

# iSPA240-1-70

## RF Synthesizer/Amplifier



0922

The iSPA241 is a programmable frequency synthesizer and power amplifier. It is ideally suited for driving Isomet Germanium and Quartz acousto-optic modulators where stable programmable frequency tuning is required. This driver includes a micro-controller and high speed synthesizer. Initial set-up and diagnostics are made via a USB interface. Once programmed, 1 of 16 output frequencies are selected from high speed dedicated external inputs. An analog modulation input signal provides control the output power level. A separate digital gate input provides On:Off control.

### Diagnostics include:

- RF power level indication
- AOM and driver temperature (depends on AOM model)
- DC supply voltage and current

### Protection includes:

- Over temperature shut down
- DC supply over-voltage clamp
- External thermal interlock.

The iSPA241 operates from a +24V or +28Vdc supply. LED's indicate the status of the thermal interlocks, DC supply and RF output activity. Heatsinking is by an integral water-cooled base. Windows operating software with GUI is provided. (No SDK is available, see iMS4 alternatives).

### SPECIFICATION

Power Output (Total)	:	> 70 Watts Max CW (24V supply)
Load Impedance	:	50Ω
Harmonic Distortion	:	>20dB below fundamental
3dB Power Frequency range	:	Programmable 30-60 MHz
Frequency stability	:	± 25ppm
Frequency accuracy	:	± 25ppm
Frequency programming resolution	:	1Hz using Isomet GUI
Frequency step change settling time	:	< 100nsec
Power Level Control	:	0.0V OFF to 5.0V fully ON
On:Off Gate Control	:	LVTTL Compatible (> 2.0V = RF On)
RF ON to OFF Ratio	:	37dB below full power
Output Switching Speed	:	< 300/100ns Rise/Fall, 0 to 50 Watts
RF Output	:	BNC Connector
Interlock enable	:	Binder 719, 3-pin (connect to AO)
Power Supply	:	+24V to +28Vdc, 0.25% regulation, < 8A
Power Input	:	Feed through filter solder tag
Temperature Range	:	0° to 50°C, Thermal shutdown if exceeded Integral water-cooled heatsink is provided.

#### ALL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

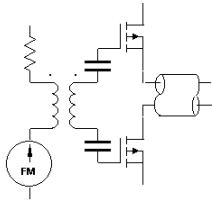
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#### Quality Assured.

In-house: RF & Digital design  
Software Development  
OEM manufacture



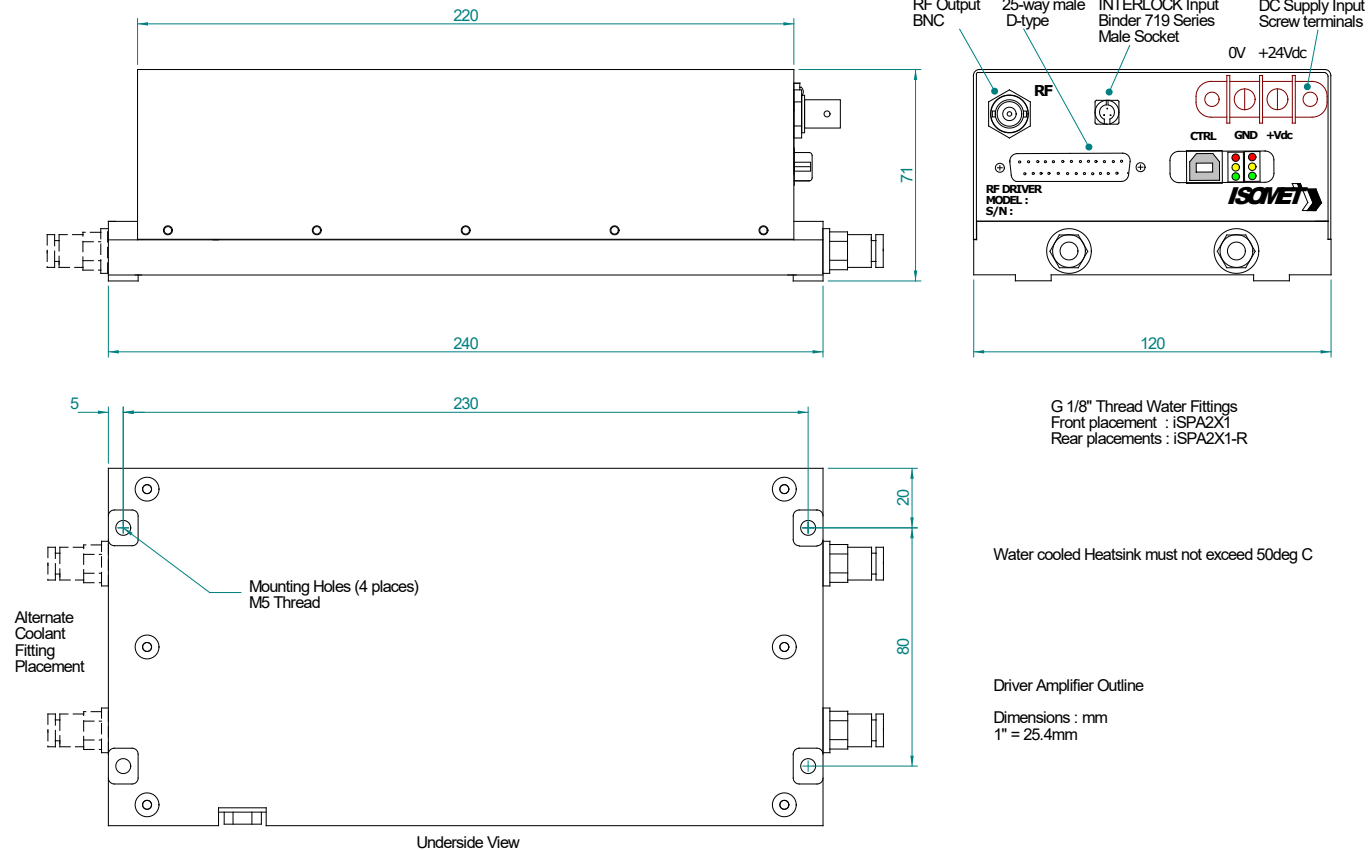
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### OUTLINE DRAWING



Function		Sig Pin	Rtn Pin
Register address P3	In	1	14
Register address P2	In	2	15
Register address P1	In	3	16
Register address P0	In	4	17
Reserved	In	5	18
Mod'n level	In	6	19
-Gate On/Off (-OHL)	In	7	20
STATUS	Out	8	21
Reserved		9	22
Reserved		10	23
Reserved		11	24
UdClk	In	12	25
- RESET	In	13	25

Control signals 25 pin 'D' type Male

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 In-house: RF & Digital design  
 Software Development  
 OEM manufacture