechanical programming methods (e.g. – dials and rotary switches), and reduces installation and service costs by electronically programming and testing the module prior to installation. When set in `test' mode, Model DPU will perform a series of diagnostic tests without altering the address or other stored data, allowing technicians to determine if the module is operating properly.

Each field-device programmer / test unit operates on AC power or rechargeable batteries, providing flexibility and convenience in the programming / testing of fire-safety equipment from practically any location. Additionally, with the use of a Model DPU unit, there is no longer a cause for concern with any vibration, corrosion and other deteriorating conditions that could negatively affect any electro-mechanical-addressing mechanism.

Compatibilities

Siemens `X' modules may be used along with Model `H'-series intelligent detectors; Model `HMS'-series addressable manual stations, or any other `H'-series addressable intelligent module (e.g. Model HZM or Model HCP). Additionally the X-series modules are compatible with all Desigo and Cerberus Pro detectors and peripherals of the same circuit.

Interspersing `X' & `H'-series devices on the same loop is mostly permitted, but there are exceptions: Models HLIM (isolation module) and SBGA-34 (audible base) cannot be used with `X' devices on the same loop.

Temperature and Humidity Range

Models XTRI-D | XTRI-R | XTRI-S intelligent interface modules are UL Listed | ULC Listed. Environmental operating conditions for each interface module is 32°F (0°C) to 120°F (49°C) with a relative humidity of no greater than 95%, non-condensing.

LED Indicators

FLASH COLOR	CONDITION	FLASH INTERVALS [in seconds]
GREEN*:	Normal supervisory operation	10
YELLOW:	Device is in trouble and needs to be replaced	4
RED:	Locate | `Alarm'	1
	Output Device (XTRI-R only)	10
NO FLASH:	Power is not being received / Replacement is needed	–

Electrical Ratings

OPERATING VOLTAGE RANGE:	13VDC – 32VDC	
RELATIVE HUMIDITY:	0 – 95% (non-condensing)	
`ACTIVE' OR `STANDBY' CURRENT, MAX.:	500µA	
LINE SIZES AMERICAN WIRE GAUGE (AWG)	14 AWG, max. 18 AWG, min.	
CURRENT DRAW, MAX | AVG.	XTRI-S	650µA
	XTRI-R	750µA
	XTRI-D	950µA
RELAY RATINGS: (for Model XTRI-R)		
RESISTIVE:	4 Amps | 125 VAC	
	4 Amps | 30 VDC	
INDUCTIVE:	3.5A, 120 VAC (0.6 pF)	
	3.0A, 30 VDC (0.6 pF)	
	2.0A, 120 VAC (0.4 pF)	
	2.0A, 120 VAC (0.35 pF)	
	2.0A, 30 VDC (0.35 pF)	

Details for Ordering

MODEL OR TYPE	PART NUMBER	PRODUCT
XTRI-S	S54370-B3-A1	Single Input Module
XTRI-R	S54370-B1-A1	Single Input Module (with relay)
XTRI-D	S54370-B2-A1	Dual Input Module
DPU	500-033260	Device Programmer / Test Unit

NOTE: Refer to installation manual: P/N – A6V101055479 to ensure Model XTRI-D | XTRI-R | XTRI-S compatibility with the Siemens FACPs intended for use in the given application.

SIEMENS

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October - 2020
(Rev. 3)

Notification Appliances

'ACEND' Series – Horns | Strobes | Horn-Strobes

Applications: Indoor, Wall-Only

Architect & Engineer Specifications

- ☐ Sophisticated series of notification appliances that meets fire-industry codes and regulations for commercial-building applications
- ☐ Compatible with the Siemens Cerberus PRO and Desigo Fire Alarm Control Panels (FACPs); Siemens current Power Supply
- ☐ Energy Efficient and Sustainable
- ☐ Siemens EcoTech Certification
- ☐ Cutting-edge LED technology
  - ▪ Capability to have existing Xenon and LED strobes in the same field-of-view
  - ▪ Fewer power supplies required, smaller wire gauge, reduced wire runs
- ☐ Straightforward installation coupled with compact, modern design
  - No visible mounting screws
  - Manual (index finger) slide-setting adjustor
- ☐ Six (6) field-selectable Candela settings: 15cd | 30cd | 75cd | 110cd | 135cd | 185cd
- ☐ Faceplates ship in distinctive types:
  - 'FIRE' I 'ALERT' I 'AGENT' I 'EMERGENCY' I 'HOUSE ON FIRE' Icon
- ☐ High / Low Horn Sound Output
- ☐ 10 Horn Patterns (Field Selectable)
- ☐ UL1638 | UL1971 | UL464 Listed
- ☐ ULC-S525-16 | ULC- S526-16 Listed

Product Overview

The `ACEND'-series is Siemens new offering of horns, strobes, and horn-strobes with LED based strobes to its notification-appliances portfolio. With the `ACEND'-series, Siemens offers a full of range of products with low and high candela settings that makes these sophisticated notification appliances ideal for new installs and retrofit applications. These appliances are compatible with Siemens Cerberus PRO and Desigo fire alarm control panels and with Siemens current power supply.

The 'ACEND' Series notification appliances hold Siemens **EcoTech** Certification, an environmental self-declaration, based on sustainability evaluations.

These notification appliances use recycled materials and sustainable packaging, minimizing waste throughout their lifecycle and reducing environmental impact.

These notification appliances are designed for low power consumption and work at a range of 16 - 33VDC with significantly reduced current draw.

The strobe portion of these appliances meets the 20-millisecond light-pulse-duration requirements of the 2022 edition of NFPA 72. This feature allows existing Xenon and the new LED devices to be used in the same field-of-view.

In a single device, the `ACEND'-series appliances can provide alarm-signaling tones for dual applications. All strobe models in the series feature multi-Candela settings (15cd | 30cd | 75cd | 110cd | 135cd | 185cd) on a single appliance.

Additionally, there are ten (10) modes of operation for the audible portion of these notification appliances:

- Continuous
- Bell
- March Time Horn
- Code 3 Horn
- Code 3 Tone
- Code 4 Tone
- Slow Whoop
- Siren
- HI/LO
- Canadian March Time 30

These high-quality energy-efficient devices have a sleek modern design and are consistent to the look of the interior composition of the building application.

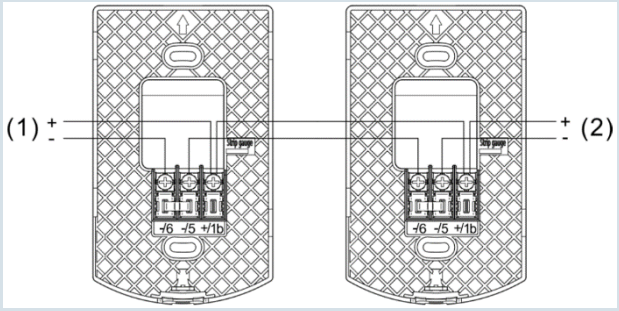
The `ACEND'-series audible and/or visual notification appliances are apt for indoor, wall-mount applications.

Model SC-HN-WR-N
Horn

Model SC-ST-WW-F
Strobe

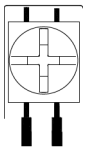
Model SC-HS-WR-F
Horn-Strobe

Wiring Diagrams



SC-HN-W, SC-ST-W, SC-HS-W Series
Horns | Strobes | Horn-Strobes

(1) To next appliance or EOL
(2) From preceding appliance or FACP



Note: Break all in-out wire runs on supervised circuits to ensure integrity of circuit supervision.

Specifications

In terms of composition and functionality, the ACEND series horns, strobes and horn-strobe appliances provide added value to the installer for these types of applications for operation:

- Compact | sleek | low-profile design
- Sustainable and Energy efficient
- Reduced power consumption
- Comprehensive feature list
- Convenient mounting options
- Easy-to-adjust selection-slider switch for Candela settings
  - No tools required for setting changes
  - Multi-level settings: 15cd | 30cd | 75cd | 110cd | 135cd | 185cd
- High and Low audible outputs
- Cutting-edge LED technology

The LED portions of the of SC-ST Strobes and SC-HS Horn-Strobes meet the 20 millisecond light-pulse-duration requirements of the 2022 edition of NFPA 72. By meeting this latest requirement, existing Xenon as well as the new LED-technology devices can now be in the same field-of-view.

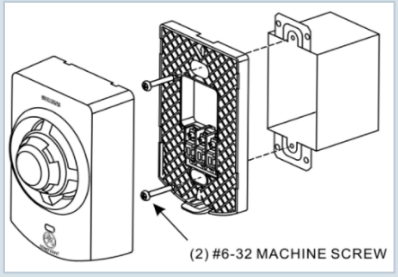
The 'ACEND'-series notification appliances have received UL / ULC Listed status by attaining compatible testing standards with PAD-4 series of NAC extenders that have been determined to be aligned with existing Siemens strobe-based appliances.

All types of the ACEND Series horns, strobes and horn-strobe appliances are UL / ULC Listed for indoor use.

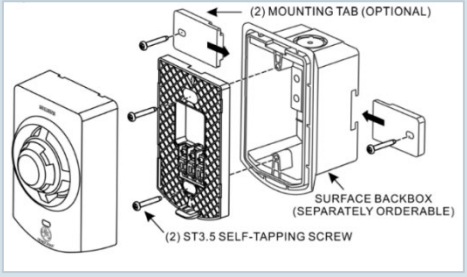
Horn: UL464, ULC-S525-16 **|** Strobe: UL1638, UL1971, CAN/ULC-S526-16

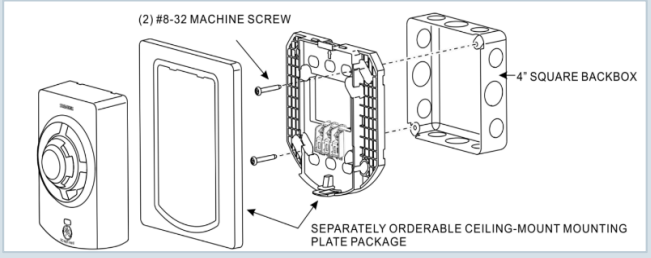
Mounting Diagrams

Option 1.
Single-Gang Mount

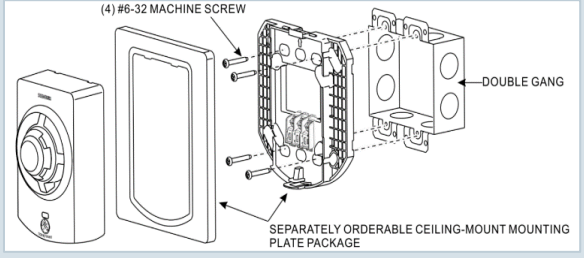


Option 2.
Surface Mount





Option 3.
4" Square or Octagon Backbox Mount with Ceiling-mount Mounting Plate and Trim Plate



Option 4.
Double-Gang Mount with Ceiling-mount Mounting Plate and Trim Plate

Technical Data

Horn-Strobes | Output Current Draw

Current Draw (mA) @ 16 - 33VDC							
Setting	**Volume**	**15cd**	**30cd**	**75cd**	**110cd**	**135cd**	**185cd**
Continuous	High	36	38	50	77	112	188
	Low	27	29	41	69	103	179
Bell	High	34	36	48	75	110	183
	Low	31	33	45	72	107	180
March Time Horn	High	45	47	59	86	121	170
	Low	43	45	57	84	119	168
Code 3 Horn	High	37	39	51	78	113	172
	Low	33	35	47	74	109	168
Code 3 Tone	High	39	41	53	80	115	167
	Low	38	40	52	79	114	166
Code 4 Tone	High	42	44	56	83	118	157
	Low	35	37	49	76	111	150
Slow Whoop	High	28	30	42	70	104	146
	Low	27	29	41	69	103	145
Siren	High	35	37	49	76	111	163
	Low	34	36	48	75	110	162
HI/LO	High	35	37	49	76	111	150
	Low	34	36	48	75	110	149
Canadian March Time 30	High	44	46	58	85	120	155
	Low	33	35	47	74	109	144

