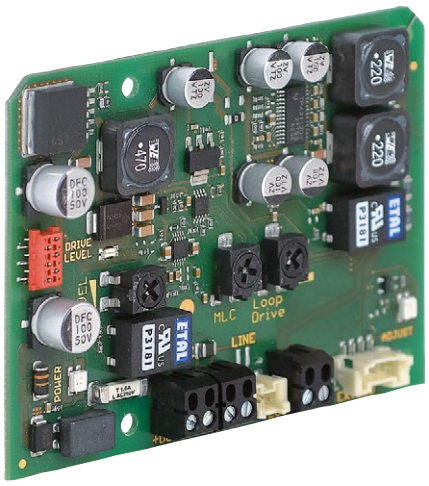
AFIL / AFILEB

Induction Loop Amplifier Modules for barrier-free communication



IEC 60118-4 compliant

Flexible integration

Compact size

Commend – Communication and security for everyone

The **A**udio-**F**requency **I**nduction **L**oop amplifier modules AFIL and AFILEB bring existing equipment up to the latest standard of „barrier-free communication." This is regulated by various standards (e.g. IEC 60118-4), with the aim of ensuring perfect communication. In combination with an induction loop, the AFIL / AFILEB modules provide direct communication to hearing aids in well-known excellent Commend quality.

The small size and the availability in two different versions (with housing AFIL and without housing AFILEB) allows for flexible integration into environments such as ticket vending machines, barriers, and help points.

Features and Highlights

- A fully integrated, IEC 60118-4 compliant induction loop system enables wearers of hearing aids to receive Intercom audio signals in clear, uninterrupted quality.
- Flexible integration in environments, e.g. ticket vending machines, service counter, barriers, and help points
- Energy-efficient and power-saving technology with low heat generation.
- Functions as MLC (Metal Loss Correction) and AGC (Automatic Gain Control) for easy startup and faultless operation.
- Compatible with virtually all Commend Intercom Terminals and Intercom Modules or third-party audio sources.
- All connections to a single face for installation convenience.

Technical data / System requirements

Technical Data

Input:	Input impedance 10kΩ Sensitivity - 15dBu for max output Overload level +10dBu
Output:	Drive Voltage: max. 6.5 V_{rms} Drive Current: 2.8 A continuous 1kHz sine wave Loop resitance: 0.1Ω to 1.0Ω resistive or 1.5Ω maximum reactive impedance
Frequency response:	80 Hz to 8 kHz: - 3dB
MLC (Metall loss correction):	0 to -3dB/ octave
Operating temperature range:	–20° C to 70° C (–4° F to 158° F)
Storage temperature range:	–20° C to 70° C (–4° F to 158° F)
Relative humidity:	up to 95% not condensing
Connection:	- pluggable screw terminals - JST plug (type: PAP-02v-s)
Power supply:	external supply 15 – 26 VDC (max. power consumption 8 W)
Measurements:	see Measurements on page 3

Extent of supply

- Induction Loop Amplifier Module
- Short Reference
- Wallmount kit (only AFIL)
- Spacer kit (only AFILEB)

Requirements

- external Power supply: 15 VDC - 26 VDC
- Induction Loop
- external Audio source

Induction loop line length

With maximum current output the induction loop amplifier module can drive:

- Loops with DC resistance from 0.1 to 1.0 Ω
- Impedance up to a maximum of 1.5 Ω

max. line length for current ≤ 2A:

