

Aivon Oy

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Manual

ISO-1

Analog isolation amplifier

AIVON OY

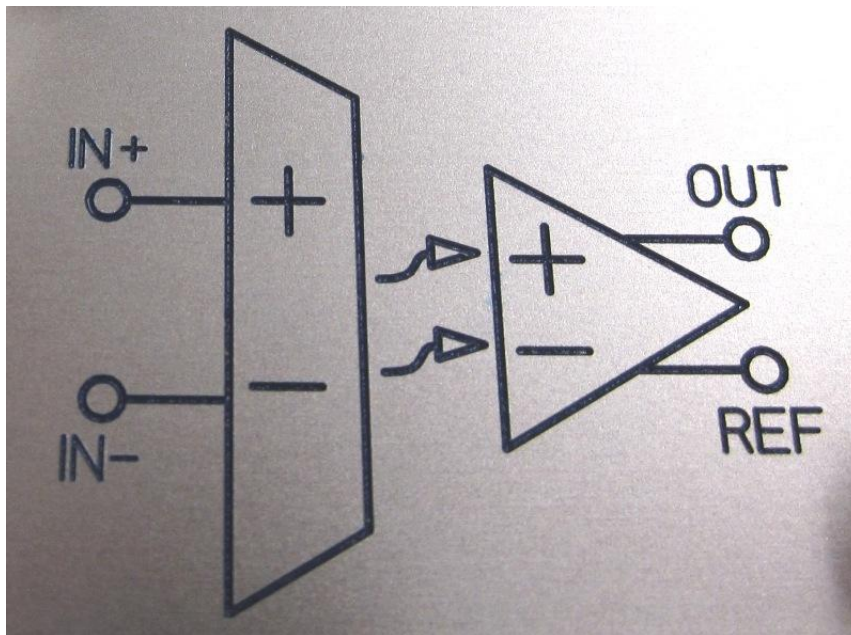
# ISO-1



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# ISO-1

## Analog isolation amplifier

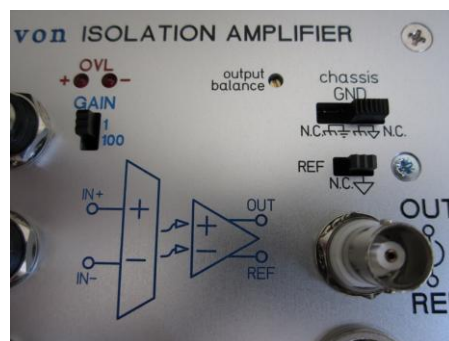
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Aivon ISO-1 is a gain 1x or 100x single channel analog isolation amplifier for sensitive laboratory measurements. It can be used to break ground loops, decouple power networks and reduce common-mode effects between different parts of the measurement setup. Aivon ISO-1 is based on Burr-Brown 3650 optically-coupled linear isolation amplifier.

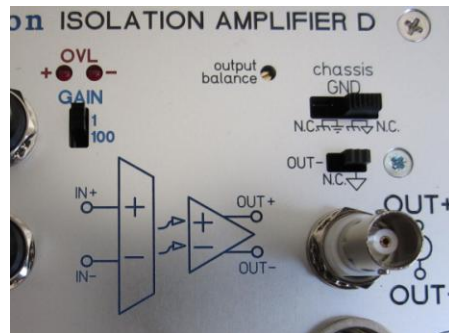


## Main features

- one signal channel across the isolation barrier
- Selector for gain of 1x/100x of 1<sup>st</sup> stage instrumentation amplifier before isolation barrier. Total gain 1x or 100x.
- Output impedance 50 Ohm
- Output grounding slide switch for connection of outer conductor of output BNC to either output ground *or* to reference input of output driver (N.C.)



- Model ISO-1D: Output grounding slide switch selects between differential or ground-referenced output modes.



- Diode protected inputs with led indicators for overload
- Input impedance 1 MOhm to input ground and 2 MOhm differential
- Chassis (enclosure) can be connected to either input *or* output ground *or* left floating (N.C.) by applying chassis grounding slide switch
- Inputs for two (input and output side) power supplies in single Binder-8 connector

- supply voltage ranges +/-12 - 24V in both sides of isolation barrier
- internal regulated voltage supply +/- 9V in both sides



## Connectors

- Three BNC input connectors
  - Input signal between inner and outer conductors *or*
  - Input signal in inner conductors of two BNC's
- outer conductors can be left floating (N.C.) *or* connected to input *or* chassis ground by input grounding slide switch
- Power supply connector 8-pin Binder 680 series (09 0474 00 08)
  - Suitable mating cable plug is Binder 09 0571 00 08

## Frequency response

The gain and frequency response properties follow those of Burr-Brown 3650 amplifiers. The gain has slight (10%) increase between 1 kHz and 10 kHz which is typical to 3650.

## Solutions

Problem	Solution
Large offset or noise at the output	3650 has drifted from factory-set values. Adjust output balance trimmer (and input balance trimmer if output trimmer does not help) while monitoring the output.
Large signals are cut in the output	Input diode is cutting the signal or output driver cannot drive big currents. Check that input gain is 1 and/or try different selection for output grounding switch.

## Specifications

Power supply voltage inputs	+/-12 V - +/- 24V
Idle current	< 0.05 A
Usable input voltage range	-5V...+5V
Low frequency gain	1 or 100
Bandwidth	13 kHz

### Connectors

Input and output	BNC
Power supply	Binder 09 0474 00 08

### Enclosure

Material	Enclosure: diecast, front panel: anodized aluminum
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### Physical dimensions

Enclosure dimensions (Width x height x depth)	140 mm x 100 mm x 34 mm
Weight	0,4 kg

## Document revision history

Date	Version	Description	Author
23.10.2012	0.1	Initial draft	JSP
20.3.2013	1.0	First version added ISO-1D	JSP
11.11.2013	1.1	Slight textual changes	JSP