

VENTEX TECHNOLOGY USER’S GUIDE
VT12030D-120

● UL 2161 Listed Indoor Type 7 ●
Electronic Neon Transformer

Thank you for purchasing a Ventex electronic neon power supply. Please read the following tips and directions carefully to insure proper installation and operation of our products. It is the responsibility of the user to ensure installation complies with local electrical codes.

FEATURES AND BENEFITS:

- Pull-Chain on/off switch
- Line Load Regulated (30mA self adjusting Output regardless of load size or Input voltage fluctuations.)
- Open Circuit, Overload and Ground Faults Will Shut Unit Down. *NOTE: Under a fault condition, unit will attempt to reset 2 more times, then latch off permanently unless the fault clears. Intermittent faults will not effect the operation of the unit.*
- Available in black or white
- High Power Factor (Energy Saving/Cost Effective)
- Ground Connection via Mounting Foot
- Exclusive Ventex GTO Lead Clamping System
- High-Low Dimmable Versions VT12030D-120 (W)
- UL2161 listed ● Complies with CSA22.2, No. 107.1, No. 13

SPECIFICATIONS:	VT12030CL-120
Input Voltage, Nominal	120VAC 50/60Hz
Input Voltage Range	105V-132Vac
Input Current @ Max Load	1.1A AC RMS
Power Factor	0.93 Minimum
Output Voltage	1000V - 12000V
Output Current	30mA rm (2 Level Dimming)
Size (LxWxH)	3.15" x 2.0" x 6.5"
Weight	32 oz. (910g)
Output H-V Leads	0.25 OD GTO (10Kv min.)
Operating Temperature	-30°F to 104°F (-0 °C to 40°C)

When Operating at Ambient Temperatures Higher than Above Limit,
Reduce Load by 10% for each 9° F(5°C) Ambient Rise.

Maximum Driving Distances Between Pair of Electrodes

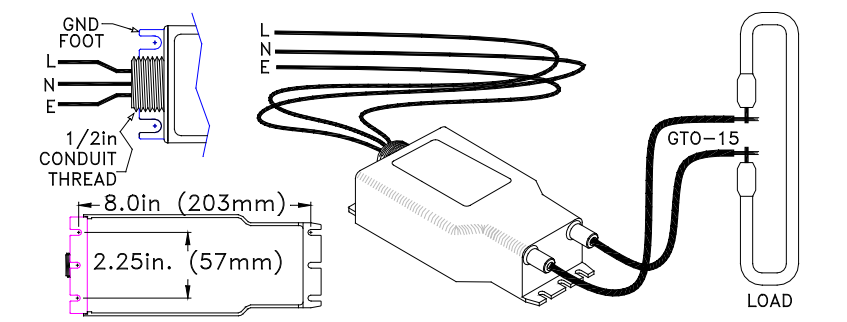
VT12030	ARGON/MERCURY			NEON		
TUBE DIAMETER	10mm	12mm	15mm	10mm	12mm	15mm
MINIMUM (ft)	5'	5'	5'	5'	5'	5'
MAXIMUM (ft)	35'	41'	55'	29'	35'	45'

Note: Each additional pair of electrodes is equivalent to one foot of tubing. Footage chart is intended as a guide only. Actual distance will vary due to application

READ CAREFULLY BEFORE INSTALLATION

1. Contact with the transformer’s high voltage leads can cause shock, burn or death.
2. The power supply’s grounding wire must be connected to ground.
3. Be sure the high voltage output leads are connected firmly to the gas tube(s) and electrodes are properly insulated before engaging power. Intermittent connection of high voltage wires can cause hazardous arcing.
4. High voltage leads and gas tubes should be at least 1½ inches away from all surfaces.
5. Output leads should not be grounded.
6. Output leads cannot be run in metal conduit.

7. When operating two or more power supplies in the same installation, be sure units are at least 12 inches apart.
8. Transformer can be mounted directly inside channel letter and/or mounted on the back wall, underneath tubes.
9. Transformer should not be mounted in a position where it can stand in water.
10. Transformer is provided with GTO grommets where GTO leads exit the unit. It is recommended GTO sleeving be used.



