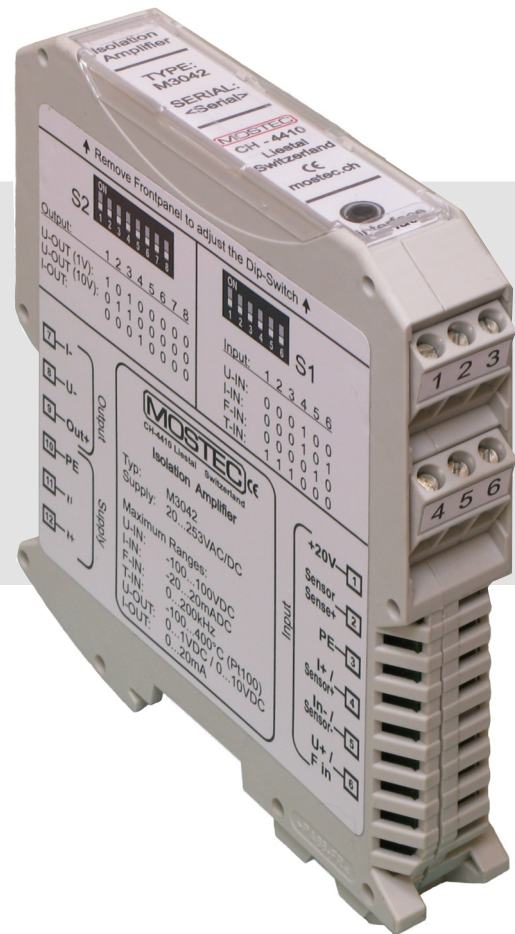
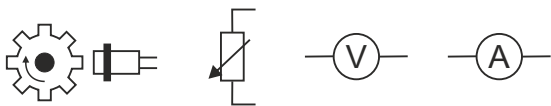


## Programmable Isolation Amplifier Type M3042

- ▶ Programmable universal input and output
- ▶ 3-way isolation 2500VAC
- ▶ Bus system for power supply
- ▶ Compact housing
- ▶ Modbus



### Technical description

The isolation amplifier and line conditioner interfaces and/or converts an analog process signal for computers and industrial control equipment as PLC's, etc. Also, a computer or control equipment's analog signal can be adapted to the process environment. Isolation amplifiers are also installed where ground-loop problems require to separate different signal grounds to avoid signal distortion and to convert one signal to another.

Example: To convert and isolate a 4...20mA or 100...500Hz process signal to a 0...10V signal, that is connected to a computer interface.

An additional application is to extract and isolate the measuring signal out of 2-wire transmitter's power supply. Input, output and supply are isolated against each other.

**Signal inputs:** DC/AC voltage, DC/AC current, frequency and platinum/nickel sensors.

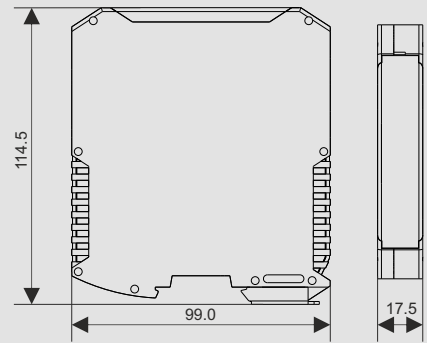
**Signal outputs:** DC Volt, DC current and Modbus.

The amplifier is field programmable by means of a USB data cable connected to a Laptop. The set-up software is free of charge and is distributed via the Mostec home page at [www.mostec.ch](http://www.mostec.ch). The range of the isolator is also factory set, free of charge.

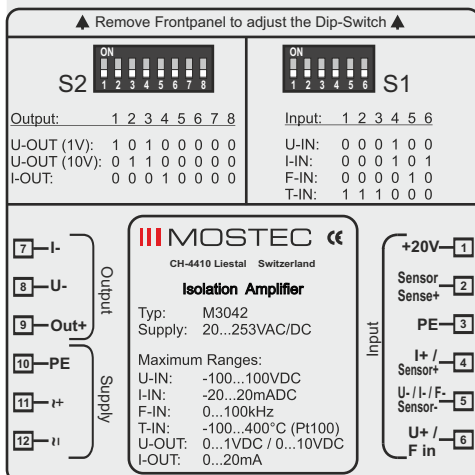
The isolation amplifier consists of the following building blocks: Input circuit, AD-converter, processor, DA-converter, output stage and the power supply.

The power supply is galvanically isolated from input and output and the voltage range of the supply is 20 to 253VAC/DC.

