

## AF 20D



## Digital 20-Watt Amplifier AF 20D

Their compact design makes the 20 Watt amplifiers ideal for a decentralised, cable saving installation next to PA loudspeakers and Intercom terminals.

The range of application environments is suitably flexible as well, serving the public address needs in areas from public service facilities (e.g. railway stations) to

auditoriums or waiting rooms, and covering the Intercom requirements of noisy industrial facilities, garages, tunnels or office buildings.

### AF 20D

Digital 20 watt amplifier with polycarbonate housing for connection to an Intercom Server. Output power 1 x 20 watt at 4 ohm loudspeaker or 2 x 10 watt at 8 ohm loudspeakers.

# Technical Data – Benefits

## TECHNICAL DATA

IP rating:	IP 20
Operating temperature range:	-25° C to +55° C (-13° F to 131° F)
Storage temperature range:	-25° C to +70° C (-13° F to 158° F)
Relative Humidity:	up to 95%
Plug:	
- Pluggable screw terminals (0,08 mm <sup>2</sup> - 1,5mm <sup>2</sup> ):	Intercom Server, power supply, outputs, microphone, inputs, line-output
- Pluggable screw terminals (0,08 mm <sup>2</sup> - 2,5mm <sup>2</sup> ):	loudspeaker
- Expansion plug for e.g. EB2E2A	
Power supply:	20 - 26 VDC (max. 1.2A at 4 Ω / 20W or max. 0.6A at 8 Ω / 10W) Power supply e.g.: PA70W24V
Intercom Server (only if "emergency operation" is configured) If power supply over Intercom Server is used, an attenuation of up to 18 dB is possible, this is equal to an output power of 0.5 watt. It is only possible to configure the "emergency operation" via CCT 800 for a number of 20 amplifier per Intercom Server.	
Output power:	20 watt (RMS)
Audio output:	low resistance, minimum impedance 4 Ω
Cabling:	star feed, 2-wires, twisted
Signalling:	2B + D (2 x 64 kBit/s speech, 16 kBit/s data)
Microphone input:	nominal level 14 mV at 3.3 k Ω (MIC supply voltage 2.5V)
Line output:	nominal level 0 dB and 0.775V
Input:	2 input for floating contacts (detection of 5 input states)
Control input:	0 - 10V, for remote volume control
Output:	relay output (changeover contact) 30V / 1A 100 000 switch cycles
Frequency response:	50 Hz to 15 kHz (-3 dB)
Transmission bandwidth:	16 kHz
Measurements:	159 x 49 x 78 mm (6.26 x 1.93 x 3.07 inch)
Weight including package:	220 g (0.49 lbs)

## SYSTEM REQUIREMENTS

### MINIMUM REQUIREMENTS

GE 800 / GE 300:

- Intercom Server software min. PRO 800 1.3 build 9
- Configuration software min. CCT 800 1.3 build 935
- Subscriber card G8-GED / G3-GED min. firmware 3.3
- NET firmware min. 5.4 build 2

Backward Compatibility to GE 700 / GE 200:

- GE 700 (min. PRO 5.0) with G7-GED-4 (min. Software 02.2)
- GE 200 (min. PRO 5.0) with G2-GED-4
- Detected as ET 808 – therefore they can only be used with the feature scope of an ET 808.
- *Firmware download only possible with GE700-UPG*

## BENEFITS

- 20 W output power
- Class-D amplifier, optimised for high efficiency at low operating temperatures
- Short-circuit and overrange protected
- Line monitoring between amplifier and Intercom Server
- Easy integration in existing Intercom Systems
- 16 kHz audio quality
- Support of Terminal features (e.g.: connection monitoring, function monitoring, DSP- tone)
- Suitable for decentralised on-site use
- Rugged enclosure made from polycarbonate

## LINE LENGTH

### Intercom Server - amplifier

Cable type	Power Supply from Intercom Server		
	24 V AC	30 V DC	26 V DC
Ethernet cable e.g. Cat. 5 Loop resistance: 190 Ω/km Capacity: 48 nF/km (14.4 nf/1000 ft)	1050 m 3444 ft	950 m 3117 ft	650 m 2133 ft
Telecommunication cable e.g. F-YAY; ø 0.6/0.8 mm; AWG: 22/20 Loop resistance: >135 / >73 Ω/km Capacity: 100 nF/km (30.5 nf/1000 ft)	950 m 3117 ft	900 m 2953 ft	600 m 1969 ft
External power supply	max. 2800 m 9168 ft		

### Amplifier - Loudspeaker

It is recommended to select the line length between amplifier and loudspeaker as short as possible.

cable diameter	line length at loudspeaker impedance	
	4 Ω	8 Ω
ø 0,5 mm (AWG: 24)	10 m (32.8 ft)	20 m (65.6 ft)
ø 0,6 mm (AWG: 22)	14 m (45.9 ft)	28 m (91.9 ft)
ø 0,8 mm (AWG: 20)	24 m (78,7 ft)	48 m (157.5 ft)
ø 1,0 mm (AWG: 18)	37 m (121.4 ft)	73 m (239.5 ft)
ø 1,4 mm (AWG: 15)	73 m (239.5 ft)	146 m (479 ft)
ø 1,8 mm (AWG: 13)	122 m (400 ft)	244 m (800 ft)

The specified line length correspond to a halving of the performance of the speaker or - 3dB voltage drop.

