VOS 20/RA-1G 20910031
VOS 29/RA-1G 20910032

Made in Germany

KATHREIN
Digital Systems GmbH

House connection amplifiers

Features

- House connection amplifiers for modern HFC networks up to 1 GHz
- Integrated high-efficiency switched-mode power supply unit
- Unit including forward path amplifier, return path amplifier, diplexer, actuators and power supply unit
- Die-cast housing with F-type connectors
- LED to indicate operational mode
- Interstage equaliser switchable with bridging plugs (6 dB pre-emphasis)
- Integrated variable attenuator (forward and return path; delivery condition return path: max. attenuation)
- Integrated adjustable equaliser (forward path)
- Integrated return path 5-65 MHz active
- Conform to: EN 60728-11, EN 50083-2 and EN 60065
- For indoor installation

The amplifiers comply with the EMC directive 2004/108/EC and Low-Voltage Directive 2006/95/EC applicable at the time of shipping.

Basic safety precautions

- Installation must be carried out by authorised specialist staff.
- Unplug from the mains before installation.
- Described amplifiers are exclusively for installation of HFC networks up to 1,006 MHz.
- Any other use or failure to comply with these instructions will void the warranty or guarantee.
- The amplifiers may only be installed in dry areas indoors. Do not install on or against highly combustible materials.
- The amplifiers must be earthed when installed (Cu, minimally 4 mm²).
- The safety regulations set out in the current EN 60728-11 and EN 60065 standards must be complied with.

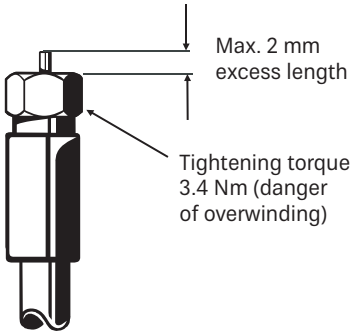
- The supply voltage of the amplifiers is 230 VAC which can be fatal if touched directly.
- The only reliable method of disconnecting the amplifiers from the mains is to unplug them.
- Do not touch live parts.
- The power plug must be easy to operate as the means of cutting power to the amplifier, so the wall outlet must be close to the amplifier and easily accessible.
- The amplifiers may only be installed and deinstalled in the voltage-free condition.
- Do not operate the amplifiers without the factory-fitted protective cover over the power supply unit. The cover must be closed.
- No liquid-filled items may be placed on top of the amplifiers.
- The amplifiers are not to be exposed to dripping or splashing water.
- Ambient temperature range -20 to +55°C

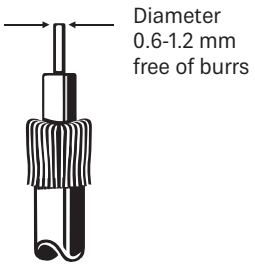
Mounting:

The following is required for installation:

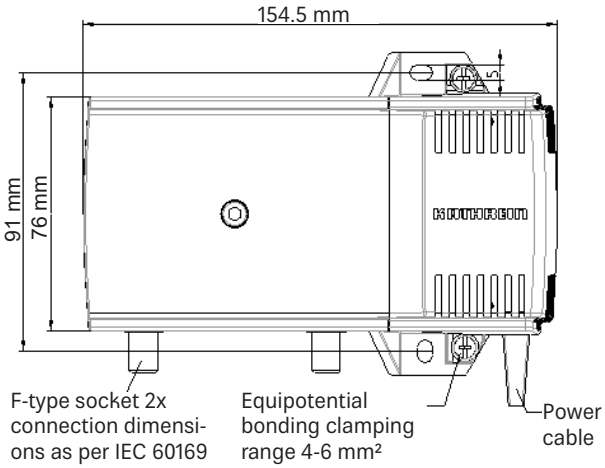
- Fixings: screws, max. Ø: 4,5 mm
- F-type connector plug as per EN 61169-24.

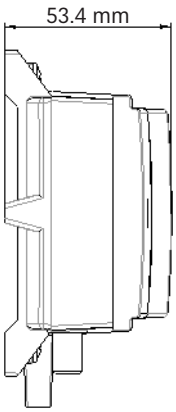
- An inner cable conductor diameter greater than 1.2 mm, or the presence of burrs may damage the sockets on the unit.

