



### Dome Light with Backup Battery Functionality

The product is designed to provide White and Blackout light at a flood beam angle, it uses multiple LED technology.

Light control is enabled by a momentary push button switch located on the product.

The product is designed to provide moment illumination for a specific cabin or workstation areas.

The design utilizes solid state technology and a constant current drive circuit to achieve a consistent and power economical light output at an input voltage range of 16-33VDC.

The product is designed to meet the rigorous requirements of military ground vehicle environments.

The product comprises Backup battery functionality, active while mains are disconnected or during vehicle power supply failure event.


### Features

- \* **Spectral color** – White and Blue
- \* **Simple mounting** – Mounted by 6 screw holes.
- \* **Receptacle type** – The unit utilizes connector type GHW 18355 052 000
- \* **Dimming control** – Light intensity is controllable through a potentiometer.
- \* **Low Voltage Alert** – Low Voltage visual Alert of the vehicle's battery.
- \* **Backup Battery** – Active during vehicle power supply failure event.

### Product No. PA26708

#### Technical Specifications

Input Voltage	16 – 33 VDC
Input Current at 24V	180mA ±10%
Power Consumption at 24V	4.3 Watts
Input Over Voltage Protection	Included
Input Reverse voltage Protection	Included
Light source	LEDs
White Light Center Luminance at 1m	60 Lux
Blackout Light Center Luminance at 1m	8 Lux
Dominant Wave Length	465nm
Light Beam Angle FWHM	100°
Operating Temperature Range	-40°C to +71°C
Dimensions (L x W x H) mm	drawing No. PA26708
Weight	750 gram
Water sealing	MIL-STD-810E
Transient Voltage Characteristics	MIL-STD-1275A

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EMI Characteristics	MIL-STD-461E
Built-In EMI RFI Filter, Low Noise	MIL-STD-461E
Mechanical Shock Test	MIL-STD-810E
Random Vibration	MIL-STD-810E
External Color	Black

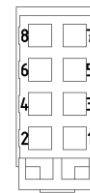
Connector pin-out  
GHW 18355 052 000

PIN No.	Cable Wire No.	Functional Description	Remarks (NC: not connected)
1	1	(+) Input Supply Voltage	
2	2	(-) Input Supply Return / ground	
3	3	Hatches Status	(+) Hatches open (- / NC) hatches closed
4	4	Blackout Status	(+) Blackout Not Externally Enforced (- / NC) Blackout Externally Enforced

### Functionality Truth Table

NC: Not Connected

Hatch State	Signal	Blackout Enforce State	Signal	Light Color
Open	(+V)	Yes	(- / NC)	Blackout (blue only)
Open	(+V)	No	(+V)	Blackout (blue only)
Closed	(- / NC)	Yes	(- / NC)	Blackout (blue only)
Closed	(- / NC)	No	(+V)	blue / white



CONNECTOR PIN DETAILS

### Functionality:

#### **Energizing both Pin 3 (Hatch open) and Pin 4 (Blackout Not Enforced).**

Upon energizing both Pin 3 and Pin 4, light is OFF  
Indicator LED on the pushbutton starts flickering, indicating that the system is active and Backup Battery is being charged.  
Only Blackout light is enabled upon short depression of the pushbutton.  
A consecutive short depression turns OFF the light.

#### **Energizing only Pin 4 (Blackout Not Enforced, Hatch Closed).**


Blackout and White light are enabled.  
Upon energizing Pin 4, light is OFF  
Indicator LED on the pushbutton starts flickering, indicating that the system is active and Backup Battery is being charged.  
Blackout light is enabled upon short depression of the pushbutton.  
A 3 seconds continuous depression of the pushbutton while Blackout light is on, changes to White light.  
A consecutive short depression turns OFF the light.

#### **Hatch and Blackout Functionality**

Upon Hatch opening (Pin 3 is energized)  
Light will switch immediately to Blackout light if White light was operating



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Upon Hatch closing, light will turn back to White light.  
The same scenario will occur if Blackout light Pin 4 is disconnected (Blackout Enforced).

#### **Light intensity control**

Light intensity is controlled by a Potentiometer.  
Light intensity is controllable between 1 - 100% during normal operation.  
Light intensity is controllable between 5 - 100% during Backup Battery operation.

#### **Backup Battery Charging Routine**

Upon reconnecting Dome Light to mains, the indicator LED on the pushbutton starts flickering at 1Hz, indicating that the Backup Battery is being charged.  
When the battery is fully charged, the indicator LED stops flickering and remains lit, indicating that the system is active and charged.  
When Backup Battery is defective, indicator LED flickers rapidly.  
During Backup Battery operation, indicator LED on the pushbutton remains unlit.

#### **Backup Battery Functionality (Emergency Mode):**

Backup Battery is active while mains is disconnected or during vehicle power supply failure event.

#### **OFF to ON:**

A short depression of the pushbutton will turn on the lamp in Blackout light for 5 minutes.

#### **Blackout to OFF:**

Once Blackout light is on, a short depression of the pushbutton turns the light OFF.

#### **Blackout to White:**

Changing from Blackout light to White light, requires a 3 seconds continuous depression of the pushbutton while Blackout light is on.

#### **White to OFF:**

Once White light is on, a short push on the pushbutton turns the light OFF.

#### **Potentiometer:**

Light intensity is controllable between 1% to 100% by a Potentiometer.

#### **Light intensity under Backup Battery Functionality**

White and Blackout light intensity is reduced to enable a long use of the internal Backup Battery.

#### **LVD – Low Voltage Detection alert**

Vehicle's battery low voltage monitoring.

When the vehicle's battery voltage falls below a predetermined value (21.5V) the system automatically shifts to **Low Voltage Detection** visual Alert as follows:

- White light and Blackout light flickers alternately if White light was lit.
- Blackout light flickers if the Blackout light was lit.
- A brief press of the push button suspends the alert for 2 minutes.