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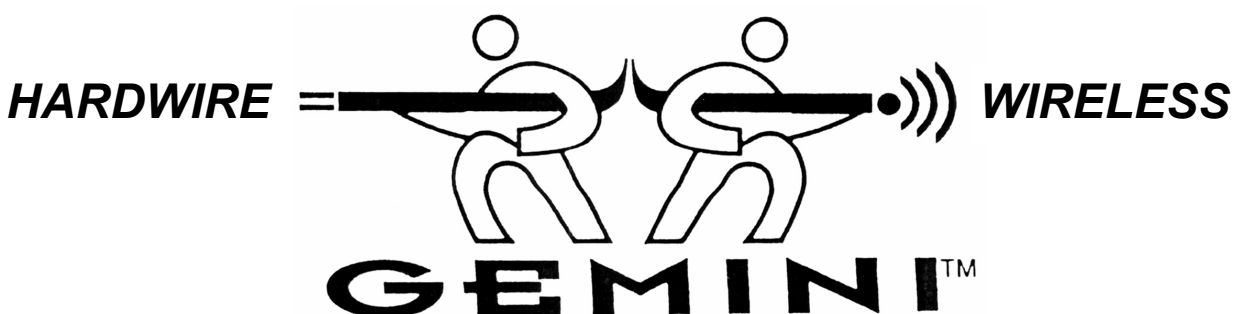
INSTALLATION INSTRUCTIONS

VOLUME 3

REFERENCE DOCUMENTATION

COMPLIES WITH:

- NFPA 72 NATIONAL
FIRE ALARM CODE
- UL 864 (9TH EDITION)



COMMERCIAL / RESIDENTIAL

GEMC-255

GEMC-128

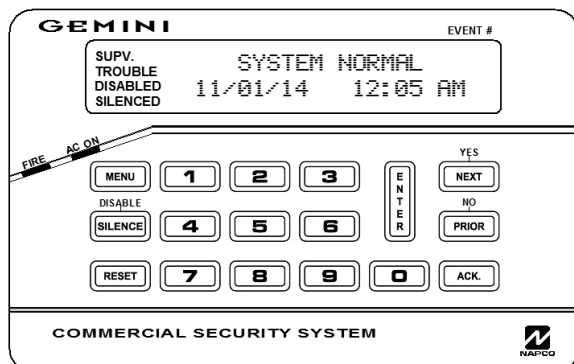
GEMC-96

GEMC-32

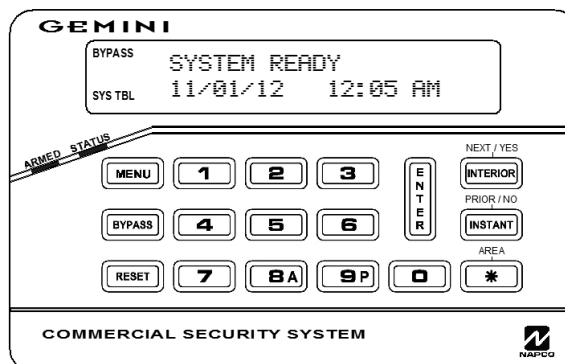
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CONTROL PANEL / COMMUNICATOR

Installing the GEMINI C-Series Control Panels with the
GEMC-FK1 Keypad and the **GEMC-BK1 Keypad**



GEMC-FK1 Keypad



GEMC-BK1 Keypad

THIS MANUAL INCLUDES FEATURES WHICH ARE ONLY AVAILABLE IN CONTROL PANEL FIRMWARE VERSION 82G OR LATER, AND REFLECTS THE FEATURES FOUND IN PCD-WINDOWS QUICKLOADER DOWNLOAD SOFTWARE VERSION 6.0 OR GREATER.

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Napco Security Technologies, Inc., 333 Bayview Avenue, Amityville, New York 11701

Publicly traded on NASDAQ Symbol: NSSC

Visit our website at <http://www.napcosecurity.com/>

For Sales and Repairs - (800) 645-9445

Fax: 631-789-9292

Refer to accompanying Gemini C-Series Control Panel Programming Instructions (WI1673)
for programming information.



NAPCO Security Systems, Inc.
333 Bayview Avenue, Amityville, New York 11701
For Sales and Repairs, call toll free: (800) 645-9445
For direct line to Technical Service, call toll free: (800) 645-9440
Internet: <http://www.napcosecurity.com>

Contact your Local Service Representative:

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NOTE: THESE INSTRUCTIONS ARE INTENDED AND WRITTEN FOR PROFESSIONAL INSTALLATION PERSONNEL HAVING SUITABLE TRAINING, EXPERIENCE AND INSTALLATION EQUIPMENT. IT IS RECOMMENDED THAT AFTER PROGRAMMING, THE ERROR CHECK UTILITY OF PCD-WINDOWS DOWNLOAD SOFTWARE BE USED TO VERIFY THAT THE CONTROL PANEL PROGRAM CONTAINS NO ERRORS OR CONFLICTS WHICH MAY INHIBIT ITS INTENDED OPERATION.

SPECIFICATIONS AND RATINGS

Note: See individual accessory work instructions (WI's) for exceptions and other information.

GEMC-255MB, GEMC-128MB, GEMC-96MB and GEMC-32MB Gemini C-Series Motherboards

Motherboard Power Supply (GEMC-PS24V7A and GEMC-PS24V4A) Input Power: 120AC 60Hz, 3A; maximum 15A dedicated branch circuit.

Motherboard (GEMC-255MB, GEMC-128MB, GEMC-96MB and GEMC-32MB) Input Power: 24VDC, maximum 7A.

Output Power:

Note: All outputs circuits are power-limited.

Note: The GEMC-96MB and GEMC-32MB provide two 2A NAC circuits (one 24V and one 12V or 24V selectable).

- **NAC A, NAC B, NAC C:** Regulated 24V NAC circuit; 2A maximum. When configured for 24V Auxiliary Power, it is a Special Application output only listed with the GEMC-24VR. The GEMC-24VR output is Regulated 24VDC, 1A maximum.
- **NAC D: When configured for 24V:** Regulated 24V NAC circuit; 2A maximum. When configured for 24V Auxiliary Power, it is a Special Application output only listed with the GEMC-24VR. The GEMC-24VR output is Regulated 24VDC, 1A maximum.
- **NAC D: When configured for 12V:** Regulated 12V NAC circuit, 2A maximum or Regulated 12V Auxiliary Power, 1.4A maximum.
- **Fire Aux. Relay Output:** Wet: 12V Regulated, 750mA max.; Dry: Remove shunt for dry contacts; see Wiring Diagram; dry contact Form C relay rated 30VAC / VDC, 2.5A maximum.
- **Two Active low programmable outputs:** (2A maximum).
Note: Relies on 2A over-current protection of connected circuit.
- **Trouble Sounder Output:** 12V Regulated, 30mA.
- **E7 and E8 Terminals:** Active low open collector outputs; 0.1V, 2A (wire only to power limited circuits 30VDC or less).
- **Auxiliary Power Output:** Output 12V Regulated @ 750mA maximum current.
- **Remote Bus Power Output:** 12V Regulated @ 750mA maximum current, supporting up to 7 keypads, zone expansion modules, or wireless receivers, etc.
- **Auxiliary Power 24V Regulated:** Can only be supplied through NAC A, NAC B, NAC C or NAC D (configured for 24V) programmed for Reverse Polarity and wired to GEMC-24VR. 1.0A* Maximum (must reduce total combined standby and alarm current by 1.1 times 24V Regulated current).
- **Maximum Combined 12V Regulated standby current:** Remote Power + Auxiliary Power + NAC D 12V Output and programmed for Reverse Polarity + AUX relay if shunt connector is installed:
 plus GEMC-BM total standby current plus 25mA;
 plus Fire Relay: 35mA (when energized);
 plus GEMC-F8ZCPIM total combined standby current +120mA = 1.4A*.
 If additional 12V current is required, use the GEMC-12V2APS-CF (for Fire applications) and/or GEMC-12V2APS-R (for non-Fire applications) Auxiliary Power supplies.
- **Maximum Total Combined 12V Regulated Standby and Alarm Current:** Remote Power + Auxiliary Power + NAC D 12V Output and programmed for Reverse Polarity + AUX relay if shunt connector is installed + NAC D alarm current:
 plus GEMC-BM total combined standby and alarm current + 25mA;
 plus GEMC-F8ZCPIM total standby and alarm current).
- **Maximum Total Combined 24V Standby:** (Total combined 12V standby plus alarm current times 0.6) + NAC A-D 24V standby current:
 plus (GEMC-BM total combined standby + 25mA) times 0.6;
 plus (GEMC-F8ZCPIM total combined standby + 120mA)

times 0.6;

plus GEMC-BM/PS total combined standby + 25mA;

plus GEMC-FW-SLC total combined 24V standby current;

plus GEMC-BSLC total combined 24V standby current = 1A*.

- **Maximum Total combined 24V Standby and Alarm Current:** (Total combined 12V standby plus alarm current times 0.6) + NAC A-D 24V standby plus alarm current:
 plus (GEMC-BM total combined standby and alarm current + 25mA) times 0.6;
 plus GEMC-BM/PS total 24V standby and alarm current + 25mA;
 plus GEMC-FW-SLC total combined 24V standby and alarm current;
 plus GEMC-BSLC total combined 24V standby and alarm current = 6.8A with 7A supply (GEMC-PS24V7A); 3.8A with 4A supply (GEMC-PS24V4A).

- **Maximum Battery Charging Current:** Refer to the GEMC-PS24V7A or GEMC-PS24V4A power supply specifications. The maximum charging current (trickle charge and fast charge) and the maximum ampere-hour capacity of the battery that the product is intended to charge:

Standby Time: See following charts.

Battery Power: See tables in sections "GEMC-PS24V7A 7 AMP POWER SUPPLY" and "GEMC-PS24V4A 4 AMP POWER SUPPLY" (data also located in W11646 and W11702).

Loop Voltage: See zone expansion modules.

Loop Current: See zone expansion modules.

Loop Resistance: See zone expansion modules.

Operating Environment: 0-49°C (32-120°F).

