新特光电
Sintec Optronics

AOM Driver
A35-Series

5 Watt RF Drivers for Acousto-Optic Modulators

The A35xxx RF driver series provides up to 5 Watt output power. Various types cover a frequency range from 40 to 350 MHz.

The maximum RF output power is adjustable by an internal potentiometer. The analogue modulation voltage controls the output power from 0 to 100% of the adjusted maximum power.

Additionally to the analogue modulation voltage a digital modulation control signal can switch on and off the RF power. An operation scheme below (page 5) illustrates the interaction of the two modulation signals in detail.

Both the analogue and digital modulation are characterized by extraordinary on/off ratios of at least 65dB.

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

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

Key Features:

- ☐ Frequency range 40 to 350 MHz
- ☐ RF output power 5 Watt
- ☐ RF on/off ratio > 65 dB
- ☐ Constant output power design
- ☐ Models with a modulation frequency up to 50 MHz available
- ☐ Conductive cooling through base plate
- ☐ Compact casing, fully shielded (EMC)

Applications:

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

Technical Data

Supply voltage	+24 VDC			
Supply current	typ. 1.5 A @ 5 W RF output power			
Output impedance	nom. 50 Ω			
Maximum RF output power (adjustable)*	> 5 W (+37 dBm)			
Adjustment range	< 0.1 W … > 5 W			
Frequency accuracy	< ±25 ppm			
Harmonics distortion*	< -26 dBc			
Analogue modulation**				
Impedance	50 Ω			
Voltage range @ 50 Ω	0 … +1 V			
RF ON / OFF ratio	> 65 dB			
Digital modulation**				
Impedance	4.7 kΩ (pull-up)			
Level	High = ≥ 3V … 5V (= RF on) Low = 0 … < 2V (= RF off)			
RF ON / OFF ratio	> 100 dB			
RF output frequency* [MHz]**	**40 … <80**	**80 … <140**	**140 … <200**	**200 … 350**
Analogue modulation				
RF rise time / fall time ($P_{RF:}$ 10 … 90%) *	< 25 ns	< 15 ns	< 10 ns	< 8 ns
Digital modulation				
RF rise time / fall time ($P_{RF:}$ 10 … 90%) *	< 25 ns	< 15 ns	< 10 ns	< 8 ns

* into 50 Ω load

** other configurations on request

*** standard frequencies: 40, 80, 110, 150, 200 MHz

Connectors, Dimensions, Weight, Cooling

RF output connector	SMA female
Control input connector	D-Sub 7W2
Pins 1 and 2, inside linked	GND (case)
Pins 3 and 5, inside linked	$+V_s$ (24 VDC)
Pin 4	not connected
Pin A1 (coaxial)	Analogue modulation
Pin A2 (coaxial)	Digital modulation

Cooling	**Conduction** The base plate must be attached to a suitable heat sink capable of dissipating 36 Watt.
Dimensions [mm]	
Casing	120 x 50 x 36 ****
Mounting flat	120 x 70
Weight	360 grams

**** length x width x height

Environmental Conditions

Warm up time	10 minutes for optimum stability
Base plate temperature	+10℃ … +60℃ For optimum output power stability constant base plate temperature should be provided.
Storage temperature	-20℃ … +70℃, non condensing