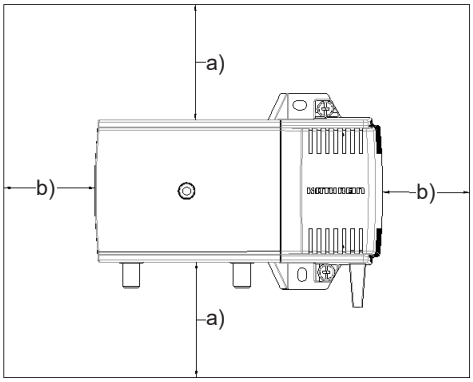




Permissible installation

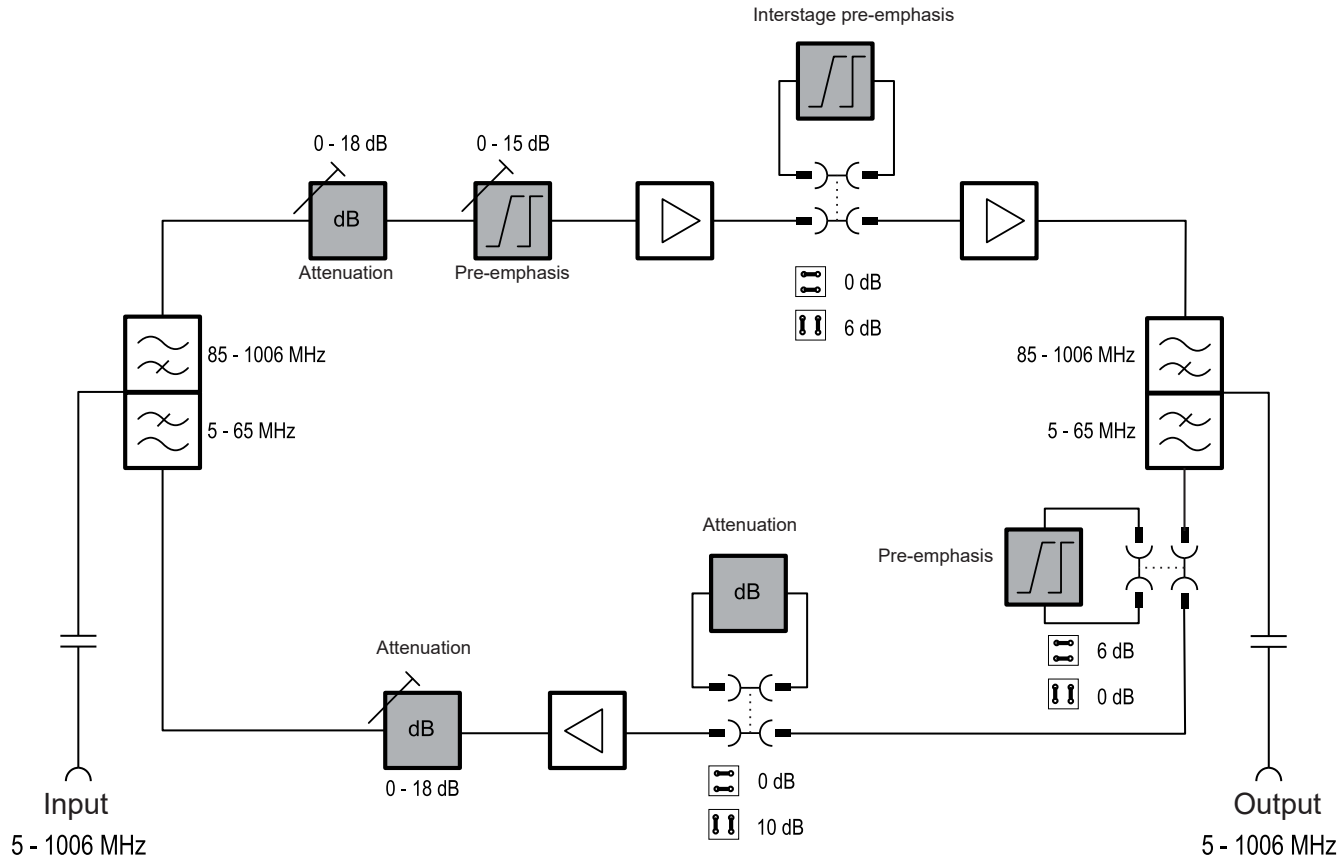






