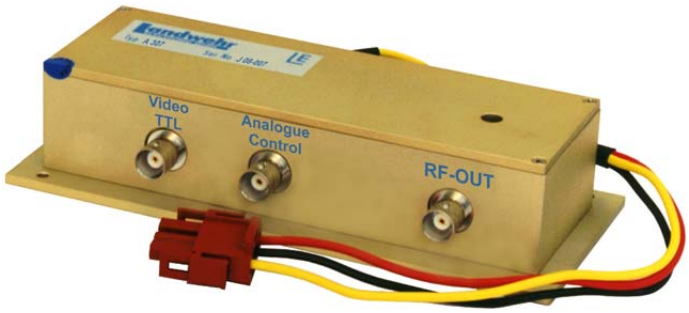
AOM Driver A 307

With the A 307 Landwehr offers a quartz stabilized oscillator driver for AOM applications. The A 307 is an ideal type of power driver which allows analogue and digital modulation with a single AOM device. High technical performance guarantees wide modulation bandwidth, excellent switching and unique on / off ratio.



By providing two independent modulation techniques this driver can be used, for example, to replace the variable density filter wheel in a laser system as well as providing conventional digital modulation.

Technical Data

Oscillator frequency	110 MHz ± 0.1 %, quartz stabilized
Frequency drift	$\Delta f / {}^0C < \pm 30$ ppm
Output frequency of driver	$f_0 = 110$ MHz
Spectral purity	<– 60 dBc @ $f_0 \pm 100$ MHz
Harmonics	<– 20 dBc @ $2f_0$, $3f_0$, ...
Digital video input	TTL, high level = no rf power output
RF on- / off-ratio digital	> 46 dB at any output level
RF switch-on / switch-off time	< 12 nsec @ P_{RF}: 10...90 %

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Analogue video input voltage	0 ... +1 volt into 50 Ω
RF on-/off-ratio analogue	> 35 dB at any output level
RF output power	+22 ... +33 dBm @ 50 Ω, amplifier is protected against load mismatch
Output impedance	50 Ω nominal
Supply voltage output stage	24 V ± 0.1 V (500 mA ± 50 mA)
Supply voltage digital stage	5 V ± 0.25 V (150 mA ±15 mA)
RF output variation during warm-up time	<± 5 %
RF output variation after warm-up (10 min)	<± 1 %

Absolute Maximum Ratings

Supply voltage output stage	+27.0 V
Supply voltage digital stage	+5.5 V
Analogue video input voltage	-0.5 V up to +3 V
Power output	no DC-feedback allowed
Case temperature	+55 ^{0}C • the driver must be mounted on an adequate heatsink

Quality Standards

EMC-standards	VDE 0871 - B FCC Rules Part 15 - B
Functional test	100 %
Burn-in test	passive 2 h active ½ h