Horn-Only | Output Current Draw

Current Draw (mA) @ 16 - 33VDC		
Setting	**Volume**	**Current Draw (mA)**
Continuous	High	29
	Low	20
Bell	High	27
	Low	24
March Time Horn	High	38
	Low	36
Code 3 Horn	High	30
	Low	26
Code 3 Tone	High	32
	Low	31
Code 4 Tone	High	35
	Low	28
Slow Whoop	High	21
	Low	20
Siren	High	28
	Low	27
HI/LO	High	28
	Low	27
Canadian March Time 30	High	37
	Low	26

Horn | Output Ratings (UL)

Models:	*UL Sound Output Ratings (dBA) Reverberant per UL464 @ 16 to 33VDC*			
	Horn Pattern	**16V**	**24V**	**33V**
SC-HN-WR-N **SC-HN-WW-N**	**Continuous I Code 3 Horn I Code 4 Tone**	High dBA	High dBA	High dBA
		82	87	89
		Low dBA	Low dBA	Low dBA
		79	83	86

Horn | Output Ratings (ULC)

Models:	*ULC Sound Output Ratings (dBA) Anechoic per ULCS525-16 @ 16 to 33VDC*			
	Horn Pattern	**16V**	**24V**	**33V**
SC-HN-WR-N **SC-HN-WW-N**	**Continuous I Code 3 Horn I Code 4 Tone**	High dBA	High dBA	High dBA
		92	96	96
		Low dBA	Low dBA	Low dBA
		88	92	95

Strobe | Output Current Draw

Models:	*Current Draw (mA) @ 16 - 33VDC*					
	Candela Settings					
	15cd	**30cd**	**75cd**	**110cd**	**135cd**	**185cd**
SC-ST-WR-F **SC-ST-WW-F**	24	27	39	68	93	143

GENERAL NOTES:

1. Strobes are designed to flash at 1-flash-per-second minimum over their " Regulated Voltage Range."
2. NFPA-72 specifies a flash rate of 1-to-2 flashes-per-second.
3. All Candela ratings represent minimum effective Strobe intensity based on UL 1971.

Technical Data

General Properties

'ACEND' Series Horns / Horn-Strobes	
OPERATING TEMPERATURE:	- 32°F (0°C) to 120°F (49°C) - for indoor use only
RELATIVE HUMIDITY:	93% (±2%)
OPERATING VOLTAGE RANGES:	16 to 33VDC
STROBE OUTPUT RATING:	- UL 1638, 1971 | ULC-S526-16 - Field-selectable 15cd | 30cd | 75cd | 110cd | 135cd | 185cd Candela outputs
STROBE FLASH RATE:	Strobes are designed with a flash rate of 1-to-2 flashes-per-second
STROBE SYNCRONIZATION:	- Siemens Cerberus PRO and Desigo FACPs (following Siemens Sync Protocol) - Siemens Power Supply
TEMPORAL SETTING:	- Ten (10) field-selectable Horn Patterns *(See List of Horn Settings in Horn/Strobe Output Current Draw Tables on Page 3)*

Physical Properties

'ACEND' Series Horns / Horn-Strobes	
MATERIAL:	All appliances are made from environmentally friendly recyclable plastics.
WEIGHT:	Horns: 204 gm (0.44lb) Strobes: 225 gm (0.49lb) Horn-Strobes: 250 gm (0.55lb)
LENS TYPE:	LED strobe situated in a rugged Lexan lens
DIMENSIONS:	**Horns:** 5.31" (13.5 cm.) x 3.28" (8.3 cm.) x 1.85" (4.7cm.) **Horn-Strobes:** 5.31" (13.5 cm.) x 3.28" (8.3 cm.) x 2.42" (6.1cm.)

Mounting and Wiring Properties

'ACEND' Series Horns / Horn-Strobes	
INDOOR MOUNTING:	- Wall-mount applications - Single-Gang, Double-Gang, Octagon backboxes or 4" (10.2 cm.) Square Box
WIRING TYPE:	#12 – #18, American Wire Gauge (AWG)

Details for Ordering

MODEL	PART NUMBER	APPLIANCE TYPE	MOUNTING TYPE	STROBE TYPE	FACEPLATE COLOR	FACEPLATE LETTERING
SC-HN-WR-N	S54361-F14-A1	Horn	WALL	– None –	RED	– No Lettering –
SC-HN-WW-N	S54361-F14-A2		WALL	– None –	WHITE	– No Lettering –
SC-HS-WR-F	S54361-F9-A1	Horn-Strobe	WALL	Clear	RED	FIRE
SC-HS-WW-F	S54361-F9-A2		WALL	Clear	WHITE	FIRE
SC-ST-WR-F	S54361-F6-A1	Strobe	WALL	Clear	RED	FIRE
SC-ST-WW-F	S54361-F6-A2		WALL	Clear	WHITE	FIRE
SMB-HS-WR	S54370-F15-A1	Surface Mount Backbox	WALL	– None –	RED	– No Lettering –
SMB-HS-WW	S54370-F15-A2		WALL	– None –	WHITE	– No Lettering –

Related Hardware

Model	Part Number	Description	Image
STP-HS-WR	S54370-F38-A1	Red plastic trim plate for wall mounted horns and horn/strobes	
STP-HS-WW	S54370-F1-A2	White plastic trim plate for wall mounted horns and horn/strobes	
SCVR-HS-WR-EMG	S54370-F30-A1	Red plastic cover for wall mounted horns and horn/strobes with alternate white "**EMERGENCY**" text	
SCVR-HS-WW-EMG	S54370-F30-A2	White plastic cover for wall mounted horns and horn/strobes with alternate red "**EMERGENCY**" text	
SCVR-HS-WR-ALR	S54370-F32-A1	Red plastic cover for wall mounted horns and horn/strobes with alternate white "**ALERT**" text	
SCVR-HS-WW-ALR	S54370-F32-A2	White plastic cover for wall mounted horns and horn/strobes with alternate red "**ALERT**" text	
SCVR-HS-WR-AGT	S54370-F34-A1	Red plastic cover for wall mounted horns and horn/strobes with alternate white "**AGENT**" text	
SCVR-HS-WW-AGT	S54370-F34-A2	White plastic cover for wall mounted horns and horn/strobes with alternate red "**AGENT**" text	
SCVR-HS-WR-HOF	S54370-F36-A1	Red plastic cover for wall mounted horns and horn/strobes with alternate white "**HOUSE ON FIRE**" logo	
SCVR-HS-WW-HOF	S54370-F36-A2	White plastic cover for wall mounted horns and horn/strobes with alternate red "**HOUSE ON FIRE**" logo	
SCVR-HS-WR-BNK	S54370-F19-A1	Red plastic cover for wall mounted horns and horn/strobes with **no text**	
SCVR-HS-WW-BNK	S54370-F19-A2	White plastic cover for wall mounted horns and horn/strobes with **no text**	

Related Hardware (Continued)

Model	Part Number	Description	Image
STLENS-R	S54370-F17-A1	Red plastic translucent lens for fire alarm strobes	
STLENS-A	S54370-F17-A2	Amber plastic translucent lens for fire alarm strobes	
STLENS-B	S54370-F18-A1	Blue plastic translucent lens for fire alarm strobes	
STLENS-G	S54370-F18-A2	Green plastic translucent lens for fire alarm strobes	

NOTICE – The information contained in this data-sheet document is intended only as a summary and is subject to change without notice.
The product(s) described here has/have a specific instruction sheet(s) that cover various technical, limitation and liability information.

Copies of install-type, instruction sheets – as well as the *General Product Warning and Limitations* document, which also contains important data, are provided with the product. All are available from the Manufacturer.

Data contained in the aforesaid type of documentation should be consulted with a fire-safety professional before specifying or using the product.

Any further questions or assistance concerning particular problems that might arise, relative to the proper functioning of the equipment, please contact the Manufacturer.

SIEMENS

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October - 2024
(NEW)

Notification Appliances

'ACEND' Series – Horns | Strobes | Horn-Strobes

Applications: Indoor, Ceiling-Only

Architect & Engineer Specifications

- ☐ Sophisticated series of notification appliances that meets fire-industry codes and regulations for commercial-building applications
- ☐ Compatible with the Siemens Cerberus PRO and Desigo Fire Alarm Control Panels (FACPs); Siemens current Power Supply
- ☐ Energy Efficient and Sustainable
- ☐ Siemens EcoTech Certification
- ☐ Cutting-edge LED technology
  - ▪ Capability to have existing Xenon and LED strobes in the same field-of-view
  - ▪ Fewer power supplies required, smaller wire gauge, reduced wire runs
- ☐ Straightforward installation coupled with compact, modern design
  - No visible mounting screws
  - Manual (index finger) slide-setting adjustor
- ☐ Six (6) field-selectable Candela settings: 15cd | 30cd | 75cd | 110cd | 135cd | 185cd
- ☐ Faceplates ship in distinctive types:
  - 'FIRE' I 'ALERT' I 'AGENT' I 'EMERGENCY' I 'HOUSE ON FIRE' Icon
- ☐ High / Low Horn Sound Output
- ☐ 10 Horn Patterns (Field Selectable)
- ☐ UL1638 | UL1971 | UL464 Listed
- ☐ ULC-S525-16 | ULC- S526-16 Listed

Product Overview

The 'ACEND'-series is Siemens new offering of horns, strobes, and horn-strobes with LED based strobes to its notification-appliances portfolio. With the `ACEND'-series, Siemens offers a full of range of products with low and high candela settings that makes these sophisticated notification appliances ideal for new installs and retrofit applications. These appliances are compatible with Siemens Cerberus PRO and Desigo fire alarm control panels and with Siemens current power supply.

The 'ACEND' Series notification appliances hold Siemens **EcoTech** Certification, an environmental self-declaration, based on sustainability evaluations.

The notification appliances use recycled materials and sustainable packaging, minimizing waste throughout their lifecycle and reducing environmental impact.

The 'ACEND'-series notification appliances are designed for low power consumption and work at a range of 16 - 33VDC with significantly reduced current draw.

The strobe portion of these appliances meets the 20-millisecond light-pulse-duration requirements of the 2022 edition of NFPA 72. This feature allows existing Xenon and the new LED devices to be used in the same field-of-view.

In a single device, the `ACEND'-series appliances can provide alarm-signaling tones for dual applications. All strobe models in the series feature multi-Candela settings (15cd | 30cd | 75cd | 110cd | 135cd | 185cd) on a single appliance.

Additionally, there are ten (10) modes of operation for the audible portion of these notification appliances:

- Continuous
- Bell
- March Time Horn
- Code 3 Horn
- Code 3 Tone
- Code 4 Tone
- Slow Whoop
- Siren
- HI/LO
- Canadian March Time 30

These high-quality energy-efficient devices have a sleek modern design and are consistent to the look of the interior composition of the building application.

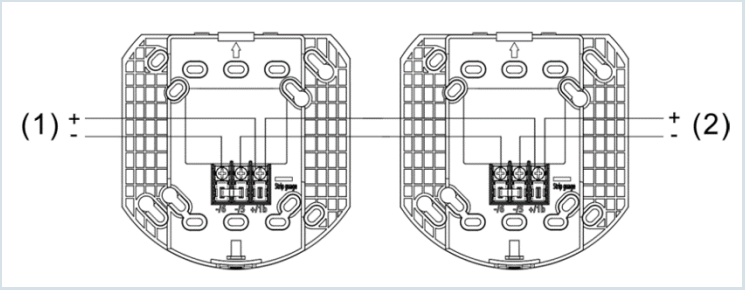
The `ACEND'-series audible and/or visual notification appliances are apt for indoor, ceiling-mount applications.

