AMPETRONIC

Datasheet

CLS2-R1 Concourse Hearing Loop Driver

The Ampetronic CLS2-R1 is a derivative of Ampetronic's popular and proven CLS2 technology that has been modified to allow easy installation and quick connection to a range of Public Address systems in public transport waiting area applications.

The CLS2-R1 meets with the transport sectors exacting electromagnetic safety requirements and standards for electrical equipment.

This capable and compact driver unit is designed specifically for mounting behind panels or within enclosures. All connections are preconfigured and easily accessible on the bottom of the unit.

The reliable CLS2-R1 is designed to be on continually, with minimal maintenance required, and is backed by Ampetronic's standard 5 year warranty and comprehensive support services.

Features

- **Quick and simple to install**
- **Complies with Railway EN50121-4 safety standard**
- **Area coverage to >400m^2**
- **Configurable inputs designed specifically for a range of PA Systems**
- **Panel or enclosure mounting**
- **Metal Loss Correction**
- **5 Year warranty**
- **Pre-configured connections**
- **Free Technical support**

Applications include

- **Railway station platform waiting areas**
- **Tram station waiting areas**
- **Bus shelters**
- **Bus station waiting areas**
- **Ski-lift waiting areas**
- **PA enabled Taxi ranks**

Perimeter Loops – Area Coverage (maximum)

Room aspect ratio	1:1	2:1	3:1
Maximum area m^2	250	310	400

For any Induction Loop System, area coverage is dependent on several factors. Please check these assumptions and contact Ampetronic for advice if required:

- Loop must be 1-2m above or below the receiver (hearing aid) height
- There should be no metal structures in the plane of the loop
- Sufficient voltage to drive the loop – check the cable table below

Maximum Cable Length

The CLS2-R1 is designed for SINGLE TURN loops for optimum audio quality:

- Loops with DC resistance from 0.2Ω
- Impedance up to a maximum of 1.3Ω

Maximum cable length is dependent on cable type and on the application:

Cable type	Maximum Total Cable Length (m)	
	Normal use	Transient speech
1.0mm^2 copper	49	57
2.5mm^2 copper	67	85
4.0mm^2 copper	70	91
1.8mm^2 flat copper tape	87	101

CLS2 Product Information

The CLS2-R1 enclosure is designed for simple, permanent installation. Connections are preconfigured and controls are accessible underneath the removable lid to deter unwanted post commissioning adjustments with indicator LEDs clearly visible on the front panel. The case is designed to make access simple, and to ensure the amplifier can be installed in the most constrained spaces.

Mounting

Designed for vertical panel or wall mounting using 4 screws (6 holes provided). The CLS2-R1 is compact enough to fit on a 1U rack tray with feet removed.

Enclosure access

Removable lid, secured by 4 Phillips PH2 screws. Lid can be removed completely if required, for ease of access.

Cable connections

Input 1 is suitable for use with balanced microphone or balanced low power line signals. Inputs 2 & 3 are preconfigured to suit a range of PA Systems. AC power input and fuse are located in the IEC power connector. The unit also features an M6 ground stud.

Indicators

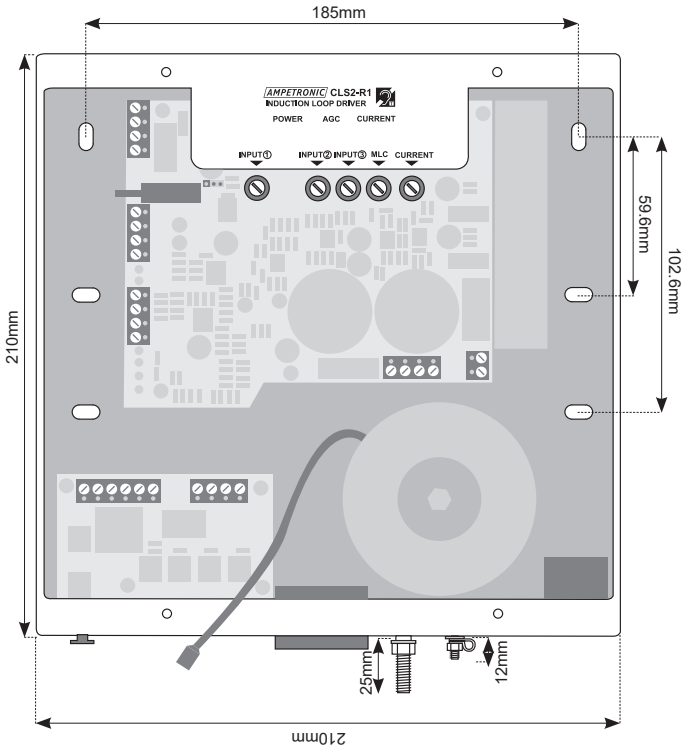
3 LED indicators are visible with the case open or closed:

