ADRV-5

Precision multi-channel AOM driver

General description:

ADRV-5 is a five-channel high-precision driver for acousto-optic modulators assembled in a 19" rack. Each channel is an independent AOM driver (analog to **DIM-3000** AOM driver, *Time-Base*) that can be controlled either from the built-in high-resolution 5" touchscreen monitor along with a precision encoder, or remotely via Ethernet or USB. The **ADRV-5** can also be controlled from any internet browser using a dedicated web interface. All five channels can be synchronized to an external 10 MHz reference, ensuring phase coherence of the output signals.
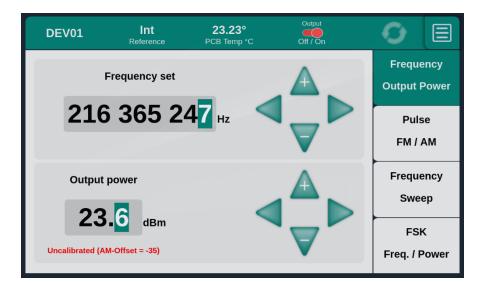
Main features:

- **Broadband operation 10 – 400 MHz**

- **Frequency resolution 1 Hz**

- **Output RF power up to 2.5 W**

- **High frequency stability**

- **Narrow linewidth**

- **Broadband analog amplitude modulation (BW > 200 MHz)**

- **Fast TTL amplitude modulation**

- **Built-in pulsed operation**

- **Fast external FM modulation with up to 104 MHz deviation**

- **Frequency SWEEP function (min 4 ns per step)**

- **FSK operation**

- **Computer control via Ethernet or USB interfaces**

- **Web interface**

- **Internal or external 10 MHz reference**

- **Stable on all loads**

- **User-friendly and compact design**

Individual channel specifications:

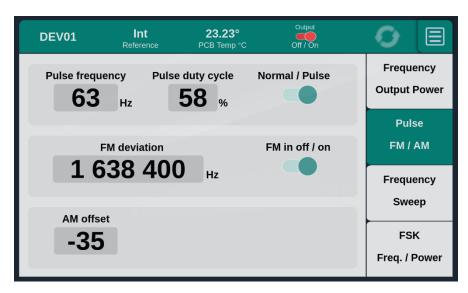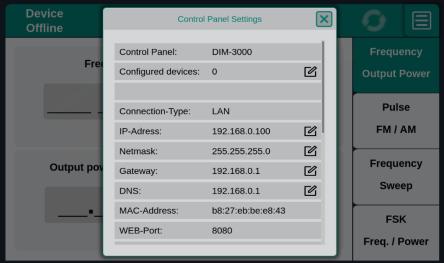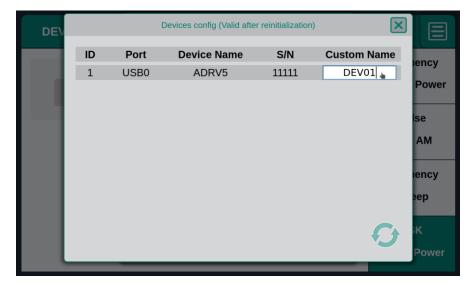| Parameter	Description
Frequency range	20 – 400 MHz
Frequency resolution	1 Hz
Frequency stability (internal reference)	50 ppm
External reference	10 MHz, > 1 Vp-p
RF output power (50 Ohm load)	+34 dBm, 2.5 W (max)
RF power regulation range	+ 14 dBm - + 34 dBm in 0.5 dB steps

AM input:
    Bandwidth
    Depth
    Signal range
    Input impedance
	
	DC – 100 MHz
	> 40 dB
	0…±1 V
	1 kΩ

TTL modulation:
    Response time
    Depth
    Input impedance
	
	< 6 ns
	> 40 dB
	1 kΩ

Pulsed operation:
    Operation frequency
    Duty cycle
	
	30 – 1000 Hz
	10 – 90%

FM input:
    Bandwidth
    Signal range
    Input impedance
    Deviation (min/max)
	
	DC - 100 KHz
	0…±10 V
	1 kΩ
	±3200 Hz / ±104 MHz

Sweep: min/max step time	 4 ns/262 µs

Connector type:
    In / Outs
    PC control interface
	
	SMA
	USB, LAN

Power Supply	230 VAC
Weight	6 kg

Screenshots

Screen 1

DEV01 | **Int** Reference | **23.23°** PCB Temp °C | Output Off / On

Frequency set

216 365 247 Hz

Output power

23.6 dBm

Uncalibrated (AM-Offset = -35)

- **Frequency** / **Output Power**
- **Pulse** / **FM / AM**
- **Frequency** / **Sweep**
- **FSK** / **Freq. / Power**

Screen 2

DEV01 | **Int** Reference | **23.23°** PCB Temp °C | Output Off / On

Start frequency

28 000 000 Hz

off / on

Est. time 3.12 ms

Stop frequency

59 000 000 Hz

Int saw

Step frequency

3 658 Hz

Step time

368 ns

- **Frequency** / **Output Power**
- **Pulse** / **FM / AM**
- **Frequency** / **Sweep**
- **FSK** / **Freq. / Power**

Screen 3

DEV01 | **Int** Reference | **23.23°** PCB Temp °C | Output Off / On

FSK frequency

35 245 897 Hz

FSK power

21.7 dBm

- **Frequency** / **Output Power**
- **Pulse** / **FM / AM**
- **Frequency** / **Sweep**
- **FSK** / **Freq. / Power**

DEV01

	Int Reference	23.23° PCB Temp °C	Output Off / On		

Pulse frequency
63 Hz

Pulse duty cycle
58 %

Normal / Pulse

FM deviation
1 638 400 Hz

FM in off / on

AM offset
-35

Frequency
Output Power

Pulse
FM / AM

Frequency
Sweep

FSK
Freq. / Power

Device Offline

Control Panel Settings

Control Panel:	DIM-3000
Configured devices:	0
Connection-Type:	LAN
IP-Adress:	192.168.0.100
Netmask:	255.255.255.0
Gateway:	192.168.0.1
DNS:	192.168.0.1
MAC-Address:	b8:27:eb:be:e8:43
WEB-Port:	8080

Frequency
Output Power

Pulse
FM / AM

Frequency
Sweep

FSK
Freq. / Power

Devices config (Valid after reinitialization)

ID	Port	Device Name	S/N	Custom Name
1	USB0	ADRV5	11111	DEV01