Model SC-HN-CW-N
Horn

Model SC-ST-CW-F
Strobe

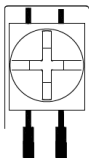
Model SC-HS-CW-F
Horn-Strobe

Wiring Diagrams



SC-HN, SC-ST, SC-HS
Horns | Strobes | Horn-Strobes

(1) To next appliance or EOL
(2) From preceding appliance or FACP



Note: Break all in-out wire runs on supervised circuits to ensure integrity of circuit supervision.

Specifications

In terms of composition and functionality, the 'ACEND' -series horns, strobes and horn-strobe appliances provide added value to the installer for these types of applications for operation:

- Compact | sleek | low-profile design
- Sustainable and Energy efficient
- Reduced power consumption
- Comprehensive feature list
- Convenient mounting options
- Easy-to-adjust selection-slider switch for Candela settings
  - No tools required for setting changes
  - Multi-level settings: 15cd | 30cd | 75cd | 110cd | 135cd | 185cd
- High and Low audible outputs
- Cutting-edge LED technology

The LED portions of the of SC-ST Strobes and SC-HS Horn-Strobes meet the 20 millisecond light-pulse-duration requirements of the 2022 edition of NFPA 72. By meeting this latest requirement, existing Xenon as well as the new LED-technology devices can now be in the same field-of-view.

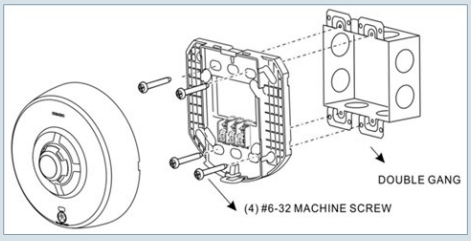
The 'ACEND'-series notification appliances have received UL / ULC Listed status by attaining compatible testing standards with PAD-4 series of NAC extenders that have been determined to be aligned with existing Siemens strobe-based appliances.

All types of the 'ACEND'-series horns, strobes and horn-strobe appliances are UL / ULC Listed for indoor use.

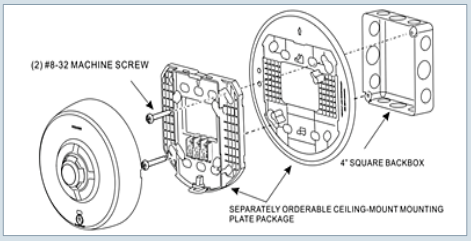
Horn: UL464, ULC-S525-16 | Strobe: UL1638, UL1971, CAN/ULC-S526-16

Mounting Diagrams

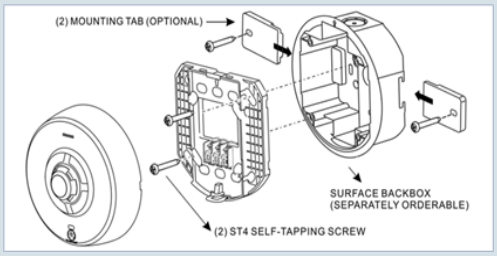
Flush Mount
(Double-Gang Box)



Flush Mount
(4" Square Box with Mounting Plate and Trim Ring)



Surface Mount



Other Backbox Options:

- Single Gang backbox
- Octagon backbox

Technical Data

Horn-Strobes | Output Current Draw

Current Draw (mA) @ 16 - 33VDC							
Setting	**Volume**	**15cd**	**30cd**	**75cd**	**110cd**	**135cd**	**185cd**
Continuous	High	36	38	50	77	112	188
	Low	27	29	41	69	103	179
Bell	High	34	36	48	75	110	183
	Low	31	33	45	72	107	180
March Time Horn	High	45	47	59	86	121	170
	Low	43	45	57	84	119	168
Code 3 Horn	High	37	39	51	78	113	172
	Low	33	35	47	74	109	168
Code 3 Tone	High	39	41	53	80	115	167
	Low	38	40	52	79	114	166
Code 4 Tone	High	42	44	56	83	118	157
	Low	35	37	49	76	111	150
Slow Whoop	High	28	30	42	70	104	146
	Low	27	29	41	69	103	145
Siren	High	35	37	49	76	111	163
	Low	34	36	48	75	110	162
HI/LO	High	35	37	49	76	111	150
	Low	34	36	48	75	110	149
Canadian March Time 30	High	44	46	58	85	120	155
	Low	33	35	47	74	109	144

Horn-Only | Output Current Draw

Current Draw (mA) @ 16 - 33VDC		
Setting	**Volume**	**Current Draw (mA)**
Continuous	High	29
	Low	20
Bell	High	27
	Low	24
March Time Horn	High	38
	Low	36
Code 3 Horn	High	30
	Low	26
Code 3 Tone	High	32
	Low	31
Code 4 Tone	High	35
	Low	28
Slow Whoop	High	21
	Low	20
Siren	High	28
	Low	27
HI/LO	High	28
	Low	27
Canadian March Time 30	High	37
	Low	26

Horn | Output Ratings (UL)

Models:	*UL Sound Output Ratings (dBA) Reverberant per UL464 @ 16 to 33VDC*			
	Horn Pattern	**16V**	**24V**	**33V**
SC-HN-CR-N **SC-HN-CW-N**	**Continuous I Code 3 Horn I Code 4 Tone**	High dBA	High dBA	High dBA
		83	86	89
		Low dBA	Low dBA	Low dBA
		80	84	86

Horn | Output Ratings (ULC)

Models:	*ULC Sound Output Ratings (dBA) Anechoic per ULCS525-16 @ 16 to 33VDC*			
	Horn Pattern	**16V**	**24V**	**33V**
SC-HN-CR-N **SC-HN-CW-N**	**Continuous I Code 3 Horn I Code 4 Tone**	High dBA	High dBA	High dBA
		90	94	96
		Low dBA	Low dBA	Low dBA
		86	90	93

Strobe | Output Current Draw

Models:	*Current Draw (mA) @ 16 - 33VDC*					
	Candela Settings					
	15cd	**30cd**	**75cd**	**110cd**	**135cd**	**185cd**
SC-ST-CR-F **SC-ST-CW-F**	24	27	39	68	93	143

GENERAL NOTES:

1. Strobes are designed to flash at 1-flash-per-second minimum over their " Regulated Voltage Range."
2. NFPA-72 specifies a flash rate of 1-to-2 flashes-per-second.
3. All Candela ratings represent minimum effective Strobe intensity based on UL 1971.

Technical Data

General Properties

'ACEND' Series Horns / Horn-Strobes	
OPERATING TEMPERATURE:	- 32°F (0°C) to 120°F (49°C) - for indoor use only
RELATIVE HUMIDITY:	93% (±2%)
OPERATING VOLTAGE RANGES:	16 to 33VDC
STROBE OUTPUT RATING:	- UL 1638, 1971 | ULC-S526-16 - Field-selectable 15cd | 30cd | 75cd | 110cd | 135cd 185cd Candela outputs
STROBE FLASH RATE:	Strobes are designed to flash at one-flash-per-second
STROBE SYNCRONIZATION:	- Siemens Cerberus PRO and Desigo FACPs (following Siemens Sync Protocol) - Siemens Power Supply
TEMPORAL SETTING:	- Ten (10) field-selectable Horn Patterns *(See List of Horn Settings in Horn/Strobe Output Current Draw Tables on Page 3)*

Physical Properties

'ACEND' Series Horns / Horn-Strobes	
MATERIAL:	All appliances are made from environmentally friendly recyclable plastics.
WEIGHT:	Horns: 295 gm (0.65lb) Strobes: 319 gm (0.7lb) Horn-Strobes: 342 gm (0.75lb)
LENS TYPE:	LED strobe situated in a rugged Lexan lens
DIMENSIONS:	**Horns:** 6.1" (15.4 cm.) x 1.87" (4.75 cm.) **Horn-Strobes:** 6.1" (15.4 cm.) x 2.44" (6.2 cm.)

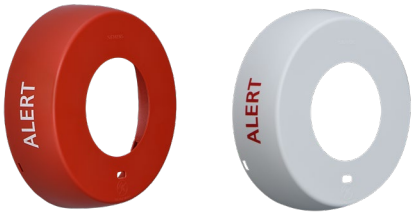
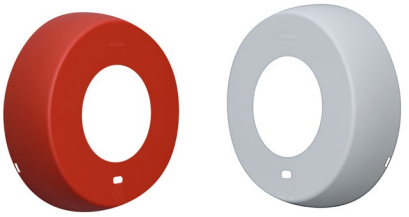
Mounting and Wiring Properties

'ACEND' Series Horns / Horn-Strobes	
INDOOR MOUNTING:	- Ceiling-mount applications - Single-Gang, Double-Gang, Octagon backboxes or 4" (10.2 cm.) Square Box
WIRING TYPE:	#12 – #18, American Wire Gauge (AWG)

Details for Ordering

MODEL	PART NUMBER	APPLIANCE TYPE	MOUNTING TYPE	STROBE TYPE	FACEPLATE COLOR	FACEPLATE LETTERING
SC-HN-CR-N	S54361-F15-A1	Horn	CEILING	– None –	RED	– No Lettering –
SC-HN-CW-N	S54361-F15-A2		CEILING	– None –	WHITE	– No Lettering –
SC-HS-CR-F	S54361-F10-A1	Horn-Strobe	CEILING	Clear	RED	FIRE
SC-HS-CW-F	S54361-F10-A2		CEILING	Clear	WHITE	FIRE
SC-ST-CR-F	S54361-F7-A1	Strobe	CEILING	Clear	RED	FIRE
SC-ST-CW-F	S54361-F7-A2		CEILING	Clear	WHITE	FIRE
SMB-HS-CR	S54370-F16-A1	Surface Mount Backbox	CEILING	– None –	RED	– No Lettering –
SMB-HSCW	S54370-F16-A2		CEILING	– None –	WHITE	– No Lettering –

Related Hardware

Model	Part Number	Description	Image
SCVR-HS-CR-EMG	S54370-F31-A1	Red plastic cover for ceiling mounted horns and horn/strobes with alternate white "**EMERGENCY**" text	
SCVR-HS-CW-EMG	S54370-F31-A2	White plastic cover for ceiling mounted horns and horn/strobes with alternate red "**EMERGENCY**" text	
SCVR-HS-CR-ALR	S54370-F33-A1	Red plastic cover for ceiling mounted horns and horn/strobes with alternate white **"ALERT"** text	
SCVR-HS-CW-ALR	S54370-F33-A2	White plastic cover for ceiling mounted horns and horn/strobes with alternate red "**ALERT**" text	
SCVR-HS-CR-AGT	S54370-F35-A1	Red plastic cover for ceiling mounted horns and horn/strobes with alternate white "**AGENT**" text	
SCVR-HS-CW-AGT	S54370-F35-A2	White plastic cover for ceiling mounted horns and horn/strobes with alternate red "**AGENT**" text	
SCVR-HS-CR-HOF	S54370-F37-A1	Red plastic cover for ceiling mounted horns and horn/strobes with alternate white "**HOUSE ON FIRE**" logo	
SCVR-HS-CW-HOF	S54370-F37-A2	White plastic cover for ceiling mounted horns and horn/strobes with alternate red "**HOUSE ON FIRE**" logo	
SCVR-HS-CR-BNK	S54370-F14-A1	Red plastic cover for ceiling mounted horns and horn/strobes with **no text**	
SCVR-HS-CW-BNK	S54370-F14-A2	White plastic cover for ceiling mounted horns and horn/strobes with **no text**	
STLENS-R	S54370-F17-A1	Red plastic translucent lens for fire alarm strobes	
STLENS-A	S54370-F17-A2	Amber plastic translucent lens for fire alarm strobes	
STLENS-B	S54370-F18-A1	Blue plastic translucent lens for fire alarm strobes	
STLENS-G	S54370-F18-A2	Green plastic translucent lens for fire alarm strobes	

NOTICE – The information contained in this data-sheet document is intended only as a summary and is subject to change without notice.
The product(s) described here has/have a specific instruction sheet(s) that cover various technical, limitation and liability information.

