

MODAxx MODAGxx

FIXED FREQUENCY DRIVERS 1 to 20 Watts



TECHNICAL DATA SHEET 2014

Product Overview

AA proposes mainly two types of fixed frequency drivers:

The MODAxx drivers are based on quartz oscillators and provide standard fix frequencies such as 40 MHz, 80 MHz, 110 MHz...

The MODAGxx drivers can provide any fixed frequencies according to the user's needs in the range of 10-400 MHz, such as 40.002 MHz, 94.297 MHz, 108.456 MHz...

Both drivers have got integrated amplifiers and deliver the necessary RF power to drive the associated acousto optic device. The RF power can be externally modulated with a convenient input signal, analog or TTL on request. Cooling is assured by conduction through baseplate for the OEM version.



Features

- **MODAxx:** Fixed frequency (MHz) : 40, 80, 110, 160, 180, 200, 250, 350
- **MODAGxx:** any fixed frequency in the range of 10-400 MHz
- RF power (W): 1, 2.5, 4, 10, 20
- Analog or TTL Modulation input controls
- Dual AM controls available Analog + TTL
- Rohs



Laboratory versions, single input



Laboratory versions, Dual Input

Access to your operating manual



Technical Specifications

Parameter	MODAxx			MODAGxx
Carrier Frequency (MHz)	40 / 80 / 110 / 160 / 110 / 180 / 200 / 250 / 350			Any fixed in 10-400
Frequency Stability	Nom +/- 1 ppm/°C			< 2.5 ppm
Frequency Accuracy	< 50 ppm			<2.5 ppm
Output RF Power (@1dB compression)	1 W	2.5 W	4 W	10-20 W
Power Supply OEM version	24, nom 0.45 A	24, nom 0.65A	24, nom1.0A	24, nom 2-3 A
Power Supply Laboratory version	110 – 230 VAC			
Modulation Input Control	Analog, TTL, or Analog+TTL			
Rise Time/Fall time (10-90%) < 4 watts	< 20 ns @40 MHz, < 10 ns @80 MHz < 8 ns @110 MHz, < 5 ns @180 MHz, < 3 ns @F>200MHz			
Input / Output Impedance	50 Ω			
VSWR	< 1.5/1			
Extinction Ratio	Nom 45 dB (>40 dB)			
Input / Output Connector	SMA - DB15 / SMA			
Size / Weight	129 X 61 X 30.1 mm3 / 500 g (OEM) 340 x235X90 mm / 3.6-3.8 Kg (Lab)			

Heat Exchange	Conduction through baseplate for OEM versions AA adds a supplementary heatsink + fan on top of 4-20 Watts version Stand alone (fan integrated) for laboratory versions
Operating Temperature	10 to 40 °C (max Tcase 55 °C)
Storage Temperature	-40 to +50 Non condensing

Options / On request

HIGH EXTINGUISHMENT RATIO (60 dB) > 60 dB when carrier frequency < 180 MHz
For Single AM Control > 55 dB when carrier frequency ≥ 180 MHz

SINGLE AM CONTROL

Standard analog 0-5V/50 Ohms for F < 180MHz
analog 0-1V/50 Ohms for F ≥ 180MHz

On request 0-5/500 ohms, 0-1V/100 ohms, TTL/50 Ohms, TTL/1 Kohms

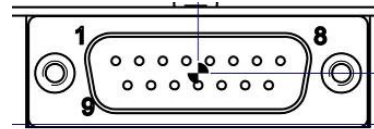
MOD IN (AM control)

