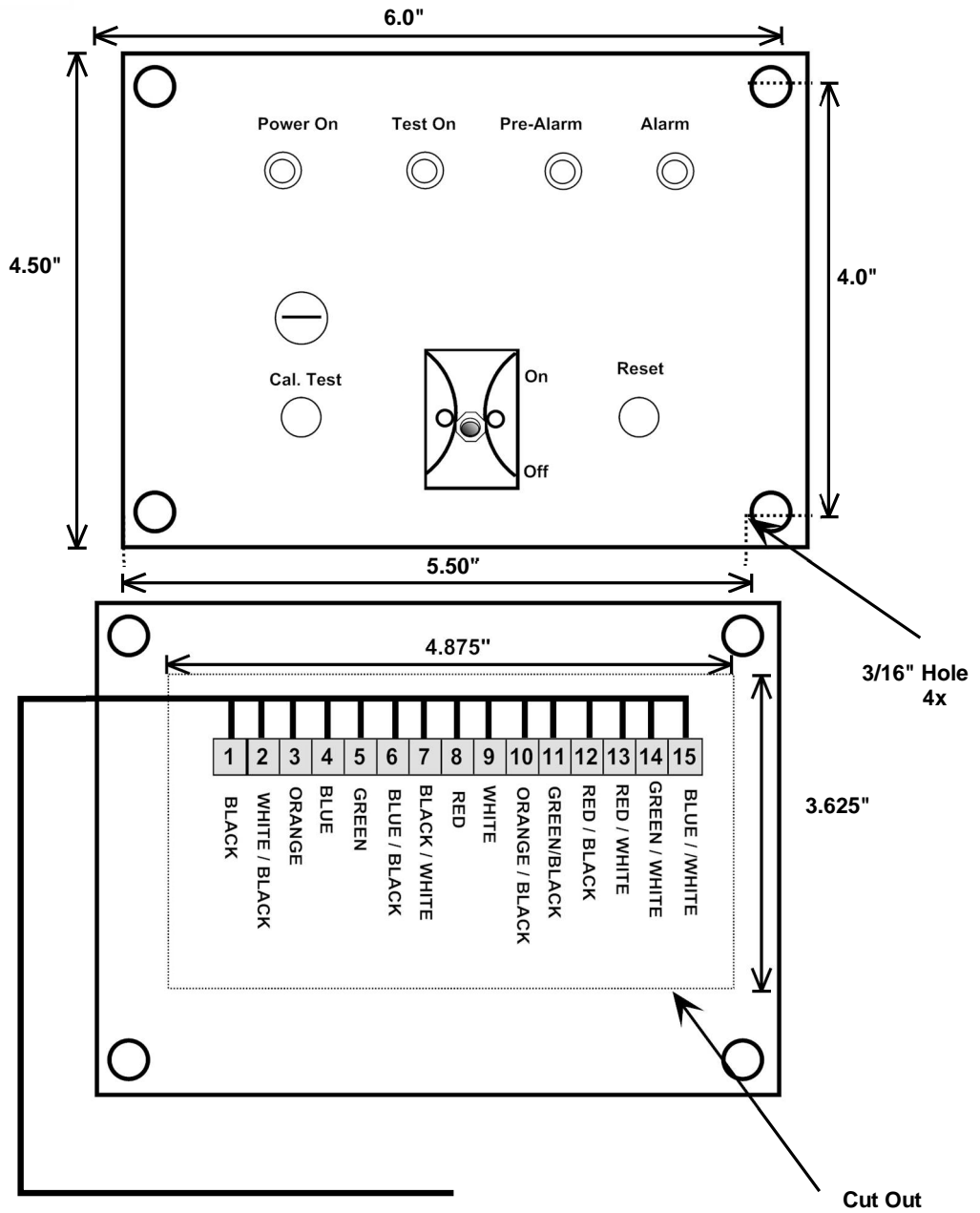


	<b>Legend</b> Volt Meter     Frequency Meter     Switchgear HV Compartment Remote Alarm     Meg-Ohm Meter     Shielded Wires Customer Provided Wiring	Drawn By: K. Tesch	<b>GP5000-G-AS</b> <b>Typical Wiring Diagram</b>	Date: 01/25/2021
		Checked: R. Zelm	Scale: None	



