FRANCE

Eneon™ Information Sheet 6000, 9000, 12000 Series

Catalog Numbers

6000, 9000, 12000 Followed by:
FE1G Non-Dimming with Standard Line Cord - Single Pack
FS1G Non-Dimming with Standard Line Cord - Bulk Pack

Add suffix: -D (Internal Dimming), -2 (With 18" IEC Line Cord), -D2 (Internal Dimming with 18" IEC Line Cord)

Power Supply Introduction:

The FRANCE 6000, 9000, and 12000 Series are high quality electronic neon power supplies. No adjustments or special tools are required for their installation.

Eneon™ Quality Features:

- Secondary Ground Fault Detection (manual reset)
- Open Circuit detection
- Lightweight
- Standard Mounting (6" centers)
- No Mercury Migration or Jelly Beaning
- UL 2161 Listed or Recognized Indoor Type 7 Neon Power Supplies
- Integrally sleeved GTO wire

Grounding:

Eneon power supplies come with a three-conductor grounded cord with 3-pronged plug. *Any alteration of the cord or plug will void the warranty and compromise safety.* The receptacle must be properly grounded. Metallic mounting slots (near the pull-chain on-off switch) provide the opportunity for sign frame grounding. Eneon power supplies must be grounded.

Tubing Load:

Eneon power supplies are designed to drive luminous tube loads ranging from 2,000 volts up to the tube load recommended for 12,000 volt (12000 Series), 9,000 volt (9000 Series), or 6000 volt (6000 Series), 30 milliamp conventional transformers. Please refer to the Luminous Tube Footage Chart in our standard products catalog, or see reverse. No special gas pressures are required.

Ground Fault Detection Circuit Operation:

Eneon power supplies are equipped with a secondary ground fault protection feature. Should an arc occur between a high voltage lead and ground, this feature will shut down the unit. The units must be manually reset by turning off the AC power, correcting the fault, and then restoring AC power. The cause of the fault must be removed or the circuit will trip off again once power is reapplied. (See reverse for possible fault causes.)

Open Circuit Detection Operation:

Eneon power supplies are also equipped with an open circuit detector. Should a high voltage lead become disconnected or the current path broken in some other way (i.e., broken tubing), the internal open circuit detector will shut down the unit. The unit must be manually reset by turning off the power, correcting the fault, and restoring the AC power. If the open circuit condition is not corrected, the unit will trip again when power is applied.

Dimming Models:

To dim models equipped with the dimming feature (-D models), use the rocker switch located on the end of the power supplies. When dimmed, Eneon power supplies will provide light output comparable to a 20 mA unit. Reductions in tubing load may be required when dimming neon-filled tubing.

DANGER!
Hazardous voltages will cause shock, burn or death. Turn off power before servicing. Servicing should be performed only by qualified personnel.

Eneon™ Application Data:

1. All installations must be in accordance with the National Electrical Code (U.S.), Underwriters Laboratories Standard UL 48, or the Canadian Standard Association Standard C22.2 No. 207. In addition, any local codes and ordinances that apply must be followed.
2. All metal parts of a sign **must** be grounded. Eneon power supplies are high frequency, high voltage devices. Any metal parts that are in the vicinity of the tubing, GTO wire, or the neon power supplies may become energized if left ungrounded. If contacted, the ungrounded metal parts can impart a shock.
3. These Eneon power supplies are for indoor use **only**.
4. Keep secondary (GTO) leads about the **same** and to a minimum length for peak performance and to avoid nuisance tripping.
5. Do **not** use metallic conduit since this will reduce the tube footage that can be driven or cause nuisance tripping or unintentional dimming of the tubing.
6. Keep tubing and GTO leads away from metal surfaces wherever possible. Close proximity to metallic surfaces reduces the power available to the tubing. Tubing and GTO should be separated at least 1 1/2" from metal surfaces.