Copies of install-type, instruction sheets – as well as the *General Product Warning and Limitations* document, which also contains important data, are provided with the product. All are available from the Manufacturer.

Data contained in the aforesaid type of documentation should be consulted with a fire-safety professional before specifying or using the product.

Any further questions or assistance concerning particular problems that might arise, relative to the proper functioning of the equipment, please contact the Manufacturer.

SIEMENS

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2 Gatehall Drive • Parsippany, NJ 07054
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October - 2024
(NEW)

Notification Appliances
SL2 Weatherproof Series

Horns | Strobes | Horn-Strobes
Applications : Indoor / Outdoor, Ceiling and Wall

Architect & Engineer Specifications

- ☐ Weatherproof notification appliances that meet fire-industry codes and regulations for Indoor and Outdoor use
- ☐ Compatible with Siemens fire alarm control panels (FACPs), Siemens dual-sync control (DSC) modules and Siemens Power Supplies (PAD-3/-4/-5)
- ☐ Wall or Ceiling mount applications
- ☐ Field-selectable multiple Candela settings on a single device:
  - 5cd | 30cd | 75cd | 110cd |150cd | 185cd (Clear Lens Strobe)
  - 5cd | 30cd | 75cd | 95cd | 150cd | 177cd (Amber Lens Strobe)
- ☐ Three (3) field selectable Horn Settings:
  - Continuous, T3
  - T3 (Code 3)
  - T3/T4
- ☐ High or Low audible outputs
- ☐ Easy Installation with pre-wire capable Back Box or a Mounting Plate
- ☐ NEMA 3R and 4X Rated Devices
- ☐ UL1638 | UL1971 | UL464 Listed
- ☐ ULC525 | ULC526 Listed
- ☐ FCC Part 15 Compliant

Product Overview

Siemens is now offering the SL2-series weatherproof appliances in the notification product portfolio. These NEMA 3R and 4X rated horn, strobe, and horn-strobe appliances are designed for both indoor and outdoor applications and are operational at a temperature range of -40° C to 66° C (-40° F to 150° F).

These weatherproof appliances are compatible with Siemens fire-alarm control panels (FACPs), Siemens dual-sync control (DSC) modules and with Siemens power supplies (PAD-3/-4/-5).

The strobe and horn-strobe devices are designed for operation at regulated 24V DC/FWR input voltage. The horns can work with either 12V or 24V DC/FWR regulated voltage.

The strobe portion of these appliances meets the 20-millisecond light-pulse-duration code requirements of NFPA 72 (2016 edition).

The strobe appliances feature six (6) candela settings in a single device with low current draws across the full candela range:

'CLEAR' Lens Strobes: 5cd | 30cd | 75cd | 110cd | 150cd | 185cd

'AMBER' Lens Strobes: 5cd | 30cd | 75cd | 95cd | 150cd | 177cd

The multi-candela strobe can operate as a synchronized strobe appliance when used in conjunction with an FACP following the Siemens sync protocol or when used with a sync module (DSC) or with Siemens power supplies (PAD-3/-4/-5).

Additionally, there are three (3) modes of operation for the audible portion of these notification appliances:

- Continuous, T3 (Non-Sync)
- T3 (Code 3) (Siemens Sync Protocol)
- T3/T4 (DSC)

The horns, strobes and horn-strobe appliances are apt for wall or ceiling mount applications and can be easily installed with a pre-wire capable back box (SL24XBB) or a mounting plate (SL23R). All NEMA 3R devices are flush mounted and have an IP54 rating (they come with the required mounting plate). The 4X devices must be surface mounted (utilizing a surface mount box which is included with each 4X device) and are IP66 rated.

All SL2-series weatherproof notification appliances are UL464, UL1638, UL1971, and ULC525, ULC526 approved.

Horn

Horn-Strobe with Amber Lens

Strobe with 'FIRE' Letter Plate

Wiring Diagrams

Fig. 1

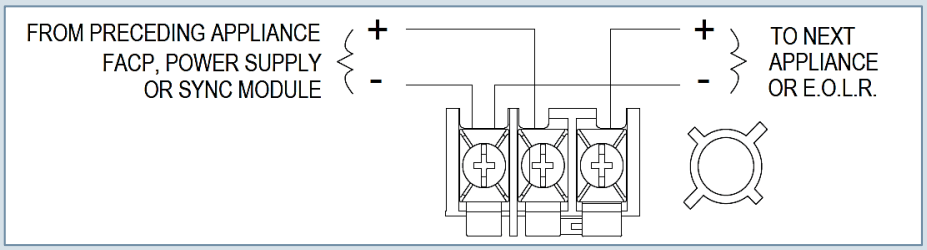
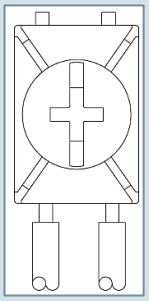


Fig. 2



SL2-series
Horns | Strobes | Horn-Strobes

Specifications

The SL2 weatherproof notification appliances are designed to operate at a regulated 24V DC/FWR or 12V DC/FWR (horns only) input voltage:

- Voltage Range: 16V - 33V (24V) (applicable for all SL2-series horn/ strobe/horn-strobe models)
- Voltage Range: 8V - 17.5V (12V) (applicable for SL2-series horn models only)

All horn/ horn-strobe models have three (3) temporal pattern settings available for sync or non-sync operations:

- Non-Sync: *Continuous, T3* (field selectable)
- Siemens Sync Protocol: *T3 (Code 3)*
- *T3/T4* Sync Selectable (w/DSC)

The strobe appliances meet the 20-millisecond light-pulse-duration code requirements of NFPA 72 (2016 edition).

All SL2-series strobe appliances feature field-selectable multi candela settings:

- 'Clear' Lens strobe : 5cd I 30cd I 75cd I 110cd I 150cd I 185cd (Models SL24XST, SL23RST)
- 'AMBER' Lens strobe: 5cd I 30cd I 75cd I 95cd I 150cd I 177cd (Models SL24XST-A, SL23RST-A)

  ('AMBER' lens is certified as an Emergency Warning Visual Signal)

Along with Amber, the strobes are also available with Blue, Green, or Red Lens options. Colored lens strobe appliances are used for visual '**Private Mode**' alarm notification. The field selectable candela settings for the other colors are as follows:

- 15 I 30 I 75 I 95 I 135 I 150cd (Models SL24XST-B, SL23RST-B)
- 15cd I 30cd I 60 I 75 I 115 I 125cd (Models SL24XST-G, SL23RST-G)
- 10cd I 20cd I 40cd I 50cd I 75cd I 80cd (Models SL24XST-R, SL23RST-R)

(*Refer to Installation Instruction **P85827-004A** for additional information on Blue, Green and Red strobes.*)

The SL2-series horns and horn-strobe appliances may be installed in the same notification zone and field of view with any Siemens strobe products using the Siemens sync protocol. The maximum number of notification appliances per NAC is 105. (For more information, see Installation Instruction ***P85827-001A***)

All models are UL/ULC listed as compatible with Siemens Fire Alarm Control Panels (FACP) and accessories that have been determined to be compatible with Siemens strobe sync protocol including the ST, SE, SEH, SET, S-HQ, STH, AS, CH, HS, and MTH series models.

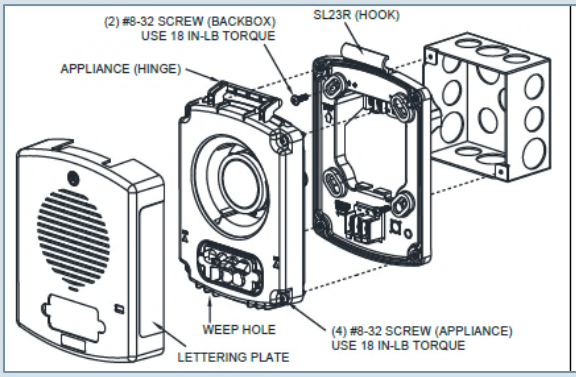
The SL2-series horns, strobes and horn-strobe appliances are UL / ULC listed for both indoor and outdoor operations. They operate at a temperature range of -40° C to 66° C (-40° F to 150° F) with a maximum relative humidity of 95%.

These appliances can be easily installed with a pre-wire capable back box (SL24XBB) or a mounting plate (SL23R). All inputs employ IN / 0UT wiring terminals using #12 to #18 AWG wiring.

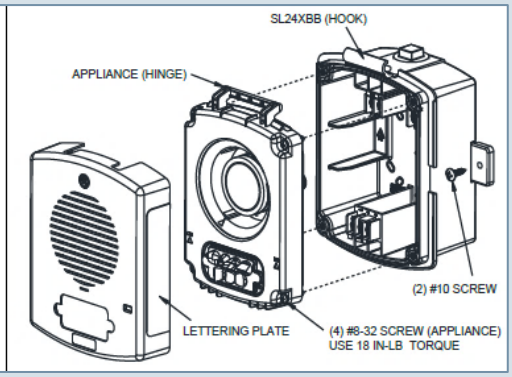
The SL2-series horns and horn-strobe appliances have UL464 and ULC525 listings for horns and UL1638 /1971 and ULC 526 listings for strobes. These are also compliant with applicable clauses of FCC Part 15.

Mounting Options

Type 3R/IP54 Flush Mount (SL23R) **



Type 4X/IP66 Surface Mount (SL24XBB) **



** The flush mount plate comes with each 3R device and the surface mount back-box is included with each 4X device. These mounting plates and back boxes cannot be ordered separately. Please refer to installation instruction - **P85820-001A** - for back-box & mounting plate details.

Technical Data

Horn-Strobes | Current Ratings 24V (Amps)

Input Voltage	Horn Setting	Candela Settings					
		15cd	30cd	75cd	95cd / 110cd	150cd	177cd / 185cd
DC	CONT, T3, T3/T4 (High)	0.063	0.083	0.105	0.127	0.193	0.230
	CONT, T3, T3/T4 (Low)	0.045	0.066	0.085	0.107	0.175	0.215
FWR	CONT, T3, T3/T4 (High)	0.095	0.119	0.162	0.197	0.291	0.339
	CONT, T3, T3/T4 (Low)	0.076	0.096	0.136	0.169	0.267	0.321

Strobe | Current Ratings (Amps)

	Input Voltage	Candela Settings					
		15cd	30cd	75cd	110cd	150cd	185cd
Models: SL24XST SL23RST	DC	0.026	0.038	0.070	0.097	0.179	0.206
	FWR	0.034	0.053	0.098	0.137	0.235	0.308
	Input Voltage	**Candela Settings**					
		15cd	**30cd**	**75cd**	**95cd**	**150cd**	**177cd**
Models: SL24XST-A SL23RST-A	DC	0.026	0.038	0.070	0.097	0.179	0.206
	FWR	0.034	0.053	0.098	0.137	0.235	0.308

GENERAL NOTES:

1. Strobes are designed to flash at 1-flash-per-second minimum over their "Regulated Voltage Range."
2. NFPA-72 specifies a flash rate of 1-to-2 flashes-per-second.
3. All candela ratings represent minimum effective strobe intensity based on UL 1971.