INSTALLATION AND OPERATION

1. Firmly secure the transformer to the application with proper size screws or pop rivets.
2. If transformer is mounted on a metallic surface, make sure transformer is **grounded** to metal frame via ground plate provided on unit. Insure all H-V output leads and tubes are at least 1 inches away from metal.
3. Firmly connect high voltage output leads to electrodes of the gas tube (s).
4. Cover electrode connections with UL/CSA approved “boots” or other proper NEC insulation.
5. Wire the power supply to any standard three wire, grounded power source.
6. **Do Not** run GTO leads from an electronic power supply in metallic conduit. *If this is done, you will experience severe loss of driving distance, GTO failure, and “tripping”.*
7. **Do Not** load Ventex VT series power supplies with a mA meter or use a dimmer. *The VT series maintains 30ma output regardless of load or primary voltage.*
8. **Do Not** over load. *The VT has protection and will “trip” if there is an over load of glass and/or excessive capacitance coupling. Work from the footage chart. If in doubt, contact the manufacturer*
9. Keep GTO leads, particularly “Home Run” leads as short and as far from each other and all surfaces as possible. *Ventex recommends 1.5 inches as a minimum spacing if possible.*
10. If high voltage GTO cable has to be run through a thin sheet metal wall, special care must be taken. The sharp edge of a hole could cause rapid deterioration of the GTO cable. This can eventually cause a ground fault condition and “tripping”. *Use the largest diameter hole possible and always use an approved bushing to center the cable in the hole.*
11. If long jumper leads must be used, place these as close to the middle of the glass run as possible. *The voltage and capacitive current will be lower closer to the middle of the sign, which will lessen the chance of over loading or “tripping”*
12. If leads have to cross, try to space them as far apart as possible and cross them at right angles
13. Maintain as much space as possible between multiple power supplies, their tubes and wiring. *This will minimize the effects of “electronic crosstalk.”*
14. Balance glass load and “home-runs” as much as possible. *This will minimize the chance of tripping due to excessively unbalanced load.*
15. In all signs with a border tube, it is best to wire from the inside glass outwards, and try and place the border glass in the middle of the run. *This minimizes current loss due to capacitance coupling through the border tube, and the chance of over loading and “tripping”.*
16. Follow all applicable UL, NEC and local codes.
17. CAUTION: Unit will try to reset twice under a fault condition. If fault persists, the unit will latch off until Input power is *cycled off then on. If fault clears during reset period then unit will continue to operate normally.
* NOTE: *The input power must be cycled off at least 5 seconds to clear the Latch before turning back on.*
18. Do not extend the GTO from original supplied length.

TROUBLE - SHOOTING TIPS

There is a protection circuit in the transformers that will cut off (trip) the power whenever a ground fault, open circuit or overload condition occurs. If your gas tube (sign) is off, and the input power is present, your transformer has probably tripped due to one of the above-mentioned fault conditions. If so, follow procedure outlined below.

Remove power to the transformer. This action will reset the protection circuit. Wait at least 10 seconds before reapplying power. If tripping continues, remove power and check the following:

- Are the output leads connected securely and properly to the gas tube(s)?
- Is the gas tube broken or cracked, resulting in an open circuit?
- Is there a ground fault condition occurring within the system? Or dimming?
- Are the gas tubes or H-V output leads in close proximity to metal, key steel or any ground plain? (This may cause tubes to dim.)
- Are multiple transformers mounted at least one foot apart from each other?
- Is unbalanced loading causing false tripping?
- Are tubes pumped to standard specifications?

After completing the above check list and rectifying any detected problems, engage the input power to the transformer to re-energize the gas tube (sign). If the transformer still does not work properly, call customer service at the listed phone number.

Note: Do not attempt to disassemble transformer for repairs. This action will void any warranty offers made by Ventex.
For more information, refer to expanded troubleshooting section at ventex.com/resources

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VENTEX TECHNOLOGY
3490 Venture Dr., San Angelo, TX, 76905
ventextech.com
803-794-8061
info@ventextech.com