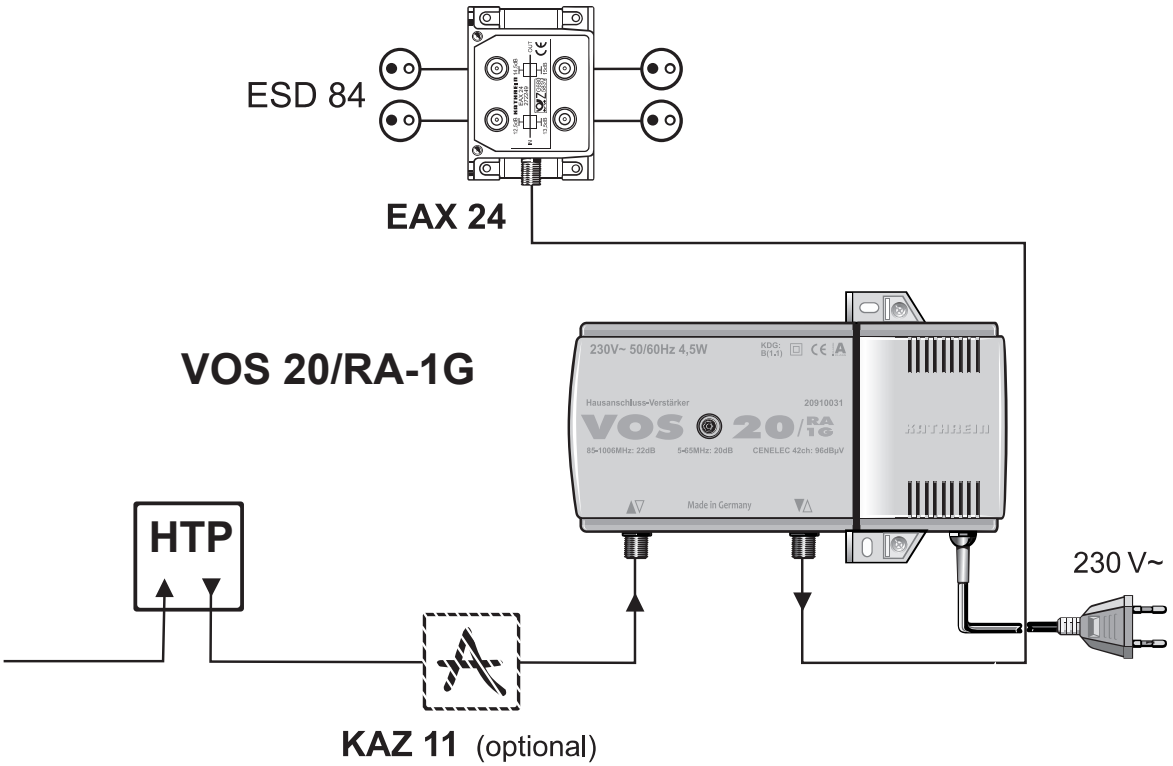
a) Distances to boundary surfaces: ≥ 150 mm
b) distances to boundary surfaces: ≥ 50 mm

