

Appleton™ ALPN/ALPF/APPN/APPF Explosion-Proof Panelboard Instruction Manual

RETAIN THIS INSTRUCTION SHEET FOR FUTURE REFERENCE. For safe installation and operation, please read these instructions carefully and with full understanding.

Signal Words Defined

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury. **WARNING** indicates a hazardous situation which, if not avoided, could result in death or serious injury. **CAUTION** indicates a hazardous situation which, if not avoided, could result in minor or moderate injury. **NOTICE** is used to address practices not related to physical injury.

1.0 SCOPE

- This manual contains general information with regards to description, installation and maintenance of EGS ALPN/ALPF Series Explosion Proof Panelboards, for up to forty-two branch circuit breakers. It does not cover special modifications, additions or deletions, other than those listed in the catalogue.
- More specific information, if required, can be obtained by contacting the EGS Sales representative in your area.

2.0 INSTALLATION

2.1 Mounting

The ALPN/ALPF Series panelboard is intended to be mounted vertically. Provided for this purpose are four mounting feet with keyhole slots, sized to accommodate 3/8" bolts. For mounting centers, see Section 6.1.

2.2 Wiring

Wire after mounting.

Open cover by loosening all cover bolts; do not remove bolts as they are captive to the cover. Supply circuit is wired into the main panel lugs or main circuit breaker. A main ground lug is provided for system ground. For panelboards that are prewired (ALPF or APPF), supply circuit connections are made in the top/bottom box main terminals.

2.2.1 Standard Breaker

Load circuit line goes to breaker, load circuit neutral to panel neutral bar, load circuit ground to ground bar.

2.2.2 GFI Breaker

Load circuit line and neutral go to breaker, load circuit ground to ground bar, breaker neutral to panel neutral bar. (See figure 6.4)

2.2.3 GFI Breaker with Alarm Contact

Load circuit line and neutral go to breaker, load circuit ground to ground bar, breaker neutral to panel neutral bar, alarm contact leads to external enunciator. (See figure 6.4)



3.0 MAINTENANCE

3.1 Flange/Cover Closure

After each opening and before each closure of the cover, the flanges of both box and cover must be wiped clean of any dust, dirt or metal particles which may prevent complete and tight closure of the unit. Enclosure flange should be oiled or greased. Failure to do so may result in an explosion hazard. During normal operation, ensure that all cover screws are installed and kept tight. Failure to do so may result in an explosion hazard.

3.2 GFI Breaker Testing

Each GFI breaker in the panel must be tested monthly to ensure maximum protection against electrical shock hazard. The date of this test should be recorded on an appropriate record sheet, posted in a conspicuous place on or adjacent to the panel. Test record stickers are supplied with the panel.

3.3 Parts Replacement

Before replacing any parts of the panel, which may require opening of the cover, ensure that the power to the panel mains is locked off.

3.3.1 Standard Breaker

Disconnect the load circuit line from the breaker; replace with appropriate breaker supplied by EGS or Cutler Hammer. Reconnect as per Section 3.2.1.

3.3.2 GFI Breaker

Disconnect the load circuit line and neutral line from the breaker and breaker neutral from the panel neutral bar; replace with appropriate breaker supplied by EGS or Cutler Hammer.

Reconnect as per Section 3.2.2.

3.3.3 GFI Breaker with Alarm Contact

Disconnect the load circuit line and neutral line from the breaker, breaker neutral from the panel neutral bar and alarm contact leads from the external enunciator leads; replace with appropriate breaker supplied by EGS or Cutler Hammer. Reconnect as per Section 3.2.3.

3.4 Cleaning

The exterior of the panel may be washed with water and mild soap solution. Avoid abrasives which may damage the finish, especially on the Lexan circuit directory card shields or Lamacoid operator cover or legend plates.

4.0 OPERATION

4.1 Breaker

The status of the breaker is determined by the position of the knob as indicated by the label at the top of the column of operators. Operation is as simple as twisting the knob to the desired position. (See fig. 6.2)

▲ NOTE: After closing panel door, whether during initial installation or after maintenance be sure to TWIST or PULL and TWIST (for APPN/F) exterior actuator to ensure proper mechanical interface between exterior actuator and internal breaker toggle. See Panel Board Actuator Instruction Sheet.

▲ CAUTION: Never try to defeat a LOCKED OUT breaker.

4.2 GFI Test Button

The GFI breaker test is performed by depressing the test button adjacent to the GFI breaker. A positive test will put the breaker in tripped condition. Reset the breaker to resume normal operation.

4.3 Resetting Tripped Breakers

Resetting is accomplished by first turning the breaker OFF, and then ON again. A tripped breaker cannot be turned ON before it is RESET. If it cannot be turned ON, it is either not RESET, or it is being subjected to conditions which cause an immediate trip. Investigate Circuit.