Input:	programmable																		
Output:	programmable																		
Input impedance:	- Current input = 51 (= input load) - Voltage input 1M																		
Output impedance:	- Current output 1M - Voltage output, max. load = 500 - Voltage output < 0,1																		
Max. output current limit:	- 30mA, short circuit proof (voltage output only)																		
Special signal range:	- Voltage input: ±100mV to ±100VDC, others on request - Current input: ±2mA to ±20mADC, others on request - Temperature: Pt100 sensor -100...400°C, others on request - Frequency: 0...100kHz / >5V active (accurate 1%), others on request - Voltage output: 0...10VDC, others on request - Current output: 0/4...20mADC, others on request - Output Modbus																		
Programming:	- Measuring ranges adjustable via dip switch (current, voltage, temperature, frequency) - Within a range, the signals can be configured with the programming software - Connecting to the USB interface with the programming unit - Programming software, see <a href="http://www.mostec.ch">www.mostec.ch</a>																		
Test isolation voltage:	2500VAC/1min. (I/O/P)																		
Common mode rejection ratio:	Min. 140dB @ 1000VDC min. 100dB @ 1000VAC/50 Hz																		
Gain error:	Max. 0,05% of full scale																		
Zero offset:	Max. 0,05% of full scale																		
Working temperature range:	-5...+55°C																		
Power supply:	20 to 253 VDC or AC, isolated																		
Power supply load:	2.4W @ I <sub>A</sub> 25mA																		
CE-conformity:	fulfilled																		
Mounting:	35mm mounting rail, EN50022-35																		
Weight:	120g																		
Terminals:	screw terminals																		
Terminal description:	<table border="0"> <tr> <td>1 = +20V (2-Wire)</td> <td>2 = Sensor Sense (+)</td> </tr> <tr> <td>3 = PE</td> <td>4 = Signal input mA (+), Sensor (+)</td> </tr> <tr> <td>5 = Signal input mA/V/ freq. (-)</td> <td>6 = Signal input V/freq. (+)</td> </tr> <tr> <td>    Sensor (-)</td> <td></td> </tr> <tr> <td>7 = Signal output mA (-)</td> <td>8 = Signal output V (-)</td> </tr> <tr> <td>    or Modbus</td> <td></td> </tr> <tr> <td>9 = Signal output mA/V (+)</td> <td>10 = PE</td> </tr> <tr> <td>    or Modbus</td> <td></td> </tr> <tr> <td>11 = Power Supply AC~/DC(+)</td> <td>12 = Power Supply: AC~/DC(-)</td> </tr> </table>	1 = +20V (2-Wire)	2 = Sensor Sense (+)	3 = PE	4 = Signal input mA (+), Sensor (+)	5 = Signal input mA/V/ freq. (-)	6 = Signal input V/freq. (+)	Sensor (-)		7 = Signal output mA (-)	8 = Signal output V (-)	or Modbus		9 = Signal output mA/V (+)	10 = PE	or Modbus		11 = Power Supply AC~/DC(+)	12 = Power Supply: AC~/DC(-)
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11 = Power Supply AC~/DC(+)	12 = Power Supply: AC~/DC(-)																		
Warranty:	2 years																		
Options:	- USB programming unit for MOSTEC devices with cable and software - Customer modifications, special ranges - Bus connector for power supply (20...120VAC/DC)																		

