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# GEMC-12V2APS-CF, GEMC-12V2APS-R & GEMC-12V2ABOARD REGULATED POWER SUPPLY DATA SHEET

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## OVERVIEW

There are two versions of the GEMC-12V2APS: GEMC-12V2APS-CF (Commercial Fire) contains a transformer mounted inside the housing that requires a direct connection to a dedicated 120VAC circuit. The GEMC-12V2APS-R (Residential Fire/Burglary, Commercial Burglary) uses a plug-in 16.5VAC, 50VA class 2 transformer. Both versions use the GEMC-12V2ABOARD UL Listed Subassembly. The GEMC-12V2APS-CF or GEMC-12V2APS-R can be used as either:

- A UL Listed Accessory to a Gemini C-Series Combination Fire & Burglary Alarm control panel and GEMINI series control panels (GEM-X255, GEM-P9600, GEM-P3200, Freedom F-64, GEM-P1664, GEM-P1632 and GEM-P816).

--or--

- A UL Listed power supply for use with any listed Fire Alarm Control Panel (FACP), burglary control panel or access control system requiring an additional 12VDC auxiliary power

Both versions use the GEMC-12V2ABOARD UL Listed subassembly, suitable for use as a replacement board.

## FEATURES

When used with a Gemini C-Series control panel, the GEMC-12V2APS functions as an auxiliary 12V power supply with an integral **EZM** (Expansion Zone Module) used to send the status of the module (AC ON/OFF, BATTERY GOOD/TBL and TAMPER) to the control panel.

The GEMC-12V2APS is wired to the 4-wire fire bus of the C-Series control panel, and provides:

- 3-Unsupervised active-low 2A outputs activated by AC FAIL, BATTERY TBL and MICRO TBL.
- One supervised GEMC-Remote Bus interface
- One normally-closed (N/C) housing tamper input, identified by trouble on dedicated integral EZM zone
- 4 status LED's
- Power supply contains integral battery charger capable of charging up to 1 pair of 12AH/12V sealed lead acid batteries
- The system monitors for low battery, no battery, brownout\* and monitors battery charging circuit voltage, identified by trouble on dedicated integral EZM zone
- Solid State over-current protection
- Integral housing tamper switch inputs to protect against the unauthorized opening of the housing

cover and a rear tamper protecting removal of the housing from its mounting surface

- The maximum number of GEMC-12V2APS's can be used on a Gemini C-Series control panel is determined by the number of available EZM's to monitor status. Each GEMC-12V2APS requires 3 zones (AC FAIL, BATT TBL and TBL) of the 4 EZM zones.
- Cabinet included
- Automatic switchover to stand-by battery when AC Fails
- In Commercial installations, the power supplies are not to be employed as a power source for local audible alarm sounding devices or for off-premises alarm transmitter/communicators.

## 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 120°F (0°C to 49°C).

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

## 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).

## PHYSICAL

### 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.

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

## AGENCY LISTINGS

UL 603: Power Supplies for Use with Burglar-Alarm Systems

UL985: Household Fire Warning System Units

UL 1481: Power Supplies for Fire-Protective Signaling Systems (-CF Version only)

NFPA 72 National Fire Alarm Code

CSFM: California State Fire Marshall (Pending)

FM Approval: (Pending)

NYCFD: NYC Fire Department (Pending)

### UL LISTINGS for the GEMC-12V2APS-CF,-R:

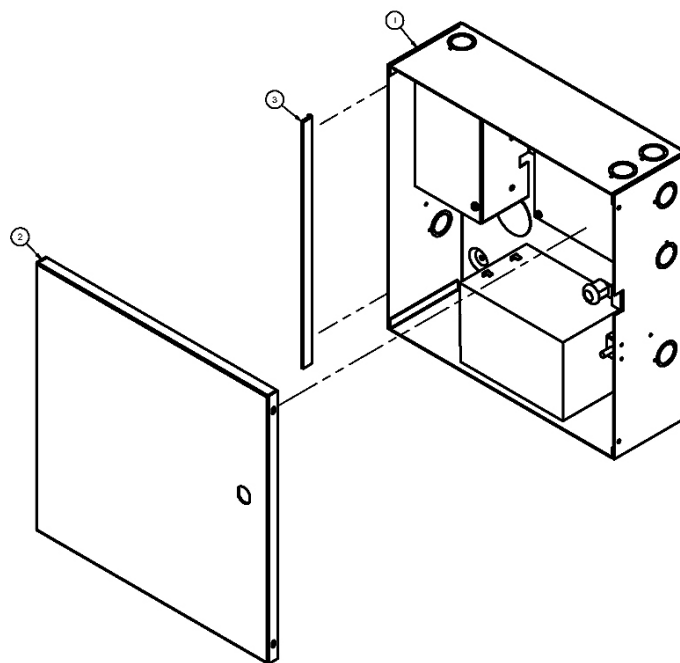
UL603: Power Supplies for Use with Burglar Alarm Systems

UL1481: Power Supplies for Fire Protective Signaling Systems (for -CF only)

## ORDERING INFORMATION

**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.



EXPLODED VIEW OF GEMC-12V2APS ENCLOSURE.

