

## HLS02 Audio Induction Loop Driver

The HLS02 is a small area coverage audio induction loop driver built for the O.E.M. customer for integration into communication systems such as help points, refuge points, car park barriers and drive throughs. It is backed by Ampetronic's 5 year warranty and free technical support. With 2 independent balanced transformer isolated inputs (low impedance speaker and 100V line), superior sound clarity, metal loss correction and a range of power supply voltage options, it is the obvious choice for any quality intercom system.

**N.B. The HLS02 solution may require a detailed application review by Ampetronic to ensure optimum operation in your application.**



### Features

- **Area coverage to >30 m<sup>2</sup>**
- **Low lifetime cost**
  - Excellent reliability
  - 5 year warranty
- **Simple integration**
- **Power supply options** – 12 V to 18 V DC or 36 V to 60 V DC
- **2 transformer isolated inputs** – 100 V line and low impedance speaker
- **Metal loss correction**  
3 dB / octave
- **Unrivalled intelligibility**
- **Free technical support**
- **Also available as PCB only**

### Applications include:

- **Intercom systems for all environments:**
  - Help points
  - Door entry systems
  - Car parks
  - Security barriers
  - Drive throughs
  - Refuge points
  - Toll booths
- **Information points**
- **Interactive exhibits**

#### Counter and other vertically mounted loops

The HLS02 can be used to drive small multi-turn 'counter' style loops. These offer limited area coverage, up to approximately 1m distance from the loop. However, they are often a simple solution for installation. Ampetronic can provide a standard preformed loop, or a loop can be custom designed for your application. Consult our support team for more information.

#### Perimeter Loops – Area Coverage (maximum)

The HLS02 can be used to cover a small area using a perimeter loop in which case, a single turn loop should usually be used, contact Ampetronic for advice if unsure.

Room aspect ratio	1:1	2:1	3:1
Maximum area m <sup>2</sup>	20	30	35

#### Maximum Cable Length

When maximum current output is required the HLS02 can drive:

- Loops with DC resistance from 0.3 to 1 Ω
- Impedance up to a maximum of 1.5 Ω

Maximum cable length is dependent on cable type and on the application. When operating below maximum output, the HLS02 can drive longer cable lengths – contact Ampetronic for more details.

Cable type	Maximum Total Cable Length (m)	
	Normal use*	Transient speech*
1.0 mm <sup>2</sup> copper	57	65
1.5 mm <sup>2</sup> copper	67	82
2.5 mm <sup>2</sup> copper	77	99
1.8 mm <sup>2</sup> flat copper tape	100	116

\* Short term speech (e.g. service counter, airport PA system) can cope with limited clipping at high frequencies – Ampetronic recommends delivery of full current up to 1.2 kHz for these applications. Longer term usage or signals with music or high quality audio must deliver full current to at least 1.6 kHz to prevent fatigue and give acceptable intelligibility. Many commercially available systems do deliver

# HLS02 Product Information

## Power Options

The HLS02 is supplied in 2 DC voltage versions

### HLS02-15

Nominal supply Voltage	15V DC
Voltage range	12-18V DC
Fuse	T1.6A L
Power consumption	9 W
Nominal current	550 mA
Quiescent current	60 mA
Peak current (2.1A rms audio)	1100 mA

### HLS02-48

Nominal supply Voltage	48V DC
Voltage range	36-60V DC
Fuse	T630 mA L
Power consumption	9 W
Nominal current	180 mA
Quiescent current	30 mA
Peak current (2.1A rms audio)	360 mA

## Accessories

Loop ratio adaptor	5:1 ratio gives >15 A into single turn loop Weight: 340 g Ratio can be tailored to the application.
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## Standards compliance

The HLS02 is CE marked to all relevant safety and EMC standards.

The HLS02 will meet the requirements of IEC118-4 and the relevant recommendations of BS7594 if specified and installed according to Ampetronic instructions.

## INPUTS

<b>Power</b>	'Power' LED on control panel Two DC supply options (see left)
<b>Input 1 Low Z Speaker</b>	Input impedance: 5 k $\Omega$ differential Sensitivity: -20 dBu (78m V <sub>rms</sub> ) for full output Overload: >+19 dBu (6.8 V <sub>rms</sub> ) adjustment made on control panel Connector: Detachable screw terminals with input blocks
<b>Input 2 100V line PA</b>	Input impedance: 136 k $\Omega$ Sensitivity +23 dBu (11 V <sub>rms</sub> ) for full output Overload: >+48 dBu (190 V <sub>rms</sub> ) Adjustment made on control panel Connector: Detachable screw terminals with input blocks

## OUTPUTS

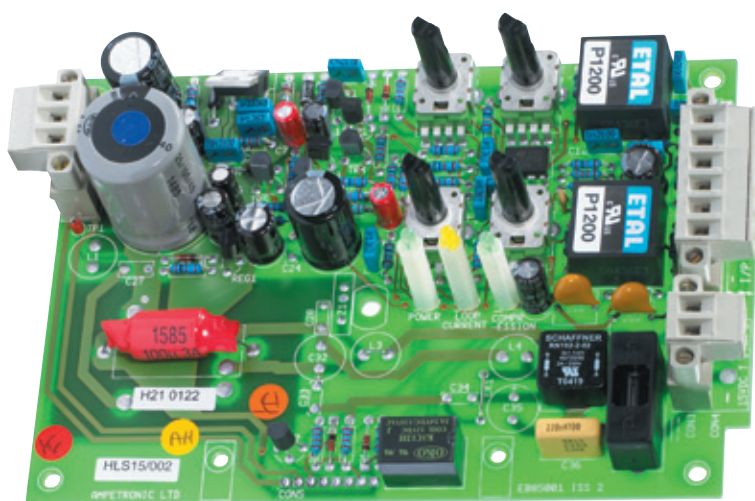
<b>Drive voltage</b>	4.5 V peak at max drive current
<b>Drive current</b>	<ul style="list-style-type: none"><li>&gt;3 A peak into 1 <math>\Omega</math> with 1 kHz sine</li><li>Adjusted on control panel</li><li>LED indicator on control panel</li></ul>
<b>Loop connector</b>	Detachable screw terminals with input blocks
<b>Loop impedance</b>	0.3 $\Omega$ to 1 $\Omega$ resistive 1.3 $\Omega$ reactive at 1.6 kHz
<b>Monitor</b>	Dry isolated contact (1500V isolation). Closed when amplifier functional. Silver alloy contact rating: 3 A 30 V DC or 3 A 125 V AC

## AUDIO SYSTEM

<b>Freq. response</b>	80 Hz to 5.5 kHz $\pm$ 1.5 dB relative to 1 kHz at low level, measured as loop current with no metal loss correction.
<b>Automatic Gain Control</b>	AGC optimised for speech Dynamic range 40 dB Controlled by adjusting input level LED indicator on front panel
<b>Metal Loss Correction</b>	0 dB to 4 dB / octave boost Adjusted on control panel

## PHYSICAL

<b>Dimensions</b>	width 107 mm, length 160 mm, height 45 mm
<b>Weight</b>	333g
<b>Environment</b>	IP10 : 20 to 90 % relative humidity, -30 to 75 $^{\circ}$ C Installed unit must have sufficient heat sink through enclosure to dissipate the nominal power.



HLS02-15P PCB only amplifier

**AMPETRONIC**



Issue no HLS02-UP35001-3

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