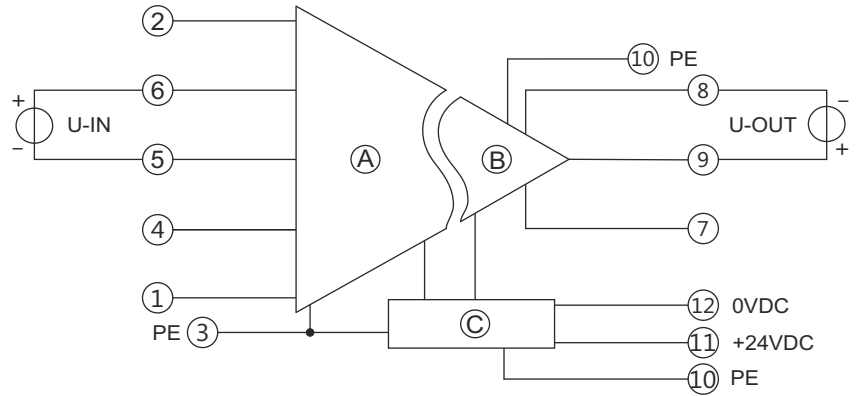


## Connections / Settings:

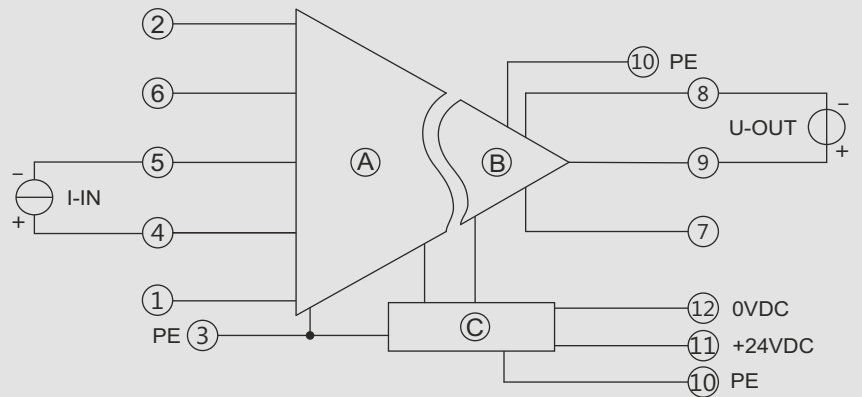


# Connection examples

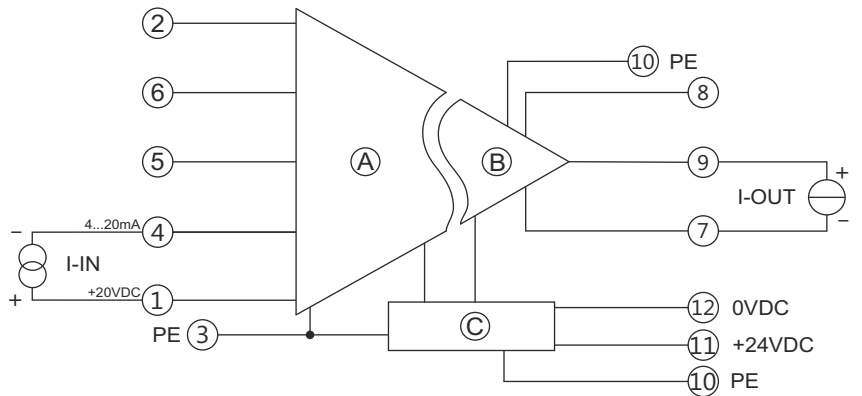
Input: 0...10VDC  
 Output: 0...10VDC  
 Supply: 24VDC



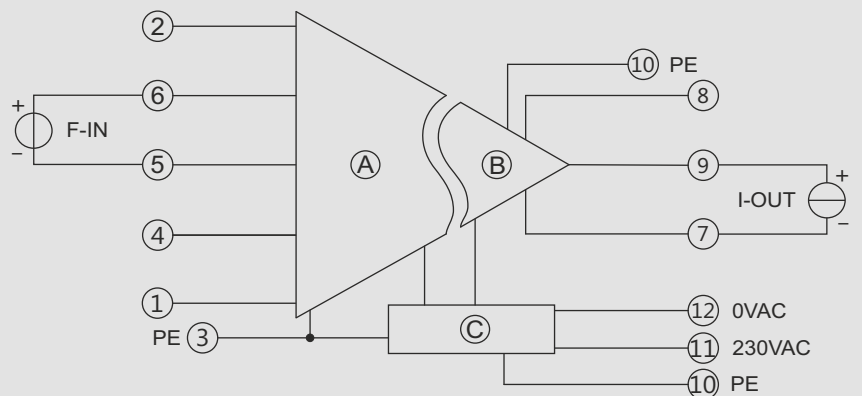
Input: 0...20mA  
 Output: 0...1VDC  
 Supply: 24VDC



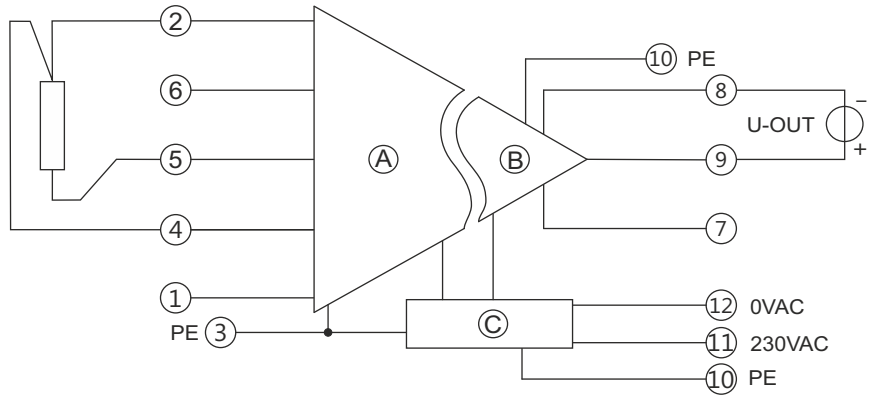
Input: 4...20mA / 2-Draht  
 Output: 4...20mA  
 Supply: 24VDC



Input: 0...10kHz / 5VDC  
 Output: 4...20mA  
 Supply: 230VAC



Input: 0...100°C / Pt100  
 Output: 0...10VDC  
 Supply: 230VAC



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