

RFA681-x

RF Driver/Amplifier



2522

The RFA681-x is a combined 80MHz oscillator and power amplifier suitable for driving Isomet High Power Acousto-optic modulators such as the M1431 series. This driver features a fast modulation input that is factory configured for digital (On:Off) or analog (proportional) control of the RF amplitude plus a secondary digital RF Gate input. Protection includes an internal over temperature sensor, 'TranZorb' over voltage diode on the DC supply input and high VSWR shutdown. An external interlock (or enable) input is provided. The amplifier includes an integral water-cooled heatsink. Available options (-x) are listed below.

The RFA681 operates from a +24V supply. An LED indicates when the RF outputs are 'live'.

The maximum RF output power is set by one of two methods as selected by the user.

- Manual adjustment using front panel potentiometer
- Remote adjustment via a buffered I²C compatible serial interface.

SPECIFICATION

Power Output	:	> 120 Watts Max. CW
Load Impedance	:	50Ω
Harmonic Distortion	:	>20dB below fundamental
Mismatch Tolerance	:	Driver will not oscillate
Center Frequency	:	80.0 MHz
Frequency stability	:	± 25ppm
Frequency accuracy	:	± 25ppm
Modulation Control Voltage	:	
- or - Analog (RFA681)	:	0.0 to 10.0V, 3kohm i/p impedance (nominal)
- or - Digital (RFA681-D)	:	TTL compatible (> 2.7V, RF active)
- or - Dual mod (RFA681-DA)	:	Both 0.0 to 10.0V and TTL, as above.
RF ON to OFF Ratio	:	40dB below full power
Output Switching Speed	:	< 400/100ns Rise/Fall, 0 to 100 Watts
Interlock	:	Open OFF, closed ON, Sink 20mA at 15V
Temperature Range	:	0° to 50°C, Thermal Shutdown Interlock
Interlock enable	:	Binder 719, 3-pin (connect to AO)
Control signals	-	15 pin 'D' type Male
RF Gate, PLC logic (5V<v<24V = ON)	: IN	+sig pn8, -rtn pn15
Alternate TTL Modulation input (Option – DA)	: IN	+sig pn7, -rtn pn14
Serial interface Data IO	: IN	+sig pn6, -rtn pn13 (I ² C compatible)
Serial interface Clock	: IN	+sig pn5, -rtn pn13 (I ² C compatible)
0-10V Analog Modulation (or TTL if option – D)	: IN	+sig pn7, -rtn pn14
RF monitor, opto-open collector	: OUT	+sig pn3, -sig pn10 (low = OK)
Interlock monitor, opto-open collector	: OUT	+sig pn2, -sig pn10 (low = OK)
Remote/Manual Power Adjust Select	: IN	+sig pn1, -rtn pn9
(no connect = manual)		
DC Power Input	:	Feed through filter screw terminals
Power Supply	:	+24Vdc, 0.25% regulation, <20A

ALL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

ISOMET CORP, 10342 Battlevue Parkway, Manassas, VA 20109, USA.

Tel: (703) 321 8301 Fax: (703) 321 8546

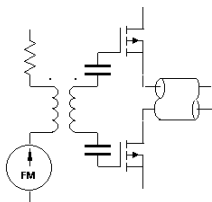
E-mail: ISOMET@ISOMET.COM Web Page: WWW.ISOMET.COM

Quality Assured.

In-house: RF & Digital design

Software Development

OEM manufacture



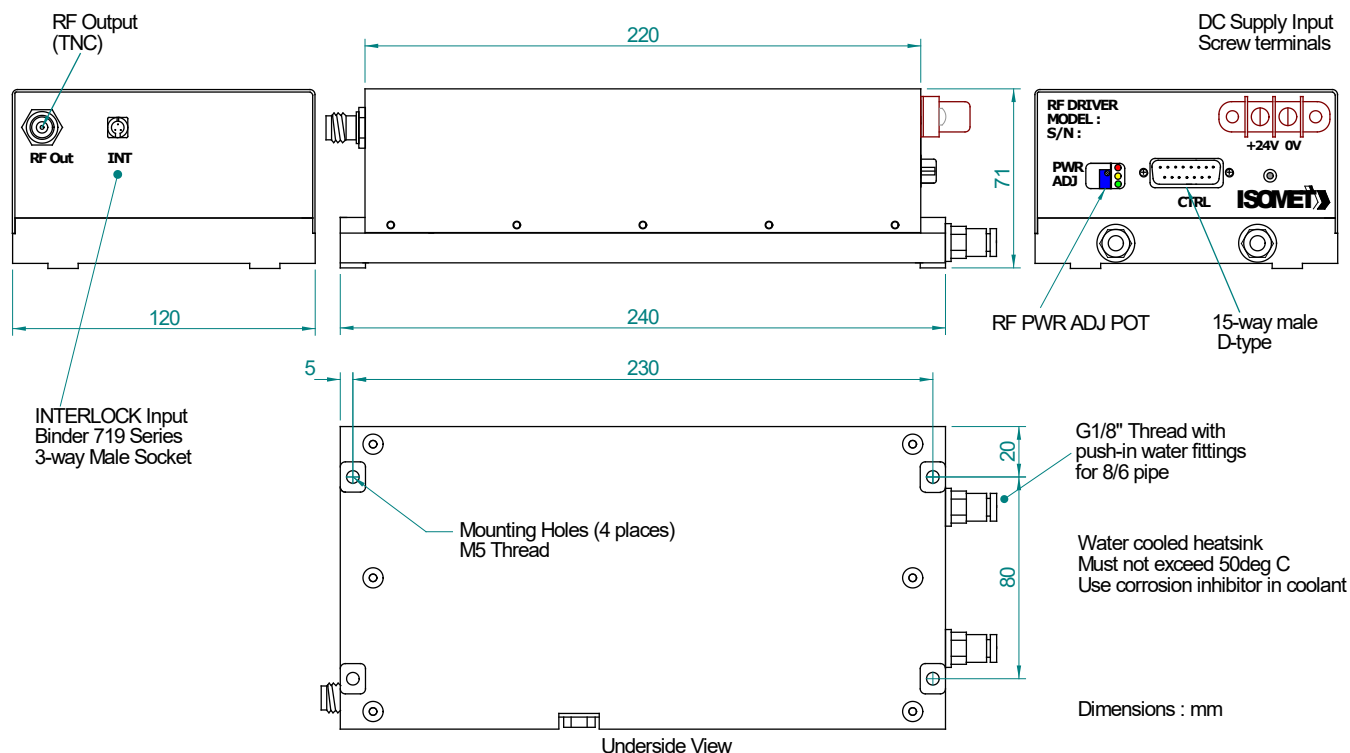
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OUTLINE DRAWING



Options -x, multiple combinations possible:

- V : 0-5V analog modulation range
- L : RF gate input not necessary
- D : TTL digital modulation, fast input
- DA : dual analog TTL digital modulation
- BR : Brass water cooled heatsink (water fittings on RF output face)

Refer application note AN1906 regarding Coolant Specification

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