Tester and magnetic field meter

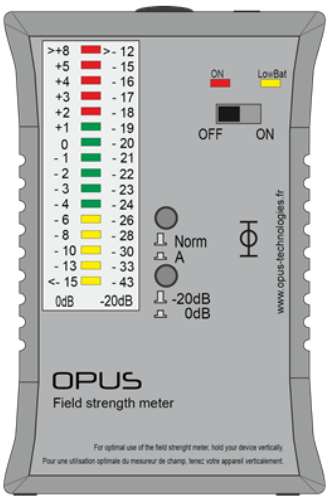
OP-FSM

The OP-FSM is an ideal solution for measuring, adjusting and commissioning a magnetic induction loop system in accordance with the IEC 60118-4 specification.

It allows precise measurement of the field strength in an area covered by a magnetic induction loop.

The LOW adjustment range is designed to measure crosstalk between loop systems and interference from network equipment such as lights, dimmers, or hardware.

It is equipped with a filter to measure the audio signal of the loop that the human ear hears and also broadcasts the test signals.



All measurements are taken at 0dB defined as 100mAM-1 RMS using a next-line PPM response rectifier.

Specifications

Scale calibration	
Operating mode-20dB	-20dB = 0,043A/m
Operating mode 0dB	0dB= 0,4A/m
Type of measurement	True RMS 125ms
Frequency response	
Filter	A/Flat
30Hz...500Hz	-3dB...-4dB
500Hz...2500Hz	+/- 0,25dB
2500Hz...10KHz	+/-3dB
Outputs	
Display	Color-coded LED dot display
Headphones	3,5mm cinch
Power supply	
Batteries	2xAA
Incator lights	LED
Service life	100h
Dimensions	
Dimensions (L x H x P)	83 x 126 x 35 mm
Weight	Approx. 300g

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Certificate of conformity IEC 60118-4

AFILS installation for accessibility of hearing impaired people in public venues

OPUS Technologies

Costumer Informations	Installer Informations
Client :	Installer :
Room :	Company :
Adresse :	Device :
	Serial Number :
	Tested by :

1 ROOM SKETCH

Draw the room and the coverage area indicating measurement points and background noise

2 SEARCH FOR BACKGROUND NOISE AND INTERFERENCES

Amplifier off and OP-FSM in "-20dB" position. Note the tolerable or polluted interference on the sketch

Warning: The existence of areas polluted by background noise compromises the conformity of the system with the IEC 60118-4 standard

Acceptable backgroud noise zones **> - 32 dB** ☐ | **Tolerable** backgroud noise zones **> - 22 dB** ☐ | Backgroud noise **polluted** areas **< - 22 dB** ☐

3 MAKE MEASURES

Draw on the sketch 6 to 8 points corresponding to measurements made sitting (A) and standing (A1) at different points of the room.
IEC 60118-4 standard states that the listening height is 1.2m for a sitting position and 1.7m for standing. Hold the OP-FSM always verticaly .

Measuring points		**A**	**B**	**C**	**D**	**E**	**F**	**A1**	**B1**	**C1**	**D1**	**E1**	**F1**
Magnetic field (dB)) *Before settings, with pink noise*													
Frequency response *After settings*	100Hz												
	1KHz												
	5KHz												
Magnetic field (dB) *After settings, with audio source*													

4 SETTINGS MADE

Draw the adjustments made on the magnetic induction loop amplifier

Loop2 ◯ Loop1 ◯ Input1 ◯ Input2 ◯ Input3 ◯ MLC ◯

5 FINAL CHECKS

Once the tests are completed, the staff of the equipped site must be informed and prepared to guide the hearing impaired in the use of the system.
The "T-Coil Heaing Aidr" sticker must be glued and visible to visitors. Otherwise, the installation cannot be declared in accordance with IEC 60118-4

Trained staff member :

Visible stickers ? YES ☐ NO ☐

Comments :

System installation complies with IEC 60118-4 YES ☐ NO ☐

Name:
Surname:

Date:
Signature:

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Procedure of AFILS verification to IEC 60118-4

AFILS system are the most universal and effective way to allow public venues accessible to hearing impaired people. However, to be effective, these systems must be carefully calibrated to verify that the installation has been done in compliance with IEC 60118-4. Opus Technologies strongly recommends issuing a certificate of conformity to this standard, according to the attached model, signed by the installer or supplier.

The IEC 60118-4 standard of March 2014

This standard defines 4 very specific parameters:

- The peak magnetic field must reach 400mA / m (integration time 0.125ms)
- Frequency responses should not vary by more than 3dB between 100Hz and 5000Hz
- The signal-to-noise ratio must be 47 dB (A-weighted)
- The magnetic field must be uniform throughout the listening area

To allow a good listening it is necessary to check all these conditions:

The respect of the intensity of the magnetic field ensures that the loudness is sufficient, the frequency responses make it possible to verify that the whole sound spectrum is perceived in the same way and the signal-to-noise ratio measures the impact of parasitic magnetic disturbances. on intelligibility.

Despite the installation of adequate equipment many factors can disturb these parameters: the presence of metal structures causes the magnetic field to drop, transformers or current at 50 Hz nearby cause magnetic noise. The size and shape of the room can make it difficult to respect the recommended values at all points of the room.

The testing procedure

We recommend the following procedure:

- Determine and draw on your room plan, the points where the measurements will be made (center, ends, point near metallic structures or noise sources)
- Installer's measurements of the three parameters set by the standard, before and after the adjustment of the installed equipment.
- Inform and train staff so they will be able to guide hearing impaired people for using it in the best conditions
- Delivery of this document signed by the installer or supplier to the manager of the room.

Recommendation

Venues managers must ensure, during any magnetic induction loop installation, that the installer deliver this certificate of compliance. Even if the manager does not have the competence to judge the result of the measurements, the installation report should be accessible at any time for a possible control by a team of auditors.