



# Gooch & Housego



## Document

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## Control

## AOM Driver 2910 Series

### 1 to 4 Watt RF Drivers for Acousto-Optic Modulators

The 2910 Series RF driver provides up to 4 Watts output power. Various types cover a frequency range of 80 to 350 MHz.

The maximum RF output power is adjustable by an internal potentiometer. The driver is available in either analogue or digital modulation control. The analogue modulation voltage controls the output power from 0 to 100% of the adjusted maximum power. The digital modulation control signal can switch on and off the RF power.

The driver can be operated with modulation frequencies (analogue and digital) up to 25% of the carrier frequency and 50 MHz maximum at the higher carrier frequencies.

Optimum EMC shielding and mechanical protection is achieved by an aluminium casing. The base plate serves for mounting and heat dissipation purposes.

#### Key Features:

- Frequency range 80 to 350 MHz
- RF output power up to 4 Watt
- RF on/off ratio  $\geq 60$  dB (Digital Modulation)
- RF on/off ratio  $\geq 50$  dB (Analogue Modulation)
- Constant output power design
- Models with a modulation frequency up to 50 MHz available
- Conductive cooling through base plate
- Compact casing

#### Applications:

- Fast modulation components for extra cavity applications, e. g. laser projection systems
- Frequency shifting

## Technical Data

<b>Supply Voltage</b>	+24V DC
<b>Supply Current</b>	600 mA (nominal) with Pout = 1.0 W 625 mA (nominal) with Pout = 1.5 W 775 mA (nominal) with Pout = 2.5 W 825 mA (nominal) with Pout = 3.0 W 900 mA (nominal) with Pout = 4.0 W 2700 mA (nominal) with Pout = 20 W*
<b>Output Impedance</b>	50 $\Omega$ (nominal)
<b>Maximum RF Power (adjustable)</b>	< 0.1 W ... > Pout
<b>Frequency Accuracy</b>	$\pm$ 0.1%
<b>Harmonic Distortion**</b>	$\leq$ -20 dBc***
<b>Analogue modulation</b>	
Impedance	50 $\Omega$ (nominal)
Voltage range @ 50 $\Omega$	0 ... +1 V
RF ON / OFF ratio	$\geq$ 50 dB****
<b>Digital modulation</b>	
Impedance	75 $\Omega$ (nominal)*****
Level	Standard TTL
RF ON / OFF ratio	$\geq$ 60 dB
<b>RF Output Frequencies</b>	80, 110, 150, 200, 260 & 350 MHz
<b>RF Rise/Fall Times</b>	12 nsec @ 80 MHz (Rise = 10% to 90%) 9 nsec @ 110 MHz (Fall = 90% to 10%) 7 nsec @ 150 MHz 5 nsec @ 200 MHz 4 nsec @ 260 MHz 4 nsec @ 350 MHz

\* A 20 W version available using external amplifier.

\*\* Into 50  $\Omega$  load

\*\*\* Part numbers -16 and -17 are  $\leq$  -15 dBc

\*\*\*\* Part numbers -12, -14 and -16 are  $\geq$  45 dB

\*\*\*\*\* Part number -11 is 600  $\Omega$  (nominal)

## Connectors

<b>RF output connector</b>	SMA (female)
<b>Modulation connector</b>	SMC (male)
<b>Power Supply connector</b>	
Input	Solder terminal (filtered feed-thru)
Ground	Solder lug

## Cooling, Dimensions, Weight

<b>Cooling</b>	Conduction Base plate should be attached to suitable heat sink capable of dissipating:
Pout	15 W
1.0 W - 1.5 W	20 W
2.5 W - 3.0 W	22 W
4.0 W	
<b>Dimensions inches [mm]</b>	
L x W x H	4 x 1.12 x 3.15 [102 x 29 x 80]
<b>Weight lbs [kg]</b>	0.53 [0.24] (nominal)

## Environmental Conditions

<b>Warm-up Time</b>	5 minutes (nominal)
<b>Base Plate Temperature</b>	0° C to +60° C For optimum output power stability constant base plate temperature should be provided
<b>Storage Temperature</b>	-25°C to +85°C (non condensing)

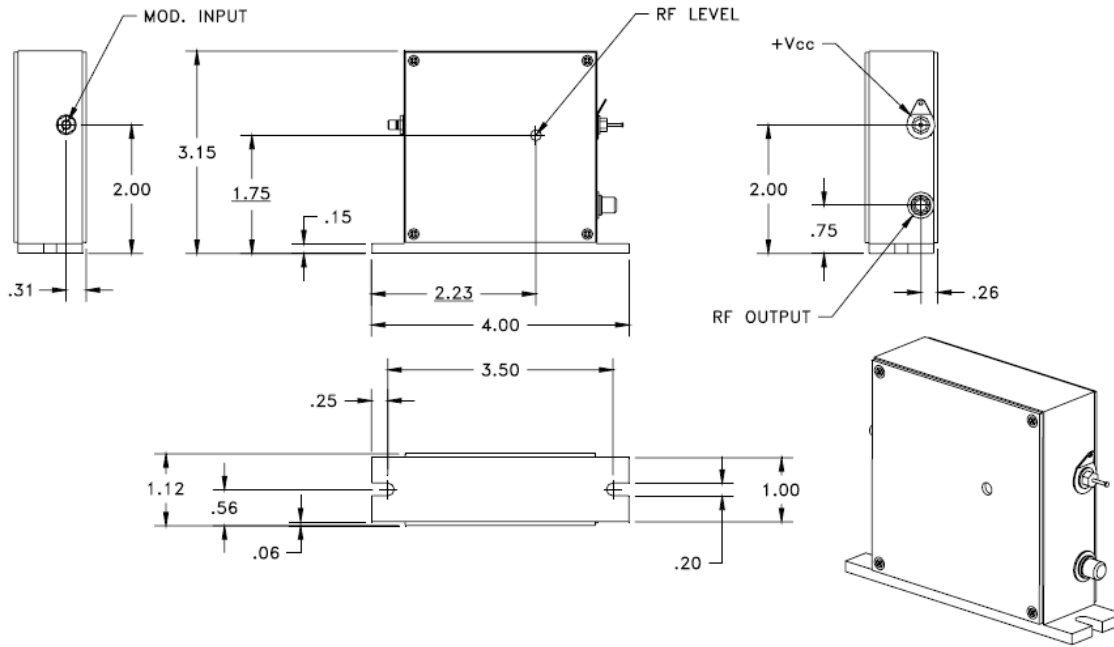
## Absolute Maximum Ratings

<b>Supply Voltage</b>	+28 VDC
<b>Analogue Modulation</b>	-1.5 V to +1.5 V
<b>Digital Modulation</b>	-0.5 V to +2.75 V
<b>Operating Temperature</b>	+65°C (base plate temperature)

## Quality Standards

<b>EU 2002/95/EC (RoHS)</b>	Compliant
<b>Burn-in</b>	12 Hours min @ +25° C and Pout

Outline Drawing:  
(Dimensions in inches)



Variant List / Ordering Codes

1XXX AF-XIN0-X.X HCR

Code	Frequency MHz
080	80
110	110
150	150
200	200
260	260
350	350

Code	Modulation
A	Analogue
D	Digital

Code	RF Power Watts
1.0	1.0
1.5	1.5
2.5	2.5
3.0	3.0
4.0	4.0

Other Frequencies and customized versions available upon request.