Device Compatibility Document

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INSTALLATION PRECAUTIONS

ADHERENCE TO THE FOLLOWING WILL AID IN PROBLEM-FREE INSTALLATION WITH LONG-TERM RELIABILITY:

WARNING - Several different sources of power can be connected to the fire alarm control panel. Disconnect all sources of power before servicing. Control unit and associated equipment may be damaged by removing and/or inserting cards, modules, or interconnecting cables while the unit is energized. Do not attempt to install, service, or operate this unit until manuals are read and understood.

CAUTION - System Re-acceptance Test after Software Changes:

To ensure proper system operation, this product must be tested in accordance with NFPA 72 after any programming operation or change in site-specific software. Re-acceptance testing is required after any change, addition or deletion of system components, or after any modification, repair or adjustment to system hardware or wiring. All components, circuits, system operations, or software functions known to be affected by a change must be 100% tested. In addition, to ensure that other operations are not inadvertently affected, at least 10% of initiating devices that are not directly affected by the change, up to a maximum of 50 devices, must also be tested and proper system operation verified.

This system meets NFPA requirements for operation at 0-49º C/32-120º F and at a relative humidity 93% ± 2% RH (non-condensing) at 32°C ± 2°C (90°F ± 3°F). However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and its peripherals be installed in an environment with a normal room temperature of 15-27º C/60-80º F.

Verify that wire sizes are adequate for all initiating and indicating device loops. Most devices cannot tolerate more than a 10% I.R. drop from the specified device voltage.

Like all solid state electronic devices, this system may operate erratically or can be damaged when subjected to lightning induced transients. Although no system is completely immune from lightning transients and interference, proper grounding will reduce susceptibility. Overhead or outside aerial wiring is not recommended, due to an increased susceptibility to nearby lightning strikes. Consult with the Technical Services Department if any problems are anticipated or encountered.

Disconnect AC power and batteries prior to removing or inserting circuit boards. Failure to do so can damage circuits.

Remove all electronic assemblies prior to any drilling, filing, reaming, or punching of the enclosure. When possible, make all cable entries from the sides or rear. Before making modifications, verify that they will not interfere with battery, transformer, or printed circuit board location.

Do not tighten screw terminals more than 9 in-lbs. Over-tightening may damage threads, resulting in reduced terminal contact pressure and difficulty with screw terminal removal.

This system contains static-sensitive components. Always ground yourself with a proper wrist strap before handling any circuits so that static charges are removed from the body. Use static suppressive packaging to protect electronic assemblies removed from the unit.

Units with a touchscreen display should be cleaned with a dry, clean, lint free/microfiber cloth. If additional cleaning is required, apply a small amount of Isopropyl alcohol to the cloth and wipe clean. Do not use detergents, solvents, or water for cleaning. Do not spray liquid directly onto the display.

Follow the instructions in the installation, operating, and programming manuals. These instructions must be followed to avoid damage to the control panel and associated equipment. FACP operation and reliability depend upon proper installation.

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Table of Contents

Control Panel Circuit Specification LISTED for 10th Edition 5
Accessories Circuit Specification LISTED for 10th Edition 5
Table 1: Releasing Applications 6
Table 2: Door Holders 7
Table 3: UL Listed Relays 7
Table 4: UL Compatible SLC Loop Surge Suppressors 7
Table 5: UL Listed Four-Wire Smoke Detectors/Devices 7
Table 6: System Sensor Notification Appliances (UL Listed) 8
Table 7: System Sensor SpectrAlert Advance Notification Appliances (UL Listed) 11
Table 8: System Sensor L-Series Notification Appliances 13
Table 9: System Sensor L-Series Notification Appliances Low-Frequency Devices (UL-464 Listed) 14
Table 10: System Sensor SpectrAlert Advance Low-Frequency Devices (UL-464 Listed) 14
Table 11: Gentex Notification Appliances (UL Listed) 15
Table 12: Cooper Wheelock Notification Appliances (UL Listed) 17
Table 13: Cooper Wheelock Exceder Notification Appliances (UL Listed) 23
Table 14: Quam-Nichols Notification Appliances (UL Listed) 24
Table 15: AMSECO Notification Appliances (UL Listed)
(HPF-PS6/PS10 Power Supplies Only) 24
Table 16: UL Listed, Compatible Two-Wire Smoke Detectors Specifications 24
Table 16a: Maximum Number of Detectors Per Zone 25
Table 16b: Maximum Number of Detectors Per Zone 26

Control Panel Circuit Specification LISTED for 10th Edition

GFP-A, GFP-AR

Compatibility Identifier: “A”
Panel/NAC Power: PMBNL Filtered
Programmable Horn/Strobes Synchronization for NACs (System Sensor, Gentex, and Cooper Wheelock)
Range: 20.12 - 27.97 VDC
24V Output (NAC1-NAC4): 20.03 – 27.96
24V Output (AUX1, AUX 2): 20.03 – 27.96
MAX Ripple Voltage 282 mVp-p
Remote sync input: Filtered DC input only 9-32 VDC

Accessories Circuit Specification LISTED for 10th Edition

HPF-PS6(E)(B)(R), HPF-PS10(E)(B)(R)

Battery Charger / Power Supply
NAC Power: Filtered (Special Application)
Selectable Strobe Synchronization for NACs
(System Sensor, Gentex, Cooper Wheelock, and AMSECO)
Range: 19.2 – 26.4 VDC
24V Output (NAC1-NAC5/7): 19.72 – 26.40
MAX Ripple Voltage 780 mVp-p
Remote Sync Input Voltage: 9 to 32 VDC

FM-Approved Automatic Water Control Valves for PreAction and Deluge Sprinkler Applications (section not recognized by UL)

PMBNL

Solenoid Group [A]
Skinner solenoid valve Model LV2LBX25, 24 VDC, 11 Watts, 458 mA, 1/2 in. NPS, 5/8 in. orifice.

Solenoid Group [B] These valves are interchangeable.
ASCO solenoid valve Model T8210A107, 24 VDC, 16.8 Watts, 700 mA, 1/2 in. NPS, 5/8 in. orifice.
ASCO solenoid valve Model R8210A107, 24 VDC, 16.8 Watts, 700 mA, 1/2 in. NPS, 5/8 in. orifice.
ASCO solenoid valve Model 8210A107, 24 VDC, 16.8 Watts, 700 mA, 1/2 in. NPS, 5/8 in. orifice.

Solenoid Group [C]
Star Sprinkler Corp. Solenoid P/N 5550, 24 VDC, part of Model D deluge valve.

Solenoid Group [D]
ASCO solenoid valve Model 8210G207, 24 VDC, 10.6 Watts, 440 mA, 1/2 in. NPS, 1/2 in. orifice.

Solenoid Group [E]
Skinner solenoid valve Model 73218BN4UNLVNOC111C2, 24 VDC, 10 Watts, 420 mA, 1/2 in. NPS, 5/8 in. orifice.

Solenoid Group [F]
Skinner solenoid valve Model 73212BN4TNLVNOC322C2, 24 VDC, 22 Watts, 0.92 A, 1/2 in. NPS, 1/2 in. orifice, 250 psi (1725 kPa).

Solenoid Group [G]
Skinner solenoid valve Model 71395SN2ENJ1NOH111C2, 24 VDC, 10 Watts, 420 mA, 1/4 in. NPS, 1/16 in. orifice, 250 psi (1725 kPa) rated working pressure.

Kidde-Fenwal valve Model 890181, 24 VDC, 48 Watts, 2 A.
Kidde-Fenwal valve Model 899175, 24 VDC, 48 Watts, 2 A.
Kidde-Fenwal valve Model 48650001, 24 VDC, 4.8 Watts, 0.2 A.

Note: Refer to the FM approval guide for automatic water control valves that are compatible with solenoids listed above.

Releasing Applications for UL 10th Edition

Table 1: Releasing Applications

UL Listed 24VDC solenoids for use with the following Panels: GFP-A/AR with TC8101000 Releasing Module. HPF-PS6(E)(B)(R), HPF-PS10(E)(B)(R) have up to 6 or 10 amps of power for releasing applications, respectively. Both are limited by the capacity of the TC8101000, with a maximum of 3A per circuit.

Manufacturer	Releasing Device Type	Releasing Device Model/Part Number
Ansul	Solenoid	25924
Ansul	Solenoid	31438
Ansul	Solenoid	73327
Ansul	Solenoid	570537
Ansul	Solenoid	422934
Ansul	Solenoid	551201
Ansul	Solenoid	570147
Ansul	Solenoid	429859*
Ansul	Solenoid	427324*
Ansul	Solenoid	437425†
Ansul	Solenoid	427426†
ASCO	Solenoid	HV2740607
ASCO	Solenoid	HV2838521
ASCO	Solenoid	HV2740608
Honeywell/Skinner	Solenoid	701X7028
Barnbrook System	Solenoid	EA45
Fike	Solenoid	02-14554-1
Fike	Solenoid	02-14556-1
Kidde Fenwal	Solenoid	486500
Kidde Fenwal	Solenoid	895630
Kidde Fenwal	Solenoid	897494
Kidde Fenwal	Solenoid	890181
Minimax	Solenoid	88 7363
Minimax	Solenoid	88 5738
Minimax	Solenoid	88 9323**
Nohmi Bosai	Solenoid	R85M10††
Parker Hannifin	Solenoid	70610006‡‡
Parker Hannifin	Solenoid	10610707***
Parker Hannifin	Solenoid	73218BN4UNLVN0C111C2
Snap-tite	Solenoid	2823A-2NB-A4F6,ORIF,11.0WATTS
Snap-tite	Solenoid	2823A-2NB-A4F5,ORIF,11.0WATTS
Ceodeux Extinguisher Valves Technology S.A.	Solenoid	B04425146
TLX	Solenoid	PA0363
TLX	Solenoid	PA0337
TLX	Solenoid	PA0036-A
Versa Valves	Solenoid	CGS-4232-NB3-S2,24VDC/10.5W
Victaulic	Solenoid	753E
Victaulic	Solenoid	767
Viking	Solenoid	11591
Viking	Solenoid	11595
Viking	Solenoid	11592NC
Viking	Solenoid	16360†††

* Component of Model R-102 Wet-Chemical Extinguishing System

** Component of Models MX1230 and MX200 Engineered Clean Agent Extinguishing System Units

*** Component of Chemetron, Argonite (IG-55) or Chemetron, Nitrogen (IG-100) Extinguishing System Units

† Component of the Piranha Water-assisted Wet-Chemical-solution Extinguishing System

†† Component of Models NN83CU, NN83CU-E, and NN83CU-EZ Engineered IG-100 Clean Agent Extinguishing System Units

††† Component of Models VK1230 and VK200 Engineered Clean Agent Extinguishing System Units

‡‡ Component of Chemetron, Model HFC-227ea Clean Agent Extinguishing System Unit

Table 2: Door Holders

Manufacturer	Model	Type	Current (mA)
Rixson Firemark	FM-980	Floor Mount, single	68
Rixson Firemark	FM-996	Surface Wiring	68
Rixson Firemark	FM-998	Concealed Wiring	68
Edwards	DH150A	Floor Mount	96
Edwards	DH154A	Flush Mount	96
Edwards	DH158A	Surface Mount	96

Table 3: UL Listed Relays

Vendor	Model	Current (mA)
System Sensor	A77-716B	20
	EOLR-1	20
	PR-1	15
	PR-2/PR-3	30
	R-10T/R-10E	20
	R-14T/R-14E	20
	R-20T/R-20E	40
	R-24T/R-24E	40
Air Products & Controls, LTD.	MR-101	15
	MR-201	35
	PAM-1	15
	PAM-2	15
	PAM-SD	15