**Hook-up to Power Supply**

Column Wire #	Color Code
TB3	White
TB4	Red
TB11	Green
TB12	Orange
TB13	Blue
TB14	Black
TB15	White w/Black Stripe
TB18	Red w/ Black Stripe Blue/Black Stripe
TB19	Green w/ Black Stripe
TB20	Orange w/ Black Stripe
TB22	Black w/ White Stripe
TB25	Blue w/ White Stripe
TB26	Red w/White Stripe
TB27	Green w/White Stripe



# GenGuard

## Automatic Insulation Testers

### Models: GP5000-G-AS

### Installation Instructions

*Input power 120 +/- 10% VAC 50/60 Hz @ .5A Max. or 24VDC, 0.68A*

*Test Voltage 5000 VDC @ 200uA Max.*

*Unit to be installed in a "clean" and "dry" environment, in a switchgear or a NEMA type enclosure.*

*Ambient Temp. -20° F to 140° F*

*Maximum relative humidity 80% for temperatures up to 31° C decreasing linearly to 50% relative humidity at 40°*

*Pollution degree 2 Altitude up to 2000m*

*Wiring: 16 AWG, 600V switchboard wire*

**NOTE: If unit is installed in an enclosure please skip to #4.**

**PLEASE ENSURE THAT POWER SUPPLY SERIAL NUMBER AND METER SERIAL NUMBER MATCH.**

1. The device is a Class 1 according to IEC 61010-1 for electric safety and chassis must be grounded to the main protective earth in the end application.
2. Drill four (4) ¼ inch holes and mount the Meg-Alert power supply, using the mounting holes in the bracket assembly. Side mount brackets are available from the factory to mount the power supply to a side wall if necessary. **(The individual power supply must be located in the generator controller high voltage compartment and should be mounted vertically for best ventilation and heat transfer). Only one power supply should be located in each high voltage compartment for safety purposes.**
3. Drill one (1) 4 inch diameter hole and four (4) ¼ inch holes, and mount the meter indicator in the front panel of the switchgear (Use the drill hole pattern provided with the meter).
4. To install the remote LED/Switch assembly (GP8012-MU-AS), there are 2 ways to mount the assembly.
  - Option A When the optional EZ mount bracket (Part number GP8012-EZBK) is provided, drill (4) 1/8" holes to mount the bracket and (1) 5/8" hole for the cable.
  - Option B For a flush mount drill four (4) 1/8" holes and cut out a 4.75" x 3.625" clearance hole for the assembly. Mount the assembly using the mounting holes provided in the panel.
5. Install warning stickers (provided with the Meg-Alert) on the generator terminal lead boxes and generator starter cabinet door of all the equipment to be tested.
6. Connect the input terminal (1) and terminal (2) directly to the input power source. **(See wiring diagram and check nameplate for the correct input voltage-normally 120 VAC).**
7. Connect remote on/off switch (SW1) leads to terminals (3) and (4) respectively. Terminal (3) is on and terminal (4) is common. (See remote LED/Switch assembly wiring diagram.)
8. Connect terminals (5), (6) and (7) to the generator excitation circuit to lockout the equipment when in the alarm mode, if so desired. (see wiring diagram).
9. Connect terminals (8), (9) and (10) to an alarm panel or PLC inputs for a pre-alarm signal (see wiring diagram).
10. Connect remote (LED switch/assembly) leads to terminals (11), (12), (13), (14) and (15) respectively. Terminal (11) is the positive green (power on) LED, terminal (12) is the positive yellow flashing (pre-alarm) LED, terminal (13) is the positive yellow (test) LED, terminal (14) is the common, and terminal (15) is the positive red flashing (alarm) LED. (See remote LED/switch wiring diagram for wire color codes).
11. Connect terminals (16) and (17) to the meter indicator. Observe the correct polarity; connect terminal (16) to the positive terminal and terminal (17) to the negative terminal. (See Wiring diagram)
12. Connect remote (system test switch) leads to terminals (18), (19) and (20) respectively. Terminal (18) is common, terminal (19) is normally open, and terminal (20) is normally closed. (See remoteLED/Switch wiring diagram).
13. Connect remote (reset switch leads) to terminals (18) and (22) respectively. Terminal (18) is common and terminal (22) is normally open. (See remote LED/switch wiring diagram).