Modules that plug into the GEMC-XXXMB Gemini C-Series Motherboards:

GEMC-BM / PS Burglary Module with Power Supply

Electrical Ratings

Input Power: 24V, 25mA standby from motherboard plus 0.6 multiplied by the "Total Combined Standby and Alarm Current".

Output Power:

Burg Bell Power: 10.8 - 12.5VDC, 2A maximum.

AUX Power: 11.3 - 12.5VDC, 750mA maximum.

Burg Bus Power ("Remote Bus Power"): 11.2 - 12.5VDC, 750mA maximum.

PGM1: Active low, 8.2 - 12.0V @ 150mA.

PGM2: Active low, 8.2 - 12.0V @ 150mA.

Aux Relay: Wet 11.2 - 12.5VDC @ 750mA maximum (subtract from AUX Power); may be set to a dry form "c" relay contact upon removing or cutting the jumper "R"; output rated 30VAC/DC, 3A (Resistive Load Only)

Total Combined Standby Current (Auxiliary Power + Burg Bus power + Aux Relay power): 750mA.

Total Combined Standby and Alarm Current (Auxiliary power + Burg Bus power + Aux Relay power + Bell power): 2.5A.

Battery Options:

- One 12V 4AH battery: Maximum standby 500mA + maximum alarm 1A = total 1.5A.
- One 12V 7AH or 8AH battery: Maximum standby 750mA + maximum alarm 1.75A = total 2.5A.

Maximum Battery Charging Current: 1A.

Note: Does not affect GEMC-XXXMB standby battery calculations, as all standby current is from dedicated battery. Maximum GEMC-XXXMB combined alarm and standby current must be reduced by 0.6 times the combined alarm and standby current of the GEMC-BM/PS plus 25mA.

* Must be reduced if an insufficient number of standby batteries are used. Refer to Battery Standby chart.

GEMC-BM BURGLARY MODULE**Electrical Ratings**

Input Power: 12V Regulated, 25mA standby plus total combined standby and alarm current. Must reduce GEMC-XXXMB total 12V standby current by GEMC-MB total standby current plus 25mA.

Note: GEMC-BM total standby and alarm current plus GEMC-XXXMB total 12V standby and 12V alarm current must not exceed 2.5A.

Output Power:

Burg Bell Power: 12VDC Regulated, 2A maximum.

AUX Power: 12VDC Regulated, 750mA maximum.

Burg Bus Power ("Remote Bus Power"): 12V Regulated, 750mA maximum.

PGM1: Active low, 10.6 - 12VDC @ 150mA.

PGM2: Active low, 10.6 - 12VDC @ 150mA (For UL Commercial installations)

Aux Relay: Wet 12V Regulated @ 750mA maximum (subtract from AUX Power); may be set to a dry form "c" relay contact upon removing the jumper "R"; output rated 30VDC, 3A (Resistive Load)

Total Combined Standby Current (Auxiliary power + Burg Bus power + Aux Relay power + 25mA standby current): 750mA.

Total Combined Standby and Alarm Current (Auxiliary power + Burg Bus power + Aux Relay power + Bell power): 2.5A.

GEMC-F8ZCPIM Conventional 8 Fire Zone Expander Module**ELECTRICAL RATINGS**

Input Power: 12V Regulated, 120mA standby + total combined standby and alarm current.

Output Power:

AUX PWR: 12V Regulated, 700mA maximum.

RST PWR: 12V Regulated, 700mA maximum.

Maximum Total Combined Standby and Alarm Current: 120mA + total combined standby current. Must reduce GEMC-XXXMB total combined 12V standby power by GEMC-F8ZCPIM total combined standby current.

Zone Ratings:

Voltage: 13.8 - 8.5VDC.

Current: 2mA standby loop current.

Alarm: 42mA maximum alarm current per zone.

Maximum Loop Resistance: 10 ohms.

Note: Zones not programmed into Area 1 and not wired with an EOLR will not pull any current in standby or in alarm. All initiating circuits are Class B.

GEMC-FW-SLC Fire Signaling Line Circuit Module**Electrical Ratings****Input Power:**

Power Requirements: 24VDC, 70mA (standby current) + device current.

Maximum Total Combined 24V Input Current: 475mA.

Output Power: 36V, 150mA maximum. The additional alarm current (5 LED's @ 8mA for 40mA) is automatically added to determine standby + alarm current.

Note: Refer to PCD-Windows Quickloader download software's calculation tools for 24V standby current calculation. GEMC-XXXMB total combined 24V auxiliary standby current must be reduced by GEMC-FW-SLC input current.

Operating Temperature: 0°C to 49°C

Storage Temperature: 20°C to + 85°C

Dimensions W x D x H: 4.5" x 4" x 1"

GEMC-BSLC Burglary Signaling Line Circuit Module**Electrical Ratings****Input Power:**

Power Requirements: 24VDC, 55mA (standby current) + device current (provided by GEMC Series control panel).

Maximum Total Combined 24V Input Current: 590mA.

Output Power: 16.5V, 500mA maximum.

Note: Refer to PCD-Windows Quickloader download software's calculation tools for 24V standby current calculation. GEMC-XXXMB total combined 24V auxiliary standby current must be reduced by GEMC-BSLC current.

Operating Temperature: 32° to 120°F (0° to 49°C)

Dimensions W x D x H: 4.5" x 4" x 1"

Modules Mounted Inside the C-Series Motherboard Enclosure:

GEMC-NL-MOD Network Communication Module**Electrical Ratings**

Input Power: Nominal 12VDC, 85mA.

Note: 12V power must be supplied from GEMC-XXXMB **AUX PWR** terminals. Available panel 12V combined auxiliary current is reduced by 85mA.

Output Power: PGM-style open collector (negative trigger) with a maximum sink current of 50mA. Wire only to power-limited circuits less than 14VDC.

Dimensions: 1½" x 7" x 4¾" (H x W x D)

GEMC-RS232 Control Panel / Computer Converter**Electrical Ratings**

Input Power: 12.6 - 10.2, 60mA.

Note: 12V power must be supplied from GEMC-XXXMB **AUX PWR** terminals. Available GEMC-XXXMB total combined 12V auxiliary current must be reduced by 60mA.

Output: RS232 format, maximum 50 feet.

Note: For supplementary use only.

Dimensions (HxWxD): 11/16" x 2 9/16" x 2 9/16"

Range: 50 feet using RS232 serial cable; 100 feet using Cat5 cable

Note: For supplementary use only.

GEMC-24VR 24 Volt "Regulated" Output Module**Electrical Ratings**

Input Power: 24V Unregulated, 2A maximum. Supplied from NAC output of the GEMC-XXXMB or GEMC-NACXX programmed for reversed polarity.

Output Power: 24V Regulated, 1.0A maximum (maximum is reduced by battery configuration and required standby time).

Dimensions: W = 3.5", L = 4.32", H = 1.15"

Modules Wired to Fire Bus and/or Burglary Bus:

GEMC-FK1 FIRE KEYPAD**ELECTRICAL RATINGS**

Input Power: 12VDC nominal, 110mA maximum, 35mA if backlighting is disabled (cut jumpers W1, W2 & W3).

Maximum Number of Fire Keypads: 7

Maximum Number of Fire Keypads + Burglary Keypads: 15

POWER RATINGS

GEMC-FK1 is powered by the Fire bus of the GEMC-Series motherboard, GEMC-12V2APS or an appropriately rated UL Listed Security/ Signaling power limited power supply. Deduct these values from the system standby current, as described in the control panel wiring diagram.

GEMC-BK1 BURGLARY KEYPAD**ELECTRICAL RATINGS**

Input Power: 12.5 - 7.5VDC, 110mA maximum (120mA when using integral EZM). 35mA if backlighting is disabled (cut jumpers W1, W2 & W3).

Output Power:

PGM Output (active low): 5mA, 12V. Wiring to power limited circuits less than 14VDC.

Maximum Number of Burglary Keypads: 15.

Maximum Number of Fire Keypads + Burglary Keypads: 15.

Maximum Wiring Length for each run: (#22AWG): 1000' divided by total number of keypads on run.

POWER RATINGS

GEMC-FK1 and GEMC-BK1 are both powered by the keypad bus of the control panel, GEMC-12V2APS or an appropriately rated UL Listed Security/Signaling power-limited power supply. Deduct these values from the system standby current, as described in the control panel wiring diagram.

GEMC-BK1 supports an integral 4 zone EZM:

Zone Loop Voltage: 12V

Zone Loop Current: 4.7mA nominal, 5.5mA when shorted.

Maximum Zone Loop Resistance: 300 ohms.

2.2K End of line resistor.

GEMC-EZM8 Expansion Zone Module**Electrical Ratings**

Input Power: 12.5 - 7.5VDC, 60mA.

Zone Loop current: 4.7mA nominal, 5.5mA when shorted.

Maximum Zone Loop Resistance: 300 ohms.

2.2K End of line resistor (UL Listed part number EOL2.2K required in Fire applications).

Output Power:

PGM Output (Active low): 5mA, 12V. Connect only to power-limited circuits less than 14VDC. Use only in Burglary applications.

Ground Faults Detected: 1.25KΩ to ground or less.

GEMC-RM3008 Relay Module**Electrical Ratings**

Input Power: 12.6 - 11.8VDC, 22mA + 12mA per energized relay, total 118mA of all relays energized.

Contact Ratings:

Voltage: 30VAC or 30VDC maximum.

Current: 2A maximum (resistive load).

Maximum Wiring Length for each run (on Fire Bus or GEMC-BM burg bus): 750 feet with #22AWG, 1000 feet with #18AWG.

Maximum Wiring Length for each run (on GEMC-BM/PS burg bus): 20 feet with #22AWG, 40 feet with #18AWG. **Note:** Do not use bus power to power devices on relay outputs or wire length must be reduced by half for each 120mA used.

Metal Housing (H x W x D): 10 5/16" x 8 3/8" x 3"

GEMC-OUT8 Programmable Output Module**Electrical Ratings**

Input Power: 12.5 - 7.5VDC, 35mA standby maximum.

Current: Standby 35mA + current required for each active output.

Output Power: Active low outputs.

Maximum Single Output Current: 50mA power-limited circuits 14VDC maximum.