Table 4: UL Compatible SLC Loop Surge Suppressors

Manufacturer	Model Number
Ditek	2LVLP-F
Edco	SLCP-30
Northern Technologies	PLP-42N

Table 5: UL Listed Four-Wire Smoke Detectors/Devices

Smoke Detector/Base	Detector/Device Type	Max Standby Current (mA)	Alarm Current (mA)
Fenwal CPD-7021 (w/70-201000-005 Base)	Ionization	0.10	30
Fenwal PSD-7125	Photoelectric	0.10	*
Fenwal PSD-7126 (w/70-201000-005 Base)	Photoelectric	0.10	*
Gentex 824	Photoelectric	0.50	60
Gentex 824CP	Photoelectric	0.50	60
Gentex 824CPT	Photoelectric	0,50	60
Gentex 824T	Photoelectric	0.50	60
Hochiki HS-2 RB/4	Base	*	*
Hochiki SPB-24	Projected Beam	0.25	*
System Sensor B404B	Base	*	*
System Sensor B114LP	Base	*	*
System Sensor B612LP	Base	*	39
System Sensor B614LP	Base	*	75
System Sensor DH100ACDCLP†	Photoelectric	0.15	0.70
System Sensor DH100ACDCLPW†	Photoelectric	0.15	0.70
System Sensor DH400ACDCI†	Ionization Duct	25	95
System Sensor DH400ACDCP†	Photoelectric Duct	25	95
System Sensor 1424†	Ionization	0.10	41

Table 5: UL Listed Four-Wire Smoke Detectors/Devices

Smoke Detector/Base	Detector/Device Type	Max Standby Current (mA)	Alarm Current (mA)
System Sensor 1451 (w/B402 or B112LP Base)	Ionization	0.10	39
System Sensor 2W-MOD	Loop Test/Maintenance Mod.	30	50
System Sensor 2112/24R†	Photoelectric	0.50	60/70
System Sensor 2112/24TR†	Photoelectric	0.50	60/70
System Sensor 2112/24ATR†	Photoelectric	0.50	60/70
System Sensor 2112/24AITR†	Photoelectric	0.50	60/70
System Sensor 2451†	Photoelectric	0.10	39
System Sensor 2451TH (w/B402 or B112LP Base)†	Photoelectric	0.10	39
System Sensor 4W-B (12/24 Volt)	Photoelectric I[3]	0.05	23
System Sensor 4WT-B (12/24 Volt)	Photoelectric I[3] w/ Therm	0.05	23
System Sensor 6424 Beam Detector	Projected Beam	10	28.4
System Sensor BEAM1224(S) Beam Smoke Detector	Conv. Projected Beam	17*	38.5*
System Sensor OSI-R-SS	Conventional Beam	50*	54*

* Contact manufacturer for current draws.
† Discontinued Product

System Sensor devices can be used only with Panels LISTED for use with this Series Notification Appliance. For use with the 10th Edition panels/supplies: GFP, HPF-PS6(E)(B)(R), HPF-PS10(E)(B)(R)

Table 6: System Sensor Notification Appliances (UL Listed) (1 of 4)

System Sensor	Rated Voltage[2]	FWR DC	Filtered DC	Sync. with MDL module
Notes: 1) All current draws are shown in milliamperes and reflect worst case average. 2) Nominal operating voltages shown. 3) Refer to manufacturer's installation instructions for more information.				
System Sensor CH24 Electronic Chime/Sounder	24 VDC	70	70	No
System Sensor CH2415 SpectrAlert Chime with Strobe	24 VDC	114	114	No
System Sensor CH241575 SpectrAlert Chime with Strobe	24 VDC	114	95	No
System Sensor CH2475 SpectrAlert Chime with Strobe	24 VDC	207	181	No
System Sensor CH24110 SpectrAlert Chime with Strobe	24 VDC	257	205	No
System Sensor CH24MC Multi candela Electronic Chime/Sounder	24 VDC	282*	283*	Yes
System Sensor CH24MCW Multi candela Electronic Chime/Sounder	24 VDC	282*	283*	Yes
System Sensor H24 SpectrAlert Horn	24 VDC	57.5*	57*	Yes
System Sensor MA24EH Multi Alert Horn with Mechanical Tone	24 VDC	64	43	N/A
System Sensor MA-24D Electronic Sounder	24 VDC	73	46	N/A
System Sensor MAEH2415ADA Multi Alert Horn with Mechanical Tone/Strobe	24 VDC	278	216	N/A
System Sensor MAEH2475ADA Multi Alert Horn with Mechanical Tone/Strobe	24 VDC	273	216	N/A
System Sensor MAEH241575ADA Multi Alert Horn with Mechanical Tone/Strobe	24 VDC	343	271	N/A
System Sensor MAEH24110ADA Multi Alert Horn with Mechanical Tone/Strobe	24 VDC	318	256	N/A
System Sensor MAEH2415ADAS Multi Alert Horn with Mechanical Tone/Strobe	24 VDC	198	152	N/A
System Sensor MAEH241575ADAS Multi Alert Horn with Mechanical Tone/Strobe	24 VDC	253	241	N/A
System Sensor MAEH24LO Multi Alert Horn with Mechanical Tone/Strobe	24 VDC	109	68	N/A

Table 6: System Sensor Notification Appliances (UL Listed) (2 of 4)

System Sensor	Rated Voltage[2]	FWR DC	Filtered DC	Sync. with MDL module
Notes: 1) All current draws are shown in milliamperes and reflect worst case average. 2) Nominal operating voltages shown. 3) Refer to manufacturer's installation instructions for more information.				
System Sensor MAEH24LOC Multi Alert Horn with Mechanical Tone/Strobe	24 VDC	109	68	N/A
System Sensor MAEH24LOLA Multi Alert Horn with Mechanical Tone/Strobe	24 VDC	153	96	N/A
System Sensor MAEH24M Multi Alert Horn with Mechanical Tone/Strobe	24 VDC	189	118	N/A
System Sensor MAEH24MC Multi Alert Horn with Mechanical Tone/Strobe	24 VDC	189	118	N/A
System Sensor MASS2415ADA Sounder/Signaling Strobe	24 VDC	163	121	N/A
System Sensor MASS241575ADA Sounder/Signaling Strobe	24 VDC	193	139	N/A
System Sensor MASS2475ADA Sounder/Signaling Strobe	24 VDC	273	216	N/A
System Sensor MASS24110ADA Sounder/Signaling Strobe	24 VDC	318	256	N/A
System Sensor MASS2415ADAS Sounder/Signaling Strobe w/ Sync. Ckt.	24 VDC	163	121	N/A
System Sensor MASS241575ADAS Sounder/Signaling Strobe w/ Sync. Ckt.	24 VDC	193	139	N/A
System Sensor MASS24D Electronic Sounder/Strobe	24 VDC	118	71	N/A
System Sensor MASS24LO Electronic Sounder/Strobe	24 VDC	118	71	N/A
System Sensor MASS24LOC Electronic Ceiling Sounder/Strobe	24 VDC	118	71	N/A
System Sensor MASS24LOLA Electronic Sounder/Strobe with Fuego lens	24 VDC	118	71	N/A
System Sensor MASS24M Electronic Sounder/Strobe	24 VDC	198	121	N/A
System Sensor MASS24MC Electronic Ceiling Sounder/Strobe	24 VDC	198	121	N/A
System Sensor P2415 SpectrAlert Horn/Strobe	24 VDC	106	83	Yes
System Sensor P241575 SpectrAlert Horn/Strobe	24 VDC	107	81	Yes
System Sensor P2430 SpectrAlert Horn/Strobe	24 VDC	121	102	Yes
System Sensor P2475 SpectrAlert Horn/Strobe	24 VDC	196	169	Yes
System Sensor P24110 SpectrAlert Horn/Strobe	24 VDC	246	193	Yes
System Sensor PA400R Mini-Alert Sounder	24 VDC	47.4*	47.4*	N/A
System Sensor PS24LO Add-on Strobe	24 VDC	45	25	N/A
System Sensor PS2415ADA Mini-Sounder/Strobe	24 VDC	110	90	N/A
System Sensor PS241575ADA Mini-Sounder/Strobe	24 VDC	135	108	N/A
System Sensor PS2475ADA Mini-Sounder/Strobe	24 VDC	135	108	N/A
System Sensor PS24110ADA Mini-Sounder/Strobe	24 VDC	240	225	N/A
System Sensor RP2415ADA Retrofit Strobe Plate	24 VDC	90	75	N/A
System Sensor RP241575ADA Retrofit Strobe Plate	24 VDC	120	93	N/A
System Sensor RP2475ADA Retrofit Strobe Plate	24 VDC	200	170	N/A
System Sensor RP24110ADA Retrofit Strobe Plate	24 VDC	245	210	N/A
System Sensor S2415 SpectrAlert Strobe	24 VDC	61	50	Yes
System Sensor S241575 SpectrAlert Strobe	24 VDC	65	56	Yes
System Sensor S2430 SpectrAlert Strobe	24 VDC	84	78	Yes
System Sensor S2475 SpectrAlert Strobe	24 VDC	170	145	Yes
System Sensor S24110 SpectrAlert Strobe	24 VDC	220	169	Yes
System Sensor SP1224MC SpectrAlert Strobe	24 VDC	171	194	Yes
System Sensor SP1R2415ADA Speaker/Signaling Strobe	24 VDC†	90†	75†	N/A
System Sensor SP1R241575ADA Speaker/Signaling Strobe	24 VDC†	120†	93†	N/A

Table 6: System Sensor Notification Appliances (UL Listed) (3 of 4)