## GenGuard Automatic Insulation Testers Models: GP5000-G-AS Installation Instructions

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*Unit to be installed in a "clean" and "dry" environment, in a switchgear or a NEMA type enclosure.*

*Ambient Temp. -20° F to 140° F*

*Maximum relative humidity 80% for temperatures up to 31° C decreasing linearly to 50% relative humidity at 40°*

*Pollution degree 2 Altitude up to 2000m*

*Wiring: 16 AWG, 600V switchboard wire*

14. Connect (control) sensing terminals (23) and (24) to a 120 VAC control power source (see nameplate for correct voltage). If DC relay is used, observe correct polarity; terminal (23) is positive and terminal (24) is negative. *NOTE: Voltage should be present only when the generator is running.*
15. Connect the (test) terminal HV lead to the any convenient phase of the windings to be tested through the high voltage fuse/current limiting resistor assembly (see note below).
16. Connect Remote ("Cal. Pot.") leads to terminals (25), (26) and (27) respectively. (See Remote LED/Switch Assembly Wiring diagram for wire codes).

### **NOTE:**

A 20 gauge 15KVDC rated wire (furnished with the unit) must be used for the high voltage lead connection. The test lead will be furnished with a high voltage plug at one end and a high voltage current limiting resistor at the other end. The high voltage fuse block assembly should be installed in this test lead as close as possible to the current limiting resistor. The current limiting resistor end must be installed at the point of connection to the generator leads at the generator starter or breaker.

17. Connect the (ground) terminal to the mechanical ground of the equipment to be tested. A common ground bus for the equipment may also be used.



# GenGuard

## Automatic Insulation Testers

### Model: GP5000-G-AS

### Operating Instructions

Input power 120 +/- 10% VAC 50/60 Hz @ .5A Max. or 24VDC, 0.68A

Test Voltage 5000 VDC @ 200uA Max.

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Pollution degree 2 Altitude up to 2000m

Wiring: 16 AWG, 600V switchboard wire

1. After installation is completed on the unit, remove the high voltage test lead plug from the power supply. Apply input voltage to the Meg-Alert. Lift the knob on the on/off switch and move the switch to the (on) position. Observe that the green (power on) LED on the power supply, the remote green (power on) LED, and the remote yellow (test) LED should all be illuminated. *NOTE: Allow unit a minimum 5-minute warm-up period before proceeding to the calibration checks.* After the warm-up period the meter should be pointing to the infinity position.
2. Press and hold the test button and observe that the yellow flashing (pre-alarm) LED should begin flashing. The meter indicator should go to the test/calibrate position carrot (5 Meg Ohms). When the test button is released the meter indicator should return to the infinity mark at the fully counter-clockwise position.

