



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. 50Ω	
Maximum RF output power (adjustable) *	> 5 W (+37 dBm)	
Adjustment range	<0.1W ..... >5W	
Frequency accuracy		< ±25 ppm
Harmonics distortion*		< -26 dBc
<b>Analogue modulation**</b>		
Impedance	50Ω	

Voltage range @ 50Ω	0 ... +1 V			
RF ON / OFF ratio	> 65 dB			
<b>Digital modulation**</b>				
Impedance	4.7kOhm (pull-up)			
Level	High = ≥ 3V ... 5V (=RF on) Low = 0 ... < 2V (=RF off)			
RF ON / OFF ratio	> 100 dB			
<b>RF output frequency*** [MHz]</b>	<b>40 ... &lt;80</b>	<b>80 ... &lt;140</b>	<b>140 ... &lt;200</b>	<b>200 ... 350</b>
Analogue modulation RF rise time / fall time (PRF: 10 ... 90%) *	< 25 ns	< 15 ns	< 10 ns	< 8 ns
Digital modulation RF rise time / fall time (PRF: 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	+Vs (24 VDC)
Pin 4	not connected
Pin A1 (coaxial)	Analogue modulation
Pin A2 (coaxial)	Digital modulation
Dimensions	120 x 70 x 35 mm (LxWxH)
Weight	360 grams
Cooling	Conduction, the base plate must be attached to a suitable heat sink. heat sink capable of dissipating 36 Watt.

### Environmental Conditions

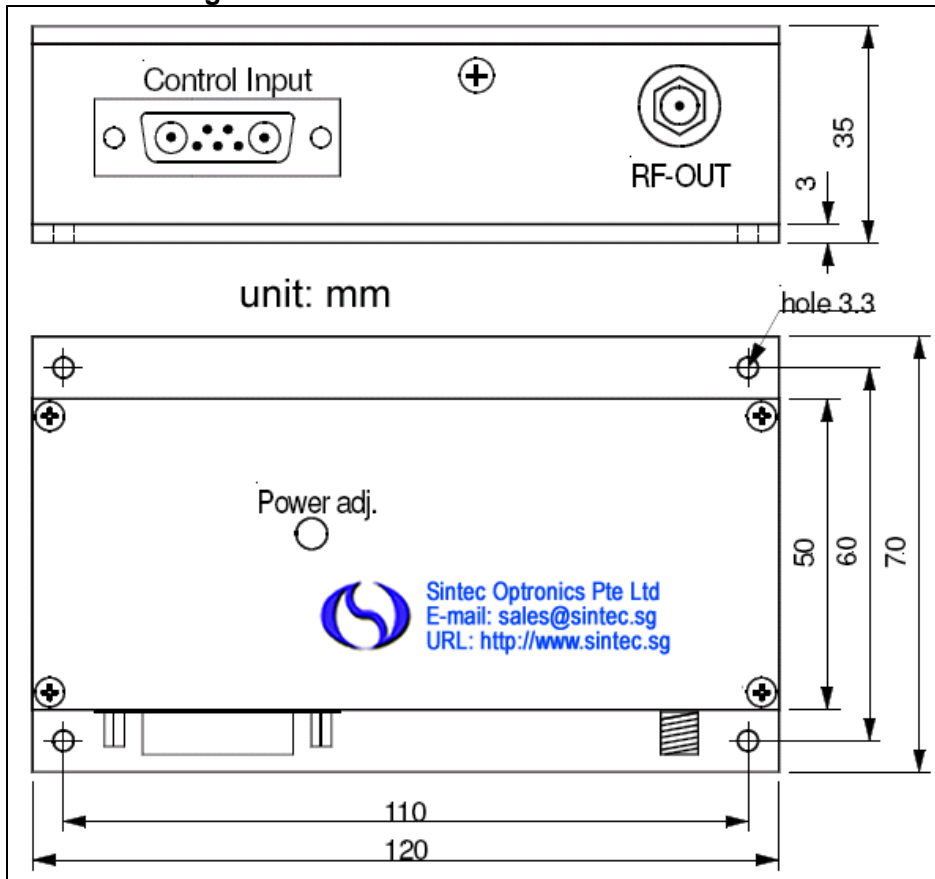
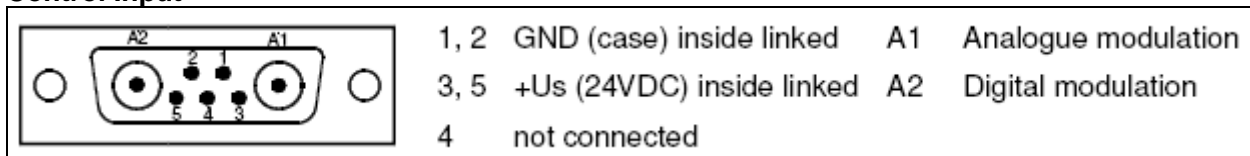
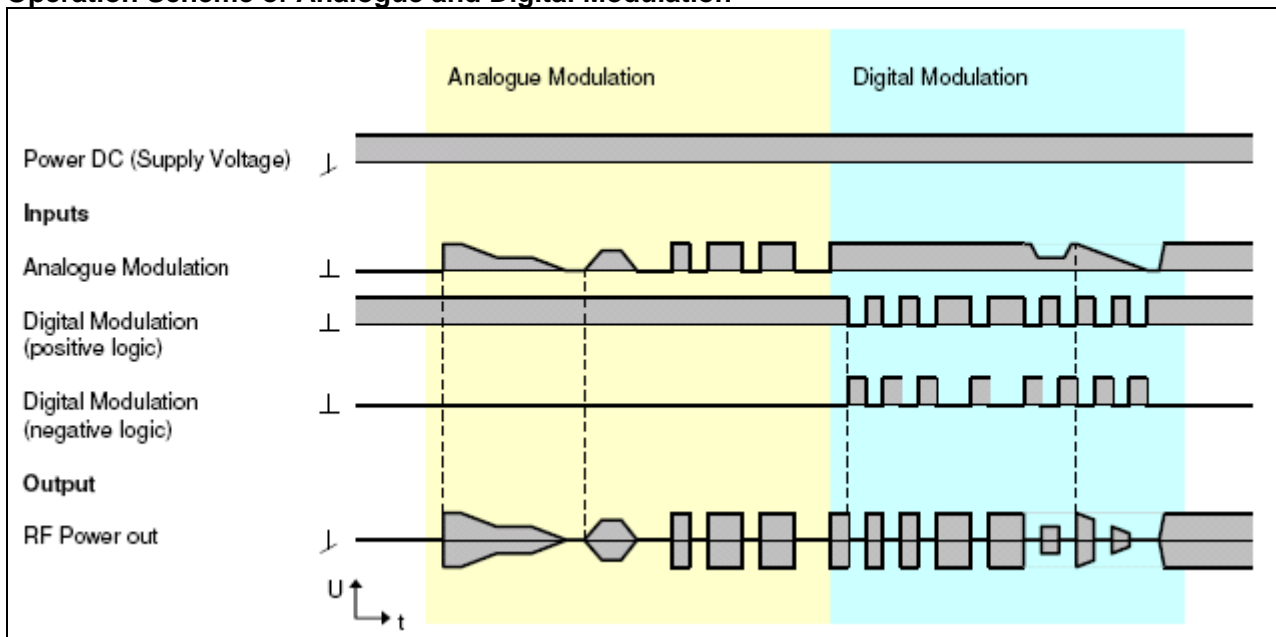
Warm up time	10 minutes for optimum stability
Base plate temperature	+10°C ... +60°C. For optimum output power stability constant base plate temperature should be provided.
Storage temperature	-20°C ... +70°C, non condensing