System Sensor	Rated Voltage[2]	FWR DC	Filtered DC	Sync. with MDL module
Notes: 1) All current draws are shown in milliamperes and reflect worst case average. 2) Nominal operating voltages shown. 3) Refer to manufacturer's installation instructions for more information.				
System Sensor SP1R2475ADA Speaker/Signaling Strobe	24 VDC†	200†	170†	N/A
System Sensor SP1R24110ADA Speaker/Signaling Strobe	24 VDC†	245†	210†	N/A
System Sensor SP201K SpectrAlert Outdoor Wall Speaker	25/70.7Vrms	*	*	N/A
System Sensor SP2C2415 SpectrAlert Speaker Strobe	24 VDC†	68*	64*	Yes†
System Sensor SP2C241575 SpectrAlert Speaker Strobe	24 VDC†	77*	78*	Yes†
System Sensor SP2C2430 SpectrAlert Speaker Strobe	24 VDC†	107*	113*	Yes†
System Sensor SP2C2475 SpectrAlert Speaker Strobe	24 VDC†	197*	205*	Yes†
System Sensor SP2C2495 SpectrAlert Speaker Strobe	24 VDC†	239*	274*	Yes†
System Sensor SP2C24115 SpectrAlert Ceiling Mount Speaker Strobe	24 VDC†	298*	325*	Yes†
System Sensor SP2C24177 SpectrAlert Ceiling Mount Speaker Strobe	24 VDC†	399*	489*	Yes†
System Sensor SP2R1224MC SpectrAlert Selectable Wall Speaker/ Strobe	24 VDC†	208*	209*	Yes†
System Sensor SP2R1224MCK SpectrAlert Selectable Outdoor Wall Speaker/ Strobe	24 VDC†	208*	209*	Yes†
System Sensor SP2R2415 SpectrAlert Speaker Strobe	24 VDC†	61*	50*	Yes†
System Sensor SP2R2415/75 SpectrAlert Speaker Strobe	24 VDC†	65*	56*	Yes†
System Sensor SP2R2430 SpectrAlert Speaker Strobe	24 VDC†	84*	78*	Yes†
System Sensor SP2R2475 SpectrAlert Speaker Strobe	24 VDC†	170*	145*	Yes†
System Sensor SP2R24110 SpectrAlert Speaker Strobe	24 VDC†	220*	169†	Yes†
System Sensor SP101R24LO Speaker/Strobe, 5" square grille	24 VDC†	45†	25†	N/A
System Sensor SP101R24M Speaker/Strobe, 5" square grille	24 VDC†	125†	75†	N/A
System Sensor SP100W24LOC Ceiling Speaker/Strobe, 8" round grille	24 VDC†	45†	25†	N/A
System Sensor SP100W24MC Ceiling Speaker/Strobe, 8" round grille	24 VDC†	125†	75†	N/A
System Sensor SPH-15R Supervised Horn Loudspeaker	25V,70V	*	*	N/A
System Sensor SS24 Strobe	24 VDC	*	30	N/A
System Sensor SS2415ADA Signaling Strobe	24 VDC	90	75	N/A
System Sensor SS2415ADAS Signaling Strobe with Sync. Circuit	24 VDC	125	106	N/A
System Sensor SS241575ADA Signaling Strobe	24 VDC	120	93	N/A
System Sensor SS241575ADAS Signaling Strobe with Sync. Circuit	24 VDC	180	115	N/A
System Sensor SS2475ADA Signaling Strobe	24 VDC	200	170	N/A
System Sensor SS24110ADA Signaling Strobe	24 VDC	245	210	N/A
System Sensor SS24LO Strobe	24 VDC	45	25	N/A
System Sensor SS24LOC Ceiling Strobe (SS24LOBC - beige)	24 VDC	45	25	N/A
System Sensor SS24M Strobe	24 VDC	125	75	N/A
System Sensor SS24MC Ceiling Strobe	24 VDC	125	75	N/A
System Sensor SSM24-6 Alarm Bell	24 VDC	60	120	N/A
System Sensor SSM24-8 Alarm Bell	24 VDC	60	120	N/A
System Sensor SSM24-10 Alarm Bell	24 VDC	60	120	N/A
System Sensor V4R2415ADA Speaker/Signaling Strobe	24 VDC†	90†	75†	N/A
System Sensor V4R241575ADA Speaker/Signaling Strobe	24 VDC†	120†	93†	N/A
System Sensor V4R2475ADA Speaker/Signaling Strobe	24 VDC†	200†	170†	N/A

Table 6: System Sensor Notification Appliances (UL Listed) (4 of 4)

System Sensor	Rated Voltage[2]	FWR DC	Filtered DC	Sync. with MDL module
Notes: 1) All current draws are shown in milliamperes and reflect worst case average. 2) Nominal operating voltages shown. 3) Refer to manufacturer's installation instructions for more information.				
System Sensor V4R24110ADA Speaker/Signaling Strobe	24 VDC†	245†	210†	N/A

* Contact manufacturer for current draws.
† The strobe portion.

UL 464 directional Sounder, supplemental notification appliance. The directional sounder can be installed in systems using 24 Volt DC regulated power supplies only. It is not approved for use with FWR unregulated power supplies.

Table 7: System Sensor SpectrAlert Advance Notification Appliances (UL Listed) (1 of 2)

System Sensor	Rated Voltage[2]	FWR DC	Filtered DC	Sync. with MDL module
Notes: 1) All current draws are shown in milliamperes and reflect worst case average. 2) Nominal operating voltages shown. 3) Refer to manufacturer's installation instructions for more information.				
System Sensor CH SpectrAlert Advance Chime	24 VDC	54*	58*	Yes
System Sensor CHS SpectrAlert Advance Chime/Strobe	24 VDC	220*	217*	Yes
System Sensor CHSR SpectrAlert Advance Chime/Strobe	24 VDC	*	*	Yes
System Sensor CHSW SpectrAlert Advance Chime/Strobe	24 VDC	*	*	Yes
System Sensor HR SpectrAlert Advance Horn	24 VDC	75*	69*	Yes
System Sensor MHR SpectrAlert Advance Mini-Horn	24 VDC	25 max	29 max	Yes
System Sensor MHW SpectrAlert Advance Mini-Horn	24 VDC	25 max	29 max	Yes
System Sensor P2R SpectrAlert Advance Horn/Strobe	24 VDC	229*	229*	Yes
System Sensor P2RH SpectrAlert Advance Horn/Strobe High	24 VDC	281*	309*	Yes
System Sensor P4R SpectrAlert Advance 4-wire Horn/Strobe Standard	24 VDC	280*	279*	Yes
System Sensor P4RH SpectrAlert Advance Horn/Strobe High	24 VDC	333*	355*	Yes
System Sensor PC2R SpectrAlert Advance 2 wire Horn/Strobe Standard	24 VDC	229*	229*	Yes
System Sensor PC2RH SpectrAlert Advance 2-wire Horn/Strobe High	24 VDC	281*	309*	Yes
System Sensor PC4R SpectrAlert Advance 4-wire Horn/Strobe	24 VDC	280*	279*	Yes
System Sensor PC4RH SpectrAlert Advance 4-wire Horn/Strobe High	24 VDC	333*	355*	Yes
System Sensor SCR SpectrAlert Advance Strobe Standard	24 VDC	205*	210*	Yes
System Sensor SCRH SpectrAlert Advance Strobe High	24 VDC	258*	286*	Yes
System Sensor SEP-SPSW SpectrAlert Advance Speaker Strobe Expander Plate amber lens	24 VDC	205*	210*	Yes
System Sensor SEP-SW SpectrAlert Advance Strobe Expander Plate amber lens	24 VDC	205*	210*	Yes
System Sensor SR SpectrAlert Advance Horn/Strobe	24 VDC	205*	210*	Yes
System Sensor SRH SpectrAlert Advance Strobe High	24 VDC	258*	286*	Yes
System Sensor SPR SpectrAlert Advance Wall Red Speaker	25/70.7Vrms	*	*	N/A
System Sensor SPW SpectrAlert Advance Wall White Speaker	25/70.7Vrms	*	*	N/A
System Sensor SPRV SpectrAlert Advance Wall Red Speaker Hi dB	25/70.7Vrms	*	*	N/A
System Sensor SPWV SpectrAlert Advance Wall White Speaker Hi dB	25/70.7Vrms	*	*	N/A
System Sensor SPRK SpectrAlert Advance Wall Outdoor Red Speaker	25/70.7Vrms	*	*	N/A
System Sensor SPWK SpectrAlert Advance Wall Outdoor White Speaker	25/70.7Vrms	*	*	N/A
System Sensor SPSR SpectrAlert Advance Wall Red Speaker/Strobe	24 VDC	205*	210*	Yes†

Table 7: System Sensor SpectrAlert Advance Notification Appliances (UL Listed) (2 of 2)

System Sensor	Rated Voltage[2]	FWR DC	Filtered DC	Sync. with MDL module
Notes: 1) All current draws are shown in milliamperes and reflect worst case average. 2) Nominal operating voltages shown. 3) Refer to manufacturer's installation instructions for more information.				
System Sensor SPSR-P SpectrAlert Advance Wall Speaker/Strobe, Red, Plain	24 VDC	205*	210*	Yes†
System Sensor SPSRH SpectrAlert Advance Wall Red Speaker/Strobe Hi Cd	24 VDC	258*	286*	Yes†
System Sensor SPSRH-P SpectrAlert Advance Red Wall Speaker/Strobe Hi Cd, Plain	24 VDC	258*	286*	Yes†
System Sensor SPSW SpectrAlert Advance Wall White Speaker/Strobe	24 VDC	205*	210*	Yes†
System Sensor SPSW-ALERT SpectrAlert Advance Wall White Speaker/Strobe Amber Lens, ALERT	24 VDC	205*	210*	Yes†
System Sensor SPSW-CLR-ALERT SpectrAlert Advance White Wall Speaker/Strobe, Clear Lens, ALERT	24 VDC	205*	210*	Yes†
System Sensor SPSW-P SpectrAlert Advance Wall White Speaker/Strobe, Plain	24 VDC	205*	210*	Yes†
System Sensor SPSWH SpectrAlert Advance Wall Speaker/Strobe Hi Cd	24 VDC	258*	286*	Yes†
System Sensor SPSWH-P SpectrAlert Advance Wall Speaker/Strobe Hi Cd, Plain	24 VDC	258*	286*	Yes†
System Sensor SPSRV SpectrAlert Advance Wall Red Hi dB Speaker/Strobe	24 VDC	205*	210*	Yes†
System Sensor SPSWV SpectrAlert Advance Wall White Hi dB Speaker/Strobe	24 VDC	205*	210*	Yes†
System Sensor SPSRK SpectrAlert Advance Wall Outd. Red Speaker/Strobe	24 VDC	205*	210*	Yes†
System Sensor SPSWK SpectrAlert Advance Wall Outd. White Speaker/Strobe	24 VDC	205*	210*	Yes†
System Sensor SPCW SpectrAlert Advance Ceiling White Speaker	25/70.7Vrms	*	*	N/A
System Sensor SPCR SpectrAlert Advance Ceiling Red Speaker	25/70.7Vrms	*	*	N/A
System Sensor SPCWV SpectrAlert Advance Ceiling White Speaker Hi dB	25/70.7Vrms	*	*	N/A
System Sensor SPCRV SpectrAlert Advance Ceiling Red Speaker Hi dB	25/70.7Vrms	*	*	N/A
System Sensor SPCWK SpectrAlert Advance Ceiling Outdoor White Speaker	25/70.7Vrms	*	*	N/A
System Sensor SPSCR SpectrAlert Advance Ceiling Red Speaker/Strobe	24 VDC	205*	210*	Yes†
System Sensor SPSCRH SpectrAlert Advance Ceiling Red Speaker/Strobe Hi Cd	24 VDC	258*	286*	Yes†
System Sensor SPSCW SpectrAlert Advance Ceiling White Speaker/Strobe	24 VDC	205*	210*	Yes†
System Sensor SPSCW-CLR-ALERT SpectrAlert Advance Ceiling White Speaker/Strobe, Clear Lens, ALERT	24 VDC	205*	210*	Yes†
System Sensor SPSCW-P SpectrAlert Advance Ceiling White Speaker/Strobe, Plain	24 VDC	205*	210*	Yes†
System Sensor SPSCWH SpectrAlert Advance Ceiling White Speaker/Strobe Hi Cd	24 VDC	258*	286*	Yes†
System Sensor SPSCWH-P SpectrAlert Advance Ceiling White Speaker/Strobe Hi Cd, Plain	24 VDC	258*	286*	Yes†
System Sensor SPSCRV SpectrAlert Advance Ceiling Red Hi dB Speaker/Strobe	24 VDC	205*	210*	Yes†
System Sensor SPSCRVH SpectrAlert Advance Ceiling Red Hi dB Speaker/Strobe Hi Cd	24 VDC	258*	286*	Yes†
System Sensor SPSCWV SpectrAlert Advance Ceiling White Hi dB Speaker/Strobe	24 VDC	205*	210*	Yes†
System Sensor SPSCWVH SpectrAlert Advance Ceiling White Hi dB Speaker/Strobe Hi Cd	24 VDC	258*	286*	Yes†
System Sensor SPSCWK SpectrAlert Advance Ceiling Outdoor White Speaker/Strobe	24 VDC	205*	210*	Yes†
System Sensor SPSCWHK SpectrAlert Advance Ceiling Outdoor White Speaker/Strobe	24 VDC	205*	210*	Yes†
System Sensor SW-ALERT SpectrAlert Advance Wall amber lens Strobe	24 VDC	205*	210*	Yes
System Sensor SWH-ALERT SpectrAlert Advance Wall amber lens Strobe Hi Cd	24 VDC	258*	286*	Yes

* Contact manufacturer for current draws.