Absolute Maximum Ratings

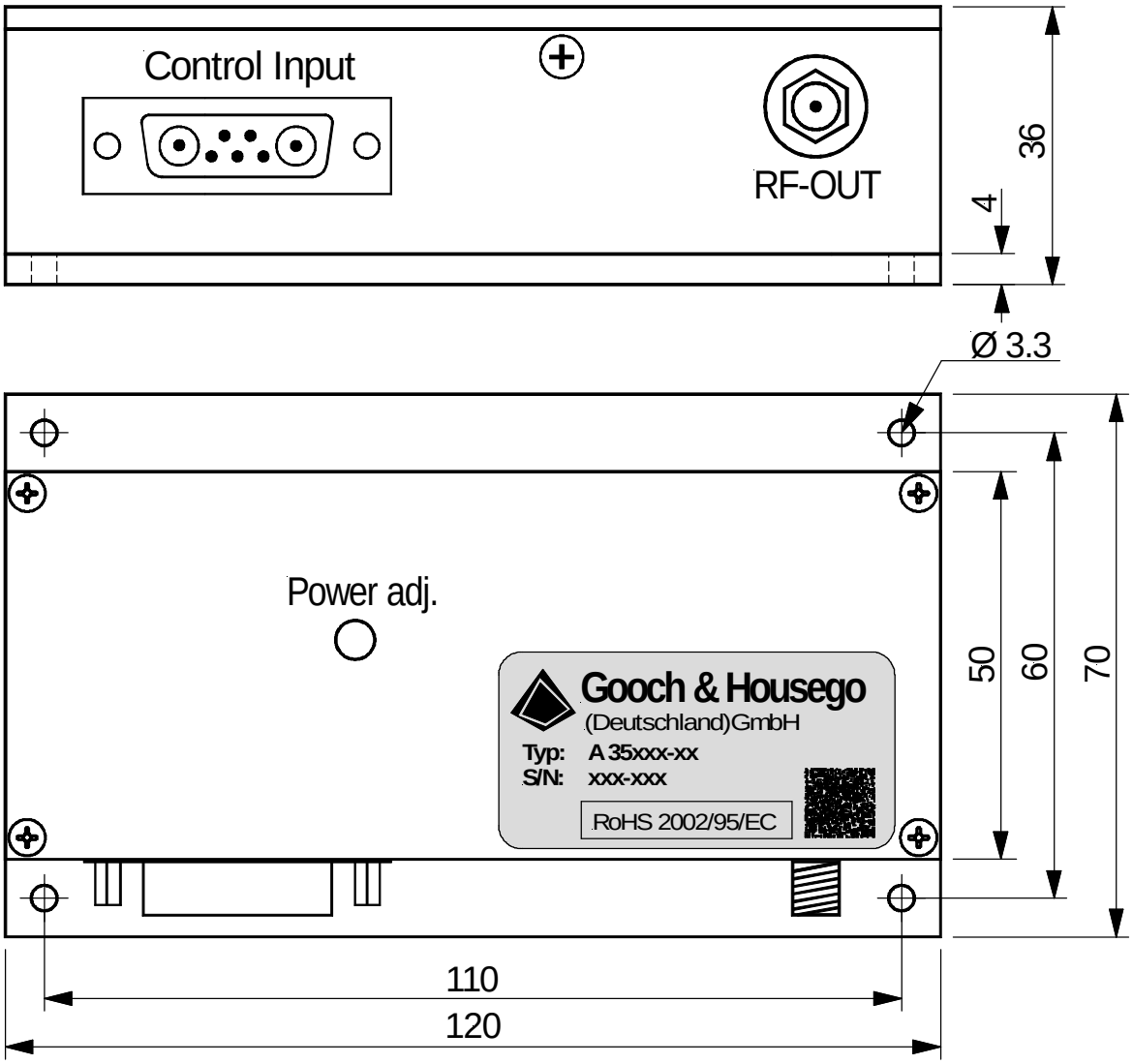
Supply voltage max.	+26 VDC
Analogue modulation	
Voltage range @ 0 … +1 V	-0.5 V … +1.1 V
Digital modulation	
Level	-0.5 V … +5.5 V
Maximum operating temperature	+65℃ base plate temperature

Quality Standards

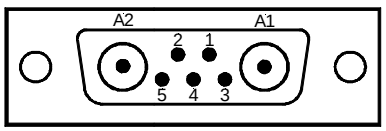
EU 2002/95/EC (RoHS)	compliant
EMC standards	VDE 0871-B FCC Rules Part 15-B
Thermal test	2h @ 70℃ passive
Burn-in test	30 minutes @ maximum RF power output

Outline Drawings

Dimensions in mm

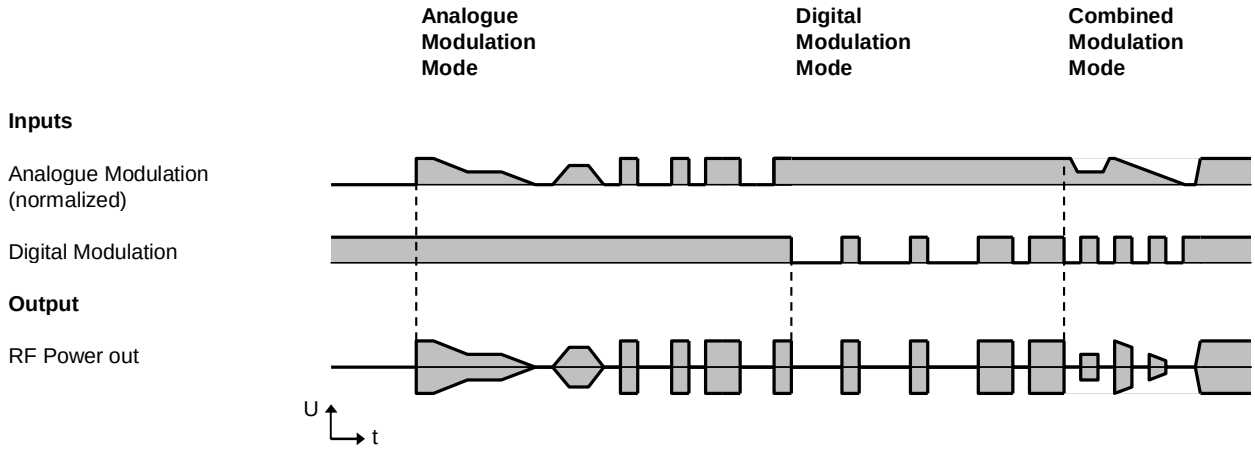


Control Input



1, 2	GND (case) inside linked	A1	Analogue modulation
3, 5	$+U_S$ (24VDC) inside linked	A2	Digital modulation
4	not connected		

Operation Scheme of Analogue and Digital Modulation



Variants List / Ordering Codes

A35 □ -S-1/50-p4k7u

	Frequency [MHz]
040	40.0
080	80.0
110	110.0
150	150.0
200	200.0
350	350.0

Other frequencies and customized versions are available on request.

Accessories

Connector Kit for AOM Driver Series A35xxx and A36xxx	Part-No. 508A00169