*NOTE: If after the warm-up period the meter indicator does not line up with the "test" position when pressing the test button it can be fine adjusted at this time by the remote calibrate adjust potentiometer (located on the REMOTE LED/SWITCH ASSEMBLY). For those units built without a remote test/calibrate adjust pot, consult the factory for the correct field adjustment procedure. If the meter does not sit at the infinity mark after the test button is released, then refer to the field calibration instructions and follow the section on setting the infinity pot (VR1).*

3. Press and hold the test button for 15 to 30 seconds and the Meg-Alert should trip on an alarm condition. The remote red (alarm) LED should start flashing. The remote yellow (test) LED and the yellow (pre-alarm) LED should **not** be illuminated.
4. Release the test button. *NOTE: The pre-alarm contacts will only change state when the yellow (pre-alarm) LED is flashing and will automatically return to their normal position when the pre-alarm LED is not flashing.* The latching alarm lockout contacts should now have changed state and will remain in that position until the reset button is pressed. The use of these lockout contacts is recommended for preventing the equipment from operating in an alarm condition. They may also be used for an alarm system signal if lockout is not desired.
5. Press the reset button and the Meg-Alert should return to a normal condition. The remote red (alarm) LED should stop flashing and the yellow (test) LED will now be illuminated. *NOTE: The green (power on) LED's will always be illuminated when power is applied to the input terminals.*
6. Turn power to Meg-Alert off from remote switch plate. Re-connect high voltage plug on Meg-Alert. Turn power to Meg-Alert back on and the meter will now display the generator windings condition.
7. Start the generator being tested and observe that the remote yellow (test) LED is now **not** illuminated; indicating that the generator is running and the Meg-Alert has stopped testing. The meter will now read all the way to infinity.
8. Stop the generator being tested and observe that the remote yellow (test) LED should now be illuminated. The meter indicator will again now read the value of the generator's insulation strength, and the Meg-Alert is now in a test condition.
9. The Meg-Alert will now test the generator windings automatically every time the generator is off continuously up until the generator is restarted. The Meg-Alert will indicate any type of insulation breakdown on the visual megohm meter and initiate a pre-alarm warning followed by an alarm warning when the set points are exceeded.