† The strobe portion

Table 8: System Sensor L-Series Notification Appliances (1 of 2)

System Sensor	Rated Voltage[2]	FWR DC	Filtered DC	Sync. with MDL module
Notes: 1) All current draws are shown in milliamperes and reflect worst case average. 2) Nominal operating voltages shown. 3) Refer to manufacturer's installation instructions for more information.				
System Sensor P2RL Red Wall Horn/Strobe 2-wire	24 VDC	326	262	Yes
System Sensor P2RL-P Red Wall Horn/Strobe Plain 2-wire	24 VDC	326	262	Yes
System Sensor P2RL-SP Red Wall Horn/Strobe Spanish 2-wire	24 VDC	326	262	Yes
System Sensor P2WL White Wall Horn/Strobe 2-wire	24 VDC	326	262	Yes
System Sensor P2WL-P White Wall Horn/Strobe Plain 2-wire	24 VDC	326	262	Yes
System Sensor P2WL-SP White Wall Horn/Strobe Spanish 2-wire	24 VDC	326	262	Yes
System Sensor PC2RL Red Ceiling Horn/Strobe 2-wire	24 VDC	289	273	Yes
System Sensor PC2WL White Ceiling Horn/Strobe 2-wire	24 VDC	289	273	Yes
System Sensor P4RL Red Wall Horn/Strobe 4-wire	24 VDC	222	257	Yes
System Sensor P4WL White Wall Horn/Strobe 4-wire	24 VDC	222	257	Yes
System Sensor PC4RL Red Ceiling Horn/Strobe 4-wire	24 VDC	226	264	Yes
System Sensor PC4WL White Ceiling Horn/Strobe 4-wire	24 VDC	226	264	Yes
System Sensor SRL Red Wall Strobe 2-wire	24 VDC	257	222	Yes
System Sensor SRL-P Red Wall Strobe Plain 2-wire	24 VDC	257	222	Yes
System Sensor SRL-SP Red Wall Strobe Spanish 2-wire	24 VDC	257	222	Yes
System Sensor SWL White Wall Strobe 2-wire	24 VDC	257	222	Yes
System Sensor SWL-P White Wall Strobe Plain 2-wire	24 VDC	257	222	Yes
System Sensor SWL-CLR-ALERT White Wall Strobe Clear Lens 2-wire	24 VDC	257	222	Yes
System Sensor SWL-ALERT White Wall Strobe Amber Lens 2-wire	24 VDC	257	222	Yes
System Sensor SCWL White Ceiling Strobe 2-wire	24 VDC	264	226	Yes
System Sensor SCWL-TILE White Ceiling Strobe 2-wire	24 VDC	264	226	Yes
System Sensor SCWL-CLR-ALERT White Ceiling Strobe Clear Lens 2-wire	24 VDC	264	226	Yes
System Sensor HRL Red Wall Horn 2-wire	24 VDC	54	47	Yes
System Sensor HWL White Wall Horn 2-wire	24 VDC	54	47	Yes
System Sensor CHRL Red Wall Chime 2-wire	24 VDC	16	16	Yes
System Sensor CHWL White Wall Chime 2-wire	24 VDC	16	16	Yes
System Sensor CHSRL Red Wall Chime/Strobe 2-wire	24 VDC	283	246	Yes
System Sensor CHSWL White Wall Chime/Strobe 2-wire	24 VDC	283	246	Yes
System Sensor CHCSRL Red Ceiling Chime/Strobe 2-wire	24 VDC	255	245	Yes
System Sensor CHCSWL White Ceiling Chime/Strobe 2-wire	24 VDC	255	245	Yes
System Sensor P2GRL Red Wall Horn/Strobe 2-wire	24 VDC	326	262	Yes
System Sensor P2GWL White Wall Horn/Strobe 2-wire	24 VDC	326	262	Yes
System Sensor SGRL Red Wall Strobe 2-wire	24 VDC	257	222	Yes
System Sensor SGWL White Wall Strobe 2-wire	24 VDC	257	222	Yes
System Sensor HGRL Red Wall Horn 2-wire	24 VDC	54	57	Yes
System Sensor HGWL White Wall Horn 2-wire	24 VDC	54	57	Yes
System Sensor SEP-SPSWL Speaker Strobe Expander Plate, Amber Lens,J White	24 VDC	257	222	Yes
System Sensor SEP-SPSWL-P Speaker Strobe Expander Plate, White, Plain	24 VDC	257	222	Yes
System Sensor SPCRL Red Ceiling Speaker	25/70.7Vrms	-	-	N/A
System Sensor SPCWL White Ceiling Speaker	25/70.7Vrms	-	-	N/A
System Sensor SPCWL-TILE White Ceiling Speaker	25/70.7Vrms	-	-	N/A
System Sensor SPRL Red Wall Speaker	25/70.7Vrms	-	-	N/A
System Sensor SPWL White Wall Speaker	25/70.7Vrms	-	-	N/A
System Sensor SPSCRL Red Ceiling Speaker/Strobe	24 VDC	264	226	Yes
System Sensor SPSCWL White Ceiling Speaker/Strobe	24 VDC	264	226	Yes
System Sensor SPSCWL-TILE White Ceiling Speaker/Strobe	24 VDC	264	226	Yes
System Sensor SPSRL Red Wall Speaker/Strobe	24 VDC	264	226	Yes
System Sensor SPSRL-SP Red Wall Speaker/Strobe, Spanish	24 VDC	264	226	Yes
System Sensor SPSWL White Wall Speaker/Strobe	24 VDC	264	226	Yes
System Sensor SPSCWL-P White Ceiling Speaker/Strobe, Plain	24 VDC	257	222	Yes
System Sensor SPSCWL-SP White Ceiling Speaker/Strobe, Plain	24 VDC	257	222	Yes
System Sensor SPSRL-P Red Ceiling Speaker/Strobe, Plain	24 VDC	257	222	Yes
System Sensor SPSWL-P White Ceiling Speaker/Strobe, Plain	24 VDC	257	222	Yes

Table 8: System Sensor L-Series Notification Appliances (2 of 2)

System Sensor	Rated Voltage[2]	FWR DC	Filtered DC	Sync. with MDL module
Notes: 1) All current draws are shown in milliamperes and reflect worst case average. 2) Nominal operating voltages shown. 3) Refer to manufacturer's installation instructions for more information.				
System Sensor SPSCWL-CLR-ALERT White Ceiling Speaker/Strobe, Clear Lens	24 VDC	257	222	Yes
System Sensor SPSWL-ALERT White Wall Speaker/Strobe, Amber Lens	24 VDC	257	222	Yes
System Sensor SPSWL-CLR-ALERT White Wall Speaker Strobe, Clear Lens	24 VDC	257	222	Yes

Table 9: System Sensor L-Series Notification Appliances Low-Frequency Devices (UL-464 Listed)

System Sensor	Rated Voltage[2]	FWR DC	Filtered DC	Sync. with MDL module
Notes: 1) All current draws are shown in milliamperes and reflect worst case average. 2) Nominal operating voltages shown. 3) Refer to manufacturer's installation instructions for more information.				
System Sensor HCRL-LF Red Ceiling Horn	24 VDC	305	368	Yes
System Sensor HCWL-LF White Ceiling Horn	24 VDC	305	368	Yes
System Sensor HGRL-LF Compact Red Horn	24 VDC	305	368	Yes
System Sensor HGWL-LF Compact White Horn	24 VDC	305	368	Yes
System Sensor HRL-LF Red Wall Horn	24 VDC	305	368	Yes
System Sensor HWL-LF White Wall Horn	24 VDC	305	368	Yes
System Sensor P2RL-LF Red Horn Strobe, 2-wire	24 VDC	305	368	Yes
System Sensor P2WL-LF White Horn Strobe, 2-wire	24 VDC	305	368	Yes
System Sensor PC2RL-LF Red Ceiling Horn Strobe	24VDC	305	368	Yes
System Sensor PC2WL-LF While Ceiling Horn Strobe	24VDC	305	368	Yes
System Sensor SPCRL Red Ceiling Speaker	25/70.7Vrms	-	-	N/A
System Sensor SPCWL White Ceiling Speaker	25/70.7Vrms	-	-	N/A
System Sensor SPRL Red Wall Speaker	25/70.7Vrms	-	-	N/A
System Sensor SPWL White Wall Speaker	25/70.7Vrms	-	-	N/A
System Sensor SPSCRL Red Ceiling Speaker/Strobe	24 VDC	264	226	Yes
System Sensor SPSCWL White Ceiling Speaker/Strobe	24 VDC	264	226	Yes
System Sensor SPSRL Red Wall Speaker/Strobe	24 VDC	264	226	Yes
System Sensor SPSRL-SP Red Wall Speaker/Strobe, Spanish	24 VDC	264	226	Yes
System Sensor SPSWL White Wall Speaker/Strobe	24 VDC	264	226	Yes
System Sensor SPSCWL-P White Ceiling Speaker/Strobe, Plain	24 VDC	257	222	Yes
System Sensor SPSCWL-SP White Ceiling Speaker/Strobe, Plain	24 VDC	257	222	Yes
System Sensor SPSRL-P Red Ceiling Speaker/Strobe, Plain	24 VDC	257	222	Yes
System Sensor SPSWL-P White Ceiling Speaker/Strobe, Plain	24 VDC	257	222	Yes
System Sensor SPSCWL-CLR-ALERT White Ceiling Speaker/Strobe, Clear Lens	24 VDC	257	222	Yes
System Sensor SPSWL-ALERT White Wall Speaker/Strobe, Amber Lens	24 VDC	257	222	Yes
System Sensor SPSWL-CLR-ALERT White Wall Speaker Strobe, Clear Lens	24 VDC	257	222	Yes

Table 10: System Sensor SpectrAlert Advance Low-Frequency Devices (UL-464 Listed) (1 of 2)

System Sensor	Rated Voltage[2]	FWR DC	Filtered DC	Sync. with MDL module
Notes: 1) All current draws are shown in milliamperes and reflect worst case average. 2) Nominal operating voltages shown. 3) Refer to manufacturer's installation instructions for more information.				
System Sensor HR-LF SpectrAlert Advance Low Frequency Sounder	24 VDC	153*	205*	Yes
System Sensor HW-LF SpectrAlert Advance Low Frequency Sounder	24 VDC	153*	205*	Yes
System Sensor P2RH-LF SpectrAlert Advance Low Frequency Sounder Strobe, High, Red	24 VDC	417*	433*	Yes
System Sensor P2WH-LF SpectrAlert Advance Low Frequency Sounder Strobe, High, White	24 VDC	417*	433*	Yes
System Sensor SPCR SpectrAlert Advance Ceiling High-Fidelity Speaker, Red	25/70.7Vrms	*	*	N/A

Table 10: System Sensor SpectrAlert Advance Low-Frequency Devices (UL-464 Listed) (2 of 2)