Maximum Combined Output Current: 400mA power-limited circuits 14VDC maximum.

Note: Output current must be deducted from either standby current or alarm current depending on the function of the output unless current is provided by a separate UL Listed power supply at 12 volts.

GEMC-RECV Wireless RF Receiver**Electrical Ratings**

Input Power: 12.5 - 9.4VDC, 70mA.

Operating Temperature: 0°C to 49°C.

Storage Temperature: 20°C to + 85°C.

Antenna: 1/4-Wave (2)

Dimensions: 6 3/4" x 3 3/8" x 1 1/2" (W x H x D)

Operating Frequency: 319.5MHz

GEMC-NACXX Supervised NAC Extender

The GEMC 7 ampere NAC Extender includes 2 models as determined by the housing used: The GEMC-NAC7L (for large enclosure) and GEMC-NAC7S (for small enclosure).

Electrical Ratings

Input Power:

Primary input power: 120VAC, 50/60Hz, 3A, maximum 15A dedicated branch circuit.

Secondary power: 24V operation, up to eight 12V / 7AH / 7.5AH / 8AH batteries in pairs (7AH-32AH standby).

Fire Bus Input Power Rating: 12.5 - 7.5VDC, 8mA.

Output Power:

Total Output Power: 24VDC, 7A maximum, power limited outputs. Each NAC circuit output rated @ 2A maximum.

Optional Auxiliary Output Power: 2A maximum per NAC circuit; 1.1A @ 24V maximum standby current (depending on batteries utilized) for 24 hours. Any of the 4 NAC's can be used for auxiliary outputs by programming the output with the feature "Reverse Polarity" (see the "NAC/Output Assignment" screen in PCD-Windows Quickloader software). Auxiliary power is 24V Unregulated. When used with the GEMC-24VR, these auxiliary outputs are 24V Regulated.

Supervision:

- AC fail supervision, approximate 1 minute delay to prevent nuisance swingers
- Battery presence, low battery supervision and battery charger voltage supervision; combined to generate a common battery trouble
- Remote bus supervised for opens, shorts or ground faults

Additional GEMC-NACXX Specifications:

NAC End-of-Line Resistor: 2.2K ohms.

Common Trouble Relay ("Out Relay 5"): 30VDC @ 1A, 30VAC @ .5A Resistive, connect to power limited circuits only.

Common Trouble Relay ("Out Relay 6"): 30VDC @ 1A, 30VAC @ .5A Resistive, connect to power limited circuits only.

Common Trouble Relay ("Out Relay 7"): 10A / 120VAC; 2.5A / 30VAC / DC Resistive Load.

Input control circuit: 9-32VDC @ 4mA maximum.

Operating Temperature: 32°F to 122°F (0°C to 50°C).

Operating Humidity Range: 10% to 90% relative humidity, from 32°F to 104°F (0°C to 40°C) non-condensing.

Housing

The GEMC-NACXX comes complete with 7A power supply, enclosure and ample room for standby batteries. Two models are available, as determined by the size of the enclosure:

Enclosure Dimensions (W x H x D, Inches):

- The **GEMC-NAC7S** uses the small housing with sufficient room for a pair of 12V standby batteries (model **GEMC-HSKIT1416**, size 14.25" x 16" x 5.25")
- The **GEMC-NAC7L** uses the large housing with room for four pairs of 12V standby batteries (model **GEMC-HSKIT1425**, size 14.25" x 24" x 5.25")

GEMC-FPRINT Parallel Printer Interface (Fire Bus only)**Electrical Ratings**

Input Power: 12VDC nominal; 90mA maximum.

Output Power: N/A.

Dimensions: 1 1/2" x 7" x 4 3/4" (3.8 x 17.8 x 12cm) H x W x D

MAXIMUM WIRE LENGTH: The GEMC-FPRINT may be mounted on the control panel fire bus up to 500 feet (with #22AWG wire) or 1000 feet (with #18AWG wire) from the control panel. The Parallel Printer must be mounted with 20 feet (6.1m) of the GEMC-FPRINT module. **NOTE:** For UL approved installations, the wire length (GEMC-FPRINT to printer) must be no more than 20 feet (6.1m) and the printer shall reside in the same room as the GEMC-FPRINT with no intervening walls or barriers.

GEMC-12V2APS-CF SPECIFICATIONS**Electrical Ratings**

(Use dedicated 15A circuit for input power)

Primary Input Power: 120VAC, 60Hz, 1A.

Secondary Input Power: Minimum two 12V / 4AH batteries; two 12AH batteries maximum (see **Standby Current Charts** for battery requirements).

Total Output Power: 12VDC, 2A maximum combined alarm and standby current (less 40mA standby current for power supply board).

Two Auxiliary Power Outputs: 12V Regulated, 1.5A maximum each; 0.80A @ 12V combined maximum standby current for 24 hours.
Standby Current: 40mA for main board (subtract from overall rating).
Additional Specifications (for GEMC-12V2APS-CF and GEMC-12V2APS-R)

NO AC: Active Low, switches up to 2A DC. Normally active, turns off when no AC or brownout is detected. Connect to power-limited circuits only, 30VDC maximum.

BAT TBL: Active Low, switches up to 2A DC. Normally active, turns off when no battery, low battery and/or battery charging circuit trouble is detected. Connect to power-limited circuits only, 30VDC maximum.

TBL: Active Low, switches up to 2A DC. Normally active, turns off when microprocessor stops functioning, no AC, brownout or battery trouble. Connect to power-limited circuits only, 30VDC maximum.

Operating Temperature: 32°F to 122°F (0°C to 49°C).

Operating Humidity Range: Maximum 85% relative humidity @ 30° C.

Enclosure Dimensions (WxHxD): Inches: 13.875" x 12.375" x 3.80" (enclosure not provided with the GEMC-12V2ABOARD)

GEMC-12V2APS-R SPECIFICATIONS

Electrical Ratings

Primary Input Power: 120VAC, 60Hz, 60W (NAPCO TRF-14).

Secondary Input Power: Two 12AH batteries maximum.

Total Output Power: 2.1A minus selected charging current. (see JUMPERS section for charging current selections).

Two Auxiliary Power Outputs: 12V Regulated, 1.5A maximum each; 0.80A @ 12V maximum standby current for 24 hours (see GEMC-12V2APS BATTERY / CURRENT SPECIFICATIONS tables).

Standby Current: 40mA for main board (less 40mA standby current for power supply board).

Housing

The GEMC-12V2APS comes complete with transformer, enclosure and ample room for standby batteries. Each model requires either two 12V 4AH, 4.5AH, 5AH batteries, two 12V 7AH, 7.5AH, 8AH batteries or two 12V / 12AH batteries.

Modules Wired to the Fire SLC Bus:

For the devices listed below, refer to PCD-Windows Quickloader download software's calculation tools.

FWC-FSLC-CZM
 FWC-FSLC-DUCT
 FWC-FSLC-EZM1
 FWC-FSLC-EZM2
 FWC-FSLC-HEAT
 FWC-FSLC-ISO
 FWC-FSLC-PROG2
 FWC-FSLC-PULL
 FWC-FSLC-RM2
 FWC-FSLC-SMK
 FWC-FSLC-SOM1

Fire or Burglary Bus Wire Gauges

Gauge (solid)	Resistance (Ω)	Length (ft)	Max. Current (ma)
22	16.8	1000	120
	8.4	500	240
	4.2	250	450
18	6.6	1000	240
	3.3	500	480
	1.65	250	850
16	4.2	1000	480
	2.1	500	850
	1.1	250	1700
14	2.6	1000	600
	1.3	500	1000
	.65	250	2000
12	1.7	1000	750
	.85	500	1500
	.51	300	2000

Modules Wired to the Burglary SLC Bus:

GEMC-BSLC-1PT Single Point Expander

Electrical Ratings

Input Power: 13.6-16.3VDC, 2mA supplied by GEMC-BSLC control unit.

Output Power:

Zone Loop Ratings: 16V, 0.31mA, 0.34mA short.

Maximum Zone Loop Resistance: 300Ω.

Maximum Wiring Length: 3000' (#16 AWG). Refer to GEMC-BSLC documentation (W11648) for complete wiring information.

Operating Temperature: 32° to 120°F (0° to 49°C)

Refer to PCD-Windows Quickloader download software's calculation tools for 24V standby current calculation.

GEMC-BSLC-4PT Four Point Expander

Electrical Ratings

Input Power: 13.6-16.3VDC, 3mA supplied by GEMC-BSLC control unit.

Output Power:

Zone Loop Ratings: 16V, 0.31mA, 0.34mA short per zone.

Maximum zone loop Resistance: 300 ohms.

Maximum Wiring Length: 3000' (#16 AWG). Refer to GEMC-BSLC documentation (W11648) for complete wiring information.

Operating Temperature: 32° to 120°F (0° to 49°C)

Refer to PCD-Windows Quickloader download software's calculation tools for 24V standby current calculation.

GEMC-BSLC-PIR Burglary SLC Passive Infrared Sensor

Coverage (L x W): 50 feet x 50 feet (15.2m x 15.2m) at 68°F (20°C), typical (with High Sensitivity Jumper "SEN" installed) 30 feet x 35 feet (9.1m x 10.6m) at 68°F (20°C), typical (with Normal Sensitivity)

Operating Temperature: 14°F to 120°F (-10° to +49°C)

Mounting: Wall or corner, 6 - 12 feet (3.6m) max.

High Temperature Set Point: 90°F +/- 4°F

Low Temperature Set Point: 40°F +/- 4°

RATINGS

Electrical Ratings

Input Power: 13.6-16.3VDC (supplied by GEMC-BSLC module), 19mA.

Output Power: (not applicable)

Maximum Wiring Length: 2000 feet (#16 AWG). Refer to GEMC-BSLC documentation for complete wiring information.

Unit shall be connected to model GEMC-BSLC which is employed in the GEMC C-Series control panel which is provided with a minimum of 4 hours standby on battery power.

PHYSICAL

Dimensions (HxWxD): 3.3in x 2.5in x 1.9in (8.4cm x 6.4cm x 4.8cm)

Shipping Weight: 5oz. (142g)

GEMC-BSLC-DT Burglary SLC Dual Technology Sensor

General Coverage with standard wide-angle lens, measured indoors at 68°F (20°C), typical: 50 feet long x 40 feet wide; "Look Down" zone added.