4.4 Heater

The heater is factory pre-wired to the panel interior main and neutral lugs. It sometimes can be wired through a fuse. Heater operation is automatic.

5. 0 PREVENTIVE MAINTENANCE PLAN FOR ALPN/ALPF PANELBOARDS

The following is a recommended Preventive Maintenance Plan to ensure that the ALPN/ALPF Panel Board continue to function properly.

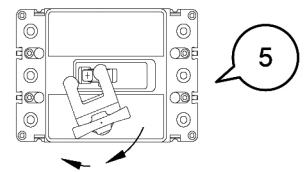
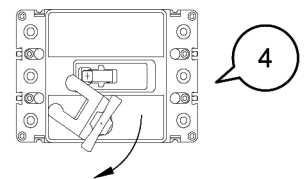
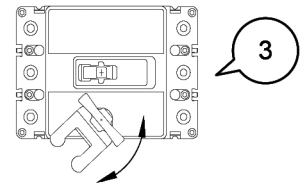
- Turn power off to Panelboard and Lockout.
- Open panel board and clean both flange of enclosure and door with a soft cloth and solvent (e.g., kerosene) to remove any dirt and dried machine oil. Never use a tool to clean flange.
- Inspect flange surface to ensure there are no gouges or fissures.
- Inspect seal gasket and replace if necessary. The gasket should free of any nicks and not be torn. There should be no gap where the ends meet. (Most likely the gasket will be flat and it is recommended to have it changed when PM is performed.)
- Inspect Breather and Drain for corrosion and if replacement is necessary order correct Breather and Drain for either a 3R or 4X Panelboard (type found on Rating Plate).
- Inspect and ensure the inside of panelboard is clean and remove any loose particles.
- Inspect all breakers and wire connections and tighten any that may be loose due to vibration.
- Operate each breaker manually to verify the toggle operates properly without tripping
- Before closing Panelboard ensure that machine oil has been applied to flange of the enclosure. (e.g., Esso EXXCUT 235)
- After door is bolted test Gap between door and flange with feeler gauge.
- Maximum gap requirement is 0.04mm (0.0015").
- Twist or PULL and twist each exterior actuator to ensure proper mechanical interface with toggle of breaker
- It is recommended that when GFI Breakers are included in the Panelboard that they be included in the Monthly PM Test Plan; see Test Record attached to inside of door.
- For service parts and repairs, see Installation Manual.

5.5 Panelboard Actuator Instruction Sheet

Whenever work is done that requires opening of the panelboard, be sure to turn the panelboard's main breaker or power source to the panelboard OFF prior to opening the cover.

Instructions for handle alignment after cover have been opened.

1. Ensure both breaker and actuator is in the OFF position.
2. Close cover and verify breaker can be turned ON and OFF.
3. If the handle spins freely, the actuator is not engaged properly with the breaker.
4. Rotate handle in either direction until it stops.
5. Pull lever up and turn slightly in the direction of the stop to 4 engage breaker toggle.
6. Verify proper operation of handle.



Instructions for locking out a circuit required for maintenance.

1. Turn breaker to the OFF position.
2. Place locking device through opening in the lockout plate.
3. Perform voltage verification ON circuit to ensure circuit is OFF.
4. Perform maintenance as required.
5. Upon completion of maintenance, remove locking device from the proper circuit.
6. Turn handle to ON position.

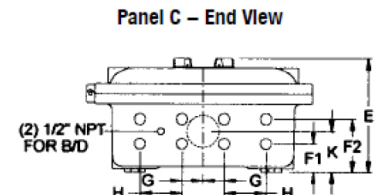
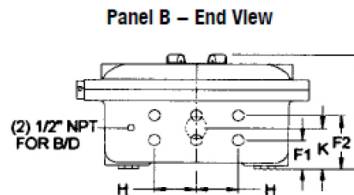
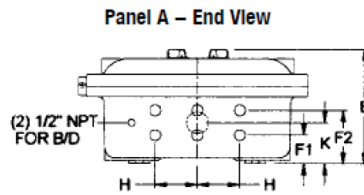
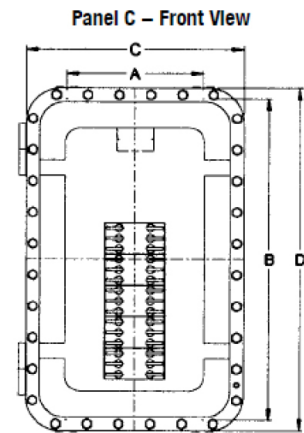
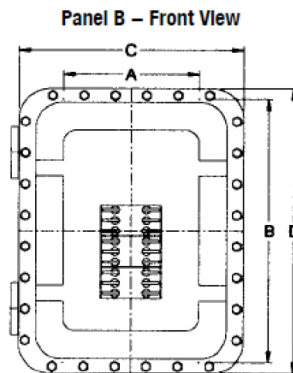
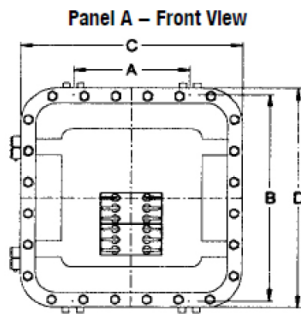
⚠ WARNING: Never try to defeat or bypass a locked out circuit. Serious injury or death can occur.