DUAL AM CONTROLS

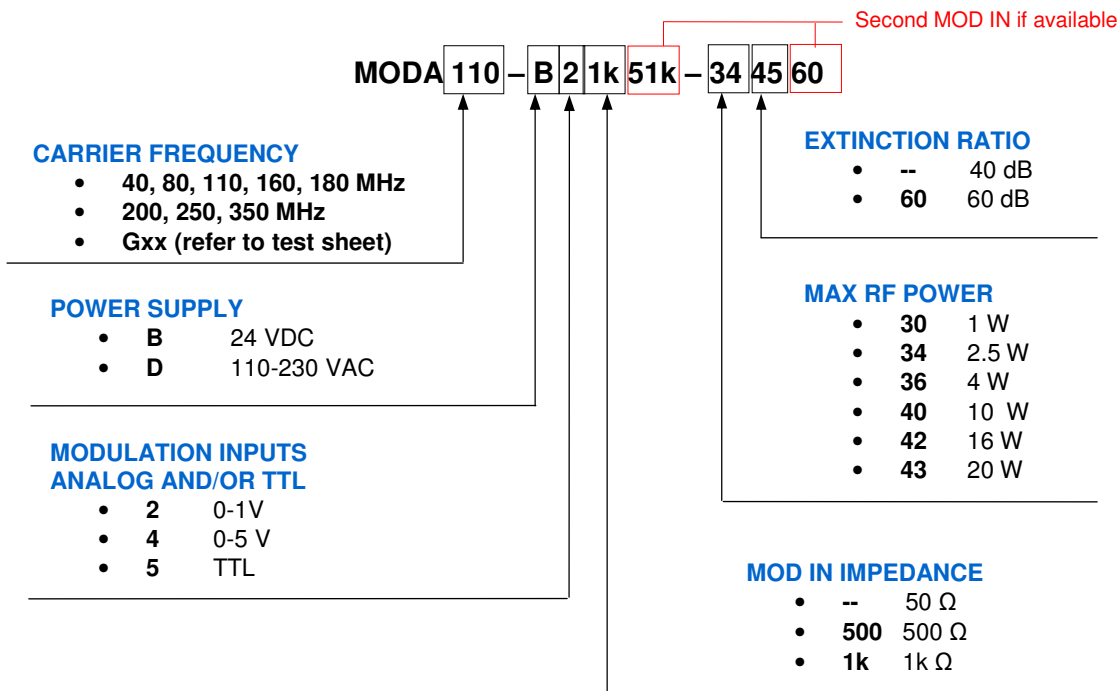
Standard Analog 0-5V/1KOhms Extinction > 40dB
Digital TTL/1KOhms Extinction > 70dB

PIN connections

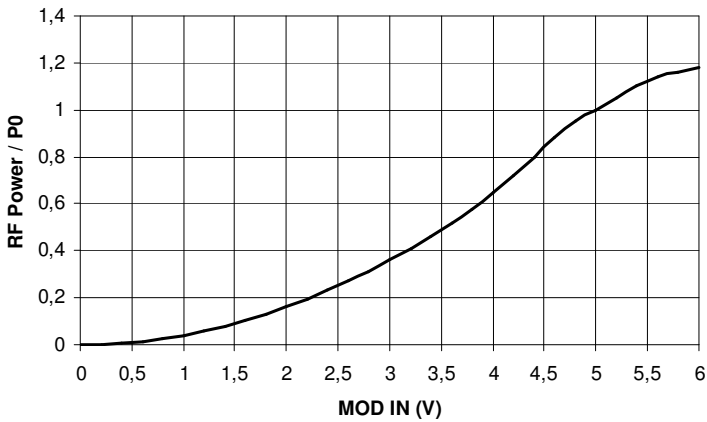
Pin 1 : ANALOG INPUT
Pin 3 : TTL INPUT
Pin 5 : NC
Pin 6 : NC
Pin 8 : NC
Pin 9, 11, 13, 15 : POWER SUPPLY (+24VDC standard)
Pin 2, 4, 7, 10, 12, 14 : GND