Operating Temperature: 14° to 122°F (-10° to +49°C)

Mounting: Wall or corner, 6 - 9.8 feet (2 - 3m) max.

Microwave Frequency: 10.525GHz ±25MHz

Physical Dimensions: (HxWxD) 4.6 x 2.9 x 2.9 in.

Shipping Weight: 1.0 lb (454g)

Electrical Ratings

Input Power: 13.6-16.3VDC supplied by model GEMC-BSLC, 19mA.

Maximum Wiring Length: 2000' (#16 AWG). Refer to GEMC-BSLC documentation for complete wiring information.

Unit shall be connected to model GEMC-BSLC which is employed in the GEMC C-Series control panel which is provided with a minimum of 4 hours standby on battery power.

GEMC-BSLC-RLY Burglary SLC Single Point Relay Module

Electrical Ratings

Input Power:

Voltage: 13.6-16.5VDC (connected to the GEMC-BSLC).

Current: Standby, 3.0mA + 5.0mA with energized relay.

Note: The GEMC-BSLC-RLY is equivalent to 5 devices (and have a maximum distance of 3000 feet per home run when using 16AWG wire). See W11648.

Output Power: Form C dry contact. Wire only to power-limited circuits.

UL Contact Ratings: 30VDC, 2A and 30VAC, 1A (resistive load).

Maximum Wiring Length: 3000' (#16 AWG). Refer to GEMC-BSLC documentation for complete wiring information.

Dimensions (inches): Width: 1½ (38mm) Height: 3¼ (79mm) Depth: 1 (25mm)

Operating Temperature: 32° to 120°F (0° to 49°C)

Wireless Devices:

GEMC-WL-WD2 Wireless Window / Door Transmitter

Electrical Ratings

Input Power:

Powered by a 3-volt lithium battery.

Two zone inputs.

Use only one device when used with Fire initiating devices.

Maximum Zone Wiring Length: 25' (#18-22 AWG).

GEMC-WL-WD Low Profile Window / Door Transmitter

Electrical Ratings

Input Power:

Powered by a 3-volt lithium battery (Energizer CR2032 or Duracell DL2032).

Operating Frequency: 319.5Mhz

Operating Temperature: 0°C - 49°C

Maximum External Loop Resistance: 10Ω

GEMC-WL-HEAT Wireless Heat Detector

Electrical Ratings

Input Power:

Powered by a 3-volt lithium battery.

Fixed Temperature Point: 135°F (57°C).

NOTE: Replace battery with a 3V Duracell DL123A, Varta / Power-One CR123A or Panasonic CR123A only.

GEMC-WL-GB Wireless Glass Break Detector

Range of Coverage (radius distance from sensor): 7.6m (25') maximum, omnidirectional or 4.6m (15'). No minimum range.

Input Power:

Powered by a 3-volt lithium battery; use Duracell DL123A, Varta / Power-One CR123A or Panasonic CR123A only.

Alarm current (LED's disabled): 40uA maximum (transient)

Standby current: 40uA typical

Operating Frequency: 319.5Mhz

Operating temperature: 0°C to 49°C (32°F to 120°F) (Indoor use environment)

Note: Detector stabilizes within 3 minutes of power up.

Relative humidity: 85% (non-condensing)

Glass types:

- minimum size: 10-7/8" x 10-7/8", (280 mm x 280 mm) 3/32" - 3/8" plate;
- 1/8" - 3/8" tempered;
- 1/8" - 9/16" laminated;
- 1/4" wired;
- 5/8" overall sealed insulated

Note: Coated glass with security films, including films for solar protection, up to 12 mil. thick may be used. The Glass-Gard GGLL1200 has been evaluated with this product by Underwriters Laboratories Inc. **UL Recognizes a maximum range of 6m (20') with sensitivity set at maximum for protecting 3mm (1.8") sealed insulating glass and 3mm (1/8") laminated glass.** **Note:** (1) Use 20' (6m) radius if unsure of glass type. (2) If not using a FG-700 or FG-701 glassbreak simulator to verify range, reduce range to 15' (4.5m) for windows with blinds or unlined drapes. (3) Reduce coverage 50% for armor-coated glass.

Housing material: Flame-retardant ABS plastic

Dimensions (HxWxD): (122mm x 105mm x 33mm) 4.75" x 4.13" x 1.25"

Weight: 5.5oz (160g) [without batteries or transmitter]

Accessories: FG-700 & FG-701 glassbreak simulator (not included)

NOTE: The GEMC-WL-GB detects shattering of framed glass by a direct impact. It may not consistently detect breakage by blows that only crack the glass, by high velocity projectiles such as bullets, or glass broken without an impact.

GEM-KEYF Wireless Keyfob

Electrical Ratings

Input Power: Powered by a 3-volt lithium battery.

Operating Frequency: 319.5Mhz

GEMC-WL-SMK Wireless Supervised Smoke Detector

Electrical Ratings

Input Power:

Powered by a 3-volt lithium battery. Use one 3-volt lithium Duracell DL123A, Varta CR123A, Panasonic CR123A or Sanyo CR123A.

GEMC-WL-PIR Wireless PIR Transmitter

PIR Coverage (l x w): 50' x 50' (15.2m x 15.2m) at 20°C (68°F), typical.

Operating Temperature: 0° to +50°C (32° to 122°F)

Mounting: Wall or corner, 10' (3m) max.

Dimensions: 4.5" x 2.5" x 1.7" (11.4cm x 6.4cm x 4.3cm) (HxWxD)

Shipping Weight: 6.4oz (181gm)

GEMC-WL-DT Wireless Dual Technology Sensor

Coverage (l x w): 40' x 40' (12.2m x 12.2m) at 20°C (68°F), typical.

Operating Temperature: 0° to +50°C (32° to 122°F)

Self-Test Interval: 11-16 hours

Microwave Frequency: 10.525GHz ± 25MHz

Recommended Mounting Height: 6'-8', wall or corner

Dimensions: 5.5" x 3.25" x 2.4" (14cm x 8.3cm x 6.1cm) (HxWxD)

Shipping Weight: 1.2 lb (600 gm)

GEMC-PS24V7A 7 AMP POWER SUPPLY

DESCRIPTION

The GEMC-PS24V7A-R is both a charger and a supervised power supply rated at 24VDC/7A. Input rating is 120VAC, 60Hz, 3A. Fuse rated 5A, 250V. Replace only with UL Listed fuse rated 5A, 250V (see WI1653).

FEATURES

- 24VDC output.
- Maximum charge current 1.96A.
- 7 ampere continuous supply current at 24VDC.
- Built-in charger for sealed lead acid or gel type batteries.
- Automatic switch over to stand-by battery when AC fails.
- AC input, DC output.
- Short circuit and thermal overload protection.
- Board Dimensions: 9"(L) x 6"(W) x 1½"(H)
Specified at 25°C ambient.

INSTALLATION INSTRUCTIONS

⚠ Caution: Turn off branch circuit before servicing power supply.

The GEMC-PS24V7A-R should be installed in accordance with The National Electrical Code, ANSI / NFPA 70 and all applicable Local Regulations.

To install, see the Gemini C-Series control panel installation instructions (WI1653) detailing removal and re-installation instructions for all models of the Gemini C-Series control panels. Install jumpers on J3 as per the chart below:

BATTERY CHARGE CURRENT JUMPERS			
No. of Jumpers	Trickle Charge	Total Charge	No. of Batteries
0	210 mA	1.50A	2 sets
1	440 mA	1.72A	3 sets
2	680 mA	1.96A	4 sets

GEMC-PS24V4A 4 AMP POWER SUPPLY

DESCRIPTION

The GEMC-PS24V4A-R is both a charger and a supervised power supply rated at 24VDC/4A. Input rating is 120VAC, 60Hz, 3A. Fuse rated 5A, 250V. Replace only with UL Listed fuse rated 5A, 250V (see WI1653).

FEATURES

- 24VDC output.
- Maximum charge current 1.96A.
- 4 ampere continuous supply current at 24VDC.
- Built-in charger for sealed lead acid or gel type batteries.
- Automatic switch over to stand-by battery when AC fails.
- AC input, DC output.
- Short circuit and thermal overload protection.
- Board Dimensions: 9"(L) x 6"(W) x 1½"(H)
Specified at 25° C ambient.

INSTALLATION INSTRUCTIONS

⚠ Caution: Turn off branch circuit before servicing power supply.

The GEMC-PS24V4A-R should be installed in accordance with The National Electrical Code, ANSI / NFPA 70 and all applicable Local Regulations.

To install, see the Gemini C-Series control panel installation instructions (WI1653) detailing removal and re-installation instructions for all models of the Gemini C-Series control panels. Install jumpers on J3 as per the chart below:

BATTERY CHARGE CURRENT JUMPERS			
No. of Jumpers	Trickle Charge	Total Charge	No. of Batteries
0	210 mA	1.50A	2 sets
1	440 mA	1.72A	3 sets
2	680 mA	1.96A	4 sets

AES TO POINT ID TRANSLATION CODES

1st column is the report "Type".

2nd column is the Point ID translation code to be reported.

3rd column is the text for that alarm

00	E110	Fire Alarm	63	R400	Forced Closing
01	R110	Fire Restore	64	E121	Keypad Holdup Alarm (ambush)
02	E373	Fire Trouble	65	E123	Keypad Panic Alarm
03	R373	Fire Trouble Restore	66	E110	Keypad Fire Alarm
04	E123	Panic Alarm	67	E140	Keypad Emergency Alarm
05	R123	Panic Restore	68	E137	Keypad Tamper Alarm
06	E370	Panic Trouble	69	E404	Fail to Open
07	R370	Panic Trouble Restore	70	R404	Fail to Close
08	E130	Burglary Alarm	71	E140	Undefined General Alarm
09	R130	Burglary Restore	72	E602	Test Timer
10	E370	Burglary Trouble	73	E321	Bell Supv
11	R370	Burglary Trouble Restore	74	E338	Burg Mod Low Bat
12	E122	Holdup Alarm	75	E303	Memory Failure
13	R122	Holdup Restore	76	E302	Low Battery
14	E370	Holdup Trouble	77	E301	A.C. Trouble
15	R370	Holdup Trouble Restore	78	E145	Tamper Alarm EZM
16	E200	Fire Supervisory	79	E380	Sensor Watch
17	R200	Fire Supervisory Restore	80	E140	Undefined General Alarm
18	E373	Fire Supervisory Trouble	81	R321	Bell Supv Restore
19	R373	Fire Supervisory Trouble Restore	82	R338	Burg Mod Low Bat Restore
20	E113	Sprinkler Alarm (waterflow)	83	E140	Undefined General Alarm
21	R113	Sprinkler Restore	84	R302	Low Battery Restore
22	E373	Sprinkler Trouble	85	R301	AC Trouble Restore
23	R373	Sprinkler Trouble Restore	86	R145	Tamper Restore EZM
24	E151	Gas Alarm	87	E140	Undefined General Alarm
25	R151	Gas Restore	88	E351	Tel 1 Fail
26	E370	Gas Trouble	89	E352	Tel 2 Fail
27	R370	Gas Trouble Restore	90	E353	Telemetry Trouble
28	E158	Heat Alarm	91	E354	Telemetry Fail
29	R158	Heat Restore	92	E310	Ground Fault
30	E370	Heat Trouble	93	E333	Reserved
31	R370	Heat Trouble Restore	94	E338	ACM Low Bat
32	E200	Sprinkler Supv Alarm	95	E342	ACM AC Failure
33	R200	Sprinkler Supv Restore	96	R351	Tel 1 Restore
34	E373	Sprinkler Supv Trouble	97	R352	Tel 2 Restore
35	R373	Sprinkler Supv Trouble Restore	98	R353	Telemetry Trouble Restore
36	E100	Medical Alarm	99	R354	Telemetry Fail Restore
37	R100	Medical Restore	100	R310	Ground Fault Restore
38	E370	Medical Trouble	101	R333	Ground Fault Fire EZM Restore
39	R370	Medical Trouble Restore	102	R338	ACM Low Bat Restore
40	E150	24 hour Aux. Alarm	103	R342	ACM AC Fail Restore
41	R150	24 hour Aux. Restore	104	E601	Manual Communication Test
42	E370	24 hour Aux. Trouble	105	E607	Guard Tour Fail
43	R370	24 hour Aux. Trouble Restore	106	E300	Fire 4 Wire Bus Failure
44	E131	Burg Perimeter Alarm	107	E616	Service Message
45	R131	Burg Perimeter Restore	108	E306	Panel Reprogrammed
46	E370	Burg Perimeter Trouble	109	E333	RF Receiver Supervision
47	R370	Burg Perimeter Trouble Restore	110	E383	Transmitter Tamper
48	E132	Burg Interior Alarm	111	E381	Transmitter Trouble
49	R132	Burg Interior Restore	112	E140	Undefined General Alarm
50	E370	Burg Interior Trouble	113	E140	Undefined General Alarm
51	R370	Burg Interior Trouble Restore	114	R300	Fire 4 Wire Bus Restore
52	E134	Burg Exit/Entry Alarm	115	E140	Undefined General Alarm
53	R134	Burg Exit/Entry Restore	116	R607	Test End - Restore
54	E370	Burg Exit/Entry Trouble	117	R333	RF Receiver Supervision Restore
55	R370	Burg Exit/Entry Trouble Restore	118	R370	Transmitter Tamper Restore
56	E137	Burg Zone Tamper Alarm	119	R381	Transmitter Trouble Restore
57	R137	Burg Zone Tamper Restore	120	E608	Test Timer (Fire System Faulted)
58	E370	Burg Zone Tamper Trouble	121	E374	Exit Error
59	R370	Burg Zone Tamper Trouble Restore	122	E459	Recent Close
60	E401	Opening	123	E607	Test Start
61	R401	Closing	124	E140	Undefined General Alarm
62	E400	Opening Report After Alarm	125	E140	Undefined General Alarm
			126	E140	Undefined General Alarm
			127	E140	Undefined General Alarm
			128	E570	Zone Bypassed
			129	E406	User Cancelled
			130	E384	RF Low Bat By Zone

131	E381	RF Supervision By Zone	205	E373	Smoke Trouble
132	E383	RF Tamper By Zone	206	R373	Smoke Trouble Restore
133	E140	Undefined General Alarm	207	E112	Combustion Alarm
134	E140	Undefined General Alarm	208	R112	Combustion Restore
135	E140	Undefined General Alarm	209	E373	Combustion Trouble
136	E406	Cancel	210	R373	Combustion Trouble Restore
137	E380	Burg SLC Point Tbl	211	E115	Pull Station Alarm
138	E383	Burg SLC Point Tamper	212	R115	Pull Station Restore
139	E380	Fire SLC Point Tbl	213	E373	Pull Station Trouble
140	E385	Fire SLC Sensitivity High	214	R373	Pull Station Trouble Restore
141	E386	Fire SLC Sensitivity Low	215	E116	Duct Alarm
142	E571	Fire Zone Bypass	216	R116	Duct Restore
143	R571	Fire Zone Bypass Restore	217	E373	Duct Trouble
144	E614	Fire One Man Test	218	R373	Duct Trouble Restore
145	E627	User Unlock	219	E117	Flame Alarm
146	E627	Dealer Unlock	220	R117	Flame Restore
147	E306	Out of Service	221	E373	Flame Trouble
148	E604	Fire Drill	222	R373	Flame Trouble Restore
149	E382	NL-Mod Supv Trouble	223	E330	Relay No Response
150	E300	Tbl Resound	224	E330	KP No Response
151	R614	Fire One Man Test Exited	225	R330	Relay Board No Response Restore
152	R627	User Unlock Exited	226	R330	KP No Response Restore
153	R627	Dealer Unlock Exited	227	E140	Undefined General Alarm
154	R305	Out of Service Exited	228	R140	Undefined General Alarm
155	R604	Fire Drill Exited	229	E140	Undefined General Alarm
156	R382	NL-Mod Supv Tbl Restore	230	R140	Undefined General Alarm
157	E344	RF Receiver Jam	231	E140	Undefined General Alarm
158	E140	RF Receiver Tamper	232	R140	Undefined General Alarm
159	E140	RF Receiver No Response	233	E140	Undefined General Alarm
160	E344	RF Receiver High Noise	234	R140	Undefined General Alarm
161	R344	RF Receiver Jam Restore	235	R140	Undefined General Alarm
162	R140	RF Receiver Tamper Restore	236	E422	Access Granted
163	R140	RF Receiver No Response Restore	237	E421	Access Denied
164	R344	RF Receiver High Noise Restore	238	E425	Egress Granted
165	E331	Burg SLC Tbl	239	E424	Egress Denied
166	E341	Burg SLC Tamper	240	E433	Request to Exit
167	E382	Burg SLC No Response	241	E124	Duress Access Granted
168	E303	Burg SLC Memory Failure	242	E423	Door Forced Open
169	R331	Burg SLC Tbl Restore	243	E426	Door Propped Open
170	R341	Burg SLC Tamper Restore	244	R130	Door Open Restore
171	R382	Burg SLC NO Response Restore	245	E577	ACM Point Bypass
172	R303	Burg SLC Memory Failure Restore	246	E137	Generic Tamper
173	E331	Fire SLC Tbl	247	R137	Generic Tamper Restore
174	E341	Fire SLC Tamper	248	E401	Opening Only (no restore)
175	E382	Fire SLC No Response	249	R140	Undefined General Restore
176	E303	Fire SLC Memory Failure	250	R356	Fail to Check-In Restore
177	R331	Fire SLC Tbl Restore	251	E300	System Trouble Event
178	R341	Fire SLC Tamper Restore	252	R300	System Trouble Restore
179	R382	Fire SLC No Response Restore	253	E341	NL-Mod Tamper
180	R303	Fire SLC Memory Failure Restore	254	E356	Fail to Check-In
181	E137	Housing Tamper	255	E998	Used to Disable Restores
182	R137	Housing Tamper Restore			
183	E323	NAC Alarm			
184	R323	NAC Restore			
185	E523	NAC Disable			
186	R523	NAC Disable Restore			
187	E342	Fire Monitor AC Fail			
188	R342	Fire Monitor AC Fail Restore			
189	E342	Fire Monitor AC Fail Trouble			
190	R342	Fire Monitor AC Fail Trouble Restore			
191	E338	Fire Monitor Bat Test Fail			
192	R338	Fire Monitor Bat Test Restore			
193	E338	Fire Monitor Bat Test Trouble			
194	R338	Fire Monitor Bat Test Trouble Restore			
195	E341	Fire Monitor EZM Tamper Alarm			
196	R341	Fire Monitor EZM Tamper Restore			
197	E341	Fire Monitor EZM Tamper Trouble			
198	R331	Fire Monitor EZM Tamper Trouble Restore			
199	E310	Fire Monitor Ground Fault Alarm			
200	R310	Fire Monitor Ground Fault Restore			
201	E310	Fire Monitor Ground Fault Trouble			
202	R310	Fire Monitor Ground Fault Trouble Restore			
203	E111	Smoke Alarm			
204	R111	Smoke Restore			

ORDERING INFORMATION

OPTIONAL ACCESSORIES AND PERIPHERALS

GEMC-255MB-R: 255 Zone C-Series Motherboard

GEMC-128MB-R: 128 Zone C-Series Motherboard

GEMC-96MB-R: 96 Zone C-Series Motherboard

GEMC-32MB-R: 32 Zone C-Series Motherboard

All C-Series Control Panels: Installation Instructions (see WI1653)

All C-Series Control Panels: Programming Instructions (see WI1673)

FWC-FSLC-CZM: Conventional Zone Module (see WI1714)

FWC-FSLC-DUCT: Duct Smoke Detector (with relay) (see WI1711)

FWC-FSLC-EZM1: Single Contact Point Monitor (see WI1713)

FWC-FSLC-EZM2: Dual Input Monitor Module (see WI1712)

FWC-FSLC-HEAT: Heat Detector (see WI1710)