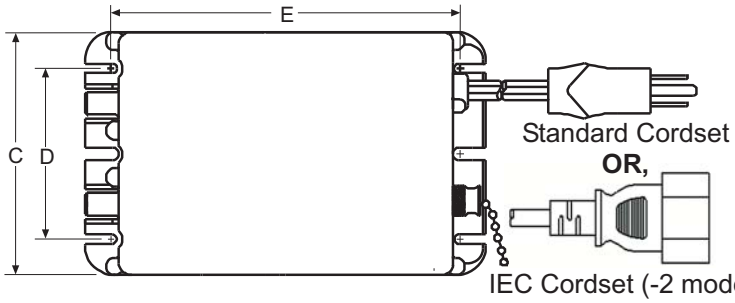
Neon Power Supplies 6000, 9000, & 12000 Series

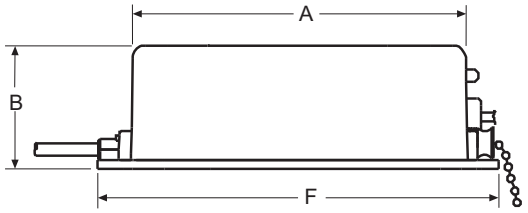
What may cause the Secondary Fault Protection to trip?

- Electrical shorts or arcing from live high voltage sign components to ground.
- Tubing installed too close to metal surfaces. A 1 1/2” clearance is recommended.
- Bad insulators or standoffs. Make sure they are free of contamination and provide a secure connection.
- Conductive debris between high voltage connections and ground. Keep sign free of dirt, insects, etc.
- GTO leads too close to metallic sign parts. A 1 1/2” clearance is recommended.

Other Information

- A minimum of 1/2” separation should be maintained between glass tubes.
- The connection between the transformer secondary GTO cable and the neon tubing is to be insulated for the secondary output voltage involved (a maximum of 12 kV for the 12000 Series, 9 kV for the 9000 Series and 6 kV for the 6000 Series).
- Mount the power supply to the sign frame with conductive bolts or screws.
- Connect the transformer cord and plug set to a three wire receptacle containing a Line, Neutral and Grounding conductor.
- May not be dimmed externally. Use only Series “D” models for dimming applications. Do not flash.
- Altering the unit in any way will void both the warranty and agency certifications.
- Dry location Type 7 power supply - suitable for use only in dry locations.





Specifications - at 120 VAC, 60 Hz

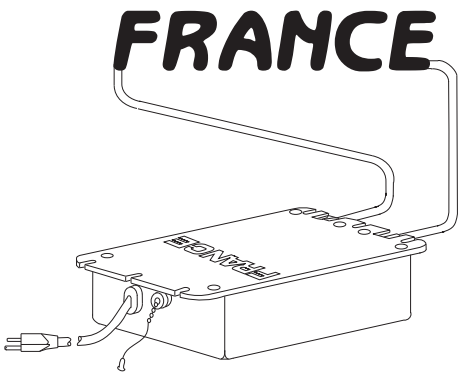
Catalog Number	Secondary		Primary VA	Input Amps	Dimensions in Inches						Weight in lbs.
	Voltage	mA			A	B	C	D	E	F	
6000 Series	0-6 kV*	35	102	.85	5.700	1.750	3.125	1.600	5.900	6.500	1.6
9000 Series	0-9 kV*	34	180	1.3	5.750	2.125	4.125	2.875	6.000	6.875	2.2
12000 Series	0-12 kV*	40	228	1.9	5.625	2.100	4.125	2.875	5.900	6.825	2.9

*See notes regarding Dimming Models.

Each power supply is complete with a 10’ three-conductor line cord with 3-prong plug, a pull-chain On/Off switch, and 18” long secondary GTO leads.