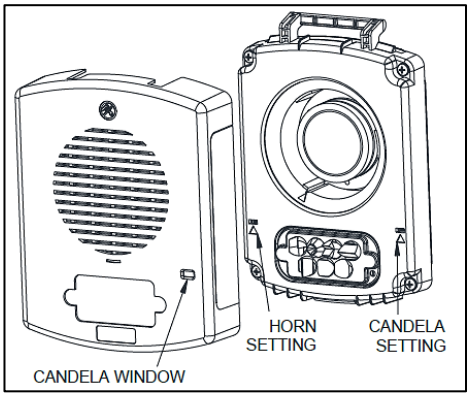
Horn | Current Ratings (Amps)

Horn Setting	Input Voltage	Regulated Voltage Range	
		12V (8.0 – 17.5V)	24V (16.0 – 33.0V)
CONT, T3, T3/T4 (High)	DC	0.054	0.052
CONT, T3, T3/T4 (Low)		0.034	0.038
CONT, T3, T3/T4 (High)	FWR	0.102	0.102
CONT, T3, T3/T4 (Low)		0.075	0.075

Horn Sound Pressure Level Ratings (SPL)

Reverberant dBA @ 10Ft per UL464 / ULC525		
Horn Setting	**SPL at 12V (HN Models Only)**	**SPL at 24V (HN and HS Models)**
CONT, T3, T3/T4 (High)	83	90
CONT, T3, T3/T4 (Low)	74	86

Horn and Candela Settings



NOTE: The default horn setting is ***T3*** and candela setting is ***15cd.***

Technical Data

General Properties

SL2 Weatherproof Horns I Strobes I Horn-strobes	
OPERATING TEMPERATURE:	- -40° C to 66° C (-40° F to 150° F). - Indoor and Outdoor Use
RELATIVE HUMIDITY:	95%
OPERATING VOLTAGE RANGES:	- 12 VDC / VFWR - 8.0V - 17.5V (horn models only) - 24 VDC / VFWR - 16.0V – 33.0V (all models)
STROBE OUTPUT RATING:	Field-selectable candela outputs: ▪ Clear Lens strobe: 5cd I 30cd I 75cd I 110cd I 150cd I 185cd ▪ Amber Lens strobe: 5cd I 30cd I 75cd I 95cd I 150cd I 177cd
STROBE FLASH RATE:	Strobes are designed to flash at one-flash-per-second
STROBE SYNCRONIZATION:	Compatible with Siemens fire alarm control panels (FACPs), Siemens dual-sync control (DSC) module, Siemens Power Supplies (Pad-3/-4/-5)
***TEMPORAL PATTERN:**	▪ Continuous ▪ T3 (Code 3) ▪ T3/T4(Code 4)

***NOTE:** The Code 3 temporal pattern (1/2 second on, 1/2 second off, 1/2 second on, 1/2 second off, 1/2 second on, 1-1/2 off and repeat) is specified by ANSI and NFPA 72 for standard emergency evacuation signaling. (Available with sync or non-sync operation)

***NOTE:** The Code 4 temporal pattern (100 ms on, followed by 100 ms off, for 4 cycles, followed by 5 seconds of silence and repeat), is specified by ANSI and NFPA 72 for carbon monoxide emergency signaling. (Available with sync operation only)

Physical Properties

SL2 Weatherproof Horns I Strobes I Horn-strobes	
MATERIAL:	Red or white textured UV stabilized, colored engineered plastic.
LENS:	Light Emitting Diode (LED) in a rugged Lexan lens
WEIGHT:	**Horns:** 1.21 lbs.(3R devices) / 1.78 lbs.(4X devices) **Strobes:** 0.67 lbs. **Horn-Strobes**: 1.26 lbs.(3R devices) / 1.84 lbs.(4X devices)
DIMENSIONS:	**Horns:** 7.75"L x 5.75"W x 2.3"H **Strobes:** 7.75"L x 5.75"W x 1.8"H **Horn-Strobes**: 7.75"L x 5.75"W x 4.3"H (4X devices) 7.75"L x 5.75"W x 2.6"H (3R devices)

Mounting and Wiring Properties

SL2 Weatherproof Horns I Strobes I Horn-strobes	
MOUNTING:	- Wall & Ceiling-mount applications - SL24XBB Surface Box and SL23R Mounting Plate
WIRING TYPE:	#12 – #18, American Wire Gauge (AWG)

Details for Ordering

MODEL	PART NUMBER	NEMA RATING	APPLIANCE TYPE	MOUNTING TYPE	STROBE TYPE	FACEPLATE COLOR	FACEPLATE LETTERING
SL23RHN-NR	S54329-F295-A1	3R	Horn	WALL / CEILING	None	RED	NO LETTERING
SL23RHN-NW	S54329-F254-A1				None	WHITE	NO LETTERING
SL24XHN-NR	S54329-F328-A1	4X			None	RED	NO LETTERING
SL24XHN-NW	S54329-F260-A1				None	WHITE	NO LETTERING
SL23RHS-FR	S54329-F255-A1	3R	Horn-Strobe	WALL / CEILING	Clear	RED	FIRE
SL23RHS-FW	S54329-F296-A1				Clear	WHITE	FIRE
SL24XHS-FR	S54329-F261-A1	4X			Clear	RED	FIRE
SL24XHS-FW	S54329-F329-A1				Clear	WHITE	FIRE
SL23RST-FR	S54329-F265-A1	3R	Strobe	WALL / CEILING	Clear	RED	FIRE
SL23RST-FW	S54329-F306-A1				Clear	WHITE	FIRE
SL24XST-FR	S54329-F258-A1	4X			Clear	RED	FIRE
SL24XST-FW	S54329-F339-A1				Clear	WHITE	FIRE
SL23RSTAM-NR	S54329-F280-A1	3R			Amber	RED	NO LETTERING
SL23RSTAM-NW	S54329-F279-A1				Amber	WHITE	NO LETTERING
SL24XSTAM-NR	S54329-F294-A1	4X			Amber	RED	NO LETTERING
SL24XSTAM-NW	S54329-F293-A1				Amber	WHITE	NO LETTERING
SL23RSTB-NW	S54329-F307-A1	3R	Strobe	WALL / CEILING	Blue	WHITE	NO LETTERING
SL23RSTB-NR	S54329-F308-A1				Blue	RED	NO LETTERING
SL23RSTG-NW	S54329-F309-A1				Green	WHITE	NO LETTERING
SL23RSTG-NR	S54329-F310-A1				Green	RED	NO LETTERING
SL23RSTR-NW	S54329-F311-A1				Red	WHITE	NO LETTERING
SL23RSTR-NR	S54329-F312-A1				Red	RED	NO LETTERING

Details for Ordering

MODEL	PART NUMBER	NEMA RATING	APPLIANCE TYPE	MOUNTING TYPE	STROBE TYPE	FACEPLATE COLOR	FACEPLATE LETTERING
SL24XSTB-NW	S54329-F340-A1	4X	Strobe	WALL / CEILING	Blue	WHITE	NO LETTERING
SL24XSTB-NR	S54329-F341-A1				Blue	RED	NO LETTERING
SL24XSTG-NW	S54329-F342-A1				Green	WHITE	NO LETTERING
SL24XSTG-NR	S54329-F343-A1				Green	RED	NO LETTERING
SL24XSTR-NW	S54329-F344-A1				Red	WHITE	NO LETTERING
SL24XSTR-NR	S54329-F345-A1				Red	RED	NO LETTERING

Related Hardware

Model	Part Number	Description
SL2LP-ALR	S54329-F313-A1	**"ALERT"** Letter Plate Red
SL2LP-ALW	S54329-F314-A1	**"ALERT"** Letter Plate White
SL2LP-AR	S54329-F315-A1	**"AGENT"** Letter Plate Red
SL2LP-AW	S54329-F316-A1	**"AGENT"** Letter Plate White
SL2LP-COR	S54329-F317-A1	**"CO"** Letter Plate Red
SL2LP-COW	S54329-F318-A1	**"CO"** Letter Plate White
SL2LP-EVR	S54329-F319-A1	**"EVACUATION"** Letter Plate Red
SL2LP-EVW	S54329-F320-A1	**"EVACUATION"** Letter Plate White
SL2LP-FBR	S54329-F321-A1	**"FIRE"** PICTOGRAM Letter Plate Red
SL2LP-FBW	S54329-F322-A1	**"FIRE"** PICTOGRAM Letter Plate White
SL2LP-FR	S54329-F259-A1	**"FIRE"** Letter Plate Red
SL2LP-FW	S54329-F323-A1	**"FIRE"** Letter Plate White
SL2LP-MR	S54329-F324-A1	**"EMERGENCY"** Letter Plate Red
SL2LP-MW	S54329-F325-A1	**"EMERGENCY"** Letter Plate White
SL2LP-NR	S54329-F326-A1	**"NO TEXT"** Letter Plate Red
SL2LP-NW	S54329-F327-A1	**"NO TEXT"** Letter Plate White

SIEMENS

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February – 2025
New Issue

POWER PS SONIC
TRUSTED BATTERY SOLUTIONS

PS SERIES

General Purpose | Emergency Lighting | Medical | Fire & Security

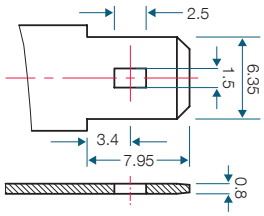
PS-12180

12V 18.0 AH @ 20-hr.
12V 17.1 AH @ 10-hr.

Rechargeable Sealed Lead Acid Battery
PS – General Purpose Series

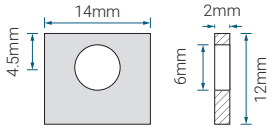
TERMINALS: (mm)

F2: Quick disconnect tabs, 0.250" x 0.032" – Mate with AMP. INC FASTON "250" series



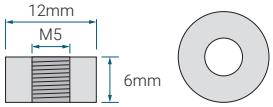
Torque – Not Applicable

NB2: Tin plated brass post with 'Nut & Bolt' fasteners



Torque: 3.9~5.4 Nxm

T12: Threaded insert with 5mm stud fastener



Torque: 2.0~3.0 Nxm

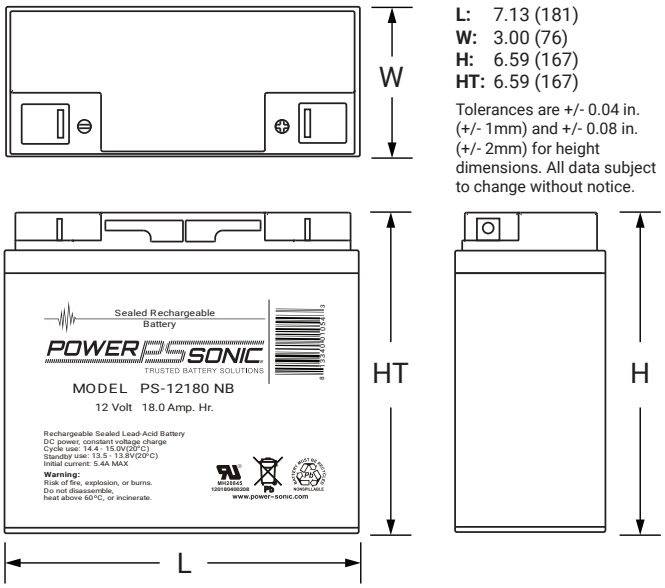
FEATURES

- 5 year design life
- Absorbent Glass Mat (AGM) technology for superior performance
- Valve regulated, maintenance free spill proof construction
- Power/volume ratio yielding excellent energy density
- Rugged vibration and impact resistant ABS case and cover
- Gas recombination technology

APPROVALS

- Approved for transport by air. D.O.T., I.A.T.A., F.A.A. and C.A.B. certified
- U.L. recognized
- ISO9001:2015 – Quality management systems

DIMENSIONS: inch (mm)



L: 7.13 (181)
W: 3.00 (76)
H: 6.59 (167)
HT: 6.59 (167)

Tolerances are +/- 0.04 in. (+/- 1mm) and +/- 0.08 in. (+/- 2mm) for height dimensions. All data subject to change without notice.