FWC-FSLC-ISO: Loop Isolator (see WI1716)

FWC-FSLC-PROG2: Hand-Held Programmer (see WI1738)

FWC-FSLC-PULL: Pull Station (see WI1736)

FWC-FSLC-RM2: Dual Relay Module (see WI1715)

FWC-FSLC-SMK: Smoke Detector (see WI1709)

FWC-FSLC-SMK6B: 6" Smoke Base (see WI1737)

FWC-FSLC-SOM1: Supervised Output Module (see WI1717)

GEMC-12V2APS: Power Supply (see WI1828)

GEMC-120VAC-R: Replacement 120V wiring harness

GEMC-24VR: Commercial Fire 24V Regulated Output Module

GEMC-2D: 2nd Door Access Control Accessory (see WI1750)

GEMC-ACM1D: Integrated Access Control Accessory (see WI1749)

GEMC-BHBM-R: Battery Harness for GEMC-BM/PS (see WI1704)

GEMC-BHMB-R: Battery Harness Motherboard (see WI1703)

GEMC-BK1: Burg keypad (see WI1650, OI342)

GEMC-BM/PS: BURG Module with 24/12V Power Supply Converter for 3A/12 Burg and separate battery circuit (see WI1700)

GEMC-BM: BURG Module without 24/12V Converter or battery circuit; shares motherboard 12V (see WI1701)

GEMC-BSLC: Burg SLC Module (see WI1648)

GEMC-BSLC-1PT: Single point expander (see WI1718)

GEMC-BSLC-4PT: Four point expander (see WI1720)

GEMC-BSLC-DT: Wireless "Dual-Tech" PIR for SLC (see WI1721)

GEMC-BSLC-PIR: Wireless PIR for SLC (see WI1719)

GEMC-BSLC-RLY: Wireless Single Point Relay Module (see WI1723)

GEMC-EZM8: Zone Expansion Module listed for Commercial Fire and Burg (see WI1683)

GEMC-F8ZCPIM: Conventional 8 Fire Zone Expander Plug in Module (see WI1651)

GEMC-FK1: Fire keypad (see WI1649, OI341)

GEMC-FPRINT: Print module for Fire Bus (see WI1708)

GEMC-FW-SLC: Fire SLC Module (see WI1647)

GEMC-HSKIT1416: Small Enclosure only + PCB mounting bar kit

GEMC-HSKIT1425: Large Enclosure only + PCB mounting bar kit

GEMC-HSKIT1416W: For Burglary-only systems. Small Enclosure only + PCB mounting bar kit (white color)

GEMC-HSKIT1425W: For Burglary-only systems. Large Enclosure only + PCB mounting bar kit (white color)

GEMC-KOTAMPERKT: Control panel enclosure anti-tamper kit

GEMC-NAC7S: Commercial Fire NAC Extender (7A, small enclosure)

GEMC-NAC7L: Commercial Fire NAC Extender (7A, large enclosure)

GEMC-NL-MOD: NetLink™ TCP/IP reporting module (WI1731)

GEMC-OUT8: 8 Output OC module for Fire or Burg - outputs unsupervised (see WI1707)

GEMC-PS24V4A-R: 4 AMP 24V Main Power Supply (see WI1702)

GEMC-PS24V7A-R: 7 AMP 24V Main Power Supply (see WI1646)

GEMC-RECV: Modified RF Receiver (see WI1682)

GEMC-RM3008: 8 Output relay module for Fire or Burg - outputs unsupervised (see WI1706)

GEMC-RS232: Control Panel / Computer Converter

GEMC-TAMPERKIT: Two universal enclosure tamper switches and related hardware

GEMC-WL-DT: Wireless Mercantile Burg Dual Tech Transmitter with back tamper (see WI1729)

GEMC-WL-GB: Wireless Commercial Glass-Break sensor (see WI1827)

GEMC-WL-HEAT: Wireless Commercial Fire Heat Detector Transmitter with back tamper (see WI1727)

GEMC-WL-PIR: Wireless Mercantile Burg PIR Transmitter with back tamper (see WI1728)

GEMC-WL-SMK: Wireless Commercial Fire Smoke Transmitter with back tamper (see WI1726)

GEMC-WL-WD: Wireless Window / Door contact (see WI1842)

GEMC-WL-WD2: Wireless Window / Door contact (see WI1743)

GEM-KEYF: Wireless Keyfob Transmitter (see WI1730)

RB1000: Relay Board (see WIxxxx)

UL LISTINGS

Police Station Alarm Units: UL365

Power Supplies for Use with Burglar Alarm Systems: UL603

Local Burglar Alarm Units and Systems: UL609

Commercial Fire: UL864 9th Edition

Household Fire Warning System Units: UL985

Household Burglar Alarm System Units: UL1023

Power Supplies for Fire-Protective Signaling Systems: UL1481

Central Station Burglar Alarm Units: UL1610

Security Industry Association (SIA) False Alarm Reduction Standard CP-01

EXAMPLES OF COMPATIBLE UL-LISTED DEVICES

Refer to the following list of recommended devices:

Residential Fire / Burglary:

- Tane SCS101 (Self Contained Dual Tone Indoor Siren, Rated 6 - 15VDC 400mA)
- GE MPI-36 (Surface Mount 2-Channel Siren/Speaker, rated 6 - 13.8VDC 350mA)
- Honeywell Ademco Wave 2 (2-Tone Siren)

* Not investigated by UL.

** Not investigated by UL for Commercial applications.

ORDERING INFORMATION

GEMC Commercial Fire and Burglary Intrusion Panels

GEMC-FW-FIRE128KT

128-Point Firewolf GEMC Commercial Fire Alarm Panel Kit, with:

- 14 x 25" Red Enclosure, GEMC-HSKIT1425
- 7A, 24V Power Supply, GEMC-PS24V7A-R
- 128 Point Addressable Fire SLC Module, GEMC-FW-SLC
- Red LCD Fire Keypad, GEMC-FK1

GEMC-FW-FIRE96KT

96-Point Firewolf GEMC Commercial Fire Alarm Panel Kit, with:

- 14 x 16" Red Enclosure, GEMC-HSKIT1416
- 4A, 24V Power Supply, GEMC-PS24V4A-R
- 96 Point Addressable Fire SLC Module, GEMC-FW-SLC

GEMC-COMBO128KT

128-Point Gemini C-Series Commercial Combo Fire/Burg Alarm Panel Kit, with:

- Large 14 x 25" Red Enclosure, GEMC-HSKIT1425
- 7A, 24V Power Supply
- Burg Module with 12V power supply provides isolated 4-wire Burglary bus for Burglary keypads and devices, plus 12V power output for auxiliary devices. Independent Burglary Bell output. Complete separation of Fire and Burglary power, plus independent Burglary battery connection and charger for independent Burglary standby operation in power failure.
- 128 Point Addressable Fire SLC Module, Burg Module, GEMC-BSLC

Commercial Fire and Burglary Accessories and Options

GEMC-BM/PS

Burg Module, with Power Supply, provides isolated 4-wire Burg bus for Burg keypads and devices, plus 12V power output for aux devices. Independent Burg Bell output. Provides complete separation of Fire and Burg power, plus independent Burg battery connection and charger to allow independent Burg standby operation in case of power failure.

GEMC-BM

Burg Module, provides isolated 4-wire Burg bus for Burg keypads and devices, plus 12V power output for aux devices. Independent Burg Bell output.

GEMC-FW-SLC

Addressable SLC Fire Module, supports up to 128 addressable SLC Fire devices. Connects to the GEMC control panel (2 maximum).

GEMC-BSLC

Addressable SLC Burg Module, supports up to 128 addressable SLC Burg devices. Connects to the GEMC control panel (2 maximum).

GEMC-F8ZCPIM

Conventional (8) zone 2-wire fire input module. Plugs into GEMC Motherboard to provide support for conventional 2-wire smoke detectors, or any other conventional fire detection device.

Burglary Peripherals

GEMC-BK1

LCD Burg Keypad for GEMC Combo System (requires GEMC-BM or GEMC-BM/PS module).

GEMC-BSLC-4PT

Addressable SLC Commercial Burg Device - 4 Point Input Expansion Module.

GEMC-BSLC-1PT

Addressable SLC Commercial Burg Device - 1 Point Input Module.

GEMC-BSLC-DT

Addressable SLC Commercial Burg Device - Dual Technology Motion Detector, PIR and Microwave, Range 40'x40'.

GEMC-BSLC-PIR

Addressable SLC Commercial Burg Device - PIR Motion Detector, Range 50'x50'.

GEMC-BSLC-RLY

Addressable SLC Commercial Burg Device - 1 Point Output Module.

GEMC-WL-PIR

Wireless Commercial Burg Device - PIR Motion Detector, Range 50'x50'.

GEMC-WL-GB

Wireless Commercial Burg Device - Acoustic Glass break Sensor, Max Range 25'.

GEMC-WL-DT

Wireless Commercial Burg Device - Dual Technology Motion Detector, PIR and Microwave, Range 40'x40'.

Fire Peripherals

GEMC-FK1

LCD Fire Keypad for GEMC Combo System, Red.

GEMC-WL-SMK

Wireless Commercial Fire Device - Photoelectric Smoke Detector.

GEMC-WL-HEAT

Wireless Commercial Fire Device - Heat Detector, 135 F.

ORDERING INFORMATION

Common Peripherals

GEMC-WL-WD2

Wireless 2 Input Module, suitable for Commercial Fire and/or Burglary applications.

GEMC-RECV

Commercial Fire and Burg approved Wireless Receiver, supports 255 devices, maximum of (4) receivers supported by GEMC system.

GEMC-EZM8

8 Point Expansion Module, suitable for Commercial Fire and/or Burg applications.

GEMC-FPRINT

Printer Module, supports parallel printer, suitable for Commercial Fire and/or Burg applications.

GEMC-RM3008

Relay Output Module, provides (8) Form C outputs, suitable for Commercial Fire and/or Burg applications.

GEMC-NL-MOD

Internet Reporting Module, suitable for Commercial Fire and/or Burg applications.

GEMC-RS232

RS232 Adaptor, Provides Serial Output from GEMC Control Panel, suitable for Commercial Fire and/or Burg applications.

GEMC-OUT8

PGM Output Module, provides (8) Open Collector PGM Outputs, suitable for Commercial Fire and/or Burg applications.

FWC-FSLC-SMK

Addressable SLC Photoelectric Smoke Detector.

FWC-FSLC-HEAT

Addressable SLC Heat Detector 135°F.

FWC-FSLC-DUCT

Addressable SLC Photoelectric Duct Smoke Detector.

FWC-FSLC-EZM2

Addressable SLC 2 zone conventional input module. provides two independent contact monitoring circuits while only utilizing one address on the SLC loop. Designed to be used with pull stations, water flow switches, and other applications requiring the monitoring of dry contact alarm initiating devices.

FWC-FSLC-EZM1

Addressable SLC single input conventional input module. Designed to be used with pull stations, water flow switches, and other applications requiring the monitoring of dry contact alarm initiating devices.

FWC-FSLC-CZM

Addressable SLC single module allows the monitoring of dry contacts such as pull stations and two-wire conventional smoke detectors.

FWC-FSLC-RM2

Addressable SLC Dual Relay Module, provides 2 outputs while only requiring one SLC address.

FWC-FSLC-ISO

Addressable SLC Fire Isolation Module. Can be used to meet Class A, Style 7 loop requirements.

FWC-FSLC-SOM1

Addressable SLC Fire Supervised Output Module. Can be used for output functions such as elevator recall and HVAC shutdown, or as additional NAC output if used with an additional power supply.

FWC-FSLC-PULL

Addressable SLC Fire Pull Station.

FWC-FSLC-PROG2

Programmer required for programming address into SLC devices.

FWC-FSLC-SMK6B

Base required for FWC-FSLC-SMK and FWC-FSLC-HEAT devices.

Support Products

GEMC-12V2APS-CF

Remote Supervised 12VDC Power Supply. Connects to Fire Bus, powered by direct 120VAC connection, supports (2) pair of 12V, 7AH standby batteries.

GEMC-12V2APS-R

Remote Supervised 12VDC Power Supply. Connects to Burg Bus, powered by supplied 16.5V, 50VA plug-in transformer, supports (2) pair of 12V, 7AH standby batteries.

GEMC-NACXX

Remote NAC Extender. Provides four (4) NAC Outputs for a combined output rating of 6.5A, or a maximum of 2A on any one output. Includes red enclosure (14"x16"), must be connected to 120VAC source, supports maximum of 28AH standby batteries ((4) pair 12V, 7AH batteries). Connects to GEMC Fire Bus and is fully supervised. Any or all NAC outputs may be configured as remote power supply outputs. Supports Wheelock and System Sensor NAC synchronization. Maximum of (5) GEMC-NACxx's may be added to GEMC control panel, allowing for a maximum of 20 additional NAC circuits.

SYSTEM CURRENT CALCULATION TABLES

Most installations can be configured without using additional power supplies, however larger systems may require them. In large systems, the current charts must be used to determine if the design is possible and how many additional power supplies are required.

As the GEMC-FW-SLC, GEMC-BSLC and the GEMC-F8ZCPIM can only derive their power from the motherboard, additional power supplies cannot be used to increase the capability of these circuits. Therefore, these charts must first be completed to determine if the system design is possible.

FIRE SLC (PLUGGED INTO SLC 1)				
	Mapped Device Type	Quantity	32V Nominal Loop current (mA)	Totals
1	FWC-FSLC-ISO (Short Circuit Isolator)		0.27	
2	FWC-FSLC-SMK (Photoelectric Smoke)		0.39	
3	FWC-FSLC-HEAT (Heat Detector)		0.35	
4	FWC-FSLC-DUCT (Duct Smoke Detector)		0.39	
5	FWC-FSLC-EZM2 (Dual Input Monitor Module)		0.60	
6	FWC-FSLC-EZM1 (Fast Response Contact Monitoring Module)		0.55	
7	FWC-FSLC-CZM (Conventional Zone Module)		0.675	
8	FWC-FSLC-RM2 (Dual Relay Module)		0.15	
9	FWC-FSLC-SOM1 (Supervised Output Module)		0.22	
10	FWC-FSLC-PULL (Addressable Manual Pull Station)		0.55	
Total 32V Nominal Loop current (mA) >				Total A: mA
For 24V Standby Current (mA) multiply "Total A" by 1.75 (FSLC conversion factor) and enter here >				Total B: mA
For 24V Alarm Current (mA) add 40mA (5 x 8mA LED current) and enter here >				Total C: mA

FIRE SLC (PLUGGED INTO SLC 2)				
	Mapped Device Type	Quantity	32V Nominal Loop current (mA)	Totals
1	FWC-FSLC-ISO (Short Circuit Isolator)		0.27	
2	FWC-FSLC-SMK (Photoelectric Smoke)		0.80	
3	FWC-FSLC-HEAT (Heat Detector)		0.50	
4	FWC-FSLC-DUCT (Duct Smoke Detector)		0.20	
5	FWC-FSLC-EZM2 (Dual Input Monitor Module)		0.72	
6	FWC-FSLC-EZM1 (Fast Response Contact Monitoring Module)		0.66	
7	FWC-FSLC-CZM (Conventional Zone Module)		0.72	
8	FWC-FSLC-RM2 (Dual Relay Module)		0.40	
9	FWC-FSLC-SOM1 (Supervised Output Module)		1.61	
10	FWC-FSLC-PULL (Addressable Manual Pull Station)		0.66	
				Total X: mA
For 24V Standby Current (mA) multiply "Total X" by 1.75 (FSLC conversion factor) and enter here >				Total X: mA

The 32V nominal output of the GEMC-FW-SLC Fire SLC PC board is protected from over-current by the driver IC to 700mA. The maximum output rating is 150mA @ 32V. Each 100mA of 32V Fire SLC current is equivalent to 200mA @ 24V battery standby current. The GEMC-FW-SLC draws 82mA standby current. The 24V standby current of the GEMC-FW-SLC (and the SLC points on its loop) is equal to 82mA + 2mA (32V SLC current).

SYSTEM CURRENT CALCULATION TABLES (CONT'D)

BURG SLC (PLUGGED INTO SLC 1)				
	Mapped Device Type	Quantity	18V Nominal Loop Current (mA)	Totals
1	GEMC-BSLC-1PT Single Point Expander		2	
2	GEMC-BSLC-4PT Four Point Expander		4	
3	GEMC-BSLC-PIR Passive Infrared Sensor		18	
4	GEMC-BSLC-DT Dual-Technology PIR Sensor		18	
5	GEMC-BSLC-RLY Single Point Relay Module		10.5	
				Total X: mA
For 24V Standby Current (mA) multiply "Total X" by .91 (BSLC conversion factor) and enter here >				Total X: mA

BURG SLC (PLUGGED INTO SLC 2)				
	Mapped Device Type	Quantity	18V Nominal Loop Current (mA)	Totals
1	GEMC-BSLC-1PT Single Point Expander		2	
2	GEMC-BSLC-4PT Four Point Expander		4	
3	GEMC-BSLC-PIR Passive Infrared Sensor		18	
4	GEMC-BSLC-DT Dual-Technology PIR Sensor		18	
5	GEMC-BSLC-RLY Single Point Relay Module		10.5	
				Total X: mA
For 24V Standby Current (mA) multiply "Total X" by 0.91 (BSLC conversion factor) and enter here >				Total X: mA

The 16.5V nominal output of the GEMC-BSLC Burglary SLC PC board is protected from over-current by the driver IC to 700mA. The maximum output rating is 500mA @ 16.5V. Each 100mA of 16.5V GEMC-BSLC current is equivalent to 105mA @ 24V battery standby current. The GEMC-BSLC draws 55mA standby current. The 24V standby current of the GEMC-BSLC (and the SLC points on its loop) is equal to 82mA + 2mA (32V SLC current).

SYSTEM CURRENT CALCULATION TABLES (CONT'D)

Mother Board (Summary)		12V Fire Bus	12V Auxiliary	FIM Module	Burg Module	Fi
	Device or Terminal Output	Quantity	Current Drawn (mA)			
1	Module		120.00			
2	Zones Used	8	40.00			
3	GEMC-F8ZCPIM Used Zones in Alarm	8	320.00			
4	AUX PWR +12v		0.00			
5	RST PWR +12v		0.00			

GEMC-F8ZCPIM PLUG-IN MODULE				
	Device or Terminal Output	Quantity	24V Standby Current (mA)	Totals
1	GEMC-F8ZCPIM - Module		120.00	
2	GEMC-F8ZCPIM - Zones Used	8	40.00	
3	GEMC-F8ZCPIM - Used Zones in Alarm	8	320.00	
4	GEMC-F8ZCPIM - AUX PWR +12V			
5	GEMC-F8ZCPIM - RST PWR +12V			
				Total X: mA
For 24V Standby Current (mA) multiply "Total X" by 0.6 (12V conversion factor) and enter here >				Total X: mA

SYSTEM CURRENT CALCULATION TABLES (CONT'D)

12V FIRE BUS					
	Device of Terminal Output		Quantity	12 Standby Current Draw per Device (mA)	Total 12V Standby Current (mA)
1	GEMC-FK1			115.00	
2	GEMC-FPRINT			90.00	
3	GEMC-RM3008	Board		22.00	
4		Relays Normally Energized		12.00	
5		Relays Energized on Alarm			
6	GEMC-RECV			70.00	
7	GEMC-OUT8			35.00	
8	EZM	GEMC-EZM8		104.00	
9		GEMC-12V2APS-CF		8.00	
10		GEMC-NAC6A		8.00	
					Total X: mA
For 24V Standby Current (mA) multiply "Total X" by 0.6 (12V conversion factor) and enter here >					Total X: mA

The Fire Bus 12V power is protected with a 1.5A over-current device. The output is only rated for 750mA to ensure the output will work at 50°C. If more than 750mA Fire Bus current is required, the Fire AUX PWR* output and/or a listed 12V power supply such as the GEMC-12V2APS-CF may be used to supply the additional current.