- (1) - HOUSING BASE (PART H457)  
(2) - HOUSING COVER (PART H458)  
(3) - HINGE (PART P5655)

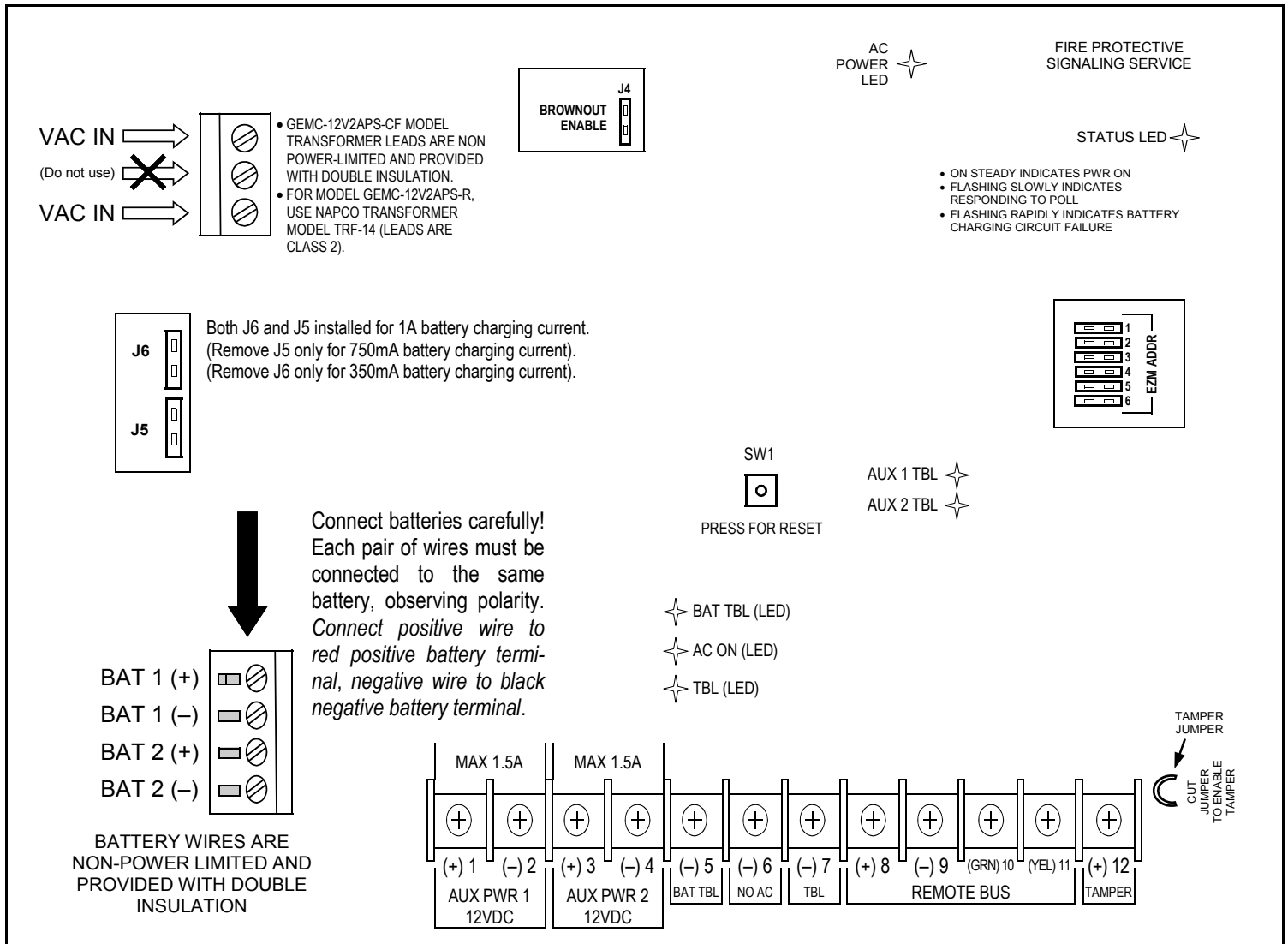
## LED STATUS INDICATION TABLE (for inputs, outputs & trouble memory status)

| LED NAME   | OFF                          | ON  | FLASH TYPE*   |
|------------|------------------------------|---|---|
| EZM STATUS | No Power                     | Power on but no poll  | (Short Flash is "normal")<br>Rapid flash indicates charging circuit trouble |
| BAT TBL    | Normal                       | Low battery, no battery or charging circuit trouble   | ---   |
| AC ON      | AC Loss (running on battery) | AC present (with or without battery power)  | ---   |
| TBL        | Normal                       | Low battery, no battery or charging circuit trouble, AC Loss (running on battery), tamper indication, microprocessor failure, or overcurrent on Aux 1 or Aux 2. | ---   |
| PWR        | No Power                     | Power present   | ---   |
| AUX 1      | Normal                       | Output Overload   | ---   |
| AUX 2      | Normal                       | Output Overload   | ---   |

\* May indicate trouble condition.

