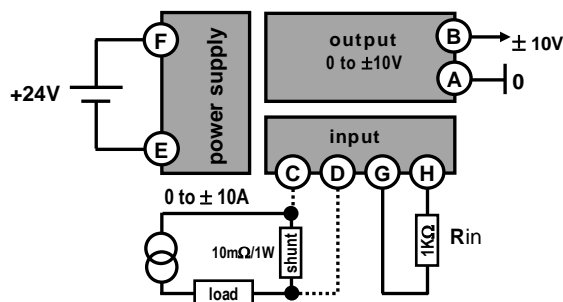
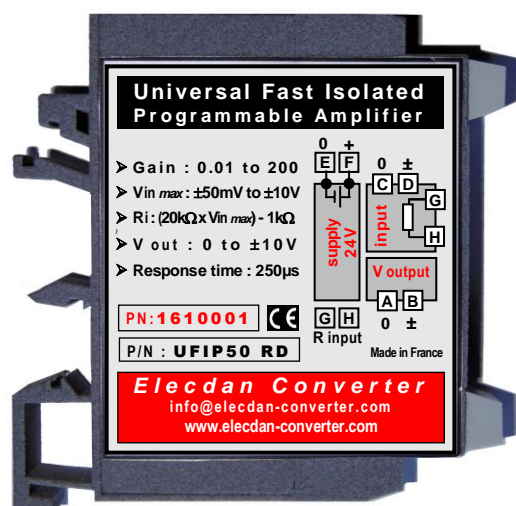
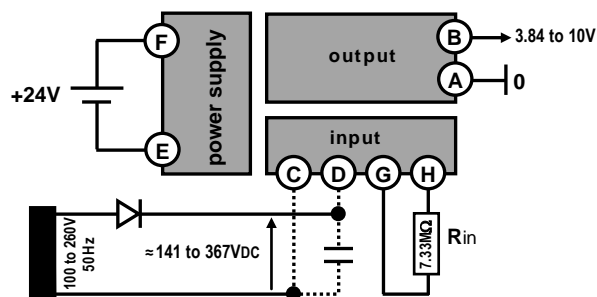


Universal Fast Isolated Programmable Amplifier (gain: 0.02 to 200)
Typical examples

V _{in}	R _{in}	Gain	Standardized V _{out}
0 to ± 50mV	0	200	0 to ± 10V
0 to ± 0.5V	9kΩ	20	
0 to ± 5V	99kΩ	2	
0 to ± 10V	199kΩ	1	
0 to ± 100V	1.999MΩ	0.1	
0 to ± 500V	9.999MΩ	0.02	

The gain increases from 0.02 to 200 when R_{in} decreases from 9.999MΩ to 0

Isolated current measurement, from 0 to ± 10A

Isolated control of a dual-voltage supply, 50Hz

Presentation

With the user's external resistor "R_{in}" placed between "G" and "H", this bipolar amplifier (three-terminal isolation) eases the processing of all signals "V_{in}" between "± 50mV" and "± 500V". Enabling amplification or attenuation, it transforms "V_{in}" = 0 to |maxi| into a standardized "V_{out}" signal "0 to ± 10V".

Gain "V_{out}/V_{in}" programmed by "R_{in}" resistance

The value of "R_{in}" linearly depends on the maximum value of the "V_{in}" voltage applied on the amplifier; **R_{in} = (20kΩ x "V_{in} max") - 1 kΩ**
 Example: if V_{in} max = 5V, then R_{in} = (20kΩ x 5) - 1kΩ = 99kΩ

Input

- Input voltage: range "0 to ± 50mV" upto range "0 to ± 500V"
- Input current: limited to 50μA (with R_{in} adjusted to V_{in})
- Precision of the ratio "20kΩ / volt": < 2.10⁻³

Output

- Output voltage: 0 to ± 10V (standardized)
- Output current: 0 to ± 10mA
- Whatever "V_{out}": < ±10V if the gain is reduced
- Gain dynamics: 10 000
- Gain linearity: < 10⁻⁴
- Response time: 250μs, V_{out} varying from 0 to ±10V
- Isolated (2.5kV) from the input and the power supply
- Ripple: < 50mV / ≈ 35kHz

Protections

- Three-terminal isolation: 2.5kV
- Overloads on the input: +100% of "V_{in}" max
- Protection against overloads and short circuits on the output
- Power supply protected against inversions
- Vibrations and tropicalization: sealing IP67

Power supply

- Isolated (2.5kV) from the input and the output
- 24V (± 5%); consumption: < 30mA

Thermal performances

- Operating: -30°C to +70°C
- Storage: -40°C to +100°C
- Stability: 0,004% per °C

Case

- Case dimensions: 65 x 48 x 12.5 mm; for DIN rail; weight < 70g
- Connections: 8 points, cross-section 4,5mm² (screw locking)
- Other presentations upon request

Standards and specifications

- Marking CE / RoHS
- Flammability: UL94HB, horizontal test
- MTBF: 500,000 hours

Options

- "R_{in}" inbuilt in the case
- Axis "10 revolutions" inbuilt for adjustment
- "V_{in}" maximum: < | 50mV |

Security precautions

- Place "R_{in}" before switching on
- Forbid any human contact for voltages >48V, especially on "R_{in}", non-isolated from "V_{in}"