PERFORMANCE SPECIFICATIONS

Nominal Voltage	12 volts (6 cells)
Nominal Capacity	
20-hr. (900mA to 10.50 volts)	18.00 AH
10-hr. (1.71A to 10.50 volts)	17.10 AH
5-hr. (3.06A to 10.20 volts)	15.30 AH
1-hr. (11.5A to 9.60 volts)	11.50 AH
Approximate Weight	12.32 lbs. (5.6 kg)
Internal Resistance (approx.)	10.5 milliohms
Max Short-Duration Discharge Current (5 Sec.)	270.0 amperes
Shelf Life (% of nominal capacity at 68°F (20°C)	
1 Month	92%
3 Month	90%
6 Month	80%
Operating Temperature Range	
Charge	5°F (-15°C) to 122°F (50°C)
Discharge	5°F (-15°C) to 104°F (40°C)
Case	ABS Plastic
Power Sonic Chargers	PSC-122000A-C PSC-122000-PC PSC-124000-PC PSC-124000A-C

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E: customer-service@power-sonic.com

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T UK: + 44 1268 560 686
T FR: + 33 344 32 18 17
E: salesEMEA@power-sonic.com

POWER PS SONIC
TRUSTED BATTERY SOLUTIONS

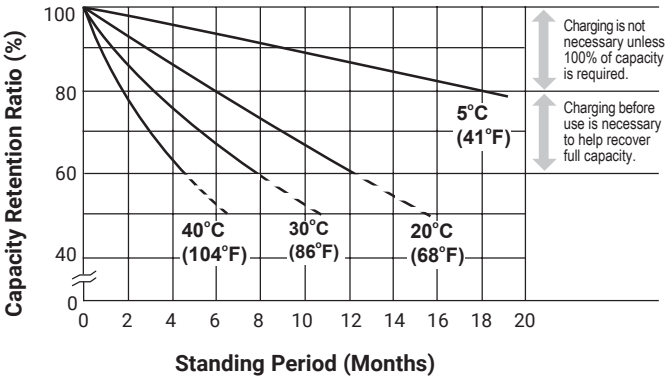
PS SERIES

PS-12180

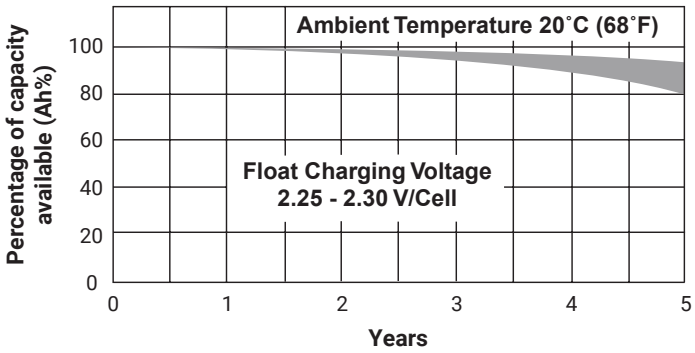
12V 18.0 AH @ 20-hr.
12V 17.1 AH @ 10-hr.

Rechargeable Sealed Lead Acid Battery
PS – General Purpose Series

SHELF LIFE & STORAGE



LIFE CHARACTERISTICS IN STAND-BY USE



CHARGING

Cycle Applications: Apply constant voltage charge at 2.35v/c – 2.45v/c (14.1 – 14.7v for 12v Monobloc) at 20°C. Initial charging current should be set at less than 0.25C Amps. Switch to float charge to avoid overcharging.

"Float" or "Stand-By" Service: Apply constant voltage charge of 2.25v/c – 2.30v/c (13.5 to 13.8 volts for 12v Monobloc at 20°C. When held at this voltage, the battery will seek its own current level and maintain itself in a fully charged condition.

Temperature Compensation: Charging Voltage for both Cyclic and Standby applications should be regulated in relation to ambient temperature. As temperature rises charging voltage should be reduced to prevent overcharge and increased as temperature falls to avoid undercharge.

For further charging information including temperature compensation factors, see Power Sonic Technical Manual/ Power Sonic Charger specifications.

APPLICATIONS

- General purpose
- Emergency lighting
- Medical
- Fire and security

CHARGERS

Power Sonic offers a wide range of chargers suitable for batteries with a variety of capacities.

Please refer to our website for more information on our switch mode and transformer type chargers.

Please contact our technical department for advice if you have difficulty in locating a suitable charger.

FURTHER INFORMATION

Please refer to our website **www.power-sonic.com** for a complete range of useful downloads, such as product catalogs, material safety data sheets (MSDS), ISO certification, etc.

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365 Cabela Dr Suite 300,
Reno, Nevada 89523
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T: +1 619 661 2020
E: customer-service@power-sonic.com

POWER-SONIC EMEA
(EMEA – EUROPE, MIDDLE EAST AND AFRICA)
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The Netherlands
T NL: + 31 33 7410 700
T UK: + 44 1268 560 686
T FR: + 33 344 32 18 17
E: salesEMEA@power-sonic.com

DTK-2MHLPB Series
Modular Low Voltage Surge Protectors

DITEK's DTK-2MHLPB Series of low voltage surge protectors provide robust protection in a compact package. This series was designed for ease of installation, with convenient field-replaceable modules and a Snap-Track base system, allowing the installer to protect multiple circuits while utilizing a common ground point.

DTK-2MHLP24B

DTK-2MHLP24BWB

Product Features

- Protects (2) low voltage circuit pairs per module
- Hybrid design utilizing SAD and GDT technologies
- Shorts to ground when compromised
- Field-replaceable modular design with single point ground for fast and easy installation
- Six voltage configurations available to protect various types of circuits
- Hardwired multi-base mounting system allows protection for up to (10) pairs with a common ground
- Suitable for use on both AC and DC low voltage circuits

Applications

- Fire Alarm Panel NAC, SLC, PIV and IDC Circuits
- Burglar Alarm Panel NAC and IDC Circuits
- Telco Dialer Circuits
- 70V Speakers and Audio Equipment
- Low-Voltage Landscaping Lighting and Lighting Control Circuits
- 4-20mA Current Loops

Accessories

- To order module with base, add "WB" to end of part number
- Test Module Kit, p/n DTK-2MHLPTM

Technical Specifications

DTK-2MHLP	5B	12B	24B	36B	48B	75B	130B
Service Voltage:	5V	12V	24V	36V	48V	75V	130V
MCOV:	6V	18V	33V	48V	64V	90V	140V
Clamping Voltage:	8V	21.6V	39V	57V	76V	108V	155V
Protection Modes:	Differential Mode (L-L) Common Mode (L-G)						
Surge Current Rating:	20,000A						
Maximum Continuous Current:	5 Amps						
Failure Mode:	Short to Ground						

Mechanical Specifications

Base Connection Method:	Hardwired terminals, 30-12 AWG	
Module Connection Method:	Edge card into mounting base	
Housing:	ABS	
Operating Temperature:	-40°F - 158°F (-40°C - 70°C)	
Maximum Humidity:	95% non-condensing	
Dimensions:	**Module** 2.1" L x 1.4" W x 1.9" H (53 mm x 36 mm x 48 mm)	**Module with Base** 3.25" L x 1.5" W x 2.6" H (83 mm x 38 mm x 66 mm)
Weight:	1.2 oz (34 g)	2.8 oz (79 g)

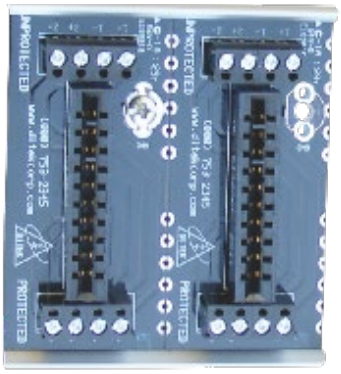
Quality Standards & Approvals

Certifications:	UL497B
Warranty:	10 Year Limited Warranty

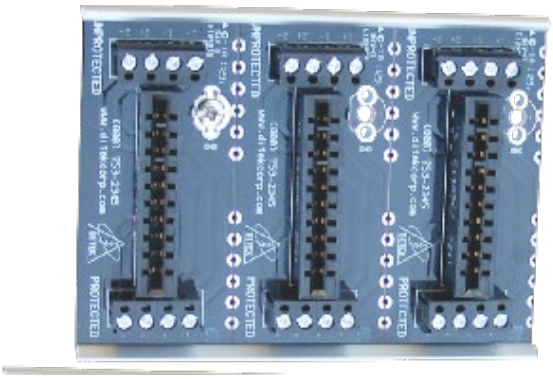
Base Part Numbers and Dimensions

Part Number	# Pairs Protected	Dimensions
DTK-MB10	2	3.25” H x 1.50” W (82.5 mm x 38.1 mm)
DTK-2MB	4	3.25” H x 3.00” W (82.5 mm x 76.2 mm)
DTK-3MB	6	3.25” H x 4.50” W (82.5 mm x 114.3 mm)
DTK-4MB	8	3.25” H x 6.00” W (82.5 mm x 152.4 mm)
DTK-5MB	10	3.25” H x 7.50” W (82.5 mm x 190.5 mm)

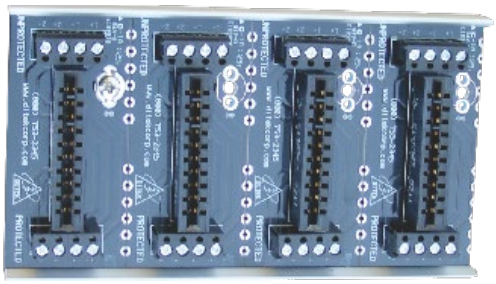
DTK-MB10



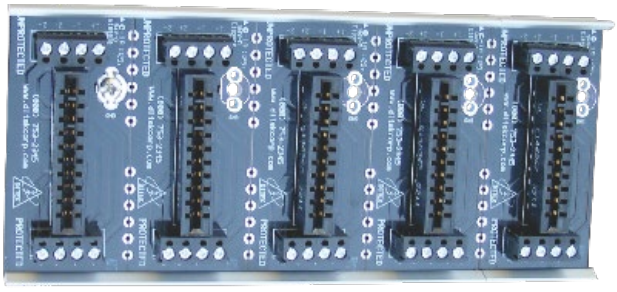
DTK-2MB



DTK-3MB



DTK-4MB



DTK-5MB

TA-1

WINLAND ELECTRONICS, INC.

TEMP°ALERT®

Mechanical Temperature Monitor with Single Output

- Connects to new and existing alarm systems.
- No power required to operate.
- Sleek, low-profile styling.
- Normally open (N.O.)
- • Do not put console in freezer/cooler. Use an EnviroAlert with a wired sensor.

TA-1

WINLAND ELECTRONICS, INC.

Specifications

Power Requirements	No power required to operate
Low Limit Adjust Range	-30° to 120° F (-34° to 49° C) Non-condensing environment.
High Limit Adjust Range	-20° to 130° F (-29° to 54° C) Non-condensing environment.
Minimum Temp Span	10° Recommended distance between high and low set points.
Temp Accuracy	±3° F (±1.7° C)
Temp Response Time	TC = 14 minutes
Outputs	Gold plated N.O. dry contacts. Not for high voltage use.
Contact Output Rating	12VDC @ 50mA
Weight	6 oz (0.17 kg)
Dimensions	6.25 x 3.75 x 2” (15.9 x 9.5 x 5.1 cm)
Mounting	Key Slot

Visit www.winland.com, call 800.635.4269 or email info@winland.com to learn more.