# REGULATED POWER SUPPLY:

## GEMC-12V2APS-CF, GEMC-12V2APS-R & GEMC-12V2ABOARD WIRING DIAGRAM



- MAX COMBINED 12V REGULATED (MAX 0.5V RIPPLE) **AUX PWR** OUTPUT = 2 AMPS FOR -CF VERSION, 1.75A FOR -R VERSION (**LESS 40mA STANDBY CURRENT FOR POWER SUPPLY BOARD**).
- INPUT RATED 120V, 1A, 60HZ FOR -CF VERSION; 120V, 60HZ, 60W FOR -R VERSION.
- MAX 12V REGULATED (MAX 0.5V RIPPLE) **AUX PWR** OUTPUT FROM EITHER OUTPUT = 1.5 AMPS.
- REFER TO W11828 FOR ADDITIONAL INSTALLATION INSTRUCTIONS AND STANDBY CURRENT BATTERY CHARTS.
- AUX PWR 1, AUX PWR 2, AND REMOTE BUS** WIRES ARE POWER LIMITED.
- CONNECT **BAT TBL, NO AC** AND **TBL** TERMINALS ONLY TO POWER LIMITED SOURCES MAX 30V, 2A.
- ROUTE POWER LIMITED WIRING OUTSIDE OF TRANSFORMER COMPARTMENT.
- STANDBY CURRENT DETERMINED BY BATTERIES AND APPLICATION.
- WIRE RANGE 14-22AWG. MAXIMUM TWO WIRES PER TERMINAL. EXCEPTION: ONE WIRE PER TERMINAL FOR BATTERY TERMINAL BLOCK AND "VAC IN" TERMINAL BLOCK.
- INSTALL IN ACCORDANCE WITH NFPA 72 AND ALL LOCAL CODES.

### GEMC-12V2APS-CF COMMERCIAL BURGLARY BATTERY / CURRENT SPECIFICATIONS

| BATTERY CONFIGURATION   | JUMPER SELECTION |         |                       | MAXIMUM 4 HOUR 12V STANDBY CURRENT* | MAXIMUM 24 HOUR 12V STANDBY CURRENT* | MAXIMUM 12V STANDBY + ALARM CURRENT* |
|-------------------------|------------------|---------|-----------------------|-------------------------------------|--------------------------------------|--------------------------------------|
|                         | SHUNT 5          | SHUNT 6 | RECHARGE CURRENT (mA) |                                     |                                      |                                      |
| TWO 12V 4AH, 4.5AH, 5AH | ON               | ON      | 1000                  | 1.25A                               | 0.250A                               | 1.75A                                |
| TWO 12V 7AH, 7.5AH      | ON               | ON      | 1000                  | 2A                                  | 0.500A                               | 2A                                   |
| TWO 12V 8AH             | ON               | ON      | 1000                  | 2A                                  | 0.550A                               | 2A                                   |
| TWO 12V 12AH            | ON               | ON      | 1000                  | 1.1A                                | 0.850A                               | 2A                                   |

### GEMC-12V2APS-CF COMMERCIAL FIRE BATTERY / CURRENT SPECIFICATIONS

| BATTERY CONFIGURATION   | JUMPER SELECTION |         |                       | MAXIMUM 24 HOUR 12V STANDBY CURRENT* | MAXIMUM 12V STANDBY + ALARM CURRENT* |
|-------------------------|------------------|---------|-----------------------|--------------------------------------|--------------------------------------|
|                         | SHUNT 5          | SHUNT 6 | RECHARGE CURRENT (mA) |                                      |                                      |
| TWO 12V 4AH, 4.5AH, 5AH | ON               | ON      | 1000                  | 0.250A                               | 2A                                   |
| TWO 12V 7AH, 7.5AH      | ON               | ON      | 1000                  | 0.500A                               | 2A                                   |
| TWO 12V 8AH             | ON               | ON      | 1000                  | 0.550A                               | 2A                                   |
| TWO 12V 12AH            | ON               | ON      | 1000                  | 0.85A                                | 2A                                   |

\*Less 40mA standby current for power supply board  
SEE W11828 FOR OTHER STANDBY AND ALARM RATINGS.