

3910 Series RF Drivers

Next Generation AO Modulator Driver

The 3910 series RF drivers offer a significant upgrade over our 2910 series while maintaining backwards compatibility.

The 2910 series RF driver has been a workhorse for powering AO modulator applications over the last decade. The line has received a complete makeover to further enhance the success of this signature driver. All of its functions have been improved and a few key features have been added while maintaining its affordable price.

The 3910 modulation input now allows the user to switch from three modulation schemes: Digital, Analog and Digital+Analog. This function will be standard on all models. The RF power has been doubled from 4Watts to 8Watts (at +28Vcc). The 3910 features more efficient power consumption than its predecessor. The Frequency range has been increased up to 500MHz, making it able to control any of the currently available AO modulator models. The rise time is <4ns at all power levels and frequencies >250MHz. Another new feature is the optional ability to synchronize the driver to an external clock reference. The 3910 RF driver offers more power, higher frequencies, faster rise times, more modulation choices, synchronization capabilities and the latest electronic components over the 2910 series driver while maintaining the same footprint and pricing.

Key Features

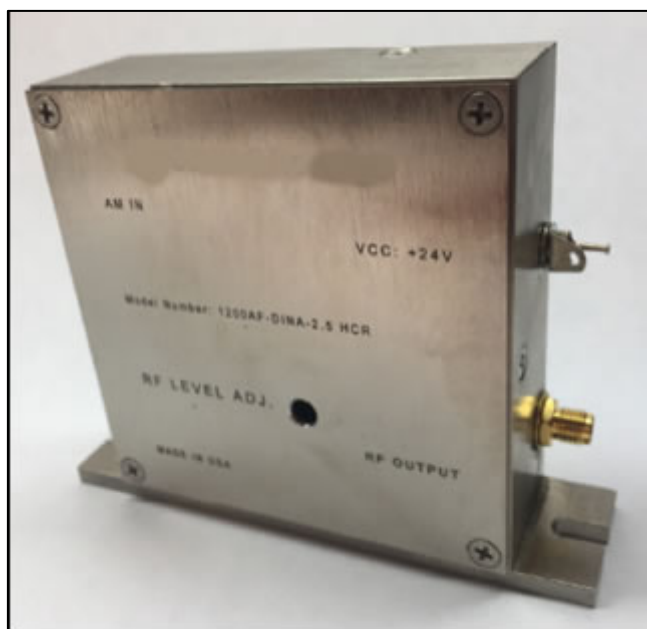
- Up to 500MHz center frequency
- Selectable modulation input
- Adjustable RF power up to 8 Watts
- Rise time as low as 4 ns
- Optional external clock synchronization

Key Benefits

- Proven reliability
- Consistent performance
- Lower power consumption
- Test documentation
- One year limited warranty

