

# VENTEX TECHNOLOGY, LLC User's Guide VT12030CL-120

## ● UL 2161 Listed Outdoor Type 3 ● For Direct Mount Inside Channel Letters

Thank you for purchasing a Ventex electronic neon power supply. Please read the following tips and directions carefully to ensure 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:

- Input Line Surge Protection (Varistor Type)
- 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.**
- Will not Trip on Capacitive Currents up to 15mA
- High Power Factor (Energy Saving/Cost Effective)
- Ground Connection via Mounting Foot
- 1/2" Conduit Nipple On Primary
- ● UL2161 listed ● Complies with CSA22.2, No. 107.1, No. 13 ●

### SPECIFICATIONS:

	VT12030CL-120
Input Voltage, Nominal	120VAC 50/60Hz
Input Voltage Range	108V-132Vac
Input Current @ Max Load	1.25A RMS
Power Factor	0.93 Min.
Output Voltage	1000V - 12000V
Output Current	30mA rms
Size (LxWxH)	8.63"(22.0cm) x 3.50"(8.9cm) x 1.70"(4.3cm)
Weight / Case Color	3.25 lbs (1.475kg) / White
Input Leads	18AWG 36" (0.9m)
Output H-V Leads	GTO-10 Integral-Sleeve White (18 AWG), 32" (0.8m)
Operating Temperature	-30°F to 122°F (-34°C to 50°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

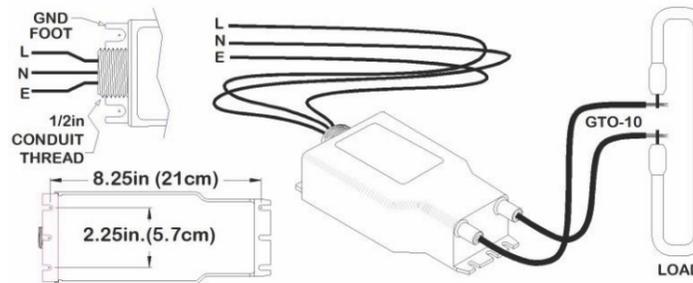
VT12030	NEON			ARGON-MERCURY		
	10mm	12mm	15mm	10mm	12mm	15mm
TUBE DIAMETER	10mm	12mm	15mm	10mm	12mm	15mm
MAXIMUM feet(meters)	28' (8.5M)	35' (10.7M)	45' (13.7M)	33' (10.0M)	42' (12.8M)	54' (16.5M)

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

- Firmly secure the transformer to the application with proper size screws or pop rivets.
  - If the transformer is mounted on a metal surface, make sure it is grounded to metal frame via ground plate provided on unit. Ensure all high voltage leads and tubes are at least 1.5 inches away from metal.
  - Firmly connect high voltage leads to electrodes of gas tube(s).
  - Cover electrode connections with UL/CSA approved "boots" or other proper NEC insulation.
  - Wire the power supply to any standard three wire, grounded power source.
  - Do not run GTO leads from an electronic power supply in conduit. *If this is done, you will experience sever loss of driving distance, GTP failure and "tripping".*
  - Do not load Ventex VT Series power supplies with a mA meter or use a dimmer. Except for the VT5520A-120F and DF01 combination. *The VT series maintains 30mA output regardless of load or primary voltage.*
  - Do not overload. The VT has protection and will "trip" if there is an overload of glass and/or excessive capacitance coupling. *See our footage chart online at ventextech.com, or contact Ventex's Tech. Support at (877) 908-9193.*
  - 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.*
  - If high voltage GTO cable should be run through a thin sheet of metal wall, special care must be taken. The sharp edge of a hole could cause rapid deterioration of GTO cable. This can eventually cause a ground fault condition and "tripping". *Use the largest diameter hole possible and always use and approved bushing to center the cable in hole.*
  - 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 overloading or "tripping".*
  - If leads must cross, try to space them out as far apart as possible and cross them at right angles.
  - Maintain as much space as possible between multiple power supplies, their tubes and wiring. *This will minimize the effects of "electronic crosstalk."*
  - Balance glass load and "Home Runs" as much as possible. This will minimize the chance of tripping due to an excessively unbalanced load.
  - In all signs with a border tube, it is best to wire from the inside glass outwards, and try to 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 over overloading and "tripping."*
  - Follow all applicable UL, NEC and local codes.
- CAUTION: Unit will try to reset twice under fault condition. If fault persists, the unit will latch off until Input power is \*cycled off 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.
- Do not extend GTO cables longer than original factory length.

### TROUBLESHOOTING TIPS

1. Are the output leads connected securely and properly to the gas tube(s)?
2. Is the gas tube broken or cracked, resulting in an open circuit?
3. Are the gas tubes or high voltage output leads near metal, or any ground plane? (This may cause tubes to dim.)
4. Are multiple units mounted at least 12 inches apart from each other?
5. Test each neon unit individually with transformer to locate non-functioning tubes in a sign.
6. High voltage leads should never be closer than the distance between leads at exit of transformer.
7. If high voltage leads must cross tubes to each other GTO, they should be at right angles, and not run parallel between each other.
8. Is unbalanced loading causing false tripping?

**After completing the above checklist and rectifying any detected problems, engage the power to the transformer to re-energize the gas tube (sign). If the transformer still doesn't work properly please call Technical Support at (877) 908-9193.**

## Ventex Technology, LLC Warranty

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