### Absolute Maximum Ratings

Supply voltage max.	+26 VDC
<b>Analogue modulation</b>	
Voltage range @ 0 ... +1 V	-0.5 V ... +1.1 V
<b>Digital modulation</b>	
Level	-0.5 V ... +5.5 V
<b>Maximum operating temperature</b>	+65°C 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°C passive
Burn-in test	30 minutes @ maximum RF power output

**Outline Drawings**

**Control Input**

**Operation Scheme of Analogue and Digital Modulation**


**Variants List / Ordering Codes**

**A35**  -  -  -

Frequency [MHz]	Base Plate ) <sup>1</sup>	Analogue Modulation Input ) <sup>2</sup> ) <sup>4</sup>		Digital Modulation Input ) <sup>4</sup>		
		Voltage Range	Impedance	Logic	Impedance ) <sup>3</sup>	
080	s 120x70 mm	1/50	0...1V	50Ω	p4k7u	positive 4,7kΩ pull-up
100					p4k7d	positive 4,7kΩ pull-down
110		5/50	0...5V	50Ω	p50u	positive 50Ω pull-up
150					p50d	positive 50Ω pull-down
200	c 165x70	5/600	0...5V	600Ω	n4k7u	negative 4,7kΩ pull-up
250					n4k7d	negative 4,7kΩ pull-down
300		10/600	0...10V	600Ω	n50u	negative 50Ω pull-up
350					n50d	negative 50Ω pull-down

Other frequencies and customized versions are available on request.

**Accessories**

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