- AGC (Amber) LED lit when input signal is activating the automatic gain control
- Current (Green) LED lit when current is running in the loop
- Power (Green) LED lit when the unit has power

Controls

Four controls are accessible with the lid open, all screwdriver adjustable.

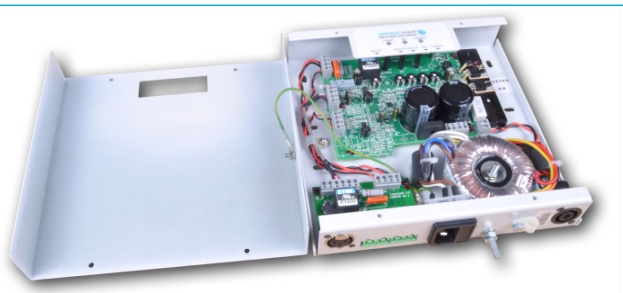
- Level controls for inputs 1, 2 and 3
- Metal loss correction
- Loop drive current



INPUTS	
Input 1	Input 1 Balanced Mic, balanced or unbalanced line Input impedance 10kΩ per side Min level (MIC / Line -73dBu / -31dBu Max level (MIC / Line) -37dBu / +5dBu Phantom voltage MIC only +12V
Input 2	Isolated 100V line or low impedance mono or stereo speaker Input impedance 100V Line / spkr 120kΩ / 7.8kΩ Min level 100V Line / spkr +14dBu / -9dBu Max level 100V Line / spkr >+47dBu / >+27dBu
Input 3	Isolated 100V line or low impedance mono or stereo speaker Input impedance 100V Line / spkr 120kΩ / 7.8kΩ Min level 100V Line / spkr +14dBu / -9dBu Max level 100V Line / spkr >+47dBu / >+27dBu
AC power input supply	230V 30Ws 45-65Hz 110V option available Connected via chassis mounted screw terminal block
Input fuse	T250mA
OUTPUTS	
Drive voltage	>7.1V_{rms} - 10.0V_{pk}
Drive Current	1kHz sine wave >4.9A_{rms} 7.0A_{pk} Continuous pink noise 2.3A_{rms} 7.0A_{pk} Short term peaks >7A RMS 10A_{pk}
Minimum Loop Resistance	0.2Ω
Maximum Loop Impedance	1.3Ω
AUDIO SYSTEM	
Frequency Response	80Hz to 6.3kHz ±3dB
Distortion	THD+N <0.5%1kHz sine at 2.3A_{rms}
Automatic Gain Control	(AGC) Optmised for speech. Dynamic range >36dB
Metal loss correction	(MLC) 0 to 3dB per octave frequency correction (1kHz remains constant). Control mounted on PCB.
PHYSICAL	
Cooling	Natural convection
Environment	IP20, -10°C to +40°C
Dimensions	W, H, D: 200mm, 200mm, 44mm
Weight	1.8kg
Mounting	Wall mounting, secured by 4 screws

Standards Compliance

The CLS2-R1 is CE marked to all relevant safety and EMC standards, including EN50121, EN60065 and EN55103. Safe operation is subject to correct installation. Using the CLS2-R1, an Audio Frequency Induction Loop system that meets the requirements of IEC 60118-4 can be created, if the system is specified, installed and commissioned in an appropriate manner, including observing Ampetronic instructions.



AMPETRONIC

www.ampetronic.com
sales@ampetronic.com
support@ampetronic.com
phone +44 (0)1636 610062

Issue no UP39101-6