#### **EQUIPMENT MAINTENACE**

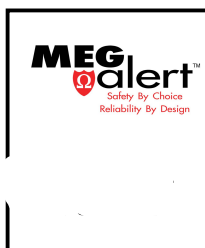
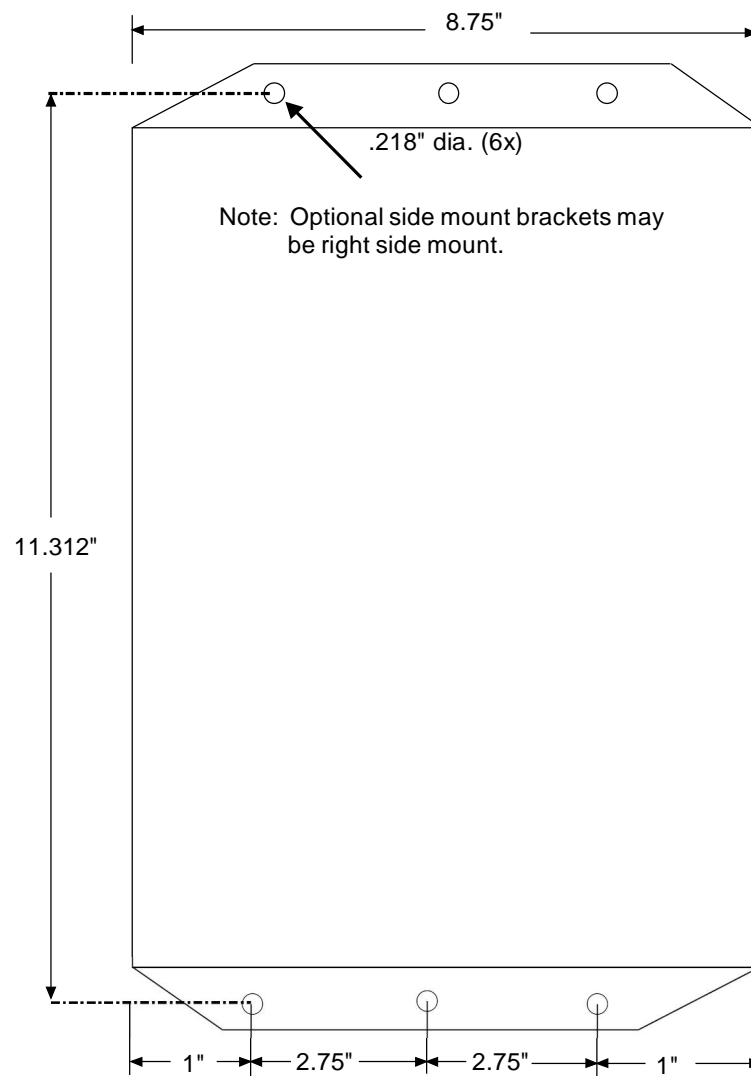
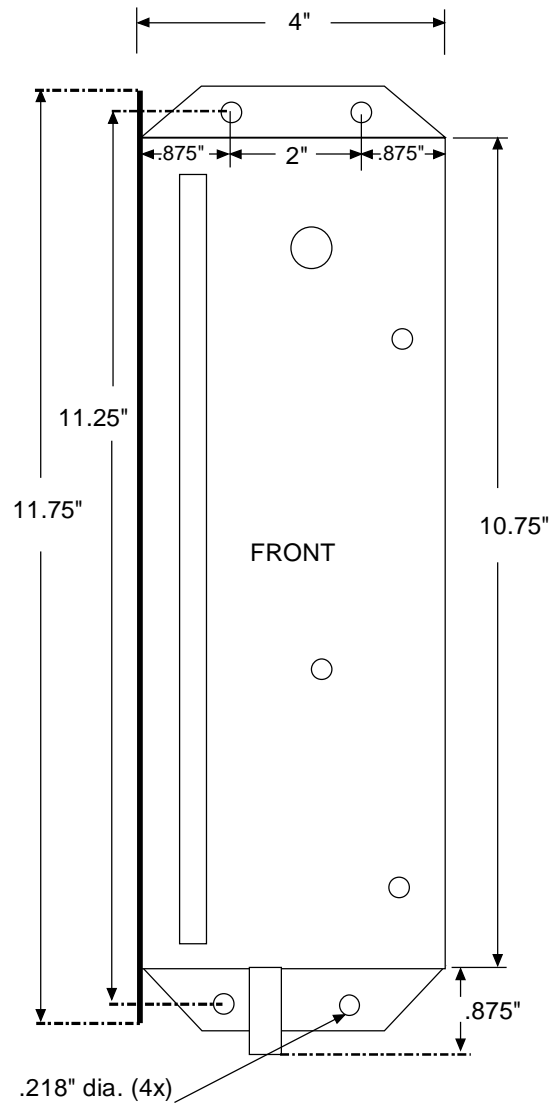
**Only Qualified personnel shall perform maintenance of this device.**

**Before use all cables shall be checked for cracking or damage.**

**Only a 1.5A 250V AGC fuse shall be used with this device.**

#### **WARNING:**

**Before servicing any equipment being tested with a Meg-Alert system, one must turn off and lockout the Meg-Alert power and short the windings to ground in order to remove any possible residual capacitive charge that may be presented in the unit.**



**Meg-Alert Enclosure for Models:**  
**GP2500-MU-AS, GP5000-MU-AS,**  
**GP5000-MU-HV-AS, GP2500-G-AS**  
**& GP5000-G-AS**