Connectors and Mechanics

RF-Connector	BNC female

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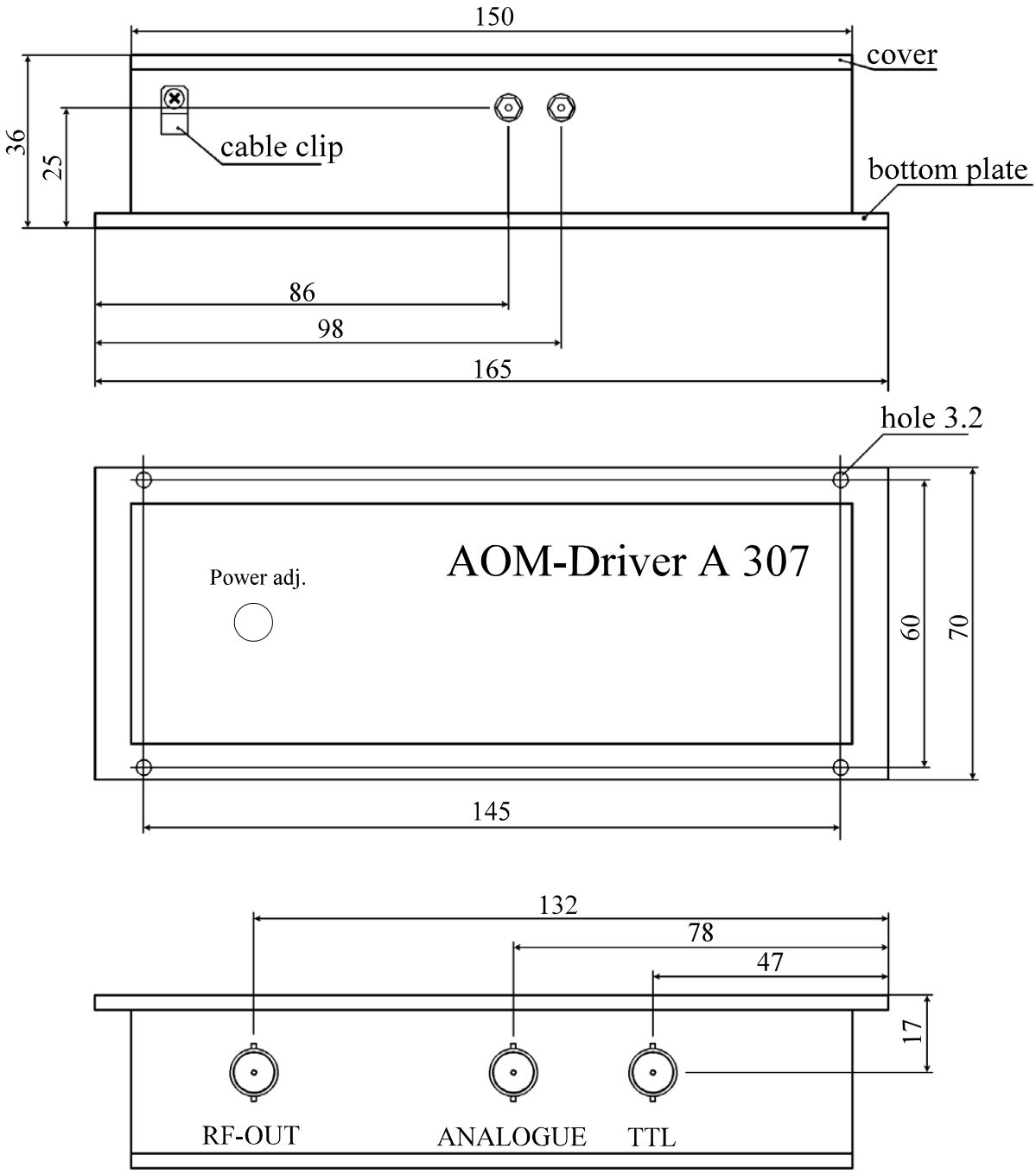
3 pin cable connector for power supply voltages • AMP MATE-N-LOCK	Pin 1	+24 V	red
	Pin 2	GND	black
	Pin 3	+5 V	yellow

Cable length	250 mm ± 20 mm
Dimensions	150 mm x 50 mm x 36 mm
Mounting plate	165 mm x 70 mm



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Landwehr

LE

Test Sheet for A 307

Serial Number:

Parameter	Range/Limit	Result checked
Output frequency of driver	110 MHz ± 0.01%	[f_0] .....
Spectral purity	<– 60 dBc @ f_0 ± 100 MHz	.....
Harmonics	<– 20 dBc @ $2f_0$, $3f_0$	.....
Digital video input (TTL)	• logic ⇑1⇑ • or open input • logic ⇓0⇓ • or shorted input	rf power off ☐ rf power on ☐
RF switch-on / switch-off time	< 12 nsec P_{RF}: 10 ... 90 %	.....
RF on- / off-ratio digital	> 50 dB at any output level	.....
Analogue video input voltage	0 ... +1 volt 0 ... +3 volt 0 ... +5 volt	50 Ω ☐ 75 Ω ☐ 600 Ω ☐
RF on- / off-ratio analogue	> 40 dB	.....
RF output power	+22 ... +32 dBm @ 50 Ω	.....
Burn in	active > 30 min passive > 2 h	☐ ☐
Mounting plate	165 mm x 70 mm	☐

Remarks

Date: ..... Tester: .....