

L-3 IOT 80T UHF-TV Transmitter Tube & Trolley

The Inductive Output Amplifier is a high-efficiency tube operating in the UHF-TV frequency range of 470 to 810 MHz. The amplifier can be used in digital transmitters and in analog transmitters requiring combined vision/aural service, vision only service, and aural only service.



Ratings	Min.	Max.	Units
Heater Voltage	5	7	V
Heater Current (operating)	20	30	A
Heater Current (surge)	- - -	60	A
Heater Warm-Up Time	300	- - -	sec
Beam Voltage	22	36	kV
Beam Current (mean)	- - -	2.5	A
Quiescent Current	0.4	0.7	A
Body Current	- - -	60	mA
Solenoid Current	22	27	A
Collector Dissipation	- - -	55	kW
Load VSWR	- - -	1.5:1	- - -
Bias Voltage (ref. to cathode)	-50	-150	V
Grid Current	- - -	±150	mA
Ion Pump Current (beam on)	- - -	20	μA
Ion Pump Voltage (ref. to cathode)	3	4	kV
Drive Power for Visual Service Peak Sync.	- - -	500	W
Instantaneous Peak Output Power	- - -	121	kW
Peak Sync. Vision Only Output Power	- - -	80	kW
Aural Only Output Power	- - -	31	kW
Peak Sync. Vision Output Power Common Mode	- - -	70	kW
Aural Output Power Common Mode	- - -	7	kW
Peak/Average Output Power (8VSB)	- - -	130/30	KW/kW
Peak/Average Input Power (8VSB)	- - -	1500/250	W

Mechanical Specifications

IOT —		Net Weight of Magnet Assembly (approx.)	250 lb
Mechanical Outline IOT	See back	Cooling:	
Mounting Position	Collector end down	Maximum Inlet Pressure	60 psi
Weight (approx.)	50 lb	Maximum Inlet Water Temperature	55°C
Trolley Assembly —		Maximum Outlet Water Temperature	75°C
Mechanical Outline IOT	See back	Min. Collector Flow (RO or DI water)	14.5 gpm
Electromagnet Voltage	5–7 V	Collector Pressure Drop	40 psi
Electromagnet Current	22–27 A	Minimum Body Flow (RO or DI water)	1.3 gpm
RF Input	Type N	Air Flow to Input and Output Cavities	90 cfm
RF Output	3 1/8" 50-Ω coaxial line	Air Pressure at Intake	5"
Net Weight of Tuning Cavities (approx.)	110 lb	Maximum Air Temperature at Intake	60°C

Tube Protection:

A photoresistor-type arc detector is fitted to each of the primary and secondary output cavities. The beam voltage must be removed within 100 ms of an arc being detected.



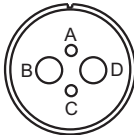
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Outline Drawings

Focus Coil Connections

Pin Element

- A Focus Coil Positive
- B Lid Switch
- C Focus Coil Negative
- D Lid Switch

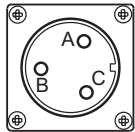


Note: Pins B and D are connected within the circuit assembly for use as an interlock circuit.

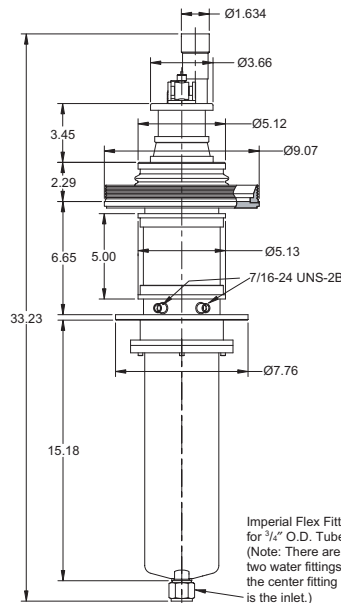
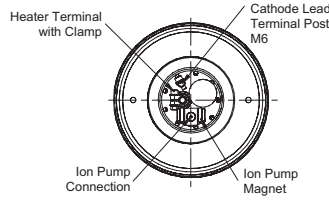
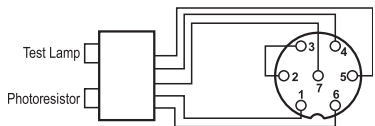
Lid Switch Interlock Connections