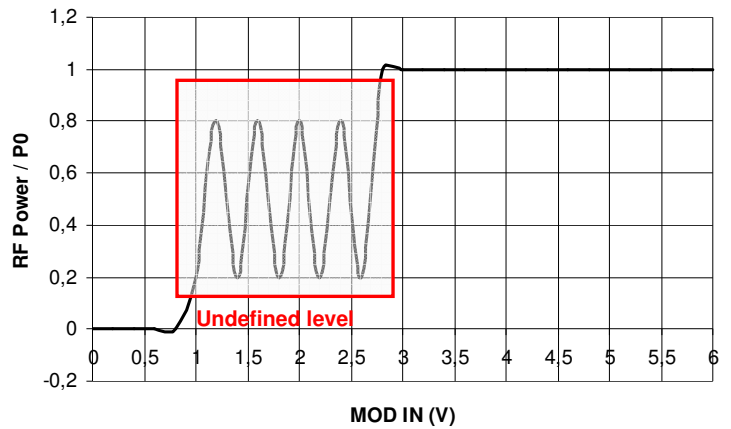
How to determine your model



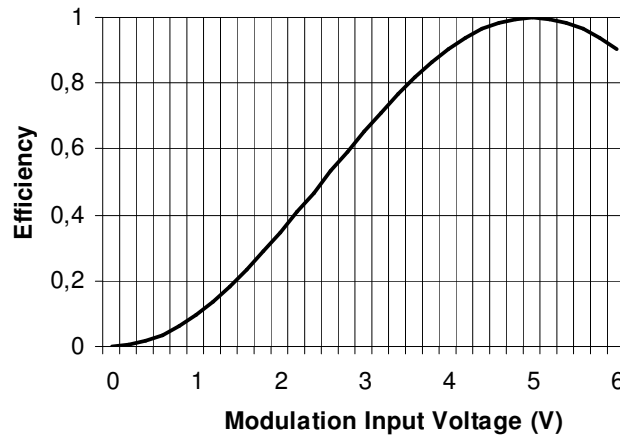
Typ Relative Output RF power vs ANALOG MOD IN (0-5V)



Relative Output RF power vs DIGITAL MOD IN (TTL)



AO relative Efficiency vs driver MOD IN



Laboratory version or OEM version?

Laboratory version is a standalone bench top box with built in MODAXX or MODAGXX (OEM) and AC power supply 110-230VAC.

The driver is self cooled and can operate in two modes:
 CW mode: the output RF power is adjusted thanks to the front panel potentiometer. External signal is not needed.
 EXT mode: the output RF power is adjusted thanks to AM control signal provided by user. The maximum RF power is fixed by the front panel potentiometer.