System Sensor	Rated Voltage[2]	FWR DC	Filtered DC	Sync. with MDL module
Notes: 1) All current draws are shown in milliamperes and reflect worst case average. 2) Nominal operating voltages shown. 3) Refer to manufacturer's installation instructions for more information.				
System Sensor SPCW SpectrAlert Advance Ceiling High-Fidelity Speaker, White	25/70.7Vrms	*	*	N/A
System Sensor SPR SpectrAlert Advance Wall High-Fidelity Speaker, Red	25/70.7Vrms	*	*	N/A
System Sensor SPSCR SpectrAlert Advance Ceiling High-Fidelity Speaker Strobe, Red	24 VDC	205*	210*	Yes†
System Sensor SPSCRH SpectrAlert Advance Ceiling High-Fidelity Speaker Strobe, High Candela, Red	24 VDC	258*	286*	Yes†
System Sensor SPSCW SpectrAlert Advance Ceiling High-Fidelity Speaker Strobe, White	24 VDC	205*	210*	Yes†
System Sensor SPSCW-CLR-ALERT SpectrAlert Advance Ceiling High-Fidelity Speaker Strobe, Clear Lens, ALERT, White	24 VDC	205*	210*	Yes†
System Sensor SPSCWH SpectrAlert Advance Ceiling High-Fidelity Speaker Strobe, High Candela, White	24 VDC	258*	286*	Yes†
System Sensor SPSCWH-P SpectrAlert Advance Ceiling High-Fidelity Speaker Strobe, High Candela, Plain, White	24 VDC	258*	286*	Yes†
System Sensor SPSCW-P SpectrAlert Advance Ceiling High-Fidelity Speaker Strobe, Plain, White	24 VDC	205*	210*	Yes†
System Sensor SPSR SpectrAlert Advance Wall High-Fidelity Speaker Strobe, Red	24 VDC	205*	210*	Yes†
System Sensor SPSRH SpectrAlert Advance Wall High-Fidelity Speaker Strobe, High Candela, Red	24 VDC	258*	286*	Yes†
System Sensor SPSRH-P SpectrAlert Advance Wall High-Fidelity Speaker Strobe, High Candela, Plain, Red	24 VDC	258*	286*	Yes†
System Sensor SPSR-P SpectrAlert Advance Wall High-Fidelity Speaker Strobe, Plain, Red	24 VDC	205*	210*	Yes†
System Sensor SPSW SpectrAlert Advance Wall High-Fidelity Speaker Strobe, White	24 VDC	205*	210*	Yes†
System Sensor SPSW-ALERT SpectrAlert Advance Wall High-Fidelity Speaker Strobe, Amber Lens, ALERT, White	24 VDC	205*	210*	Yes†
System Sensor SPSW-CLR-ALERT SpectrAlert Advance Wall High-Fidelity Speaker Strobe, Clear Lens, ALERT, White	24 VDC	205*	210*	Yes†
System Sensor SPSWH SpectrAlert Advance Wall High-Fidelity Speaker Strobe, High Candela, White	24 VDC	258*	286*	Yes†
System Sensor SPSWH-P SpectrAlert Advance Wall High-Fidelity Speaker Strobe, High Candela, Plain, White	24 VDC	258*	286*	Yes†
System Sensor SPSW-P SpectrAlert Advance Wall High-Fidelity Speaker Strobe, Plain, White	24 VDC	205*	210*	Yes†
System Sensor SPW SpectrAlert Advance Wall High-Fidelity Speaker, White	25/70.7Vrms	*	*	N/A

* Contact manufacturer for current draws.

† The strobe portion

Control panels with notification circuits supplied by special application (FWR, filtered) power must use appliances listed in Table 11.

Table 11: Gentex Notification Appliances (UL Listed) (1 of 3)

Gentex	Rated Voltage[2]	FWR DC	Filtered DC	Sync. Module
Notes: 1) All current draws are shown in milliamperes and reflect worst case average. 2) Nominal operating voltages shown. 3) Refer to manufacturer's installation instructions for more information.				
Gentex GMH-24 Electro-Mechanical Horn	24 VDC	38	38	N/A
Gentex GMS-24-15 Electro-Mechanical Horn with Strobe	24 VDC	148	124	N/A
Gentex GMS-24-15-1 Electro-Mechanical Horn with Strobe	24 VDC	138	129	N/A
Gentex GMS-24-1575-1 Electro-Mechanical Horn with Strobe	24 VDC	218	173	N/A
Gentex GMS-24-3075 Electro-Mechanical Horn with Strobe	24 VDC	262	203	N/A
Gentex GMS-24-110 Electro-Mechanical Horn with Strobe	24 VDC	115	131	N/A
Gentex GMS-24-110-1 Electro-Mechanical Horn with Strobe	24 VDC	348	278	N/A
Gentex GMS24-30W Horn Strobe	24 VDC	257	198	N/A

Table 11: Gentex Notification Appliances (UL Listed) (2 of 3)

Gentex	Rated Voltage[2]	FWR DC	Filtered DC	Sync. Module
Notes: 1) All current draws are shown in milliamperes and reflect worst case average. 2) Nominal operating voltages shown. 3) Refer to manufacturer's installation instructions for more information.				
Gentex GMS24-60W Horn Strobe	24 VDC	213	166	N/A
Gentex GOS-24-15-1 Multi-Tone Horn/Strobe	24 VDC	174	150	N/A
Gentex GOS-24-1575-1 Multi-Tone Horn/Strobe	24 VDC	299	199	N/A
Gentex GOS-24-3075-1 Multi-Tone Horn/Strobe	24 VDC	229	288	N/A
Gentex GOS-24-110-1 Multi-Tone Horn/Strobe	24 VDC	374	304	N/A
Gentex GOT-24 Multi-Tone Horn	24 VDC	64	64	N/A
Gentex GX-90-4 Horn	24 VDC	18	18	N/A
Gentex GX90S-4-15 Horn with Strobe	24 VDC	78	57	N/A
Gentex GX90S-4-15-1 Horn with Strobe	24 VDC	120	104	N/A
Gentex GX90S-4-1575 Horn with Strobe	24 VDC	193	153	N/A
Gentex GX90S-4-110 Horn with Strobe	24 VDC	158	123	N/A
Gentex GX90S-4-110-1 Horn with Strobe	24 VDC	338	258	N/A
Gentex GX-90S-4RL and -4BL Horn with Strobe	24 VDC	*	*	N/A
Gentex GX-90S-4RH and -4BH Horn with Strobe	24 VDC	*	*	N/A
Gentex GXS-4-15 Strobe	24 VDC	110	86	N/A
Gentex GXS-4-15-1 Strobe	24 VDC	110	86	N/A
Gentex GXS-4-1575 Strobe	24 VDC	180	135	N/A
Gentex GXS-4-30 Strobe	24 VDC	224	165	N/A
Gentex GXS-4-60 Strobe	24 VDC	180	130	N/A
Gentex GXS-4-3075 Strobe	24 VDC	224	165	N/A
Gentex GXS-4-110 Strobe	24 VDC	310	240	N/A
Gentex GXS-4-110-1 Strobe	24 VDC	310	240	N/A
Gentex GXS-4RH, 4BH, 4RL, 4BL Strobes	24 VDC	*	*	N/A
Gentex HG124 Electronic Horn	24 VDC	26	21	N/A
Gentex SHG-24L Electronic Horn with Strobe	24 VDC	*	*	N/A
Gentex SHG-24H Electronic Horn with Strobe	24 VDC	*	*	N/A
Gentex SHG24-15 Electronic Horn with Strobe	24 VDC	136	107	N/A
Gentex SHG24-15-1 Electronic Horn with Strobe	24 VDC	166	141	N/A
Gentex SHG24-1575 Electronic Horn with Strobe	24 VDC	206	156	N/A
Gentex SHG24-30 Electronic Horn with Strobe	24 VDC	224	165	N/A
Gentex SHG24-60 Electronic Horn with Strobe	24 VDC	180	130	N/A
Gentex SHG24-3075 Electronic Horn with Strobe	24 VDC	250	191	N/A
Gentex SHG24-110 Electronic Horn with Strobe	24 VDC	146	161	N/A
Gentex SHG24-110-1 Electronic Horn with Strobe	24 VDC	336	261	N/A
Gentex SPK4-15 Speaker with Strobe	24 VDC*	110†	86†	N/A
Gentex SPK4-15-1 Speaker with Strobe	24 VDC†	100†	86†	N/A
Gentex SPK4-24-3075 Speaker with Strobe	24 VDC†	224†	165†	N/A
Gentex SPK4-1575 Speaker with Strobe	24 VDC†	140†	120†	N/A
Gentex SPK4-110 Speaker with Strobe	24 VDC†	310†	240†	N/A

Table 11: Gentex Notification Appliances (UL Listed) (3 of 3)

Gentex	Rated Voltage[2]	FWR DC	Filtered DC	Sync. Module
Notes: 1) All current draws are shown in milliamperes and reflect worst case average. 2) Nominal operating voltages shown. 3) Refer to manufacturer's installation instructions for more information.				
Gentex SPK4-110-1 Speaker with Strobe	24 VDC†	310†	240†	N/A
Gentex SPK8-15 Speaker with Strobe	24 VDC†	110†	86†	N/A
Gentex SPK8-15-1 Speaker with Strobe	24 VDC†	110†	86†	N/A
Gentex SPK8-1575 Speaker with Strobe	24 VDC†	140†	120†	N/A
Gentex SPK8-110 Speaker with Strobe	24 VDC†	310†	240†	N/A
Gentex SPK8-24-3075 Speaker with Strobe	24 VDC†	224†	165†	N/A
Gentex SPK8-110-1B Speaker with Strobe	24 VDC†	310†	240†	N/A
Gentex SPKE4 Speaker	N/A	*	*	N/A
Gentex SPKE8 Speaker	N/A	*	*	N/A
Gentex SPKE4-15-1 Speaker with strobe	24 VDC†	100†	86†	N/A
Gentex SPKE4-15/75 Speaker with strobe	24 VDC†	125†	105†	N/A
Gentex SPKE4-15/75-C Speaker with strobe	24 VDC†	125†	237†	N/A
Gentex SPKE4-30W Speaker Strobe	24 VDC†	140†	105†	N/A
Gentex SPKE4-30/75 Speaker with strobe	24 VDC†	224†	165†	N/A
Gentex SPKE4-60 Speaker with strobe	24 VDC†	*	36†	N/A
Gentex SPKE4-60W Speaker Strobe	24 VDC†	180†	130†	N/A
Gentex SPKE4-110-1 Speaker with strobe	24 VDC†	298†	105†	N/A
Gentex SPKE8-15-1 Speaker with strobe	24 VDC†	100†	78†	N/A
Gentex SPKE8-15/75 Speaker with strobe	N/A	125†	105†	N/A
Gentex SPKE8-30W Speaker Strobe	24 VDC†	140†	105†	N/A
Gentex SPKE8-30/75 Speaker with strobe	24 VDC†	193†	142†	N/A
Gentex SPKE8-15/75-C Speaker	24 VDC†	125†	105†	N/A
Gentex SPKE8-1575W Speaker Strobe	24 VDC	140†	105†	N/A
Gentex SPKE8-60 Speaker with strobe	24 VDC	*	*	N/A
Gentex SPKE8-110-1 Speaker with strobe	24 VDC	310†	240†	N/A
Gentex WGMS-24-75 Weatherproof Electro-Mechanical Horn with Strobe	24 VDC	153	153	N/A

* Contact manufacturer for current draws.

Control panels with notification circuits supplied by special application (FWR, filtered) power must use appliances listed in Table 12.