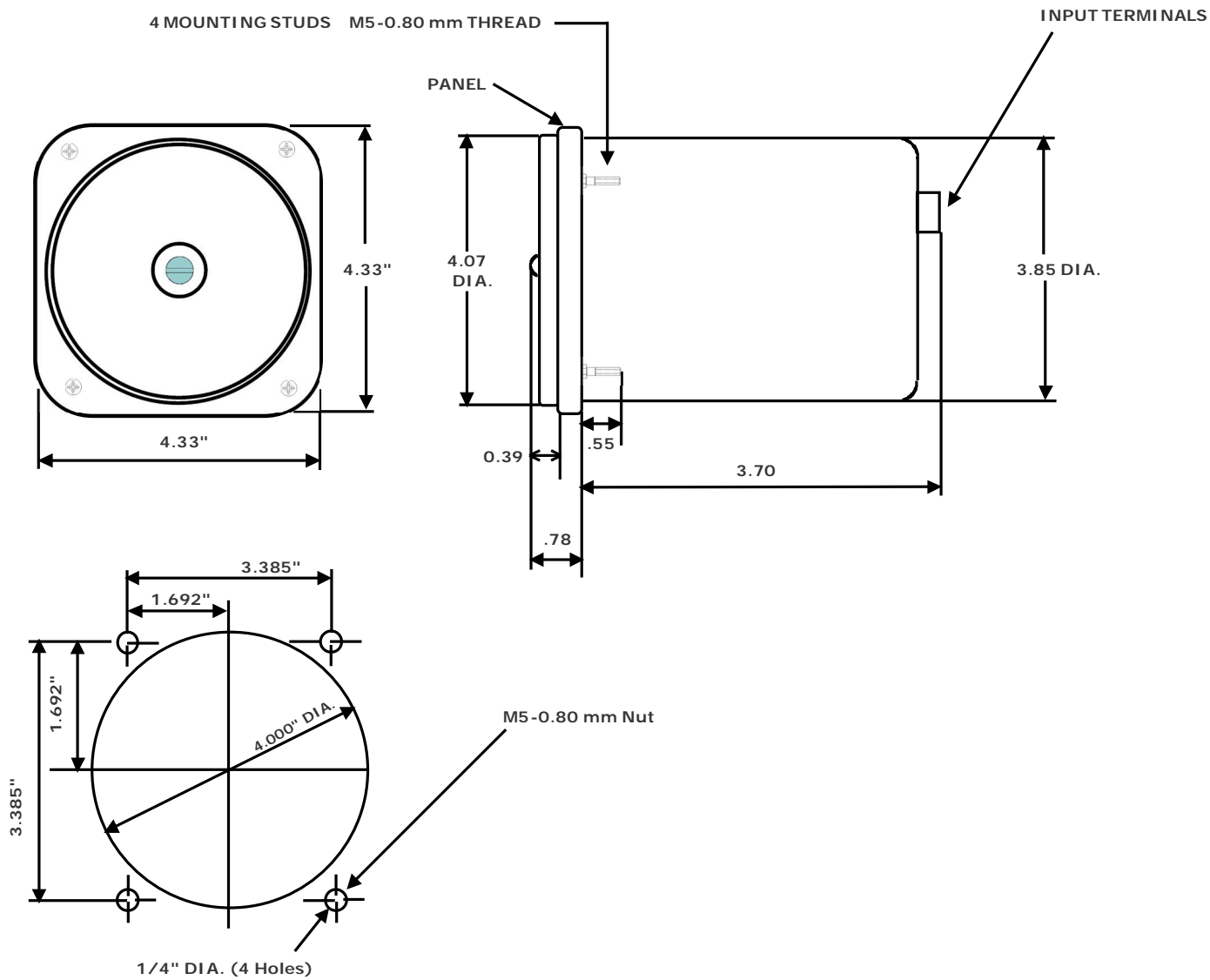
Drawn By:

KM Delamater

Date: 10/9/2019


Checked by:  
R. Zelm

Scale: None



**1 % Switchboard Meter**  
 Dimensions  
 GP7000 Series



<b>1 % Switchboard Meter</b> Dimensions GP7000 Series 	DRAWN BY		DATE
	KM Delamater		2/5/2018
CHECKED	SCALE	SHEET NO.	
R. Zelm	None	1	