SmartRescue Base Station

2500-205FM

RATH by AVIRE

Part #: 2500-205FM

CODE COMPLIANCE:

- International Building Code (IBC)
- National Fire Protection Association (NFPA)
- Americans Disabilities Act (ADA)
- Complies with Section 6.4 of UL 60950-1
- Conforms to UL Standard 2017 for Attendant Monitored Signaling Devices
- ETL Listing Number: 5013373
- Volume control handset meets ADA requirements

POWER REQUIREMENTS:

- Requires a single analog (POTS, PBX, or central office phone line) or digital phone line. If used on an IP or cellular network, you must purchase an additional interface device from RATH®.
- Designed for either 120vac power or 24vdc power

WIRING REQUIREMENTS:

- Run twisted, shielded 4 wire set from each Call Box to SmartRescue and one standard phone line to outside world

PHONE CAPABILITIES:

- Telephone Line Voltage: 24V-48V

Specifications:

Dimensions: Face: 16.11” H x 14” W x 3” D **Back Box:** 15.62” H x 12" W x 3” D

Mounting: Flush

Design: Powder Coated Steel Enclosure, Coil Cord, Twist Lock Closure with Fireman’s Lock (not provided)

Warranty: 2 Years

ADDITIONAL FEATURES:

- Use with up to 5 Call Boxes on the same telephone line
- Easy to use push buttons
- Passively monitor communications between Call Boxes and the outside world via the LEDs: Solid lit LED indicates there is an emergency call in progress, slow blinking LED indicates there is a call on hold
- Audible alert when Call Box initiates a call, silenced when call is joined from Base Station
- Includes relay contact that trips if any SmartPhone has been activated
- The SmartRescue is able to:
    1. Call into all or individual Call Boxes as needed
    2. Join existing conversations between Call Boxes and outside world
    3. Hang up and original conversation will continue
    4. Terminate outside world so it is only talking to the Call Boxes or terminate the call with all parties entirely
- Built-in battery backup recharges from 120vac power (allows for a minimum of 4 hours talk time upon loss of power)
- 16.8V 1400mAH battery (part # RP7300109A)

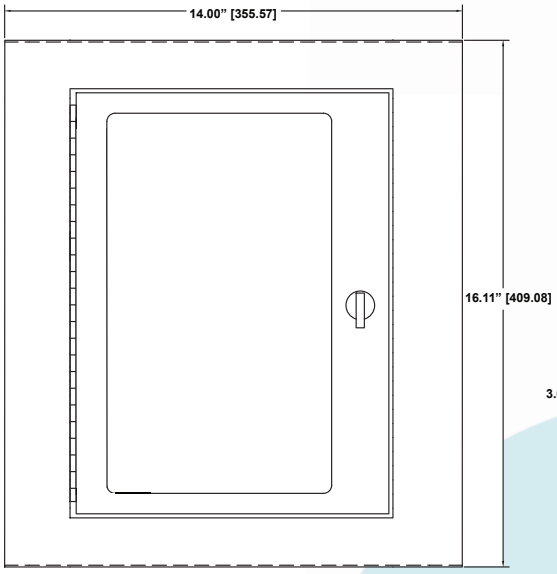
SmartRescue Base Station

2500-205FM

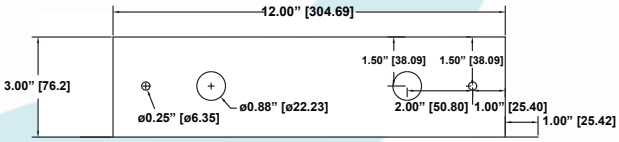
Back View

Side View

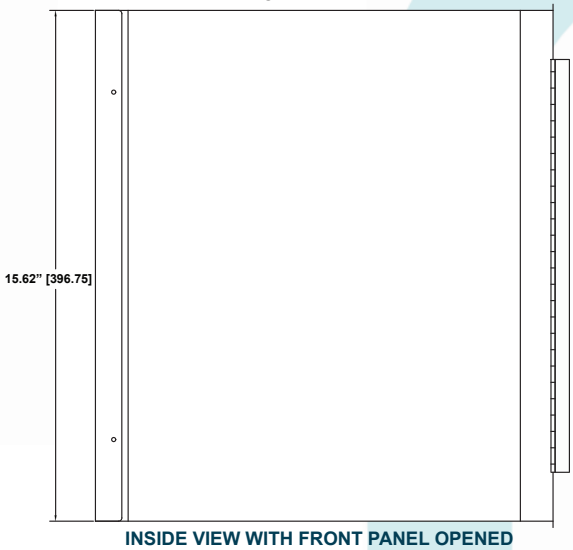
Top View



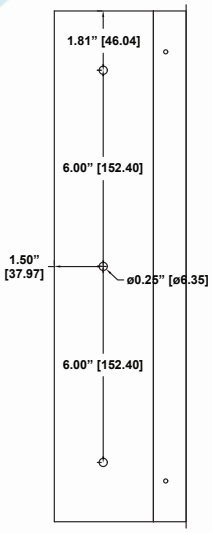
FRONT VIEW



CABINET BACK BOX



INSIDE VIEW WITH FRONT PANEL OPENED



SIDE VIEW

RATH by AVIRE

N56 W24720 N. Corporate Circle · Sussex, WI 53089 | 800-451-1460
www.avire-global.com/en-us/

Area of Refuge Power Supply
2500-PWR24

- Size: 9.275" H x 8.125" W x 3.75" D
- Shipping Weight: 11 lbs.
- 24vdc, 9 Outputs
- Install up to (3) phones per output
- 4 Amp (100VA) Supply Current
- Integral Surge Protection
- Underwriters Laboratory (UL) recognized
- Individual LED power indication

N56 W24720 N. Corporate Circle • Sussex, WI 53089
800-451-1460 • 262-246-4828 (fax) • www.area-of-refuge.com

Made in the USA
3 Year Warranty

2100-958NSR Call Box

Face Plate Size: 9-1/2” H x 7-1/2” W
Back Box Size: 8” H x 6” W x 3” D
Style: Brushed Stainless Steel, Flush Mount
Options: Strobe Interface & Relay, Mushroom Push Button

Features:

- Meets all IBC, ADAAG, and NFPA Code requirements
- Requires analog telephone line (POTS, PBX, or central office line)
- Power Requirements: 24vdc from model 2500-PWR24
- Built-in battery backup recharges from 24vdc power (allows for a minimum of 4 hours of talk time upon power loss)
- Built-in 10 phone consolidator feature allows you to install 10 Call Boxes and 1 Base Station on a single telephone line
- Programmable with up to 5 emergency numbers
- On-site programming
- Remote or on-site diagnostic test
- Recordable location message (18 seconds)
- Phone checks every 24 hours for an active phone line, if one is not detected, phone will provide a relay trip
- Compatible with SmartRescue Base Station or Command Center for in-building rescue coordination
- Automatic dialer (31 digit programmable memory)
- Automatic answer feature with audible ring
- Touch Tone operation only (Touch Tone is an AT&T registered trademark)
- 3 year warranty

N56W24720 N. Corporate Circle • Sussex, WI 53089
800-451-1460 • 262-246-4828 (fax) • www.area-of-refuge.com

Made in the USA
3 Year Warranty

Area of Refuge Signage

RATH AREA-OF-REFUGE www.area-of-refuge.com

Photo Luminescent Wall Sign
Model Number: 7041
Size: 8” x 8”

Raised Letter/Braille Entry Way Sign
Model Numbers:
7043 - Black/White Size: 6" x 9"
7044 - Blue/White Size: 6" x 9"

“Directions for Call Boxes" Wall Sign (With Braille)
Model Number: 7049
Size: 6"x 8"

Exterior Rescue Assistance Wall Sign
Model Number: 7086
Size: 8"x 8"

Skid Resistant Floor Decal
Model Number: 7045
Size: 17” D

Braille Photo Luminescent Wall Sign
Model Number: 7046
Size: 8"x 8"

Two-Way Emergency Communication
Model Number: 7087
Size: 8” x 8”

Directional Sign
Model Numbers:
7047L (Left Arrow)
7047R (Right Arrow)
Size: 15” x 5”

120/277vac Lighted Wall Sign
Model Numbers:
7050 (Single Sided) or
7050D (Double Sided)
Size: 10.5” H x 14” W x 3” D

Features:
- Power: 120/277vac (4w, 350mA)
- 90 Minutes of Battery Back-up
- LED Lights
- Constant Uniform Illumination
- UL Listed to meet UL 924, NEC, OSHA, NFPA & Life Safety Code Illumination requirements
- White Aluminum Housing With Acrylic Surface
- Voltage Surge and Short Circuit Protection
- Directional Arrows Available Upon Request

120/277vac Lighted Wall Sign
Model Number: 7050E
Size: 10.5” H x 14” W x 3” D

Features:
- Power: 120/277vac(4w, 350mA)
- Battery Back-up
- Red LED Lights
- Constant Uniform Illumination
- UL Listed to meet UL 924, NEC, OSHA, NFPA and Life Safety Code Illumination requirements
- Sign should be mounted above 60" but below 80" from the finish floor to top of the sign
- White Aluminum housing with Acrylic surface
- Voltage Surge and Short Circuit protection
- Directional Arrows Included (Set of 3)

N56 W24720 N. Corporate Circle • Sussex, WI 53089
800-451-1460 • 262-246-4828 (fax) • www.area-of-refuge.com

06/15

Made in the USA
3 Year Warranty

FIRE ALARM SYSTEM CALCULATIONS

TOWN OF ANGIER POLICE HEADQUARTERS BUILDING

29 MCIVER STREET

ANGIER, NORTH CAROLINA

Electrical Contractor:	Allen R. Wood & Co. 86 Allen Wood Lane Benson, NC 27504
Fire Alarm Contractor:	BFPE International 115 Bestwood Drive Clayton, NC 27520 NC Firm License # D-0205
Project No.:	RA-A7854-A-25
Date:	November 17, 2025

Siemens Circuit Information v1.0.4							
All Circuits							
Job Name:	Town of Angier Police Headquaters						
Job Number:	RA-A7854-A-25						
Panel Name:							
					Total Standby		Total Alarm
Circuit #	Circuit Name	Zone #	Description		Current		Current
1	P1N1		Notification Circuit				0.759
2	P1N2		Notification Circuit				0.426
3			Notification Circuit				
4			Notification Circuit				

Siemens Voltage Drop Calculations v1.0.4

Job Name:	Town of Angier Police Headquaters	12 Gauge = 1.98 ohms/1000 ft. /pr
Job Number:	RA-A7854-A-25	14 Gauge = 3.14 ohms/1000 ft. /pr
Floor Number		16 Gauge = 4.99 ohms /1000 ft. /pr

Supply Voltage	24	VDC		Ohms / 1000' / pr:	3.14	
Wire Gauge	14	AWG		Quantity Of Devices:		
Circuit #	P1N1			Total Current:	0.759	
Zone #				Total Ohms:	4.48	

Device Number	Device Model	Device Candela	Device Current	Segment Distance	Segment Current	Ohms	Voltage Drop
1	SL24XHS-FR	75	0.056	25	1.500	0.079	0.118
2	SC-ST-WR-F	15	0.037	24	1.444	0.075	0.109
3	SC-HS-WR-F	15	0.037	28	1.407	0.088	0.124
4	SC-HS-WR-F	15	0.037	21	1.370	0.066	0.090
5	SC-ST-CR-F	15	0.037	37	1.333	0.115	0.153
6	SC-HS-WR-F	15	0.037	21	1.296	0.066	0.086
7	SC-HS-WR-F	15	0.037	16	1.259	0.050	0.062
8	SC-HS-WR-F	15	0.037	26	1.222	0.081	0.099
9	SC-HS-WR-F	15	0.037	27	1.185	0.084	0.099
10	SC-ST-WR-F	15	0.037	29	1.148	0.090	0.103
11	SC-ST-WR-F	15	0.037	16	1.111	0.049	0.054
12	SC-ST-WR-F	15	0.037	16	1.074	0.049	0.053
13	SC-HS-WR-F	15	0.037	13	1.037	0.041	0.043
14	SC-ST-WR-F	15	0.037	17	1.000	0.054	0.054
15	SC-HS-WR-F	15	0.037	22	0.963	0.070	0.068
16	SC-HS-WR-F	15	0.037	16	0.926	0.051	0.047
17	SC-ST-WR-F	15	0.037	18	0.889	0.056	0.049
18	SC-ST-WR-F	15	0.037	17	0.852	0.054	0.046
19	SC-HS-WR-F	15	0.037	44	0.815	0.137	0.112
20	SC-HS-WR-F	15	0.037	16	0.778	0.051	0.039
21							
22							
Totals			0.759	448		1.405	2.13
						Voltage Drop %:	8.89
						Voltage At Last Device:	21.87