Table 12: Cooper Wheelock Notification Appliances (UL Listed) (1 of 7)

Cooper Wheelock	Rated Voltage[2]	FWR DC	Filtered DC	Sync. Module
Notes: 1) All current draws are shown in milliamperes and reflect worst case average. 2) Nominal operating voltages shown. 3) Refer to manufacturer's installation instructions for more information.				
Cooper Wheelock 7002T-24 Horn with Strobe	24 VDC	*	*	N/A
Cooper Wheelock AES-DL1-LSM-24 Horn Strobe	24 VDC	*	*	N/A

Table 12: Cooper Wheelock Notification Appliances (UL Listed) (2 of 7)

Cooper Wheelock	Rated Voltage[2]	FWR DC	Filtered DC	Sync. Module
Notes: 1) All current draws are shown in milliamperes and reflect worst case average. 2) Nominal operating voltages shown. 3) Refer to manufacturer's installation instructions for more information.				
Cooper Wheelock AES-EL1-LSM-24 Horn Strobe	24 VDC	*	*	N/A
Cooper Wheelock AES-EL1-WM-24-VF-R Multitone Signals	24 VDC	*	*	N/A
Cooper Wheelock AMT-24-IS-VFR Multitone Horn Strobe	24 VDC	348	323	N/A
Cooper Wheelock AMT-24-LSM-VFR Multitone Horn Strobe	24 VDC	188	178	N/A
Cooper Wheelock AS-2415 Audible Strobe	24 VDC	140	104	SM/DSM
Cooper Wheelock AS-241575 Audible Strobe	24 VDC	162	121	SM/DSM
Cooper Wheelock AS-241575W Horn/Strobe	24 VDC	110	147	SM/DSM
Cooper Wheelock AS-2430 Audible Strobe	24 VDC	190	148	SM/DSM
Cooper Wheelock AS-2430C Horn/Strobe	24 VDC	220	186	SM/DSM
Cooper Wheelock AS-2430W Horn/Strobe	24 VDC	135	177	SM/DSM
Cooper Wheelock AS-2475 Audible Strobe	24 VDC	295	299	SM/DSM
Cooper Wheelock AS-24110 Audible Strobe	24 VDC	443	333	SM/DSM
Cooper Wheelock AS-24MCC Multi-Candela Audible Strobe	24 VDC	424 max*	330 max*	SM/DSM*
Cooper Wheelock ASWP-2475W Horn/Strobe	24 VDC	187	186	SM/DSM
Cooper Wheelock CH-CF1-LS-24-CFW Chime	24 VDC	101	100	N/A
Cooper Wheelock CH-CF1-MS-24-CFW Chime	24 VDC	155	155	N/A
Cooper Wheelock CH-CF1-IS-24-CFW Chime	24 VDC	273	260	N/A
Cooper Wheelock CH-DF1-LS-24-VFR Chime	24 VDC	101	100	N/A
Cooper Wheelock CH-DF1-LSM-24-VFR Chime	24 VDC	145	120	N/A
Cooper Wheelock CH-DF1-MS-24-VFR Chime	24 VDC	155	155	N/A
Cooper Wheelock CH-DF1-IS-24-VFR Chime	24 VDC	273	260	N/A
Cooper Wheelock CH70-24 Chime	24 VDC	22	22	N/A
Cooper Wheelock CH70-2415W Chime with Strobe	24 VDC	105	85	SM/DSM†
Cooper Wheelock CH70-241575 Chime with Strobe	24 VDC	127	102	SM/DSM†
Cooper Wheelock CH70-2430 Chime with Strobe	24 VDC	153	122	SM/DSM†
Cooper Wheelock CH70-2475 Chime with Strobe	24 VDC	239	187	SM/DSM†
Cooper Wheelock CH70-24MCW-FR/W Multi-Candela Chime with Strobe	24 VDC	392 max*	257 max*	SM/DSM†
Cooper Wheelock CH90-24 Chime	24 VDC	22	22	N/A
Cooper Wheelock CH90-24MCC-FW Multi-Candela Chime with Strobe	24 VDC	422 max*	314 max*	SM/DSM†
Cooper Wheelock CH90-2475C Chime with Strobe	24 VDC	259	251	SM/DSM†
Cooper Wheelock CH90-24100C Chime with Strobe	24 VDC	318	314	SM/DSM†
Cooper Wheelock DSM-12/24 Dual Synchronization Module	24 VDC	38/82	20/50	N/A
Cooper Wheelock E60 Speaker	25/70 Vrms	*	*	N/A
Cooper Wheelock E60-24MCC-FR/W Multi-Candela Strobe with Speaker	24 VDC†	375max†	249max†	SM/DSM

Table 12: Cooper Wheelock Notification Appliances (UL Listed) (3 of 7)

Cooper Wheelock	Rated Voltage[2]	FWR DC	Filtered DC	Sync. Module
Notes: 1) All current draws are shown in milliamperes and reflect worst case average. 2) Nominal operating voltages shown. 3) Refer to manufacturer's installation instructions for more information.				
Cooper Wheelock E60-24MCCH-RR/W Multi-Candela Strobe with Speaker	24 VDC†	645max†	420max†	SM/DSM
Cooper Wheelock E70 Speaker	N/A	*	*	N/A
Cooper Wheelock E70-24MCW Multi-Candela Strobe with Speaker	24 VDC†	370 max*	235 max*	SM/DSM†
Cooper Wheelock E70-2415W Speaker with Strobe	24 VDC†	83†	63†	SM/DSM†
Cooper Wheelock E70-241575W Speaker with Strobe	24 VDC†	105†	80†	SM/DSM†
Cooper Wheelock E70-2430W Speaker with Strobe	24 VDC†	131†	100†	SM/DSM†
Cooper Wheelock E70-2475W Speaker with Strobe	24 VDC†	217†	165†	SM/DSM†
Cooper Wheelock E70-24110W Speaker with Strobe	24 VDC†	274†	209†	SM/DSM†
Cooper Wheelock E70-24185W-FR Speaker with Strobe	24 VDC†	835 max*	545 max*	SM/DSM†
Cooper Wheelock E-70-IS-24 Low Profile Speaker/Strobe	24 VDC†	235†	240†	N/A
Cooper Wheelock E-70-LS-24 Low Profile Speaker/Strobe	24 VDC†	91†	80†	N/A
Cooper Wheelock E-70-LSM-24 Low Profile Speaker/Strobe	24 VDC†	125†	115†	N/A
Cooper Wheelock E-70-MS-24 Low Profile Speaker/Strobe	24 VDC†	135†	135†	N/A
Cooper Wheelock E-7025-SLM-VFR Speaker with Strobe	24 VDC†	*	*	SM/DSM†
Cooper Wheelock E-7070-SLM-VFR Speaker with Strobe	24 VDC†	*	*	SM/DSM†
Cooper Wheelock E90 Speaker	N/A	*	*	N/A
Cooper Wheelock E90-2415C Speaker with Strobe	24 VDC†	108†	83†	SCM-24†
Cooper Wheelock E90-2430C Speaker with Strobe	24 VDC†	165†	126†	SCM-24†
Cooper Wheelock E90-2475C Speaker with Strobe	24 VDC†	338†	260†	SCM-24†
Cooper Wheelock E90-24100C Speaker with Strobe	24 VDC†	400†	300†	SCM-24†
Cooper Wheelock E90-W Speaker	N/A	*	*	N/A
Cooper Wheelock E-90-IS-24 Low Profile Speaker/Strobe	24 VDC†	253†	240†	N/A
Cooper Wheelock E-90-LS-24 Low Profile Speaker/Strobe	24 VDC†	91†	80†	N/A
Cooper Wheelock E-90-MS-24 Low Profile Speaker/Strobe	24 VDC†	135†	135†	N/A
Cooper Wheelock ET70 Low Profile Speaker with Strobe	N/A	*	*	N/A
Cooper Wheelock ET70-2415W Speaker with Strobe	24 VDC†	83†	63†	SM/DSM†
Cooper Wheelock ET70-241575W Speaker with Strobe	24 VDC†	105†	80†	SM/DSM†
Cooper Wheelock ET70-2430W Speaker with Strobe	24 VDC†	131†	100†	SM/DSM†
Cooper Wheelock ET70-2475W Speaker with Strobe	24 VDC†	217†	165†	SM/DSM†
Cooper Wheelock ET70-24110W Speaker with Strobe	24 VDC†	274†	209†	SM/DSM†
Cooper Wheelock ET70-24185W-FR Speaker with Strobe	24 VDC†	820 max*	545 max*	SM/DSM†
Cooper Wheelock ET70-24MCW-FR/W Speaker with Strobe	24 VDC†	370 max*	234 max*	SM/DSM†
Cooper Wheelock ET90 Low Profile Speaker with Strobe	N/A	*	*	SM/DSM†
Cooper Wheelock ET90-2415C Low Profile Speaker with Strobe	24 VDC†	108†	83†	SM/DSM†

Table 12: Cooper Wheelock Notification Appliances (UL Listed) (4 of 7)

Cooper Wheelock	Rated Voltage[2]	FWR DC	Filtered DC	Sync. Module
Notes: 1) All current draws are shown in milliamperes and reflect worst case average. 2) Nominal operating voltages shown. 3) Refer to manufacturer's installation instructions for more information.				
Cooper Wheelock ET90-2430C Low Profile Speaker with Strobe	24 VDC†	165†	126†	SM/DSM†
Cooper Wheelock ET90-2475C Low Profile Speaker with Strobe	24 VDC†	338†	260†	SM/DSM†
Cooper Wheelock ET90-24100C Low Profile Speaker with Strobe	24 VDC†	400†	300†	SM/DSM†
Cooper Wheelock ET-1070-IS-24-VFR Speaker with Strobe	24 VDC†	200†	233†	N/A
Cooper Wheelock ET-1070-LSM-24-VFR Speaker with Strobe	24 VDC†	100†	125†	N/A
Cooper Wheelock ET-1070-MS-24-VFR Speaker with Strobe	24 VDC†	124†	135†	N/A
Cooper Wheelock ET-1070-SL-VFR Speaker with Strobe	24 VDC†	100†	96†	N/A
Cooper Wheelock ET-1070-SLM-VFR Speaker with Strobe	24 VDC†	150†	138†	SM/DSM†
Cooper Wheelock ET-1080-IS-24-VFR Speaker with Strobe	24 VDC†	200†	233†	N/A
Cooper Wheelock ET-1080-LSM-24-VFR Speaker with Strobe	24 VDC†	125†	115†	N/A
Cooper Wheelock ET-1080-MS-24-VFR Speaker with Strobe	24 VDC†	124†	135†	N/A
Cooper Wheelock ET-1080-SL-VFR Speaker with Strobe	24 VDC†	100†	96†	N/A
Cooper Wheelock ET-1080-SLM-VFR Speaker with Strobe	24 VDC†	150†	138†	SM/DSM†
Cooper Wheelock HSPW-24-HFR Strobe	24 VDC	280	280	N/A
Cooper Wheelock HSW-24-HFR Strobe	24 VDC	280	280	N/A
Cooper Wheelock HS2W-HFR Strobe	24 VDC	280	280	N/A
Cooper Wheelock IS-24-VFR Strobe	24 VDC	253	240	N/A
Cooper Wheelock IS1-24-VFR Strobe	24 VDC	253	240	N/A
Cooper Wheelock IS3-24-VFR Strobe	24 VDC	253	240	N/A
Cooper Wheelock ISP-24-VFR Strobe	24 VDC	253	240	N/A
Cooper Wheelock LS-24-VFR Strobe	24 VDC	91	80	N/A
Cooper Wheelock LSM-24-VFR Strobe	24 VDC	125	115	N/A
Cooper Wheelock LS1-24-VFR Strobe	24 VDC	91	80	N/A
Cooper Wheelock LS1M-24-VFR Strobe	24 VDC	91	80	N/A
Cooper Wheelock LSP-24-HFR Strobe	24 VDC	91	80	N/A
Cooper Wheelock LSPM-24-VFR Strobe	24 VDC	125	115	N/A
Cooper Wheelock LS3-24-VFR Strobe	24 VDC	91	80	N/A
Cooper Wheelock LS3M-24-VFR Strobe	24 VDC	91	80	N/A
Cooper Wheelock MB-G6-24-R Motor Bell, 6" gong	24 VDC	56	40	N/A
Cooper Wheelock MB-G10-24-R Motor Bell, 10" gong	24 VDC	56	40	N/A
Cooper Wheelock MBS-G6-24-R Motor Bell/Strobe, 6" gong	24 VDC	56	40	N/A
Cooper Wheelock MBS-G10-24-R Motor Bell/Strobe, 10" gong	24 VDC	56	40	N/A
Cooper Wheelock MIZ-24-HSW-HFR Mini-Horn Strobe	24 VDC	292	292	N/A
Cooper Wheelock MIZ-24-IS-VFR Mini-Horn Strobe	24 VDC	265	252	N/A