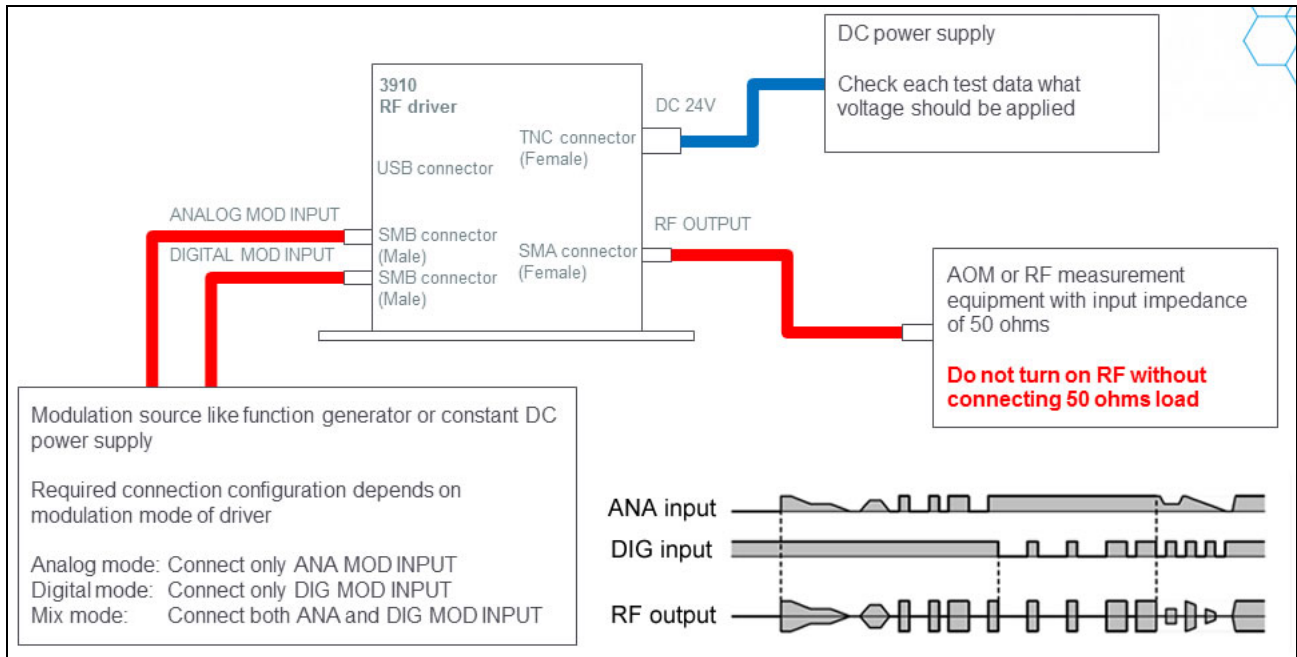
Applications

- Micromachining
- Materials processing
- Laser displays
- Printing
- Heterodyne interferometry
- Pulse picking

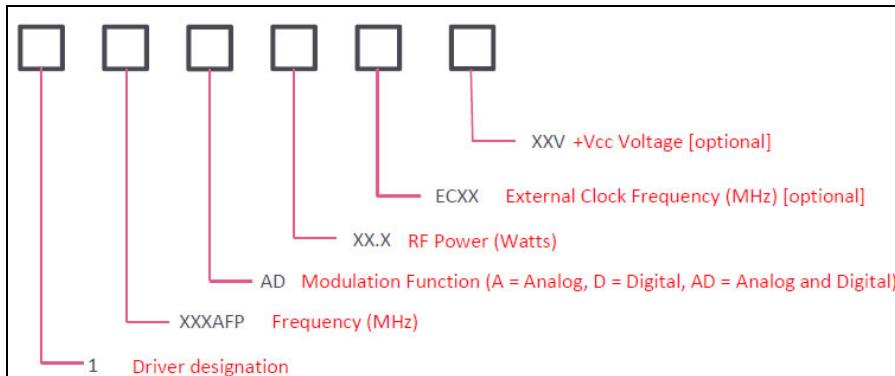


Parameter	Performance
Center frequency	45 – 500 MHz fixed
RF output	0.25 – 8.0 Watts adjustable (at +28 V)
Input voltage +Vcc	+24 to +28 V
2nd harmonic level	< -20dBc
Output VSWR	1.5:1 max
Output waveform	Sinusoidal
Rise / fall time	4 nsec max (frequencies \geq 250 MHz)
Contrast ratio	50 dB min
Analog input voltage	0 – 1 V
Analog input impedance	50 Ohms
Digital input voltage	Standard TTL levels
Digital input impedance	10 kOhms
Frequency stability	+/-1.5 ppm over temp
Frequency accuracy	+/-1%
Thermal management	Conduction cooled heat sink

Operating temperature range	10°C to 60°C
Dimension	4x1.12x3.31in (101.6x28.4x84mm)



Model Code Generation:



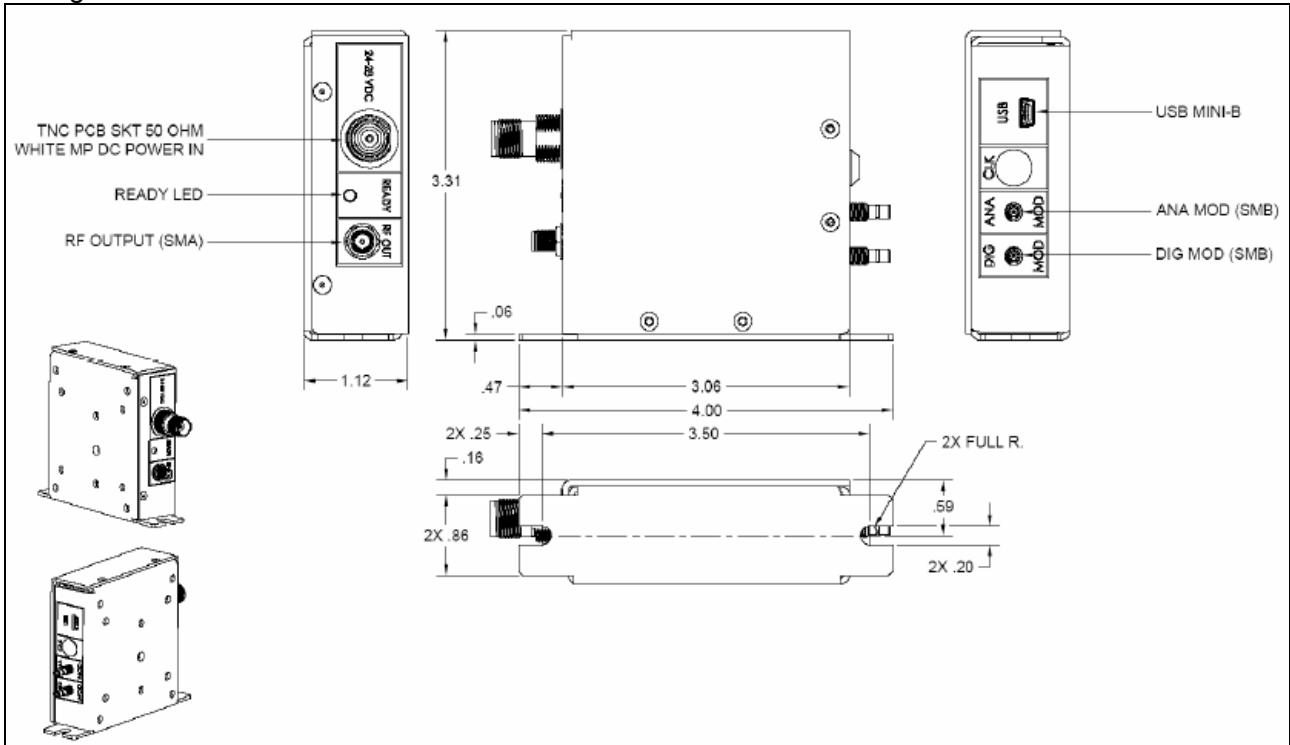
Based on the different configurations, we split the 3910 driver part number into 12 categories as follows:

- 3910 - <3.0W, <100MHz, No heat sink, Internal Clock
- 3911 - <3.0W, 100-199MHz, No heat sink, Internal Clock
- 3912 - <3.0W, >199MHz, No heat sink, Internal Clock

- 3940 - >=3.0W, <100MHz, Heat sink, Internal Clock
- 3941 - >=3.0W, 100-199MHz, Heat sink, Internal Clock
- 3942 - >=3.0W, >199MHz, Heat sink, Internal Clock

- 3950 - <3.0W, <100MHz, No heat sink, External Clock
- 3951 - <3.0W, 100-199MHz, No heat sink, External Clock
- 3952 - <3.0W, >199MHz, No heat sink, External Clock

- 3960 - >=3.0W, <100MHz, Heat sink, External Clock
- 3961 - >=3.0W, 100-199MHz, Heat sink, External Clock
- 3962 - >=3.0W, >199MHz, Heat sink, External Clock

Configuration with no external heatsink:

Configuration with external heatsink:
