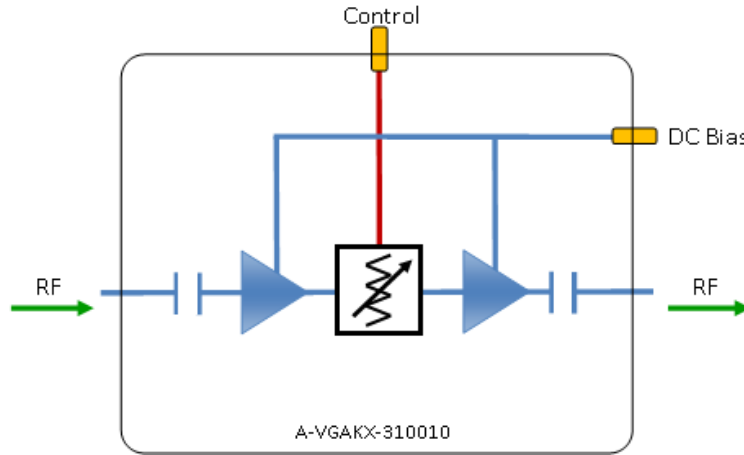Model Number:
A-VGAKX-310010

Wideband Variable Gain Amplifier

1-24 GHz

- 0-24dB Gain Range
- External DC power
- TTL/SPI control
- DIP switch control option also available (please enquire)
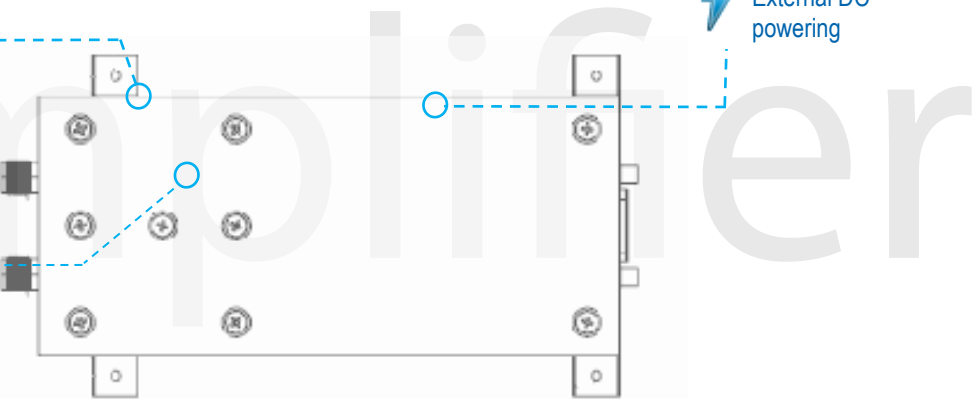
Available with RF connector options:
- 50 Ω 2.92mm

Control

DC Bias

RF → RF

A-VGAKX-310010

Compact
Housed in rugged compact enclosure

1-24 GHz
Operating frequency range.

12-24 V
External DC powering

RF Parameters		
A-VGAKX-310010-XXXX	K5K5	
Frequency Range	100MHz - 20GHz	20 - 24GHz
Gain (dB)	0 - 24	0 - 24
Gain Flatness (± dB) _Max_	1.5	2.0
Gain Step Size (dB)	0.5	0.5
Return Loss (dB) _Typ_	15	12
Return Loss (dB) _Min_	12	8
Output P1dB GCP** (dBm) _Typ_	20	20
Output P1dB GCP** (dBm) _Min_	15	15
OIP 3 (dBm) _Min_	30	30
Noise Figure* (dB) _Max_	4.5	4.5

* Noise figure at max gain and 18°C
**Gain Compression Point at max gain

Broadcast

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SNG & VSAT

Satellite Teleport

# Technical specifications and operating parameters

Environmental		
Operating Temperature		-20˚C to +65˚C
Storage Temperature		-20˚C to +65˚C
Location		Indoor use Only
Humidity	Max	85% non-condensing
Altitude	Max	10,000 feet

Interface	
RF Connectors	50Ω 2.92mm Female
DC/Comms Connector	15W Micro-D Plug
Mounting	4 x M2 tapped holes

Max Operating Parameters	
Input RF Power	-10dBm
DC Voltage	12 – 24V
DC Current	N/A
DC Consumption	250 mA

! Operation beyond these limits may cause instantaneous and permanent damage.

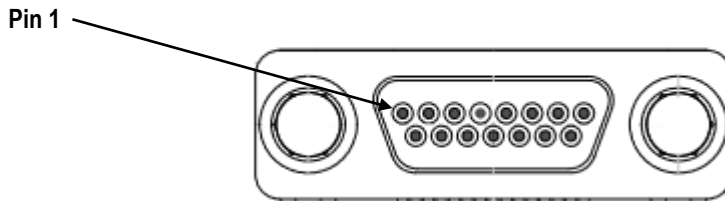## Physical Dimensions (mm)
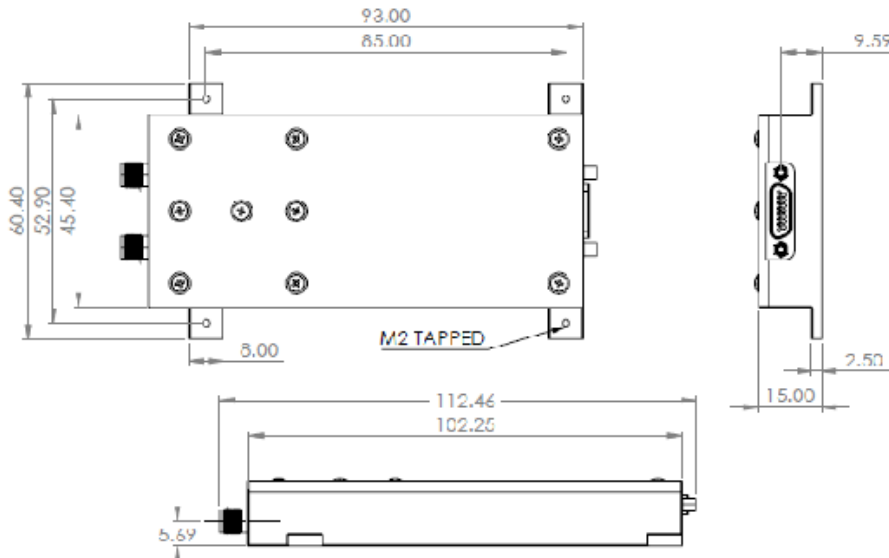
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Connector pin-out and control information

Pin 1

Pin Descriptions		
Pin Number	Function	Description
1	0.5dB bit	Pins are internally pulled up to 3V3, connect each pin to ground to activate the attenuator bits. Leave all pins open/pulled high for max gain. 32dB bit pin only applicable on units with >30dB attenuation range. Must be left unconnected otherwise.
2	1dB bit	
3	2dB bit	
4	4dB bit	
5	8dB bit	
6	16dB bit	
7	32dB bit or N/C	
8	Alarm	Open-drain alarm. Pin is internally shorted to ground when an internal fault is detected. 250mA max current sink to this pin.
9	Serial +	Serial data +ve pin (RS-485/422).
10	GND	Must be connected to DC ground.
11	Serial -	Serial data -ve pin (RS-485/422).
12	N/C	Must be left unconnected.
13	GND	Must be connected to DC ground.
14	+V in	Supply voltage (12-24V DC).
15	+V in	Supply voltage (12-24V DC).

! When using serial control to set the gain, all parallel control pins (pins 1-7) must be left unconnected or pulled high. If one of these pins is connected to ground then it will overwrite the last serial command setting. The parallel pins must all be set to N/C or pulled high again before another serial command can be sent.

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