6.0 DIMENSIONAL DATA

ALPN, APPN Main Lug Panelboard Dimensions and Mounting Hardware

Explosionproof, Dust-Ignitionproof, Watertight, Non-Factory Sealed

Class I, Division 1 and 2, Groups B, C, D
 Class II, Division 1 and 2, Groups E, F, G
 Class III
 NEMA 4, 4X, 7BCD, 9EFG



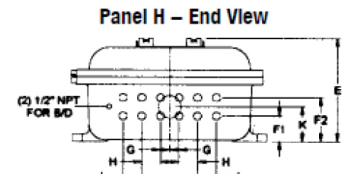
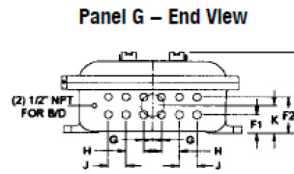
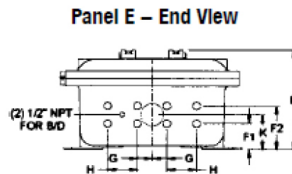
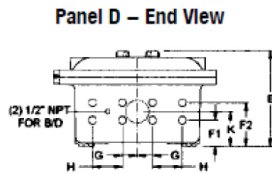
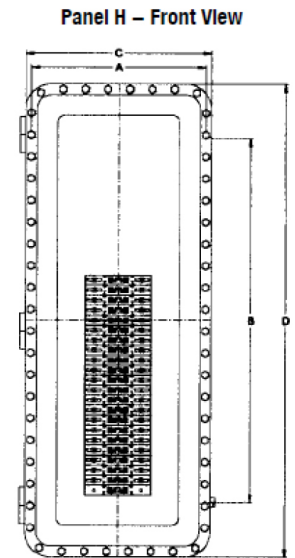
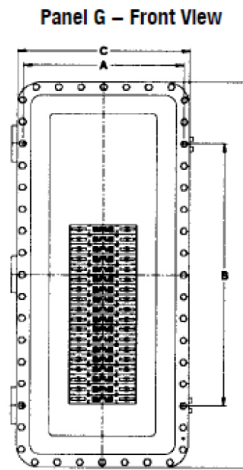
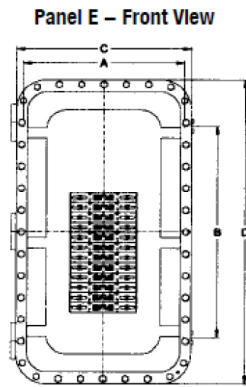
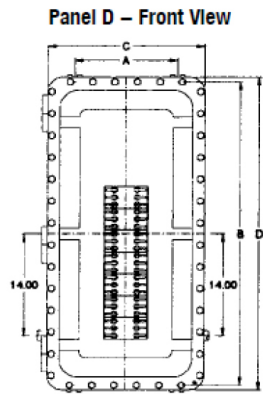
Panel Size	Mounting Dimensions In Inches/Millimeters										Standard Top	Outlets Bottom	Mounting Hdw. Set
	A	B	C	D	E	F1	F2	G	H	K			
A	11.00/ 279.4	19.75/ 501.6	21.00/ 533.4	21.00/ 533.4	11.00/ 279.4	2.75/ 69.8	5.13/ 130.3	—	4.00/ 101.6	3.94/ 100.0	(1)	(6)	AMH8
B	13.00/ 330.2	25.25/ 641.3	21.44/ 544.5	27.31/ 693.6	11.00/ 279.4	2.75/ 69.8	5.13/ 130.3	—	4.00/ 101.6	3.94/ 100.0	(1)	(6)	AMH8
C	13.00/ 330.2	30.75/ 781.0	20.75/ 527.0	32.75/ 931.8	11.00/ 279.4	2.75/ 69.8	5.13/ 130.3	2.00/ 50.8	4.00/ 101.6	3.94/ 100.0	(1)	(8)	AMH8

All outlets are NPT.