Table 12: Cooper Wheelock Notification Appliances (UL Listed) (5 of 7)

Cooper Wheelock	Rated Voltage[2]	FWR DC	Filtered DC	Sync. Module
Notes: 1) All current draws are shown in milliamperes and reflect worst case average. 2) Nominal operating voltages shown. 3) Refer to manufacturer's installation instructions for more information.				
Cooper Wheelock MIZ-24-LS-VFR Mini-Horns Strobe	24 VDC	103	92	N/A
Cooper Wheelock MIZ-24-LSM-VFR Mini-Horn Strobe	24 VDC	136	122	N/A
Cooper Wheelock MIZ-24-MS-VFR Mini-Horn Strobe	24 VDC	147	147	N/A
Cooper Wheelock MIZ-24-WM-VFR Mini-Horns Strobe	24 VDC	*	*	N/A
Cooper Wheelock MS-24-VFR Strobe	24 VDC	125	115	N/A
Cooper Wheelock MSP-24-HFR Strobe	24 VDC	135	135	N/A
Cooper Wheelock MS1-24-VFR Strobe	24 VDC	125	115	N/A
Cooper Wheelock MS3-24-VFR Strobe	24 VDC	125	115	N/A
Cooper Wheelock MT-24-IS-VFR Multitone Strobe	24 VDC	301	288	N/A
Cooper Wheelock MT-24-LS-VFR Multitone Strobe	24 VDC	139	128	N/A
Cooper Wheelock MT-24-LSM-VFR Multitone Strobe	24 VDC	173	148	N/A
Cooper Wheelock MT-24-MS-VFR Multitone Strobe	24 VDC	183	183	N/A
Cooper Wheelock MT-24-SL-VFR Multitone/Strobe	24 VDC	100	96	N/A
Cooper Wheelock MT-24-SLM-VFR Multitone/Strobe	24 VDC	150	138	SM/DSM
Cooper Wheelock MT-24-WM Multitone Strobe117cd	24 VDC	136*	71*	N/A
Cooper Wheelock MT-24-WM-VF-R Multitone 117cd	24 VDC	136*	71*	N/A
Cooper Wheelock MT4-24-IS-VFR Multitone Strobe	24 VDC	301	208	N/A
Cooper Wheelock MT4-24-LS-VFR Multitone Strobe	24 VDC	139	128	N/A
Cooper Wheelock MT4-24-LSM-VFR Multitone Strobe	24 VDC	173	148	N/A
Cooper Wheelock MT4-24-MS-VFR Multitone Strobe	24 VDC	183	183	N/A
Cooper Wheelock NS-2415W-FR Horn Strobe	24 VDC	101	82	SM/DSM
Cooper Wheelock NS-241575W-FR Horn Strobe	24 VDC	124	99	SM/DSM
Cooper Wheelock NS-2430W-FR Horn Strobe	24 VDC	137	114	SM/DSM
Cooper Wheelock NS-2475W-FR Horn Strobe	24 VDC	235	186	SM/DSM
Cooper Wheelock NS-24110W-FR Horn Strobe	24 VDC	282	230	SM/DSM
Cooper Wheelock NS4-2415W-FR Horn Strobe	24 VDC	137	103	SM/DSM
Cooper Wheelock NS4-241575W-FR Horn	24 VDC	166	120	SM/DSM
Cooper Wheelock NS4-2430W-FR Horn Strobe	24 VDC	188	136	SM/DSM
Cooper Wheelock NS4-2475W-FR Horn Strobe	24 VDC	274	201	SM/DSM
Cooper Wheelock NS4-24110W-FR Horn Strobe	24 VDC	331	245	SM/DSM
Cooper Wheelock RS-2415 Strobe	24 VDC	91	80	N/A
Cooper Wheelock RS-2415W Strobe	24 VDC	*	*	N/A
Cooper Wheelock RS-241575 Strobe	24 VDC	125	115	N/A
Cooper Wheelock RS-241575W Strobe	24 VDC	*	*	N/A

Table 12: Cooper Wheelock Notification Appliances (UL Listed) (6 of 7)

Cooper Wheelock	Rated Voltage[2]	FWR DC	Filtered DC	Sync. Module
Notes: 1) All current draws are shown in milliamperes and reflect worst case average. 2) Nominal operating voltages shown. 3) Refer to manufacturer's installation instructions for more information.				
Cooper Wheelock RS-2430 Strobe	24 VDC	135	124	N/A
Cooper Wheelock RS-2475 Strobe	24 VDC	258	245	N/A
Cooper Wheelock RS-24110 Strobe	24 VDC	400	295	N/A
Cooper Wheelock RSS-2415W Strobe	24 VDC	63	83	SM/DSM
Cooper Wheelock RSS-2430W Strobe	24 VDC	100	131	SM/DSM
Cooper Wheelock RSS-2475W Strobe	24 VDC	165	217	SM/DSM
Cooper Wheelock RSS-24110W Strobe	24 VDC	209	274	SM/DSM
Cooper Wheelock RSSP-2415W Strobe	24 VDC	63	83	SM/DSM
Cooper Wheelock RSSP-2430W Strobe	24 VDC	100	131	SM/DSM
Cooper Wheelock RSSP-24185W Speaker with Strobe	24 VDC†	865 max*	570 max*	SM/DSM†
Cooper Wheelock SCM-24-R Synchronized Controller Module	24 VDC	*	*	N/A
Cooper Wheelock SHW-24-HFR Strobe	24 VDC	*	*	SCM-24
Cooper Wheelock SH2W-24-HFR Strobe	24 VDC	*	*	SCM-24
Cooper Wheelock SHPW-24-HFR Strobe	24 VDC	*	*	SCM-24
Cooper Wheelock SL-24-VFR Strobe	24 VDC	*	*	SCM-24
Cooper Wheelock SL1-24-VFR Strobe	24 VDC	*	*	SCM-24
Cooper Wheelock SL3-24-VFR Strobe	24 VDC	*	*	SCM-24
Cooper Wheelock SLM-24-VFR Strobe	24 VDC	*	*	SCM-24
Cooper Wheelock SL1M-24-VFR Strobe	24 VDC	*	*	SCM-24
Cooper Wheelock SL3M-24-VFR Strobe	24 VDC	*	*	SCM-24
Cooper Wheelock SLP-24-VFR Strobe	24 VDC	*	*	SCM-24
Cooper Wheelock SLPM-24-VFR Strobe	24 VDC	*	*	SCM-24
Cooper Wheelock SM-12/24 Synchronization Module	24 VDC	57	30	N/A
Cooper Wheelock STH-15S Loudspeaker	N/A	*	*	N/A
Cooper Wheelock SR-2415 Synchronized Strobe	24 VDC	100	96	SCM-24
Cooper Wheelock SR-241575 Synchronized Strobe	24 VDC	178	138	SCM-24
Cooper Wheelock S25W Speaker	25 Vrms	*	*	N/A
Cooper Wheelock S70W Speaker	70 Vrms	*	*	N/A
Cooper Wheelock ZNH-R Horn	24 VDC	44 max*	75 max*	N/A
Cooper Wheelock ZNH-W Horn	24 VDC	44 max*	75 max*	N/A
Cooper Wheelock ZNS-MCW-FR Horn Strobe Multi-Candela wall	24 VDC	422max*	264 max*	SM/DSM†
Cooper Wheelock ZNS-MCW-FW Horn Strobe Multi-Candela wall	24 VDC	422max*	264 max*	SM/DSM†
Cooper Wheelock ZNS-MCWH-FR Horn Strobe Multi-Candela High wall	24 VDC	720 max*	464 max*	SM/DSM†
Cooper Wheelock ZNS-MCWH-FW Horn Strobe Multi-Candela High wall	24 VDC	720 max*	464 max*	SM/DSM†

Table 12: Cooper Wheelock Notification Appliances (UL Listed) (7 of 7)

Cooper Wheelock	Rated Voltage[2]	FWR DC	Filtered DC	Sync. Module
Notes: 1) All current draws are shown in milliamperes and reflect worst case average. 2) Nominal operating voltages shown. 3) Refer to manufacturer's installation instructions for more information.				
Cooper Wheelock ZNS-MCC-FR Horn Strobe Multi-Candela ceiling	24 VDC	450 max*	293 max*	SM/DSM†
Cooper Wheelock ZNS-MCC-FW Horn Strobe Multi-Candela ceiling	24 VDC	450 max*	293 max*	SM/DSM†
Cooper Wheelock ZNS-MCCH-FR Horn Strobe Multi-Candela High ceiling	24 VDC	720 max*	464 max*	SM/DSM†
Cooper Wheelock ZNS-MCCH-FW Horn Strobe Multi-Candela High wall	24 VDC	720 max*	464 max*	SM/DSM†
Cooper Wheelock ZRS-MCW-FR Strobe Multi-Candela wall	24 VDC	347max*	220 max*	SM/DSM†
Cooper Wheelock ZRS-MCW-FW Strobe Multi-Candela wall	24 VDC	347 max*	220 max*	SM/DSM†
Cooper Wheelock ZRS-MCWH-FR Strobe Multi-Candela High wall	24 VDC	645 max*	420 max*	SM/DSM†
Cooper Wheelock ZRS-MCWH-FW Strobe Multi-Candela High wall	24 VDC	645 max*	420 max*	SM/DSM†
Cooper Wheelock ZRS-MCC-FR Strobe Multi-Candela ceiling	24 VDC	375 max*	249 max*	SM/DSM†
Cooper Wheelock ZRS-MCC-FW Strobe Multi-Candela ceiling	24 VDC	375 max*	249 max*	SM/DSM†
Cooper Wheelock ZRS-MCCH-FR Strobe Multi-Candela High ceiling	24 VDC	645 max*	420 max*	SM/DSM†
Cooper Wheelock ZRS-MCCH-FW Strobe Multi-Candela High ceiling	24 VDC	645 max*	420 max*	SM/DSM†
Cooper Wheelock WMT-24-FR, WM1T-24-FR, WM3T-24-FR Strobes	24 VDC	*	*	N/A

* The strobe portion

Control panels with notification circuits supplied by special application (FWR, filtered) power must use appliances listed in the Table 13.