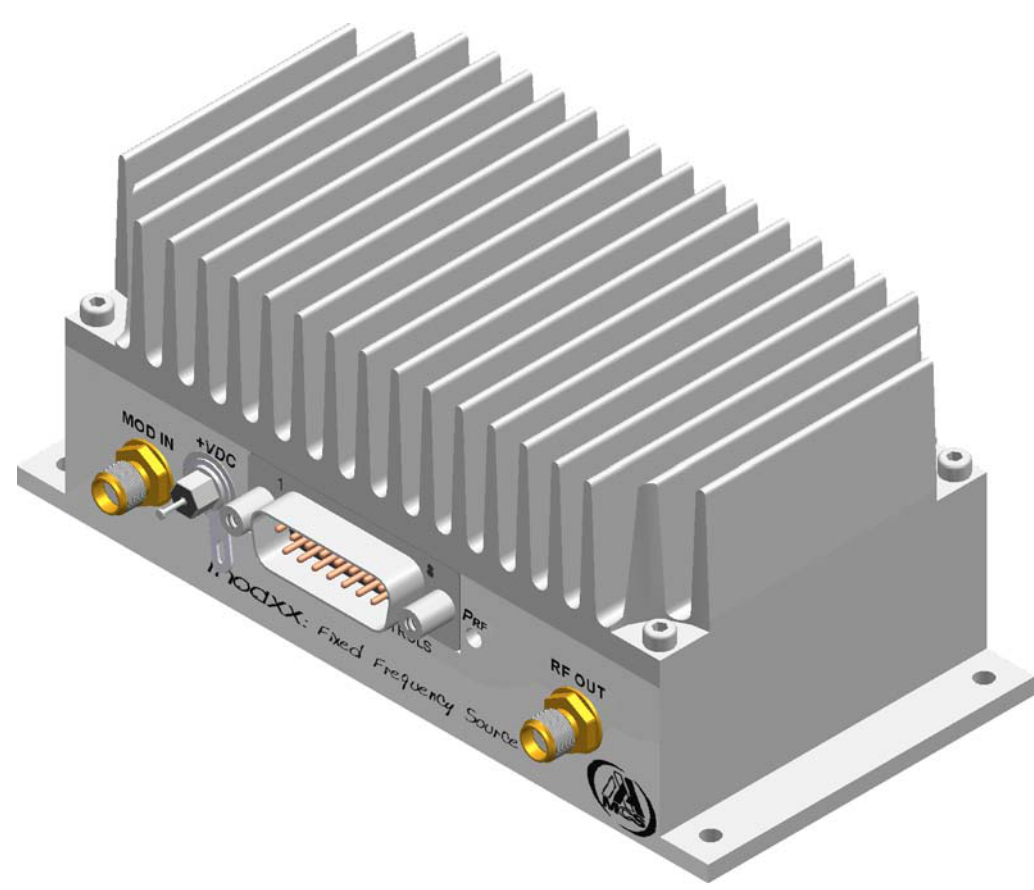
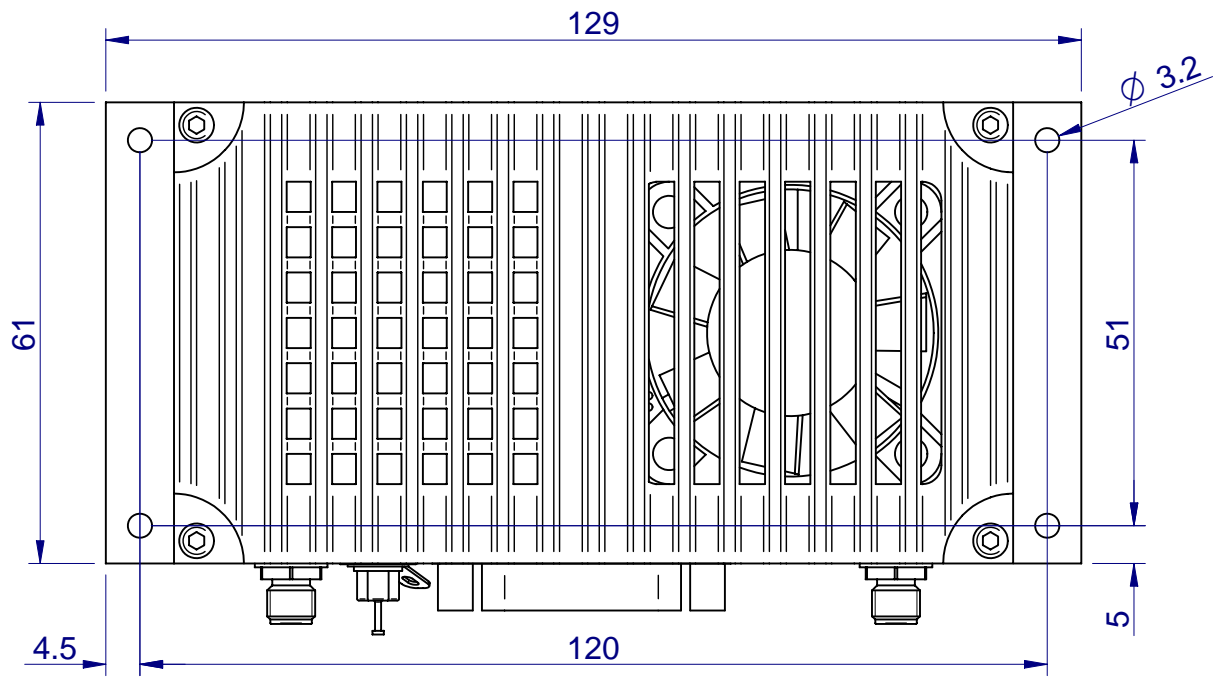
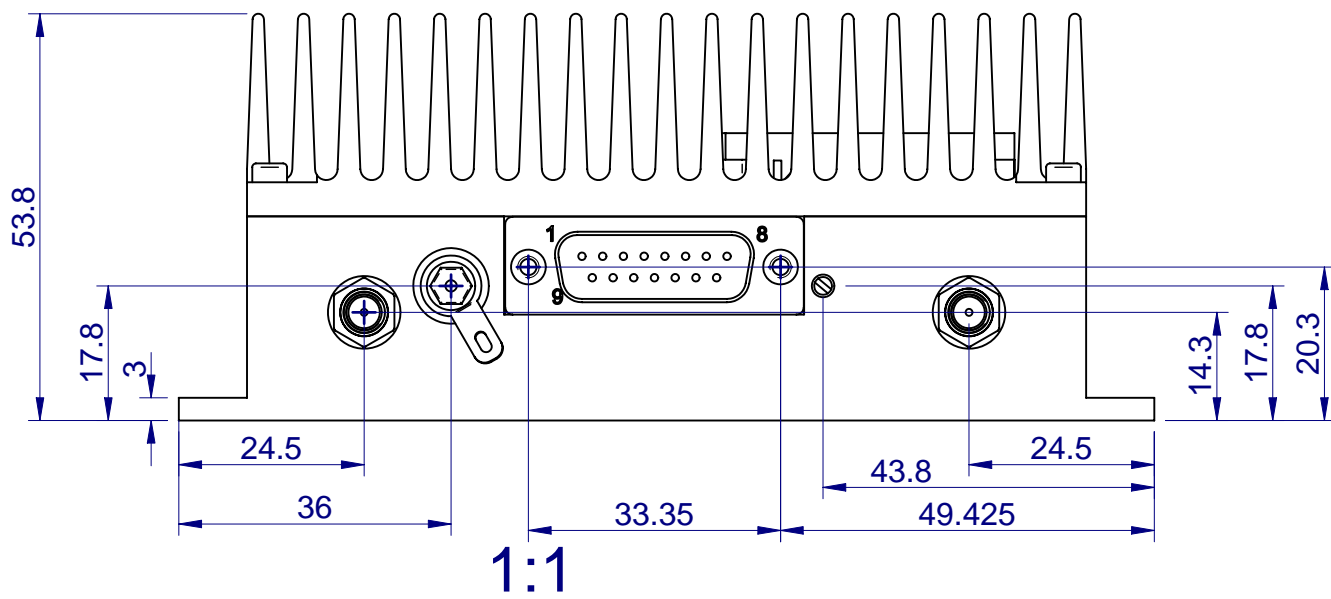
Laboratory versions, single input

OEM version is compact, generally dedicated to be integrated inside a larger system and the power supply (24 VDC in most cases) must be provided.

The heat exchange is done by contact cooling through baseplate and therefore it should be attached with screws (and thermal grease) on a metallic plate or a heatsink.
 External control signals should be provided in order to operate the driver.



OEM version



Ce document est la propriété de AA-MCS et ne peut être communiqué sans son accord.
www.aa-mcs.com. Mail: info.technic@aa-mcs.com

				Dessiné par		Vérifié par		Cotes après traitement sauf contre indications		Tolérances:	
				Nom: Saint-Jean T.						±0.1mm	
				Date: 25/08/2006						< ±1°	
				Matière:						√ 3.2µm	
				Traitement /Finition:							
1		Changement dissipateur		20/02/07		S.C		Titre: MODAXX 4-20 Watts (24VDC versions)			
0		Création		25/08/06		T.S		N°		Ech:	
Ind.		Description		Date		Visa		Plan		Page 1/1	
								1MODS06045.0055 Plan d'ensemble			