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# GEMC-NAC7L / GEMC-NAC7S SUPERVISED NAC EXTENDER DATA SHEET

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## INTRODUCTION

The GEMC 7-Ampere NAC Extender includes 2 models: The **GEMC-NAC7L** (used with the large enclosure) and **GEMC-NAC7S** (used with the small enclosure).

### Notification Appliance Circuits (NAC's)

A Notification Appliance Circuit is a circuit or path directly connected to a *notification appliance*, i.e. any audible, tactile or visual signal--or any combination thereof--employed to indicate a fire, supervisory or trouble condition.

The Gemini C-Series control panels comply with National Fire Protection Association (NFPA) requirements for temporal pulse sounding of fire notification appliances. Use only the specified UL Listed notification appliances. **Note:** For INDOOR / DRY LOCATION USE ONLY.

When used with a Gemini C-Series control panel, the GEMC-NACXX functions as if it were two separate modules, an **External Output** ("Fire NAC Extender" board) with 7 of the 8 outputs utilized (the first 4 supervised) and a **4-Zone EZM** (Expansion Zone Module) used to send the status of a device (AC ON/OFF, BATTERY GOOD/TBL, GROUND FAULT and TAMPER) to the C-Series control panel.

The GEMC-NACXX is wired to the 4-wire fire bus of the C-Series control panel, and provides:

- 4-Supervised Outputs suitable as 24V, maximum 2A each, combined 6.5A maximum regulated Notification Appliance Circuits. These outputs can be configured as:
  - 4 Class B or
  - 1 Class A and 2 Class B or
  - 2 Class A
- 3-Unsupervised Form-C Dry relay outputs activated by a programmed event generated by the Gemini C-Series control panel (the 8th output is not used)
- One supervised, isolated GEMC-Remote Bus interface
- One normally-closed (N/C) housing tamper input, identified by trouble on dedicated integral EZM zone
- Isolated integral ground-fault detection circuit (detects 1.25KΩ to ground or less)
- One isolated input (terminals 1-2) to synchronize "Smart" outputs (Listed *Wheelock* or *System Sensor* horns/strobes) with other outputs from the C-Series motherboard or other GEMC-NACXX devices
- Power supply contains integral battery charger capable of charging up to 4 pairs of 7AH / 7.5AH / 8AH sealed lead acid or gel type 12V batteries. **Note:** All batteries must be of the same AH rating.
- The system monitors for low battery, no battery, brown-out and monitors battery charging circuit voltage, identi-

fied by battery trouble on dedicated integral EZM zone

- Remote bus interface and two Inputs are isolated, thus allowing for separate ground fault detection and annunciation
- Allows audible notification appliances (horns) to be silenced while visual notification appliances (strobes) continue to operate
- Input allows synchronized *Wheelock/System Sensor* operation between the motherboard or other C-Series NAC circuits, allowing for multiple NAC circuits to be used within the same area
- Each of the 4 NAC circuits are individually supervised for opens or shorts, and will annunciate and report separately
- Solid State over-current protection on the four NAC's
- The maximum number of GEMC-NACXX's can be used on a Gemini C-Series control panel is five (5), thus allowing for a maximum of 20 additional NAC circuits
- Surface/semi-flush cabinet included
- Automatic switchover to stand-by battery when AC Fails
- 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.

## SPECIFICATIONS

### 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:** 12.0V Nominal, 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 circuit in alarm; 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 Special Applications for use with the GEMC-24VR; these auxiliary outputs are then 24V Regulated.

#### Supervision:

- AC fail supervision local annunciation, 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 (NAPCO EOL2.2K).

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

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

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

**Input control circuit:** 10-30VDC @ 20mA maximum.

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

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

## **PHYSICAL**

### **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 two 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")

## **ORDERING INFORMATION**

**GEMC-NACXX:** Remote NAC Extender.

## **AGENCY LISTINGS:**

UL864 9th edition: UL Listed Control Units and Accessories for Fire Alarm Systems (pending)

CSFM: California State Fire Marshall (Pending)

NFPA 72 National Fire Alarm Code

UL864 9th Edition: Commercial Fire

NFPA 72 National Fire Alarm Code

CSFM: California State Fire Marshall (Pending)

FM Approval: (Pending)

NYCFD: NYC Fire Department (Pending)