Block diagram

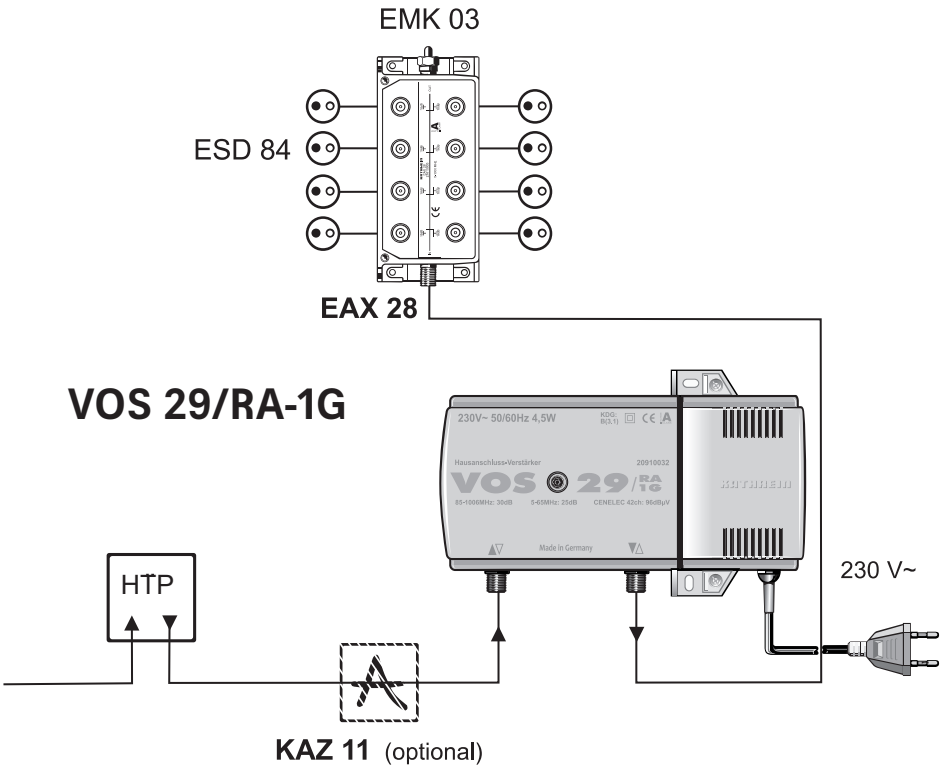


Connection examples

Standard in-house distribution network for 1-4 connections with VOS 20/RA-1G



Standard in-house distribution network for 8 connections with VOS 29/RA-1G



Technical data

Type		VOS 20/RA-1G	VOS 29/RA-1G
Order no.		20910031	20910032
Forward path			
Frequency range	MHz	85-1,006	
Gain	dB	22	30
Max. operational level CENELEC 42 channels (60 dB CTB/CSO)	dBµV	96	
Noise figure	dB	6	
Gain setting range (on input)	dB	0-18	
Equalisation setting range (on input)	dB	0-15	
Setting range interstage equaliser 1)	dB	0/6	
Return path			
Frequency range	MHz	5-65	
Gain	dB	20	25
Gain setting range (on output) 2)	dB	0-18	
Gain setting range (on input) 1)	dB	0/10	
Equalisation setting range (on input) 1)	dB	6	
Noise figure	dB	5	
Max. output level (60 dB IMod3/IMod2)	dBµV	116/106	
Input level density (CINR: 50 dB)	dBµV	Typ. -8	
Dynamic range (input level density)	dB	22	
Maximum output level as per KDG 1TS 140 (medium system load)	dBµV	120	
Classification to KDG 1 TS 140		B (1.1)	B (3.1)
General			
Nominal input voltage	V_{AC}	230 (50/60 Hz)	
Power consumption	W	4.5	
Operational display		Green LED	
RF connections		F-type connectors	
Protection class/protection category (to EN 60529)		II / IP30	
Temperature range	°C	-20 to +55	
Dimensions	mm	105 x 155 x 54	
Packing unit/weight	pc./kg	1 (10)/0.8	

[1] Settable using bridging plugs
[2] The attenuator is set to max. attenuation in the delivery status.

Service-Support-Contact

All relevant information (address, telephone number, e-mail address, opening hours) for repairs or help with problems with our products can be found at: https://www.kathrein-ds.com/en/support/service-points

Please note that there are different contact persons for **repair** and **support**!

You can find a contact form here: https://www.kathrein-ds.com/en/contact

Electronic equipment is not domestic waste - it must be disposed of properly in accordance with directive 2002/96/EC OF THE EUROPEAN PARLIAMENT AND THE COUNCIL dated 27th January 2003 concerning used electrical and electronic appliances.

At the end of its service life, take this device for disposal at a designated public collection point.

KATHREIN Digital Systems GmbH | Salinstraße 34 | 83022 Rosenheim | Germany | Phone +49 731 270 909 70