0.75 mm^2:	42 m
1.0 mm^2:	56 m
1.5 mm^2:	84 m
2.5 mm^2:	140 m

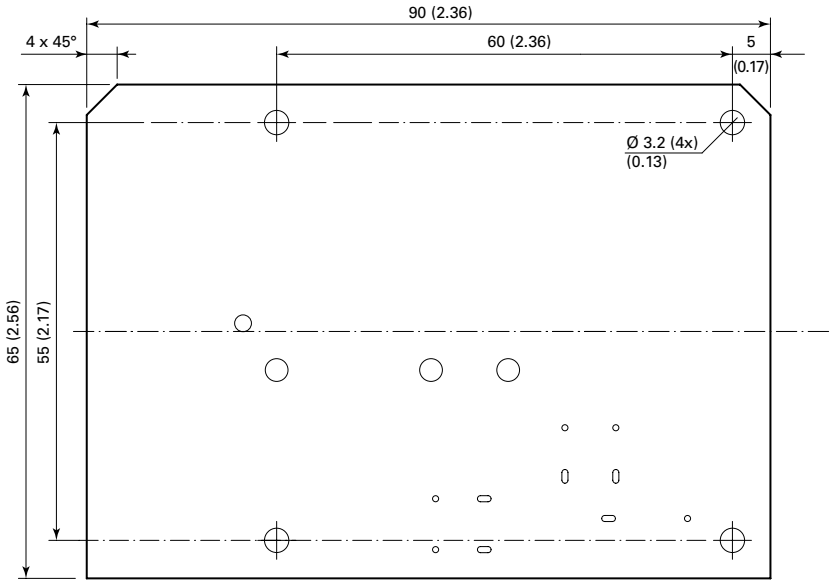
Installation / Measurements

Mounting instructions

- Do not expose the station to extreme temperature (see "Technical Data" on page 2).
- Observe the country specific standards for installation, mounting and configuration.
- When opening the stations ESD precautions must be observed.
- The housing may only be opened by authorised service engineers.
- The requirements of the standard IEC 60118-4 are met by the installation at the specified height and at the correct distance from a single person when properly commissioned.
- Metal structures significantly affect the performance of the induction loop system. The magnetic field generated by an induction loop system induces a current in surrounding metal structures, which weakens the magnetic field and may cause losses. Examples of metal structures:
  - Reinforced concrete
  - Beams, girders, constructions made of metal
  - Metal facade cladding and walls
  - Metal box constructions (escalator, lift)

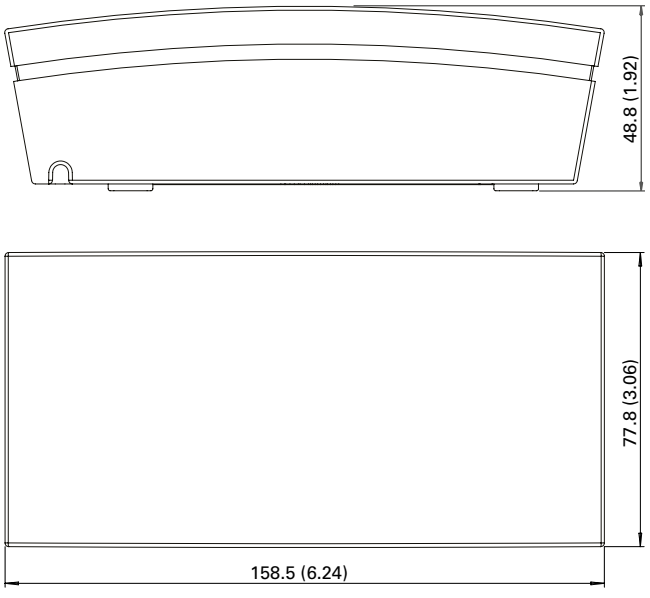
Measurements AFILEB

Measurements in mm (inch), not to scale!



Measurements AFIL

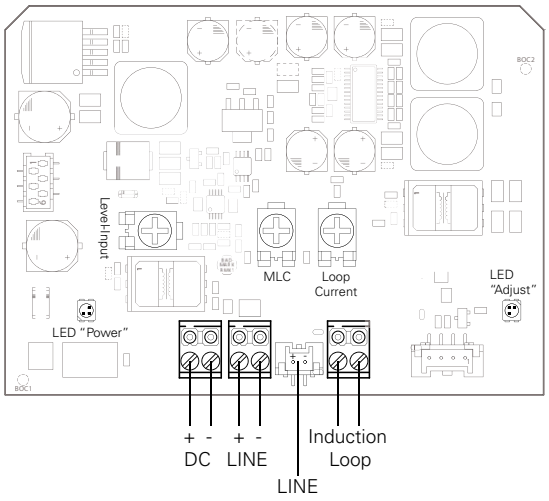
Measurements in mm (inch), not to scale!



Quick Start AFILEB

Please follow the following instruction for the installation of the Induction Loop Amplifier Module:

- Mount the induction loop (not in the extent of supply) - for the mounting of the induction loop please consider the respective norm.
- Mount the Induction Loop Amplifier Module - it is recommended to combine the amplifier with an Intercom module ET 908A or ET 808A or to mount the induction loop amplifier in a separate housing.
- Turn all potentiometers fully anti-clockwise.
- Carry out the connection of the induction loop, signal input and power supply
  - Connect the loop cable (polarity does not matter) as shown in the following picture.
  - Connect the signal input with a twisted pair or shielded cable. The cable can be connected via the screw terminal or the JST plug (type: PAP-02v-s) as shown in the following picture.
  - Connect power supply (15 VDC - 26 VDC) as shown in the following picture.

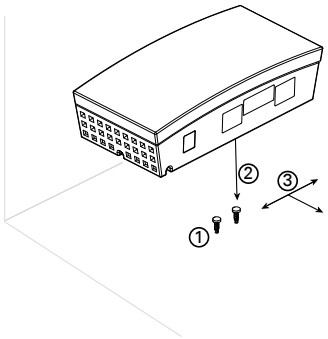


- Switch on the external power supply and check if the green "Power" LED illuminates!
- Test the system performance with a loop receiver or a field strength meter. Adjust the power if necessary. Consider the respective standards when doing so.
  - Level-Input: Adjust the level of the input signal. The LED lights up green when the input level is sufficient.
  - Loop Current: Adjust the signal strength of the induction loop.
  - MLC: Metallic surfaces may reduce the transmission of higher frequencies. Adjust a sound that is too muffled by reducing low-frequency signal components.