Siemens Voltage Drop Calculations v1.0.4

Job Name:	Town of Angier Police Headquaters	12 Gauge = 1.98 ohms/1000 ft. /pr
Job Number:	RA-A7854-A-25	14 Gauge = 3.14 ohms/1000 ft. /pr
Floor Number		16 Gauge = 4.99 ohms /1000 ft. /pr

Supply Voltage	24	VDC		Ohms / 1000' / pr:	3.14	
Wire Gauge	14	AWG		Quantity Of Devices:		
Circuit #	P1N2			Total Current:	0.426	
Zone #				Total Ohms:	7.98	

Device Number	Device Model	Device Candela	Device Current	Segment Distance	Segment Current	Ohms	Voltage Drop
1	SC-ST-WR-F	15	0.037	60	1.500	0.188	0.28
2	SC-HS-WR-F	15	0.037	23	1.463	0.072	0.11
3	SC-HS-WR-F	15	0.037	33	1.426	0.104	0.15
4	SC-HS-WR-F	15	0.037	35	1.389	0.110	0.15
5	SC-ST-WR-F	15	0.037	32	1.352	0.100	0.14
6	SC-HS-WR-F	15	0.037	24	1.315	0.075	0.10
7	SC-HS-WR-F	15	0.037	35	1.278	0.110	0.14
8	SC-ST-WR-F	15	0.037	31	1.241	0.097	0.12
9	SC-HS-CR-F	75	0.056	27	1.204	0.085	0.10
10	SC-ST-WR-F	15	0.037	23	1.148	0.072	0.08
11	SC-ST-WR-F	15	0.037	24	1.111	0.075	0.08
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
Totals			0.43	347		1.090	0.93
						Voltage Drop %:	3.87
						Voltage At Last Device:	23.07

FC/FV 922_924 Battery Calc Sheet
Version 4.0.1

Enter value
Select choice
Fixed
Calculated

Ref. No. RA-A7854-A-25
Submitted By: BFPE INTERNATIONAL
Project Name: Town of Angier Police Headquaters
Project Location:
Panel Location: Riser Room 104
Node No: P1 **Date:** November 17, 2025

Module	Description	Module Feature	Qty	Standby Current (Amps)	Alarm Current (Amps)	External Power Source
FCM2018-U3	Standard Operating Unit		1	0.130	0.170	
FCM2019-U3/FCM2035-U3	Enhanced Operating Unit			0.000	0.000	
	With LED zones	LED zones				
FCM2043-U3	Enhanced Operating Unit			0.000	0.000	
	With LED Switch Module	LED zones				
FCI2016-U1	252 pt Periphery Board		1	0.130	0.136	
		SLC load				
		NAC Quantity	2			
		Aux power load		0.120		
		Bell Follower	No	0.000	0.000	
FCI2017-U1	504 pt Periphery Board			0.000	0.000	
		SLC load				
		NAC Quantity				
		Aux power load				
		Bell Follower	No	0.000	0.000	
	Periphery Board	NAC 1 Load			0.759	
	NAC Circuits	NAC 2 Load			0.426	
FCI2011-U1	NAC expander	No		0.000	0.000	
		NAC load			0.000	
XCI2001-U1	Releasing module	No	0	0.000	0.000	
		Releasing load				
FCI2020-U1	City Tie/Leased Line module	Not Installed		0.000	0.000	
FN2001-A1	SafeDLink Network module			0.000	0.000	
FCA2016-U1	RS-485 module		1	0.075	0.136	
FCL2004-U1	MXL Device Line Card			0.000	0.000	
FN2006-U1	Single-mode fiber module			0.000	0.000	
FN2007-U1	Multi-mode fiber module			0.000	0.000	
FT2014-xx	Remote annunciator - display		1	0.034	0.055	No
FT2015-xx	Remote annunciator - control			0.000	0.000	No
FTI2001-A1	Network terminal board			0.000	0.000	No
FCM2023-U3	LED expansion module			0.000	0.000	
		LED zones		0.000	0.000	
FCA2015-U1	DACT		1	0.034	0.044	
FT2003-U1	LED Driver			0.000	0.000	No
FT2008 / FT2018	Tabular Annunciator-16 zone			0.000	0.000	No
FT2009 / FT2019	Tabular Annunciator-32 zone			0.000	0.000	No
FT2007-U1	LED Driver			0.000	0.000	No
FCA2018-U1	Remote printer module			0.000	0.000	
FCA2032-U1	Battery Disconnect Module			0.000	0.000	
Connect X300	Cloud Gateway			0.000	0.000	No
FTO2023-U3	LED Switch Module			0.000	0.000	
		Switch Zones		0.000	0.000	

Voice Modules & FV-Net

VCA2002-A1	Card Cage		0	0.000	0.000	
VCC2001-A1	Voice Control Card		0	0.000	0.000	
VCC2002-A1	Voice Control - Input/Output Card		0	0.000	0.000	
VCI2001-U1	Amplifier Card - Amp #1	Not Installed	0	0.000	0.000	
	Amplifier Card - Amp #2	Not Installed	0	0.000	0.000	
	Amplifier Card - Amp #3	Not Installed	0	0.000	0.000	
	Amplifier Card - Amp #4	Not Installed	0	0.000	0.000	
VTO2004-U3	Microphone			0.000	0.000	
VTO2001-U3	Switch Module			0.000	0.000	
		Switch Zones		0.000	0.000	
FCA2031-A1	MoNet Module			0.000	0.000	
FN2012-A1	Ethernet Switch			0.000	0.000	
VCI2003-A1	VoIP Module			0.000	0.000	
VN2001-A1	Ethernet Module - CAT5 #1	Not Used	0	0.000	0.000	
	Ethernet Module - CAT5 #2	Not Used	0	0.000	0.000	
VN2002-A1	Ethernet Module - Multi Mode #1	Not Used	0	0.000	0.000	
	Ethernet Module - Multi Mode #2	Not Used	0	0.000	0.000	
VN2003-A1	Ethernet Module - Single Mode #1	Not Used	0	0.000	0.000	
	Ethernet Module - Single Mode #2	Not Used	0	0.000	0.000	

Devices	Description	Qty	Standby	Alarm		
HFP-11 / 8713	Photo-thermal detector		0.00000	0.00000		
HFPO-11 / 8710	Photo detector		0.00000	0.00000		
HFPT-11 / 8712	Thermal detector		0.00000	0.00000		
OOHC941	Dual optical/thermal/CO detector		0.00000	0.00000		
OOH941	Dual optical/thermal detector		0.00000	0.00000		
OH921	Photo-thermal detector		0.00000	0.00000		
OP921	Photo detector	5	0.00125	0.00205		
HI921	Thermal detector	2	0.00050	0.00082		
FDCIO422	4-input/4-output module		0.00000	0.00000		
HMS / 8700-S-D-M	Manual station		0.00000	0.00000		
HTRI-S/M / 8701	Single input module-mini		0.00000	0.00000		
HTRI-S/M /8702	Single input module-mini		0.00000	0.00000		
HTRI-D / 8703	Dual input module		0.00000	0.00000		
HTRI-R / 8704	Single input/single relay module		0.00000	0.00000		
HZM / 8705	Conventional zone module		0.00000	0.00000		No
HCP / 8706	Addressable control point		0.00000	0.00000		No
ILED / 8726	Intelligent LED		0.00000	0.00000		
*SFP-11	Photo-thermal detector		0.00000	0.00000		
*SFPO-11	Photo detector		0.00000	0.00000		
*SFPT-11	Thermal detector		0.00000	0.00000		
*SMS-S-D-M	Manual station		0.00000	0.00000		
*STRI-S-M	Single input module-mini		0.00000	0.00000		
*STRI-D	Dual input module		0.00000	0.00000		
*STRI-R	Single input/single relay module		0.00000	0.00000		
*SZM	Conventional zone module		0.00000	0.00000		No
*SCP	Addressable control point		0.00000	0.00000		No
ABHW-4B (low dBa)	Loop-powered audible base		0.00000	0.00000		No
ABHW-4B (high dBa)	Loop-powered audible base		0.00000	0.00000		No
ABHW-4S (low dBa)	Audible Base-520Hz (low)		0.00000	0.00000		No
ABHW-4S (high dBa)	Audible Base-520Hz (high)		0.00000	0.00000		No
XTRI-S/M	Single Input Module-Isolator	1	0.00050	0.00065		
XTRI-D	Dual Input Module-Isolator	2	0.00100	0.00190		
XTRI-R	Input Module w/Relay-Isolator	5	0.00250	0.00375		
TSM-1X	Detector Test Module-Isolator		0.00000	0.00000		
ILED-XC/XW	Intelligent LED-Isolator		0.00000	0.00000		
XMS-S, D, M, 2S, DA	Manual station-Isolator	2	0.00100	0.00100		
PAD-5	Power Expander Main Board		0.00000	0.00000		
PAD-5-CDC	Conventional Detector Expansion Board		0.00000	0.00000		
PAD-5-CLSA	Class A/B Expansion Board w/Releasing		0.00000	0.00000		
Total Addressable Devices		17	0.007	0.010		**System OK**

Total Current (Internal)		0.529	1.736	**Use 170W Power Supply**
Total Current (external)		0.000	0.000	
Standby Time (hrs)	24	12.70		
Alarm Time (min)	5		0.14	
AH required (no reserve)			12.85	
Battery Reserve	125%			
AH Required (with reserve)			16.06	**System OK**
Battery Size Provided	18 AH			**Battery Size Sufficient**

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Rev notes:
2.2.3: update X-Series device current draws to be added to total current calculation
2.2.4: update FN2012 for correct standby and alarm current.
2.2.9: update to include 60 min alarm, S Series devices
2.2.10: add 72 hours standby
3.0.1: Add FCL2004-U1, Add XMS (April 2020)
3.0.2: Auto add 300W power supply for all voice applications (May 2020)
3.0.3: Auto add Voice I/O and Voice CPU (May 2020)
3.0.5: Add XMS to total device count
3.0.6: Update value for OP921
3.0.7: Update LED module, NAC module, and releasing module (Oct 2020)
3.1.0: Update with PAD-5 and ancillary modules (October 2020)
3.1.1: Update value for OH921 (Jan 2021)
3.1.2: Updated values for FCM2018 and FCM2019 (August 2021)
3.1.3 Added external power source option (January 2022)
3.1.4: Updated values for OH, OP and HI devices (March 2022)
3.1.5: Updated calculations for voice amplifier cards (May 2022)
3.1.6: Added "Amps" to header bar and fixed FCI2016 standby current (June 2022)
3.1.7: Added SLC output max current logic, updated total device calculation, updated sounder base calcuations (July 2022)
3.1.8: Updated logic for power supplies
4.0.1: Added MP4 devices, Battery Disconnect Module, XMS-2S, XMS-DA, updated Dact Values, added battery size check, RS-485 logic and Annunciator limits, etc.