Table 13: Cooper Wheelock Exceder Notification Appliances (UL Listed)

Cooper Wheelock Exceder	Rated Voltage	FWR DC	Filtered DC	Sync Module
Cooper Wheelock HNR, Horn, Wall	12 VDC / 24 VDC	*	*	SM/DSM
Cooper Wheelock HNRC, Horn, Ceiling	12 VDC / 24 VDC	*	*	SM/DSM
Cooper Wheelock HNW, Horn, Wall	12 VDC / 24 VDC	*	*	SM/DSM
Cooper Wheelock HNWC, Horn, Ceiling	12 VDC / 24 VDC	*	*	SM/DSM
Cooper Wheelock HSR, Horn/Strobe, Multi-Candela, Wall	12 VDC / 24 VDC	*	*	SM/DSM
Cooper Wheelock HSRC, Horn/Strobe, Multi-Candela, Ceiling	12 VDC / 24 VDC	*	*	SM/DSM
Cooper Wheelock HSW, Horn/Strobe, Multi-Candela, Wall	12 VDC / 24 VDC	*	*	SM/DSM
Cooper Wheelock HSWC, Horn/Strobe, Multi-Candela, Ceiling	12 VDC / 24 VDC	*	*	SM/DSM
Cooper Wheelock STR, Strobe, Multi-Candela, Wall	12 VDC / 24 VDC	*	*	SM/DSM
Cooper Wheelock STRC, Strobe, Multi-Candela, Ceiling	12 VDC / 24 VDC	*	*	SM/DSM
Cooper Wheelock STW, Strobe, Multi-Candela, Wall	12 VDC / 24 VDC	*	*	SM/DSM
Cooper Wheelock STWC, Strobe, Multi-Candela, Ceiling	12 VDC / 24 VDC	*	*	SM/DSM

* Gamewell certifies the Exceder product line for sync compatibility based on documentation provided by Underwriters Laboratories.
Gamewell requires that the current draw data from legacy products (RSS, AS, NS, ZRS, and ZNS series) be used for the purpose of determining the number of devices allowed per circuit.

Control panels with notification circuits supplied by special application (FWR, filtered) power must use appliances listed in the Table 14.

Table 14: Quam-Nichols Notification Appliances (UL Listed)

Quam-Nichols	Rated Voltage	FWR DC	Filtered DC	Sync Module
Quam-Nichols UL22/25 Indoor Suspended Ceiling Mount Speaker	25 Vrms	*	*	N/A
Quam-Nichols UL22/70 Indoor Suspended Ceiling Mount Speaker	70 Vrms	*	*	N/A

* Contact manufacturer for current draws.

Control panels with notification circuits supplied by special application (FWR, filtered) power must use appliances listed in the Table 15

Table 15: AMSECO Notification Appliances (UL Listed)
(HPF-PS6/PS10 Power Supplies Only)

AMSECO	Rated Voltage[2]	FWR DC	Filtered DC
Notes: 1) All current draws are shown in milliamperes and reflect worst case average. 2) Nominal operating voltages shown. 3) Refer to manufacturer's installation instructions for more information.			
AMSECO Select-A-Horn/Strobe Combo SCM24C-3075110	24 VDC	*	*
AMSECO Select-A-Horn/Strobe Combo SCM24C-177	24 VDC	*	*
AMSECO Chime/Select-A-Strobe Combo SCM24W-153075	24 VDC	217 max	155 max
AMSECO Chime/Select-A- Strobe Combo SCM24W-75110	24 VDC	269 max	204 max

Table 16: UL Listed, Compatible Two-Wire Smoke Detectors Specifications (1 of 2)

Model	Detector ID	Detector Type	Base Model	Base ID	Standby Current (µA)
Edwards 6250B	001	Ionization	6251B-001	001	50
Edwards 6264B	001	Ionization	N/A	N/A	50
Edwards 6270B	001	Photoelectric	6251B-001	001	65
Fenwal CPD-7021	I1FE1	Duct	70-211002-000	D22FE1	60
Fenwal CPD-7021	I1FE1	Ionization	70-201000-001 70-201000-002 70-201000-003 70-201000-005	FEO1A FEO2A FEO3A FEO5A	60
Fenwal PSD-7125	P5FE1	Photoelectric	70-201000-001 70-201000-002 70-201000-003 70-201000-005	FEO1A FEO2A FEO3A FEO5A	100
Fenwal PSD-7126	P6FE1	Photo/Thermal	70-201000-001 70-201000-002 70-201000-003 70-201000-005	FEO1A FEO2A FEO3A FEO5A	100
Fenwal PSD-7129	P9FE1	Duct	70-211002-000	D22FE1	100
Hochiki SIH-24F	HD-3	Ionization	HS-22D HS-2-RB YBA-M22 HSB-220 HSB-224	HB-3 HB-10 HB-3 HB-56 HB-53	40
Hochiki SLK-24F/SLK-24FH	HD-3	Photoelectric	HS-22D HS-2-RB YBA-M22 HSB-220 HSB-224	HB-3 HB-10 HB-3 HB-56 HB-53	45
Simplex 2098-9201	HD-3	Photoelectric	2098-9211	HB-54	45
Simplex 2098-9202	HD-3	Photoelectric	2098-9211	HB-54	45

Table 16: UL Listed, Compatible Two-Wire Smoke Detectors Specifications (2 of 2)

Model	Detector ID	Detector Type	Base Model	Base ID	Standby Current (µA)
Simplex 2098-9576	HD-3	Ionization	2098-9211	HB-54	45
System Sensor 2W-B	A	Photoelectric I[3]	N/A	N/A	100
System Sensor 2WT-B	A	Photoelectric I[3]	N/A	N/A	100
System Sensor DH100P*	A	Photoelectric	N/A	N/A	120
System Sensor DH100LP	A	Photoelectric	N/A	N/A	120
System Sensor 1100/D*	A	Ionization	N/A	N/A	100
System Sensor 1400*	A	Ionization	N/A	N/A	100
System Sensor 1451*	A	Ionization	B401 / B401B / B406B / B110LP / B116LP	A	120
System Sensor 1451DH	A	Ionization	DH-400	A	120
System Sensor 1800*	A	Ionization	N/A	N/A	100
System Sensor 1851B*	A	Ionization	B101B	A	120
System Sensor 1851B*	A	Ionization	B107B	A	120
System Sensor 1851DH*	A	Ionization	DH1851DC	A	120
System Sensor 2100/D/S*	A	Photoelectric	N/A	N/A	120
System Sensor 2100T/D/S*	A	Photoelectric	N/A	N/A	120
System Sensor 2151	A	Photoelectric	B401 / B110LP / B116LP	A	85
System Sensor 2151T	A	Photoelectric with Thermal	B401 / B110LP / B116LP	A	85
System Sensor 2400*	A	Photoelectric	N/A	N/A	120
System Sensor 2400AIT*	A	Photo / Isolated Thermal / Horn	N/A	N/A	120
System Sensor 2400AT*	A	Photo / Thermal / Horn	N/A	N/A	120
System Sensor 2400TH*	A	Photo / Thermal	N/A	N/A	120
System Sensor 2451*	A	Photoelectric	B401 / B401B / B406B / B110LP / B116LP	A	120
System Sensor 2451*	A	Photoelectric	DH-400	A	120
System Sensor 2451TH*	A	Photo / Thermal	B401 / B401B / B406B / B110LP / B116LP	A	120
System Sensor 2800*	A	Photoelectric	N/A	N/A	120
System Sensor 2800TH*	A	Photo / Thermal	N/A	N/A	120
System Sensor 2851B	A	Photoelectric	B101B	A	120
System Sensor 2851B	A	Photoelectric	B107B	A	120
System Sensor 2851BTH	A	Photoelectric	B101B	A	120
System Sensor 2851BTH	A	Photoelectric	B107B	A	120
System Sensor 2851DH	A	Photoelectric	DH2851DC	A	120

* Discontinued Product

Table 16a: Maximum Number of Detectors Per Zone (1 of 2)

Detector Model	Base Model	AMM-4SF	MMI-6SF
Notes: 1. System Sensor & Fenwal detectors can be mixed or matched in any zone, provided maximum detector standby current per loop is not exceeded. 2. When using two-wire smoke detectors containing supplementary relays or indicators, the operation of more than one detector per zone cannot be ensured.			
System Sensor 2W-B	N/A	20	20
System Sensor 2WT-B	N/A	20	20
System Sensor DH100P	N/A	20	N/A
System Sensor DH100LP	N/A	20	20
System Sensor 1100/D	N/A	20	20 / N/A
System Sensor 1400	N/A	20	20

Table 16a: Maximum Number of Detectors Per Zone (2 of 2)

Detector Model	Base Model	AMM-4SF	MMI-6SF
Notes: 1. System Sensor & Fenwal detectors can be mixed or matched in any zone, provided maximum detector standby current per loop is not exceeded. 2. When using two-wire smoke detectors containing supplementary relays or indicators, the operation of more than one detector per zone cannot be ensured.			
System Sensor 1451	B401 / B401B / B406B/ B110LP / B116LP	20 / 20 / 1 / 20 / 1	20 / 20 / 1 / 20 / 1
System Sensor 1451DH	DH-400	20	20
System Sensor 1800	N/A	24	N/A
System Sensor 1851B	B101B	20	N/A
System Sensor 1851B	B107B	1	N/A
System Sensor 1851DH	DH1851DC	20	N/A
System Sensor 2100/D/S	N/A	24	N/A / 20 / 20
System Sensor 2100T/D/S	N/A	24	N/A / 20 / 20
System Sensor 2151/T	B401 / B110LP / B116LP	20 / 20 / 1	20 / 20 / 1
System Sensor 2400	N/A	20	20
System Sensor 2400AIT	N/A	1	N/A
System Sensor 2400AT	N/A	1	N/A
System Sensor 2400TH	N/A	20	20
System Sensor 2451	B401 / B401B / B406B / B110LP / B116LP	20 / 20 / 1 / 20 / 1	20 / 20 / 1 / 20 / 1
System Sensor 2451TH	B401 / B401B / B406B / B110LP / B116LP	20 / 20 / 1 / 20 / 1	20 / 20 / 1 / 20 / 1
System Sensor 2451	DH-400	20	20
System Sensor 2851DH	DH2851DC	20	20
System Sensor 2800	N/A	20	20
System Sensor 2800TH	N/A	20	20
System Sensor 2851B	B101B	20	20
System Sensor 2851B	B107B	1	1
System Sensor 2851BTH	B101B	20	20
System Sensor 2851BTH	B107B	1	1

Table 16b: Maximum Number of Detectors Per Zone (1 of 2)

Detector Model	Base Model	MMX-2 AMM-4SF NZM-100
Notes 1. System Sensor & Fenwal detectors can be mixed or matched in any zone, provided maximum detector standby current per loop is not exceeded. 2. When using two-wire smoke detectors containing supplementary relays or indicators, the operation of more than one detector per zone cannot be ensured.		
Edwards 6250B	6251B-00	20
Edwards 6264B	N/A	1

Table 16b: Maximum Number of Detectors Per Zone (2 of 2)

Detector Model	Base Model	MMX-2 AMM-4SF NZM-100
Notes 1. System Sensor & Fenwal detectors can be mixed or matched in any zone, provided maximum detector standby current per loop is not exceeded. 2. When using two-wire smoke detectors containing supplementary relays or indicators, the operation of more than one detector per zone cannot be ensured.		
Edwards 6270B	6251B-00	20
Fenwal CPD-7021	70-211002-000	1
Fenwal CPD-7021	70-201000-001 70-201000-002 70-201000-003 70-201000-005	40
Fenwal PSD-7125	70-201000-001 70-201000-002 70-201000-003 70-201000-005	24
Fenwal PSD-7126	70-201000-001 70-201000-002 70-201000-003 70-201000-005	24
Fenwal PSD-7129	70-211002-000	1
Hochiki SIH-24F	HS-22D HS-2-RB YBA-M22 HSB-220 HSB-224	25 1 25 25 N/A
Hochiki SLK-24F/ FH	HS-22D HS-2-RB YBA-M22 HSB-220 HSB-224	25 1 25 25 N/A
Notifier CP-651	B401 / B610LP / B616LP	20 / 20 / 1
Notifier SD-651	B401 / B610LP / B616LP	20 / 20 / 1
Simplex 2098-9201	2098-9211	20
Simplex 2098-9202	2098-9211	20
Simplex 2098-9576	2098-9211	20