Quick Start AFIL

Please follow the following instruction for the installation of the Induction Loop Amplifier Module:

- Mount the induction loop (not in the extent of supply) - for the mounting of the induction loop please consider the respective norm.
- Mount the Induction Loop Amplifier Module as shown in the following picture
  Note: Wallmount Kit (in extent of supply)



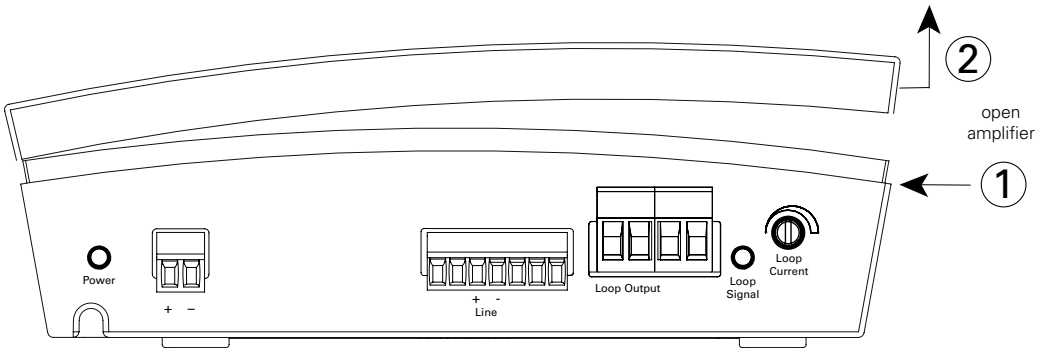
① Install screws and dowels

② Break out the mounting opening on the back side of the housing and hook onto the screws

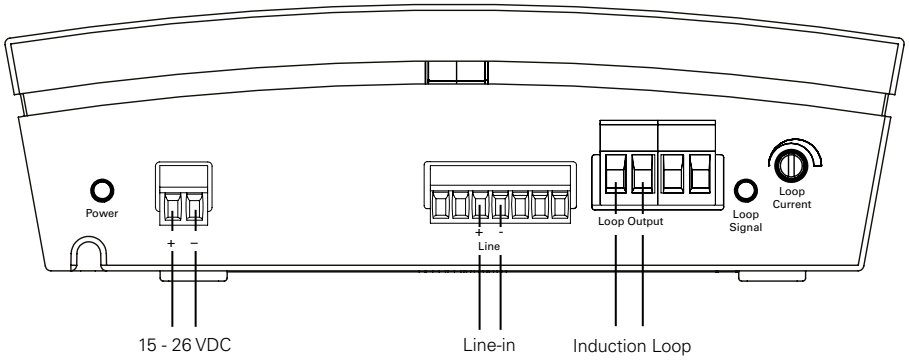
③ Fix Induction Loop Amplifier Module by moving to the left, right or down

Note: Mounting with top hat rail clamp ET 901-HSH35 (not in extent of supply)
-> see Short Reference ET 901-HSH35

- Open the housing (as shown in the following picture) and turn all potentiometers fully anti-clockwise.



- Carry out the connection of the induction loop, signal input and power supply
  - Connect the loop cable as shown in the following picture (polarity does not matter).
  - Connect with a twisted pair or shielded cable the signal input as shown in the following picture.
  - Connect power supply (15 VDC - 26 VDC) as shown in the following picture.



- Switch on the external power supply and check if the green "Power" LED illuminates!
- Apply input signal (e.g. by speaking into mic) and increase the level with potentiometer "Input- Level" until the LED "Loop Signal" begins to light green.
- Increase the potentiometer "Loop Current" until the LED "Loop Signal" begins to light orange.
- With the potentiometer "MLC" it is possible to compensate the metal loss.
  Note: Increase the potentiometer to compensate the metal loss. If the potentiometer is turned fully anti-clockwise, no metal loss correction is active.
- Test the performance of the system using a loop receiver or field strength meter and adjust "MLC" & "LOOP CURRENT" to achieve acceptable performance - please consider the respective norm!

Quality tested. Reliable. Smart.

COMMEND products are developed and manufactured by Commend International in Salzburg, Austria.

The development and manufacturing processes are certified in accordance with **EN ISO 9001:2015**.

A strong worldwide network

COMMEND is represented all over the world by local Commend Partners and helps to improve security and communication with tailored Intercom solutions.

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