12V FIRE AUXILIARY				
	Device of Terminal Output	Quantity	12 Standby Current Draw per Device (mA)	Total 12V Standby Current (mA)
1	GEMC-NL-MOD		85.00	
2	GEMC-RS232		60.00	
3	Fire Aux Relay Normally Energized		35.00	
4	Fire Aux Relay Standby Load			
5	Fire Aux Relay Alarm Load			
				Total X: mA
For 24V Standby Current (mA) multiply "Total X" by 0.6 (12V conversion factor) and enter here >				Total X: mA

The Fire AUX PWR 12V power is protected with a 1.5A over-current device. The output is only rated for 750mA to ensure the output will work at 50°C. If more than 750mA auxiliary current is required, a listed 12V power supply such as the GEMC-12V2APS-CF may be used to supply the additional current.

*If Fire AUX PWR is used to supply current to the remote bus, it must be dedicated (supplying current to no other circuits extending from the housing).

SYSTEM CURRENT CALCULATION TABLES (CONT'D)

BURGLARY MODULE (GEMC-BM OR GEMC-BM/PS)					
	Device of Terminal Output		Quantity	Current Drawn (mA)	Totals
1	GEMC-BK1			220.00	
2	GEMC-RECV				
3	GEMC-RM3008	Board			
4		Relays Normally Energized			
5		Relays Energized on Alarm			
6	GEMC-OUT8				
7	GEM-ACCESS				
	Burg Module 12V Aux Power				
	Burg Module 12V Aux Relay				
	Burg Module Burg Bell on Alarm				
8	EZM	GEMC-BK1			
9		GEMC-EZM8			
10		GEMC-12V2APS-R			
					Total X: mA
					Total X: mA

MOTHERBOARD (SUMMARY)							
(Load Current for 24VR Module: _____mA)							
	Summary		Standby Current (mA)	Standby + Alarm Current (mA)	Amp Hours 24Hr Standby	Amp Hours 4Hr Standby	Totals
1	GEMC-24VR Module						
2	24 NAC Outputs on Alarm						
3	12V Fire Bus						
4	12V Auxiliary						
5	Burg Module	GEMC-BM (24V)					
6		GEMC-BM/PS (12V)					
7	Fire SLC1						
8	Burg SLC 2						
	24V Battery Total						
	24V Battery Total						
Totals							

NOTES

FCC STATEMENT

This equipment generates and uses radio-frequency energy and, if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class-B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: reorient the receiving antenna; relocate the computer with respect to the receiver; move the computer away from the receiver; plug the computer into a different outlet so that computer and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful: "How to Identify and Resolve Radio-TV Interference Problems". This booklet is available from the U.S. Government Printing Office, Washington, DC 20402; Stock No. 004-000-00345-4.

CAUTION: This equipment generates and uses radio-frequency energy. If not installed using conventional installation practices for RF devices, it may cause interference to radio and television reception. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart B of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference. However, there is no guarantee that interference will not occur in a particular installation. If it has been found to cause interference to radio or television reception, which can be determined by removing and reapplying AC and battery power to the equipment, the installer should try to correct the interference by one or more of the following measures: reorient the receiving antenna; connect the power transformer to a different outlet so that the control panel and receiver are on different branch circuits; relocate the control panel with respect to the receiver.

Warning: The use of non-NAPCO wireless devices with this control panel has not been evaluated by UL and voids the UL listing. In addition, the performance of these devices can not be guaranteed as compatible with NAPCO control panels. UL Listed to UL864 9th Edition when used in conjunction with GEMC-Series and other UL 864 9th edition Control Units as specified in the Control Unit Installation Instructions.

NAPCO LIMITED WARRANTY

NAPCO SECURITY SYSTEMS, INC. (NAPCO) warrants its products to be free from manufacturing defects in materials and workmanship for *thirty-six months* following the date of manufacture. NAPCO will, within said period, at its option, repair or replace any product failing to operate correctly without charge to the original purchaser or user.

This warranty shall not apply to any equipment, or any part thereof, which has been repaired by others, improperly installed, improperly used, abused, altered, damaged, subjected to acts of God, or on which any serial numbers have been altered, defaced or removed. Seller will not be responsible for any dismantling or reinstallation charges.

THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. THERE IS NO EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR A WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. ADDITIONALLY, THIS WARRANTY IS IN LIEU OF ALL OTHER OBLIGATIONS OR LIABILITIES ON THE PART OF NAPCO.

Any action for breach of warranty, including but not limited to any implied warranty of merchantability, must be brought within the six months following the end of the warranty period. IN NO CASE SHALL NAPCO BE LIABLE TO ANYONE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES FOR BREACH OF THIS OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, EVEN IF THE LOSS OR DAMAGE IS CAUSED BY THE SELLER'S OWN NEGLIGENCE OR FAULT.

In case of defect, contact the security professional who installed and maintains your security system. In order to exercise the warranty, the product must be returned by the security professional, shipping costs prepaid and insured to NAPCO. After repair or replacement, NAPCO assumes the cost of returning products under warranty. NAPCO shall have no obligation under this warranty, or otherwise, if the product has been repaired by others, improperly installed, improperly used, abused, altered, damaged, subjected to accident, nuisance, flood, fire or acts of God, or on which any serial numbers have been altered, defaced or removed. NAPCO will not be responsible for any dismantling, reassembly or reinstallation charges.

This warranty contains the entire warranty. It is the sole warranty and any prior agreements or representations, whether oral or written, are either merged herein or are expressly cancelled. NAPCO neither assumes, nor authorizes any other person purporting to act on its

behalf to modify, to change, or to assume for it, any other warranty or liability concerning its products.

In no event shall NAPCO be liable for an amount in excess of NAPCO's original selling price of the product, for any loss or damage, whether direct, indirect, incidental, consequential, or otherwise arising out of any failure of the product. Seller's warranty, as hereinabove set forth, shall not be enlarged, diminished or affected by and no obligation or liability shall arise or grow out of Seller's rendering of technical advice or service in connection with Buyer's order of the goods furnished hereunder.


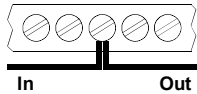
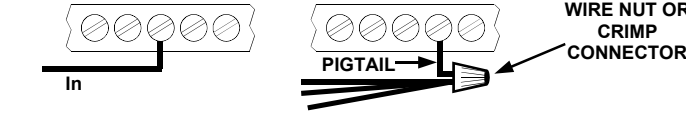

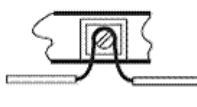
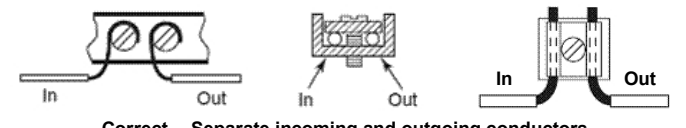
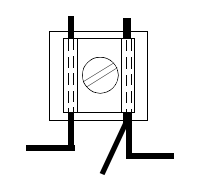
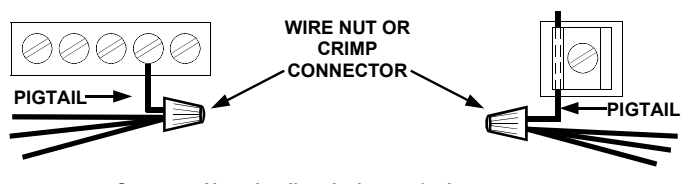
NAPCO RECOMMENDS THAT THE ENTIRE SYSTEM BE COMPLETELY TESTED WEEKLY.

Warning: Despite frequent testing, and due to, but not limited to, any or all of the following: criminal tampering, electrical or communications disruption, it is possible for the system to fail to perform as expected. NAPCO does not represent that the product/system may not be compromised or circumvented; or that the product or system will prevent any personal injury or property loss by burglary, robbery, fire or otherwise; nor that the product or system will in all cases provide adequate warning or protection. A properly installed and maintained alarm may only reduce risk of burglary, robbery, fire or otherwise but it is not insurance or a guarantee that these events will not occur. CONSEQUENTLY, SELLER SHALL HAVE NO LIABILITY FOR ANY PERSONAL INJURY, PROPERTY DAMAGE, OR OTHER LOSS BASED ON A CLAIM THE PRODUCT FAILED TO GIVE WARNING. Therefore, the installer should in turn advise the consumer to take any and all precautions for his or her safety including, but not limited to, fleeing the premises and calling police or fire department, in order to mitigate the possibilities of harm and/or damage.

NAPCO is not an insurer of either the property or safety of the user's family or employees, and limits its liability for any loss or damage including incidental or consequential damages to NAPCO's original selling price of the product regardless of the cause of such loss or damage.

Some states do not allow limitations on how long an implied warranty lasts or do not allow the exclusion or limitation of incidental or consequential damages, or differentiate in their treatment of limitations of liability for ordinary or gross negligence, so the above limitations or exclusions may not apply to you. This Warranty gives you specific legal rights and you may also have other rights which vary from state to state.

IMPORTANT WIRING METHODS

 <p>For single-conductor terminal blocks (like the type shown at left), to terminate more than one conductor to a terminal, use the wiring methods shown at right:</p>	 <p>In</p> <p>Out</p> <p>Incorrect</p>	 <p>WIRE NUT OR CRIMP CONNECTOR</p> <p>PIGTAIL</p> <p>In</p> <p>Out</p> <p>Correct -- Single incoming and/or pigtail with wire nut / crimp connectors</p>
 <p>For "barrier" type terminal blocks (like the type shown at left), to terminate two conductors to a terminal, use the wiring methods shown at right:</p>	 <p>Incorrect</p>	 <p>In</p> <p>Out</p> <p>In</p> <p>Out</p> <p>Correct -- Separate incoming and outgoing conductors</p>
<p>To terminate more than two conductors or conductors of different wire sizes to a terminal, use the "pigtail" type wiring method as shown at right. Use insulated wire for the pigtail, and firmly secure the conductors to the pigtail using an appropriate wire nut or crimp connector for the number and gauge of conductors used.</p>	 <p>Incorrect</p>	 <p>WIRE NUT OR CRIMP CONNECTOR</p> <p>PIGTAIL</p> <p>PIGTAIL</p> <p>Correct -- Use pigtail and wire nut / crimp connector</p>