ALPN, APPN Main Lug Panelboard Dimensions and Mounting Hardware

Explosionproof, Dust-Ignitionproof, Watertight, Non-Factory Sealed

Class I, Division 1 and 2, Groups B, C, D
 Class II, Division 1 and 2, Groups E, F, G
 Class III
 NEMA 4, 4X, 7BCD, 9EFG



Panel Size	Mounting Dimensions in Inches/Millimeters											Standard Top	Outlets Bottom	Mounting Hdw. Set
	A	B	C	D	E	F1	F2	G	H	J	K			
D	13.75/ 349.2	41.63/ 1057.4	21.00/ 533.4	42.94/ 1090.6	13.00/ 330.2	3.56/ 90.4	5.94/ 150.8	2.00/ 50.8	—	4.00/ 101.6	4.75/ 120.6	(1) 3.00/76.2	(8) 1.00/25.4	AMH8
E	21.75/ 552.45	29.00/ 736.6	23.50/ 596.9	41.75/ 1060.4	13.63/ 346.2	3.56/ 90.4	5.94/ 150.8	2.00/ 50.8	—	4.00/ 101.6	4.75/ 120.6	(1) 3.00/76.2	(8) 1.00/25.4	AMH8
G	21.38/ 543.0	36.00/ 914.4	23.00/ 584.2	53.00/ 1346.3	11.00/ 279.4	2.50/ 63.5	4.88/ 123.9	1.19/ 30.2	2.38/ 60.4	2.38/ 60.4	3.50/ 88.9	(1) 3.00/76.2	(12) 1.00/25.4	AMH6
H	23.50/ 596.9	50.00/ 1270.0	25.00/ 635.0	65.00/ 1651.0	14.00/ 355.6	3.44/ 87.3	5.94/ 150.8	1.25/ 31.7	2.50/ 63.5	2.50/ 63.5	4.69/ 119.1	(1) 3.00/76.2	(12) 1.00/25.4	AMH6

All outlets are NPT.

Figure 6.4

PN – PANEL NEUTRAL
 LL – LOAD LINE
 LN – LOAD NEUTRAL
 A1 + A2 – ALARM CONTACT LEADS
 PLL – INDICATOR LIGHT LINE
 PLN – INDICATOR LIGHT NEUTRAL

WIRING OF GFI BREAKER

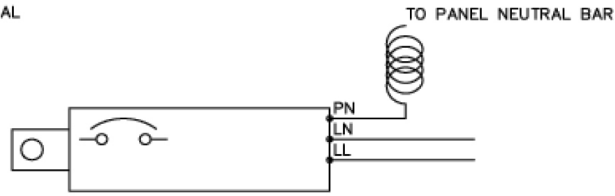


FIG. 6.6.(i)

GFI BREAKER w/o ALARM CONTACT, w/o LIGHT

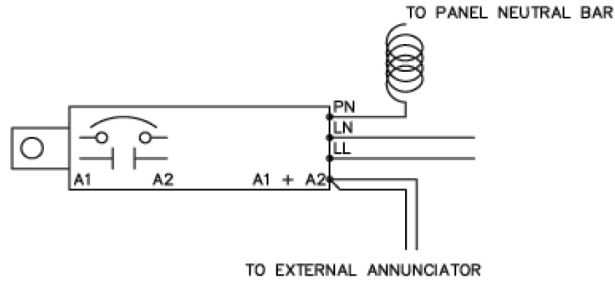


FIG. 6.6.(ii)

GFI BREAKER c/w ALARM CONTACT, w/o LIGHT

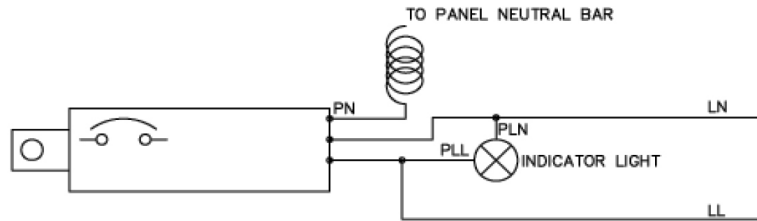


FIG.6.6.(iii)

GFI BREAKER w/o ALARM CONTACT, c/w LIGHT

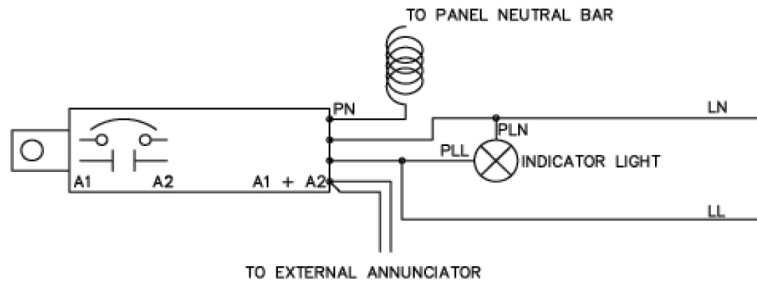


FIG. 6.6.(iv)

GFI BREAKER c/w ALARM CONTACT, c/w LIGHT

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