Pin Element

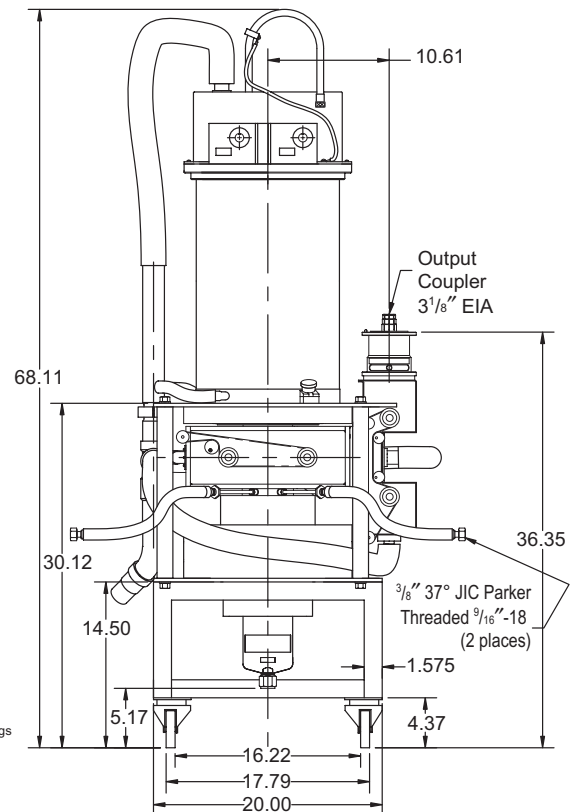
- A Lid Switch
- B Not Connected
- C Lid Switch



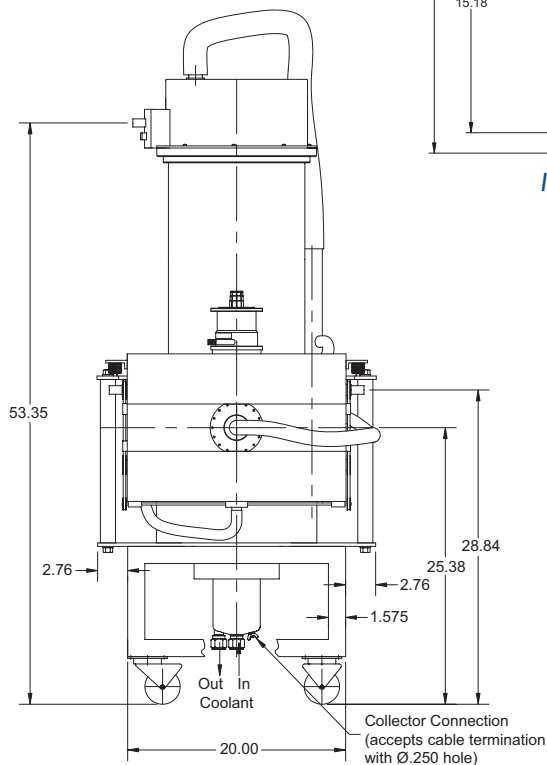
Arc Detector Connections



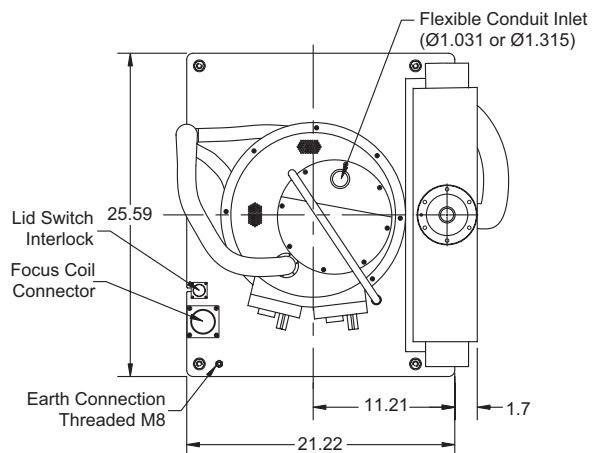
IOT Outline



Front View of Trolley Assembly



Side View of Trolley Assembly



Top View of Trolley Assembly

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Characteristics and operating conditions are based upon performance tests. These values may change as the result of further data or product refinement. L-3 Electron Devices should be consulted before using this information for product design.

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