Frequency: 20 kHz

Less than 7500 Volts to Ground



LUMINOUS TUBE FOOTAGE CHART

TRANSFORMER RATING — **APPROXIMATE NUMBER OF FEET OF TUBING***

Secondary Voltage (volts)	Short Circuit Current (milliamperes)	Clear or Fluorescent Red Neon (Also recommended for Neon Fluorescent Gold) — Tube Size, Millimeters										Clear or Fluorescent Mercury Filled Tubes, All Colors All Enclosed Applications† — Tube Size, Millimeters										Secondary Voltage (volts)
		25	22	20	18	15	14	13	12	11	10	9	25	22	20	18	15	14	13	12	11	10	9	
15,000	60	102	85	78	72	60	54	50	45	40	36	32	120	100	90	80	72	64	60	54	48	44	39	15,000
	30	102	85	78	72	60	54	50	45	40	36	32	120	100	90	80	72	64	60	54	48	44	39	
12,000	60	79	67	61	55	45	42	39	35	32	29	26	95	79	70	62	55	50	46	42	38	35	31	12,000
	30	79	67	61	55	45	42	39	35	32	29	26	95	79	70	62	55	50	46	42	38	35	31	
10,500	30	73	62	55	48	39	36	34	31	28	25	22	88	73	63	54	48	43	40	37	33	30	27	10,500
9000	60	67	57	48	40	33	30	29	26	24	21	18	80	67	55	45	40	36	33	31	28	25	22	9000
	30	67	57	48	40	33	30	29	26	24	21	18	80	67	55	45	40	36	33	31	28	25	22	
	20					28	26	24	22	19	18	16					34	31	29	26	23	20	18	
7500	60	51	41	34	28	26	24	22	21	19	17	15	61	48	39	35	31	28	27	25	23	20	18	7500
	30	51	41	34	28	26	24	22	21	19	17	15	61	48	39	35	31	28	27	25	23	20	18	
	20					22	21	20	18	16	15	13					27	25	24	21	19	18	16	
6000	60	40	34	28	23	20	19	18	16	15	13	12	48	40	32	28	24	23	21	19	18	16	14	6000
	30	40	34	28	23	20	19	18	16	15	13	12	48	40	32	28	24	23	21	19	18	16	14	
	20					18	17	16	14	13	11	10					22	20	18	17	15	13	12	
5000	60	33	28	23	19	17	16	15	12	11	10	8	40	33	27	23	20	19	16	15	13	12	10	5000
	30	33	28	23	19	17	16	15	12	11	10	8	40	33	27	23	20	19	16	15	13	12	10	
	20					15	13	13	11	9	8	7					18	16	15	13	12	11	9	
4000	60	27	23	19	16	13	12	11	10	9	8	7	32	27	22	19	16	14	13	12	10	9	8	4000
	30	27	23	19	16	13	12	11	10	9	8	7	32	27	22	19	16	14	13	12	10	9	8	
	20					11	10	10	9	8	7	6					13	12	12	11	9	8	7	
3000	60	17	14	12	11	10	9	9	8	7	6	5	22	18	16	14	12	11	10	9	8	7	6	3000
	30	17	14	12	11	10	9	9	8	7	6	5	22	18	16	14	12	11	10	9	8	7	6	
	20					8	8	7	6	5	4	4					10	9	8	7	6	5	5	
2000	30					7	6	6	5	5	4	4					9	8	8	7	6	5	5	2000
	20					6	5	5	5	4	3	3					7	7	7	6	5	4	4	
Recommended Gas Pressure (mm/Hg)		6	7	7½	8	9	10	10	11	12	13	15	6	7	7½	8	9	10	10	11	12	13	15	

* Based on average grade of tubing. † Exposed & extremely cold climates may require that footage to be reduced by 10-20%.

NOTE 1: Deduct approximately 1 foot from above figures for each pair of electrodes.
NOTE 2: Recommended gas pressue for 10-foot-plus lengths. Increase 10% for tube lengths under 10 feet.
NOTE 3: The tube footage chart is a guide. Consult transformer application data in catalogue.