## EXTENT OF SUPPLY

### AF 20D

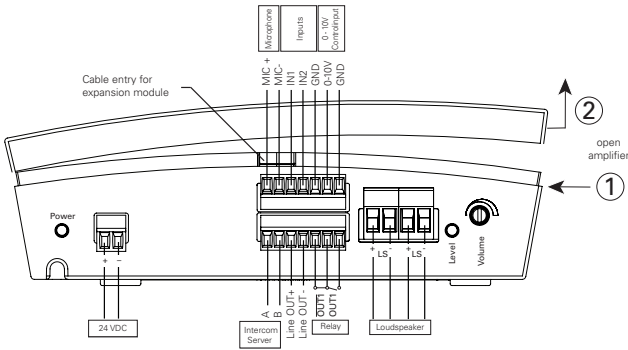
- Amplifier incl. Short Reference
- Wallmount Kit

**Note:** Power supply not in extent of supply.

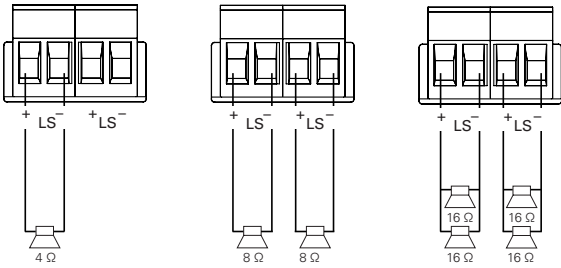


# Installation

## CONNECTION



### Connection loudspeaker:



## SETTINGS

The volume control is carried out via the potentiometer "Volume" and via CCT 800 at Subscriber > Audio - Features

## LED STATUS INDICATION

### LED „Power“

- Permanent green: power supply existent
- Green blinking: Power supply over Intercom Server (A,B)
- Permanent red: short-circuit at the loudspeaker

### LED „Level“

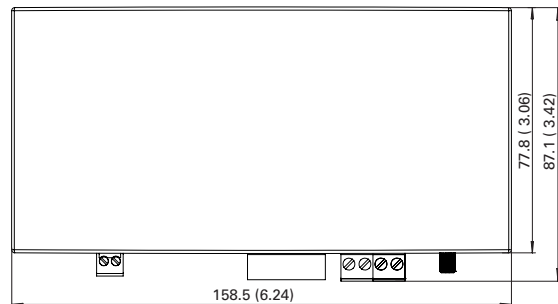
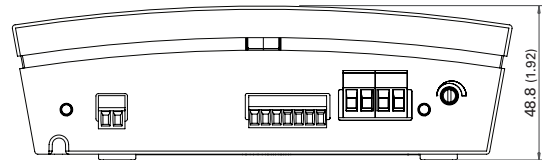
- LED red: too much amplification (Clipping)
- LED green / orange: amplification ok

## PRECAUTIONS

- Observe the precautions for handling of electrostatic sensitive devices!
- The amplifier may only be installed by authorised service engineers.

## MEASUREMENTS

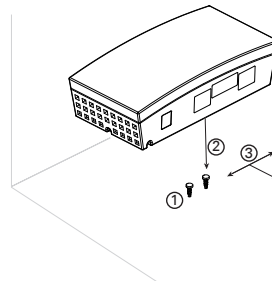
Measurements in mm (inch), not scale!



## MOUNTING

It is possible to mount the amplifier in two different ways:

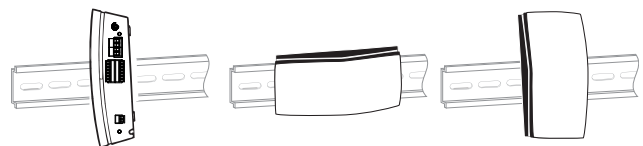
### Wallmount Kit (in extent of supply)



- 1 Install screws and dowels
- 2 Break out the mounting opening on the back side of the housing and hook onto the screws
- 3 Fix wireless module by moving to the left, right or down

### Top Rail Clamp ET 901-HSH35 (not in extent of supply)

With this rail clamp, the housing of the amplifier box can be installed upright or flat to the rail in a vertical or horizontal position.



## QUALITY TESTED. RELIABLE. SMART.

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The development and manufacturing processes are certified in accordance with **EN ISO 9001:2008**.

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